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MICRO PHOTO DIVISION
BELL & HOWELL COMPANY

JN

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 3, 1969 Volume 863 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of April 1969

Examiner affirmed	167
Examiner affirmed in part	16
Examiner reversed	22
Total	205

United States Adopted Names

List No. 22

November 1, 1968 to February 28, 1969

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (U.S.A.N.) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

acedapsone: antimalarial
acronine: antineoplastic
adiphenine hydrochloride: smooth muscle antispasmodic
algestone acetonide: progestogen
amquinate: antimalarial
apazone: anti-inflammatory
bromazepam: psychotherapeutic
carbomer: suspending and emulsifying agent
cintazone: anti-inflammatory
clemastine: antihistaminic
clortermine hydrochloride: anorexiant
domiphen bromide: antiseptic
flucytosine: antifungal
fluocinolide: glucocorticoid
flurandrenolide: glucocorticoid
hyclate: monohydrochloride hemiethanolate hemihydrate
iocetamic acid: radiopaque
liotrix: synthetic thyroid principle
memodine hydrochloride: antiviral
metiapine: unknown as yet
morantel tartrate: anthelmintic
orgotein: anti-inflammatory
ormetoprim: antibacterial
oxilapine succinate: CNS depressant
polacrilin: pharmaceutical aid
poligeenan: antipeptic
prazosin hydrochloride: antihypertensive
ritodrine: uterine relaxant
sulfazamet: antibacterial sulfonamide
thiothixene hydrochloride: psychotherapeutic
tramadol: analgesic

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,982,751, H. I. Anthes, PROCESS AND COMPOSITION FOR RENDERING SYNTHETIC HYDROPHOBIC MATERIAL ANTISTATIC AND THE PRODUCT OBTAINED THEREFROM, decided Feb. 29, 1968, Interference No. 93,881, claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13.

Patent No. 3,021,232, J. E. Pretka, PROCESS FOR RENDERING SYNTHETIC HYDROPHOBIC MATERIAL ANTISTATIC AND THE PRODUCT OBTAINED THEREFROM, decided Feb. 29, 1968, Interference No. 93,882, claims 1, 2, 3, 4, 6, 8, 9 and 11.

Patent No. 3,042,697, R. E. Halter and R. J. Hartle, PROCESS FOR MAKING PHOSPHORUS ACID ESTERS, decided June 30, 1967, Interference No. 94,085, claims 1, 2 and 3.

Patent No. 3,164,618, R. Rausser and E. P. Oliveto, ALKYLATED STEROIDS, decided Apr. 4, 1969, Interference No. 96,052, claims 18 and 22.

Patent No. 3,177,888, C. B. Moore, CONTROL APPARATUS, decided Nov. 6, 1968, Interference No. 95,450, claim 1.

Patent No. 3,189,746, L. Slobodin and A. Reich, EXPANSION AND COMPRESSION OF ELECTRONIC PULSES BY OPTICAL CORRELATION, decided Oct. 24, 1968, Interference No. 95,507, claim 5.

Patent No. 3,250,792, A. Wettstein, G. Anner, K. Heusler, J. Kalvoda and P. Wieland, 19-NOR-STEROIDS AND PROCESS FOR THEIR MANUFACTURE, decided Oct. 25, 1968, Interference No. 95,719, claims 1, 11 and 13.

Certificates of Correction for the Week of June 3, 1969

3,255,040
3,268,475
3,275,606
3,333,335
3,352,929
3,362,307
3,364,187
3,364,640
3,366,163
3,366,704
3,367,354
3,368,630
3,372,764
3,377,800
3,378,030
3,378,816

New Applications Received During March 1969

Patents	8139
Designs	537
Plant Patents	5
Reissues	28
Total	8709

Issue—June 3, 1969

Patents	1300	—No. 3,447,160 to No. 3,448,459, incl.
Designs	55	—No. 214,301 to No. 214,355, incl.
Reissues	6	—No. 26,595 to No. 26,600, incl.
Total	1361	

Disclaimers

3,383,848.— *Beryl A. Boggs*, Chesterfield County, Va. RING-DROP ASSEMBLY AND LATCH MEANS THEREFOR. Patent dated May 21, 1968. Disclaimer filed Apr. 28, 1969, by the assignee, *Allied Chemical Corporation*.

Hereby enters this disclaimer to claims 1 and 6–10, inclusive, of said patent.

3,409,529.—*Kasturi L. Chopra*, Lexington, and *Myron Ronald Randlett*, North Wilmington, Mass. HIGH CURRENT DUOPLASMATRON HAVING AN APERTURED ANODE COMPRISING A METAL OF HIGH MAGNETIC PERMEABILITY. Patent dated Nov. 5, 1968. Disclaimer filed Feb. 20, 1969, by the assignee, *Kennecott Copper Corporation*.

Hereby disclaims the terminal portion of the term of said patent subsequent to Oct. 29, 1985.

3,422,035.—*Herbert May*, Oldbury, near Birmingham, *Brian John Kendall-Smith*, Birmingham, and *Susannah Burr*, Camargue, Welland, England. PROCESS FOR POLYMERIZING CYCLIC ACETALS. Patent dated Jan. 14, 1969. Disclaimer filed Feb. 24, 1969, by the assignee, *British Industrial Plastics Limited*.

Hereby disclaims the terminal portion of the term of said patent subsequent to Apr. 23, 1985.

Dedications

2,584,491.—*Ted Nelson*, San Leandro, Calif. MEANS FOR SPOT WELDING. Patent dated Feb. 5, 1952. Dedication filed Feb. 5, 1969, by the assignee, *Gregory Industries, Inc.*

Hereby dedicates to the Public the remaining term of said patent.

2,612,394.—*Ted Nelson*, San Leandro, Calif. WELDING STUD. Patent dated Sept. 30, 1952. Dedication filed Feb. 5, 1969, by the assignee, *Gregory Industries, Inc.*

Hereby dedicates to the Public the remaining term of said patent.

2,635,167.—*Ted Nelson*, San Leandro, Calif. METHOD OF SPOT WELDING. Patent dated Apr. 14, 1953. Dedication filed Feb. 5, 1969, by the assignee, *Gregory Industries, Inc.*

Hereby dedicates to the Public the remaining term of said patent.

2,663,270.—*Robert C. Friedly*, Lorain, Ohio. COMPOSITE STUD. Patent dated Dec. 22, 1953. Dedication filed Feb. 5, 1969, by the assignee, *Gregory Industries, Inc.*

Hereby dedicates to the Public the remaining term of said patent.

Foreign Patents Received in the Search Center as of April 30, 1969

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Mar. 7, 1969	46,558/68
(*Patents*)	Apr. 25, 1969	286,314
Austria	Apr. 28, 1969	268,898
Belgium	Apr. 25, 1969	678,600
Canada	Apr. 28, 1969	811.350
Czechoslovakia	Mar. 24, 1969	127,700
Denmark:		
(*Fremlaeggelsskrifter*)	Apr. 30, 1969	113,140
(*Patents*)	Apr. 30, 1969	111,804
East Germany	Apr. 24, 1969	65,898
Egypt	June 28, 1967	6,873
Finland:		
(*Utläggningsskrifter*)	Apr. 7, 1969	40,621
(*Patents*)	Apr. 7, 1969	37,180
France:		
(*Patents*)	Apr. 25, 1969	1,548,700
(*Additions*)	Apr. 25, 1969	92,600
(*Medicaments*)	Apr. 7, 1969	5,900 M
(*Additions*)	May 2, 1968	162 CAM
Germany:		
(*Auslegeschriften*)	Feb. 3, 1969	1,280,170
(*Offenlegungsschriften*)	Feb. 3, 1969	1,424,800
(*Patents*)	Feb. 3, 1969	1,265,796
Great Britain	Apr. 21, 1969	1,146,250
India	Mar. 13, 1969	101,130
Ireland	Mar. 13, 1969	28.001
Italy	Feb. 3, 1969	700,000
Japan	Apr. 28, 1969	7,040/69
Netherlands:		
(*Octrooiaanvragen*)	Feb. 3, 1969	12,280/68
(*Patents*)	Apr. 17, 1969	126,053
Norway:		
(*Utlegningsskrifter*)	Apr. 15, 1969	116,365
(*Patents*)	Apr. 28, 1969	115,148
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	Mar. 24, 1969	56.749
Rumania	Jan. 22, 1969	51,151
Sweden:		
(*Utläggningskrifter*)	Apr. 28, 1969	306,706
(*Patents*)	Apr. 2, 1969	307,657
Switzerland	Apr. 18, 1969	468,145
U.S.S.R.	Apr. 11, 1969	226,718

Australia: First 2,000 incomplete
Belgium: First printed 493 079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2.496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 19, 1969

*Denotes oldest new application.

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4–24–67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	8–22–66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1–18–67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*7–21–66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1–05–67
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5–19–67
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10–13–66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*5–25–66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	3–08–67
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	7–12–67
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	6–18–68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	9–01–67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5–02–67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	5–15–67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	3–27–68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	12–26–67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	9–15–67

Total number of pending applications (excluding Designs)	186, 359
Total number of Design applications pending	3, 376

Expiration of patents: The patents within the range of numbers indicated below expire during June 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,598,659 to 2,601,678, inclusive
Plant Patents	Numbers 1,101 to 1,109, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE HENRY J. RYNKIEWICZ AND GILBERT B. AYRES

No 7894. Decided February 8, 1968

[55 CCPA 977; 390 F.2d 742; 156 USPQ 462]

1. PATENTABILITY—EVIDENCE—ADVANTAGE OVER PRIOR COMMERCIAL PRACTICE NOT RELEVANT.

"Appellants argue that the advantages of their claimed method over the prior commercial practice of packaging sutures in glass tubes with their inherent jeopardy to patient safety, should be accepted as clear proof that appellants' idea was unobvious and as constituting evidence of patentability of their complete process. In this connection it is to be remembered that none of the prior art herein relied on is related to the long extent method of enclosing sterile sutures in glass tubes. We do not, therefore, see the relevancy of a comparison with glass tubes. Any comparison of advantages should be restricted to the opening methods disclosed in the Hirsch, Whitefoot, and Ringlen disclosures."

2. SAME—SAME—COMMERCIAL SUCCESS.

"We have considered the evidence of record relating to commercial success and appellants' argument based thereon. It is true that the showing of commercial acceptance and success of appellants' claimed method finds substantial support of record and is not to be lightly ignored. However, commercial success, after all, is but one evidentiary consideration which, as pointed out in *Graham* v. *John Deere Co.*, 383 U.S. 1, might have relevancy in assessing the 'level of ordinary skill in the pertinent art.' It is not of itself primarily determinative, but is only one factor to be considered in determining unobviousness. Here the prior art presents such strong evidence of obviousness that a showing of commercial success in this case is inadequate to overcome it."

3. SAME—PARTICULAR SUBJECT MATTER—"METHOD OF OPENING SUTURE PACKAGES."

The decision of the Board of Appeals, refusing certain claims on an application entitled "Method of Opening Suture Packages" as unpatentable over the prior art, is affirmed.

AFFIRMED.

Samuel Branch Walker and *William P. Spielman*, for appellants.

Joseph Schimmel (*S. Wm. Cochran* of counsel) for Commissioner of Patents.

Before RICH, *Acting Chief Judge*, SMITH and ALMOND, *Associate Judges*, and KIRKPATRICK, *Judge* [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the Examiner in finally rejecting claims 1–12 of appellant's application [2] entitled "Method of Opening Suture Packages." No claims were allowed.

The application relates to a method of opening plastic packages which contain wet-packed surgical sutures without compromising the sterility of the sutures. This is accomplished by packaging the suture 3 in a plastic envelope 2. This envelope is dehydrated, sterilized, charged with a sterile conditioning fluid adapted to soften the suture, and then sealed. Under sterile conditions, the suture-containing envelope 2 is inserted into previously sterilized larger second envelope 5 which is then sealed by application of heat or use of adhesives. FIGURE 1 shows the completed package. The second envelope 5 is formed with ears or flaps 21, 22 in a manner so that the two sides may be grasped and pulled apart, thus presenting the inside suture-containing package to the surgeon in a completely sterile field (FIG. 8).

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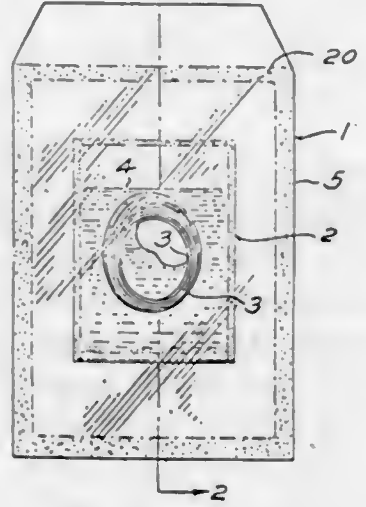
[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Serial No. 197,742, filed May 25, 1962.

FIGURES 1 and 8 are reproduced below:

Fig. 1.



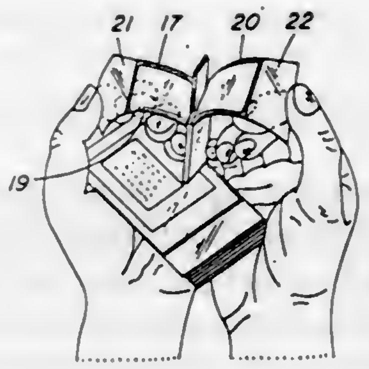


Fig. 8

Claim 1 is illustrative:

> 1. A method of serving surgical sutures in a sterile packet which comprises: stripping apart the two sheets between which the packet is sterilely sealed by a peripheral seal, retaining any contaminants present in location on the surface of the separated sheets, and peeling the sheets back from the packet whereby the packet is presented sterilely to a user.

Claims 2 and 3 limit the type of suture material to a "non-boilable gut suture," recite the presence of a conditioning agent and define generically its composition, and define characteristics of the packet and outer envelope. Claims 4–12, additionally, include the steps of heat sealing and steps to release the inner packet containing the suture.

The references are:

Hirsch, 1,962,900, June 12, 1934.
Waugh, 1,997,443, Apr. 9, 1935.
Whitefoot, 2,676,702, Apr. 27, 1954.
Ringlen et al., 2,751,074, June 19, 1956.

Hirsch discloses use of a double envelope in preserving sterility of surgical sutures, ligatures and dressings. The patent discloses that the envelopes are seamless tubes of transparent or translucent cellophane. It is stated that the outer envelope may be opened by tearing or clipping without harming or destroying the inner envelope which is clearly visible to the operator. It is further stated that the outer envelope having been torn or clipped:

> * * * the inner envelope is still maintained in a sterile condition * * * and may be partially shaken from the opened outer envelope and the doctor with his sterile gloved fingers may then grasp the projecting end of the inner envelope and remove * * * the suture * * *.

Waugh relates to packages for sterile surgical cord that can be used as a ligature or suture. The packets are constructed of a porous glassine-type paper, and are retained in antiseptic condition by continuous immersion in a germicidal liquid.

Whitefoot discloses an envelope containing bandages, gloves or like material maintained in sterile condition. The envelope is provided with ears or flaps which may be grasped and pulled apart along a side seam to separate the walls of the envelope to present the sterile contents.

Ringlen relates to a hermetically sealed foil package containing a surgeon's blade, the object of the invention being to open the package and remove the contents without requiring manual contact with the contents of the package. The package or envelope is composed of front and back sections adhered to each other at the margins by adhesive. Opening of the envelope is accomplished by pulling apart end tabs to separate the two halves of the envelope along the adhesive seam, thus to expose the contents. It is stated that the "invention is not limited to a surgeon's blade but may be used for packaging other articles."

The Examiner, applying the provisions of 35 U.S.C. 103, rejected all of the instant claims over either Whitefoot or Ringlen in view of Hirsch. He pointed out the disclosure in Hirsch of a sterilized suture package containing a suture in an inner envelope which, in turn, is positioned within a larger outer envelope. The Examiner noted that both Whitefoot and Ringlen disclose a sterilized surgical package with two sides comprising a pair of pull tabs to facilitate opening by stripping down or a peeling action. This, he observed, is the same procedure by which appellants open their package. The Examiner referred to the Ringlen specification wherein it is stated that

> When the blade is ready to be used, the protrusion is grasped and pulled until the free end tabs are exposed. These are grasped and the two sections are separated. [Numerals omitted.]

Through this opening procedure the blade is exposed so that the blade may be "attached to a handle *without manual handling of the blade*." [Emphasis quoted.]

The Examiner concluded this phase of his rejection with the observation that:

> In view of the teaching of Hirsch, it would be obvious to one of ordinary skill in the art to package the surgical equipment in either Whitefoot or Ringlen et al. in an inner container having a sterilizing aqueous solution. Once Whitefoot and Ringlen et al. are modified in light of Hirsch it immediately becomes apparent that not only is applicants' package presented *but also his method of opening the package*. The use of alcohol as a sterilizing agent is well known in the suture art as shown * * * by * * * Waugh. [Emphasis supplied.]

The Examiner also rejected all of the claims "as being drawn to an unpatentable method," observing that they "recite nothing more than the obvious manner of making and opening or using applicants' package."

We agree with the Solicitor that the Board, in reviewing the Examiner's rejection, considered the rejection based on 35 U.S.C. 103 and the rejection as an unpatentable method together, as appears manifest from the following observation made by the Board:

> The rejection of all claims as drawn to the obvious or unpatentable method of making and opening appellants' package; and the rejection on art, appear to us to have the same force and to be properly considered together. * * *

However, we are persuaded from an examination of the opinion rendered by the Board that its main thrust in affirming the Examiner, as evidenced by the language employed, predicates the rejection solely on 35 U.S.C. 103. The issue is so treated by the Solicitor as well as counsel for appellants in whose brief it is stated:

> The claimed subject matter is not directly anticipated under 35 U.S.C. 102. The question presented is whether the subject matter as a whole would have been obvious under 35 U.S.C. 103 on August 4, 1953.

In its concluding summation, the Board stated:

> It appears to us that the record adequately establishes that moist packed sutures are conventional articles for delivery in sterile condition to an operating area. With this article as the aim of the method, it is not seen wherein any new or unexpected features are involved in the type and handling of the package to bring the appealed claims above the status of being "obvious" in view of the applied references.

Appellants argue that their method is new and unobvious, not being suggested by the applied references.

Turning to the specification, appellants define the essence of their claimed invention as follows:

> * * * the invention consists in starting with a light-weight, completely sterile, liquid-containing plastic suture packet that is dry-packed in an internally sterile sealed outer envelope, the outer envelope being so constructed that it can be pulled apart and the inner suture packet discharged therefrom without its contacting an unsterile portion of the outer envelope; thus any contamination on the outer surface of the outer envelope remains in place, and the outer envelope is stripped apart, releasing the sterile inner packet at the time of use. The packet is sterile outside and inside, and may be slit open without compromising sterility.

Thus, it appears that the problem which appellants claimed to have solved is that of removing the inner suture packet from the outer envelope while preserving sterility on the inside as well as the outside of the packet. That problem would and does confront the everyday professional practitioner in the surgical art irrespective of the nature of the packet or its contents.

In its essence, basic claim 1 calls for a three-step procedure defining appellants' method. The procedure involves no more than stripping or pulling apart two sheets within which a packet is sealed; retaining any contaminants on the outer surfaces of the separated sheets; and peeling the sheets back from the packet in order that the packet may be presented for use in sterile form.

Aside from the nature of the contents to be released from the packet, Whitefoot and Ringlen disclose the essential steps called for in claim 1 in that each shows stripping apart two sheets and retaining the contaminants on the outer surface of the sheets. The Whitefoot sheets are peeled back disclosing the contents for their intended application. As previously noted, Ringlen states that the peeling back process is to a point so that the blade may be attached to a handle without manual handling of the blade. The patent to Hirsch relates to the maintenance of surgical sutures in a sterile condition and shows it to be old to enclose the packets in an outer envelope for this purpose. The methods employed by both Whitefoot and Ringlen are applicable to a variety of objects which must be kept and presented in a sterile condition.

The essential difference revealed in claims 2 to 12 over claim 1 is that these claims detail the characteristics of the inner liquid-tight packet. Appellants contend that Whitefoot and Ringlen are devoid of any showing suggestive of these characteristics.

We, however, are in agreement with the Solicitor that "the only characteristic of appellants' suture-containing packet which is significant in connection with the steps which actually comprise appellants' method is that it is sterile and must be maintained so." It is clearly apparent that the contents of the Whitefoot and Ringlen envelopes are objects preserved and maintained in a sterile state for purposes and uses identical with the object of appellants' disclosure.

[1] Appellants argue that the advantages of their claimed method over the prior commercial practice of packaging sutures in glass tubes with their inherent jeopardy to patient safety, should be accepted as clear proof that appellants' idea was unobvious and as constituting evidence of patentability of their complete process. In this connection it is to be remembered that none of the prior art herein relied on is related to the long extant method of enclosing sterile sutures in glass tubes. We do not, therefore, see the relevancy of a comparison with glass tubes. Any comparison of advantages should be restricted to the opening methods disclosed in the Hirsch, Whitefoot, and Ringlen disclosures.

[2] We have considered the evidence of record relating to commercial success and appellants' argument based thereon. It is true that the showing of commercial acceptance and success of appellants' claimed method finds substantial support of record and is not to be lightly ignored. However, commercial success, after all, is but one evidentiary consideration which, as pointed out in *Graham* v. *John Deere Co.*, 383 U.S. 1, might have relevancy in assessing the "level of ordinary skill in the pertinent art." It is not of itself primarily determinative, but is only one factor to be considered in determining unobviousness. Here the prior art presents such strong evidence of obviousness that a showing of commercial success in this case is inadequate to overcome it.

[3] Our review of this record, consideration of the authorities cited and the argument of counsel do not persuade us of reversible error in the decision of the Board of Appeals. The decision is, accordingly, affirmed.

AFFIRMED.

United States Court of Appeals
District of Columbia Circuit

GENERAL ELECTRIC COMPANY *v.* EDWARD J. BRENNER, COMMISSIONER OF PATENTS

No. 21,465. Decided October 25, 1968

[— U.S.App.D.C. —; — F.2d —; 159 USPQ 335]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—35 U.S.C. 112.

"The first question involves the interpretation and construction of 35 U.S.C. 112 * * *. It is the requirements of this section under which the Commissioner must act with respect to the sufficiency of disclosures. An analysis of this area of the law reveals: (*a*) The specification must contain a correct and adequate description of the invention claimed. *Seymour* v. *Osborne*, 78 U.S. (11 Wall.) 516, at 555 (1870); *Beidler* v. *United States*, 253 U.S. 447 (1920); (*b*) the description shall be in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains to make and use same. *O'Reilly* v. *Morse*, 56 U.S. (15 How.) 61, at 118 (1853); *Permutit Co.* v. *Graver Corp.*, 284 U.S. 52, 60 (1931); (*c*) these terms need only be reasonable with respect to the art involved; they need not inform the layman nor disclose what the skilled already possess. They need not describe the conventional; (*d*) the intricacies need not be detailed *ad absurdum*. The skill of the inquiring artisan must be taken into account; (*e*) where complexity dictates, broad terminology complies with the statute. *Application of Fuetterer*, 319 F.2d 259, 262 (CCPA 1963); *Sears, Roebuck and Co.* v. *Jones*, 308 F.2d 705, 707, 708 (10th Cir. 1962)."

2. SAME—SAME—SAME—SAME.

"The issuance of a patent confers on the recipient a most cherished right. Congress has dipped into its bottomless well of government resources and accords monopoly protection to the inventor. Considering this factor in the light of the relevant authority, the intent of the statute is clear. In an effort to protect both the patentee and the public, § 112 requires adequate disclosure of an invention through a proper description of the limits of the monopoly asserted. Nothing less than full disclosure will comply therein."

3. SAME—SAME—SAME—INCORPORATION BY REFERENCE.

"The doctrine of incorporation by reference is more clearly associated with the law of wills where it antedates the federal system. It is the offspring of the economies of time and space and is used to enable one document to become part of another by reference and to take effect as if the former clearly outlined the latter. In the law of patents, however, incorporation by reference is a new arrival. Its birth has been retarded by a too literal reading of the statutes. It did find its way into patent law however in the case of *Lynch* v. *Headley* where, in passing upon the issue of whether a reference, in an application for a patent, to a 'regulator' (details of which were outlined in another patent), satisfied the requirements of 35 U.S.C. § 112 (1964), this court agreed with the Assistant Commissioner that it was 'unnecessary to insist that the applicants here should have shown all the details which were already disclosed in that [prior] patent. *It was sufficient for them to incorporate it by reference.*' " [Emphasis supplied.]

4. SAME—SAME—SAME—SAME.

"In 1950, Judge Jackson of the United States Court of Customs and Patent Appeals (later a member of the District Court of this circuit) held in the *Application of Heritage*, that '[t]here can be no question but that in a patent application, the disclosure thereof may be supplemented by reference to another patent. *In re Stauber*, 45 F.2d 661, 18 CCPA, Patents, 774 * * * Furthermore, it is sound law, in our opinion, that *any reference to a disclosure which is available to the public is permissible.*' " [Emphasis supplied.]

5. SAME—SAME—SAME—SAME.

"In 1959 the United States Court of Appeals for the Sixth Circuit held that 'specific reference [to] the Molitor application supplies the necessary disclosure * * *. The disclosure of a patent application may be supplemented by reference to another patent.' Subsequently in 1967, in the *Application of Lund* the U.S. Court of Customs and Patent Appeals recognized that 'the disclosure in a patent application may be deliberately supplemented or completed by reference to disclosure set forth in other patents * * *[to applications] which may have become abandoned * * * or, in general, to "disclosure which is available to the public," * * *' "

6. SAME—SAME—SAME—SAME—*In re Heritage* CONSTRUED—35 U.S.C. 112.

"The teaching of *Heritage* is that incorporation by reference has a home in patent cases provided that any reference made is to that which is available to the public. This is consistent with all the aforementioned cases and consistent with the rationale behind § 112."

7. SAME—SAME—SAME—SAME.

"The duty to superintend the issuance of patents resides in the Commissioner by statute. In exercising those duties the Commissioner is given wide discretion based upon his experience and expertise and the courts should not disturb his rulings unless a clear abuse of that discretion is manifest. However, the question before this court arises not out of an abuse of discretion but upon the limits of discretion. In that regard, we hold that the Commissioner has the authority to issue a patent upon an application wherein the disclosure incorporates, by reference (and relies thereon), certain portions of a disclosure of an existing patent provided that this information relied upon is available to the public."

8. SAME—SAME—SAME—SAME—EXCLUDED MATERIALS.

"This brings us to the second question, *id est*, 'to what extent may incorporation by reference be permitted?' That total incorporation by reference cannot be accomplished under § 112 is apparent from the reading of *Lund*, *Heritage* and *Stauber*. It is limited to reference to material available to the public. This would exclude secret or privileged materials as in the case of some abandoned patent applications. It is reasonable also to exclude materials which are not easily available to the public or the Patent Office. This would include unpublished dissertations and theses, obscure foreign publications and publications to which there are no available English translations. Books and learned treatises with the imprimatur of the particular profession to which they relate ought to be permitted to be incorporated by reference as to the specifics contained therein."

9. SAME—SAME—SAME—SAME—SAME.

"Reference ought not be allowed where the object material of a reference also contains a reference upon which the application relies. The reason for this is clear. It is conceivable that one researching a patent might be referred throughout the patent files, the university libraries and the corner drugstore bookstand *ad infinitum*. Finally, there might be a disallowance of incorporation by reference where the application comprises less than 10 pages, inclusive of the material which is sought to be incorporated. We reiterate that a great deal of discretion is lodged with the Commissioner in regard to formulating a working system in the Patent Office. He may propose guidelines to effectuate the statute in accordance with the points here raised."

APPEAL from the United States District Court for the District of Columbia.

REVERSED AND REMANDED.

Mr. Melvin M. Goldenberg, with whom *Messrs. George V. Elgroth* and *Frank L. Neuhauser* were on the brief for appellant.

Mr. S. William Cochran, Attorney, United States Patent Office with whom *Mr. Joseph Schimmel*, Solicitor, United States Patent Office, was on the brief, for appellee.

Before BURGER, TAMM and ROBINSON, *Circuit Judges*

TAMM, *Circuit Judge*.

Appellant, plaintiff in the District Court, sought review of the action of the Commissioner of Patents in refusing to enter an amendment to an application for a patent in the name of Henry L. Herold et al., the entire right, title and interest of which was assigned to the appellant. This appeal is from an order of the District Court denying appellant's motion for summary judgment, granting the appellee's cross-motion for summary judgment and from an order of that court denying appellant's motion to alter or amend judgment.

In 1960, nineteen applications for United States Letters Patent were filed with the Patent Office. Among these was the application of Henry L. Herold et al. for a "Data Processing System" (Ser. No. 53,023). This application was assigned to the General Electric Company, appellant herein, along with the others for the purpose of securing protection for a proposed computer system devised by General Electric. This group of applications also included that of Robert R. Johnson, Ser. No. 8391, and in February, 1963 his application was approved and given the patent number 3,077,984. Each application was replete with specifications and drawings in compliance with the provisions of Title 35 of the United States Code and in accordance with the Rules of Practice of the U.S. Patent Office. Each contained identical disclosures of the computer system as well as separate introductory portions and claims relating to the particular invention claimed in each application. The Johnson patent contains some 485 sheets of drawings and specifications including claims. (If the remaining applications are issued in their present form, they will be substantially the same size.)

On February 28, 1963, subsequent to the issuance of the Johnson patent, a communication was received by General Electric from the Patent Office rejecting the claims of Herold and noting that the application contained specifications and drawings which included "substantial portions" which were identical to the disclosure of the Johnson patent and further noting that substantial savings in printing could be effected if virtually all disclosures were cancelled and those portions of the Johnson patent relied upon were incorporated by reference in the pending applications. Appellant sought an official ruling on this matter from the Commissioner. On August 23, 1963, N. H. Evans, Director, Examining Operation II, on behalf of the Commissioner, denied the petition of General Electric and upheld the suggestion of the Examiner to "incorporate by reference" those applicable portions of the Johnson patent. On December 30, 1963, an amendment to the Herold application was filed in compliance with the Commissioner's ruling. Substantial portions of the drawings and specifications were deleted and in their place was substituted applicable references to the Johnson patent. The application, had the amendment been allowed, would have dwindled to seven pages.

The amendment, however, was rejected on April 29, 1965, and the requirement of August 23, 1963, vacated. General Electric thereupon petitioned the Commissioner to resolve the disparity in the two rulings and on August 3, 1965, Mr. Evans, again acting for the Commissioner, affirmed the Examiner's ruling refusing to enter the amendment stating that "the claimed subject matter must be disclosed in the application without reference to another application." (J.A. 116.) Because of certain advantages flowing from the "incorporation by reference" requirement, General Electric filed a renewed petition with the Commissioner. On June 8, 1966, Mr. Evans, on behalf of the Commissioner, again denied the petition on the basis of 35 U.S.C. § 154 (1964) (set out in the appendix to this opinion) which requires copies of drawings and specifications to be annexed to the patent when issued. The aforementioned action was then commenced in the District Court and we consider the appeal from that court's ruling.

The questions presented are clear: Whether the Commissioner of Patents has the authority, under the applicable statutes and regulations, to issue a patent upon an application which incorporates, by reference, in its disclosure, substantial portions of a disclosure of an existing patent? If he does have such power, to what extent may "incorporation by reference" be permitted?

[1] The first question involves the interpretation and construction of 35 U.S.C. § 112 (1964) (as set out in the appendix to this opinion). It is the requirements of this section under which the Commissioner must act with respect to the sufficiency of disclosures. An analysis of this area of the law reveals:

(*a*) The specification must contain a correct and adequate description of the invention claimed. *Seymour* v. *Osborne*, 78 U.S. (11 Wall.) 516, at 555 (1870); *Beidler* v. *United States*, 253 U.S. 447 (1920).

(*b*) The description shall be in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains to make and use same. *O'Reilly* v. *Morse*, 56 U.S. (15 How.) 61, at 118 (1853); *Permutit Co.* v. *Graver Corp.* 284 U.S. 52, 60 (1931).

(*c*) These terms need only be reasonable with respect to the art involved; they need not inform the layman nor disclose what the skilled already possess. They need not describe the conventional.[1]

(*d*) The intricacies need not be detailed *ad absurdum*. The skill of the inquiring artisan must be taken into account.[2]

(*e*) Where complexity dictates, broad terminology complies with the statute. *Application of Fuetterer*, 319 F.2d 259, 262 (CCPA 1963); *Sears, Roebuck and Co.* v. *Jones*, 308 F.2d 705, 707, 708 (10th Cir. 1962).

[2] The issuance of a patent confers on the recipient a most cherished right. Congress has dipped into its bottomless well of government resources and accords monopoly protection to the inventor. Considering this factor in the light of the relevant authority, the intent of the statute is clear. In an effort to protect both the patentee and the public § 112 requires adequate disclosure of an invention through a proper description of the limits of the monopoly asserted. Nothing less than full disclosure will comply therewith.

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[1] (*Webster*) *Loom Co.* v. *Higgins*, 105 U.S. 580 (1881); *Merck & Co.* v. *Chase Chem. Co.*, 273 F.Supp. 68 (D.N.J. 1967); Lorenzo, "Insufficient Disclosure, Obviousness, and the Reasonable Man," 49 J. Pat. Off. Soc'y 387 (1967).

[2] *Merck & Co.* v. *Chase Chem. Co.*, supra note 1, at 75–79.

The question then becomes—does incorporation by reference find a foothold in the case law with respect to "adequateness" of disclosure under § 112?

[3] The doctrine of incorporation by reference is more clearly associated with the law of wills where it antedates the federal system. It is the offspring of the economies of time and space and is used to enable one document to become part of another by reference and to take effect as if the former clearly outlined the latter. In the law of patents, however, incorporation by reference is a new arrival. Its birth has been retarded by a too literal reading of the statutes. It did find its way into patent law however in the case of *Lynch* v. *Headley*[3] where, in passing upon the issue of whether a reference, in an application for a patent, to a "regulator," (details of which were outlined in another patent) satisfied the requirements of 35 U.S.C. § 112 (1964), this court agreed with the assistant Commissioner that it was "unnecessary to insist that the applicants here should have shown all the details which were already disclosed in that [prior] patent. *It was sufficient for them to incorporate it by reference.*"[4] [Emphasis supplied.]

[4] In 1950, Judge Jackson of the United States Court of Customs and Patent Appeals (later a member of the District Court of this circuit) held in the *Application of Heritage*, that "[t]here can be no question but that in a patent application, the disclosure thereof may be supplemented by reference to another patent. *In re Stauber*, 45 F.2d 661, 18 CCPA, Patents, 774 * * *. Furthermore, it is sound law, in our opinion, that *any reference to a disclosure which is available to the public is permissible.*"[5] [Emphasis supplied.]

[5] In 1959 the United States Court of Appeals for the Sixth Circuit held that "specific reference [to] the Molitor application supplies the necessary disclosure * * * The disclosure of a patent application may be supplemented by reference to another patent."[6] Subsequently in 1967, in the *Application of Lund* the U.S. Court of Customs and Patent Appeals recognized that "the disclosure in a patent application may be deliberately supplemented or completed by reference to disclosure set forth in other patents * * * [to applications] which may have become abandoned * * * or, in general, to 'disclosure which is available to the public.' * * *"[7]

[6] The teaching of *Heritage* is that incorporation by reference has a home in patent cases provided that any reference made is to *that which is available to the public.* This is consistent with all the aforementioned cases and consistent with the rationale behind § 112.

[7] The duty to superintend the issuance of patents resides in the Commissioner by statute.[8] In exercising those duties the Commissioner is given wide discretion based upon his experience and expertise and the courts should not disturb his rulings unless a clear abuse of that discretion is manifest. However, the question before this Court arises not out of an abuse of discretion but upon the limits of discretion. In that regard, we hold that the Commissioner has the authority to issue a patent upon an application wherein the disclosure incorporates, by reference (and relies thereon), certain portions of a disclosure of an existing patent provided that this information relied upon is available to the public.

[8] This brings us to the second question, *id est*, "to what extent may incorporation by reference be permitted?" That total incorporation by reference cannot be accomplished under § 112 is apparent from the reading of *Lund*, *Heritage* and *Stauber*. It is limited to reference to material available to the public. This would exclude secret or privileged materials as in the case of some abandoned patent applications. It is reasonable also to exclude materials which are not easily available to the public or the Patent Office. This would include unpublished dissertations and theses, obscure foreign publications and publications to which there are no available English translations. Books and learned treatises with the imprimatur of the particular profession to which they relate ought to be permitted to be incorporated by reference as to the specifics contained therein.

[9] Reference ought not be allowed where the object material of a reference also contains a reference upon which the application relies. The reason for this is clear. It is conceivable that one researching a patent might be referred throughout the patent files, the university libraries and the corner drugstore bookstand *ad infinitum.* Finally, there might be a disallowance of incorporation by reference when the application comprises less than 10 pages, inclusive of the material which is sought to be incorporated. We reiterate that a great deal of discretion is lodged with the Commissioner in regard to formulating a working system in the Patent Office. He may propose guidelines to effectuate the statute in accordance with the points here raised.

Finally we comment on the action of the Commissioner of June 8, 1966, in the almost wistful[9] denial of reconsideration of the denial to permit amendment (J.A. 136). This action was in part based upon Section 154 of 35 United States Code which requires a copy of the specifications and drawings to be annexed to the patent issued. It is our position that if the application meets the requirement of Section 112 it would thereby follow that requirements of Section 154 are met.

Filing cabinets abhor redundancy. Warehouses covet their space. The overcrowded conditions of offices in this city are in direct ratio to the space needed for storing of documents. The Patent Office was conceived by a document and has been prolific in that regard from its inception. These considerations warrant an economizing of words so as to alleviate these serious conditions. We do not feel that this economy will be at the expense of clarity and thereby frustrate the effectiveness of the statute. We expound a rule of reason and apply it to the statute in the light of the surrounding circumstances.

We reverse the decision of the District Court and remand this case with directions to return the case to the Commissioner to proceed upon the application in accordance with the directions contained herein.

REVERSED AND REMANDED.

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[3] 52 App.D.C. 269, 285 Fed. 1003 (1923).

[4] *Id.* at 270, 285 Fed. at 1004.

[5] 182 F.2d 639, 643 (CCPA 1950).

[6] *National Latex Products Co.* v. *Sun Rubber Co.*, 274 F.2d 224, 230 (6th Cir. 1959).

[7] 376 F.2d 982, 989 (CCPA 1967). See also *In re Stauber*, 45 F.2d 661 (CCPA 1930), and *In re Fried*, 329 F.2d 323 (CCPA 1964).

[8] 35 U.S.C. § 6 (1964).

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[9] It seems to be the position of the Commissioner that although the existing case law allows incorporation by reference of nonessential materials it does not encompass reference to essentials. We view the law, however, as permitting reference to materials which are available to the public. We here attempt only to clarify this position.

APPENDIX

35 U.S.C. § 154 (1964). Contents and term of patent.

Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assign, for the term of seventeen years, of the right to exclude others from making, using, or selling the invention throughout the United States, referring to the specification for the particulars thereof. *A copy of the specification and drawings shall be annexed to the patent and be a part thereof.* [Emphasis supplied.]

35 U.S.C. § 112 (1964). Specification.

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

In the United States Patent Office
Commissioner's Decision

Decided October 10, 1968

1. INTERFERENCE—PRIORITY—COLLATERAL ATTACK—35 U.S.C. 135.

"Title 35 section 135 of the United States Code provides that the decision of the Board of Patent Interferences on the question of priority 'if adverse to the claim of an applicant, shall constitute the final refusal by the Patent Office of the claims involved.' It seems clear that the decision of the Board in this case was adverse to the claim of each applicant within the meaning of the language last quoted. That decision was allowed to become final and cannot be collaterally attacked in ex parte prosecution."

2. SAME—SAME—CLAIMS OF LOSING PARTY—RULE 265—MANUAL OF PATENT EXAMINING PROCEDURE, SECTION 1109.02.

"Under these circumstances [wherein an interference procedure priority was awarded against both parties since neither had proved prior invention] the case is governed by Rule 265 which provides that the claims 'in the application of the defeated or unsuccessful applicant or applicants stand finally disposed of without further action by the Examiner and are not open to further ex parte prosecution.' The cancellation of claim 12 by the Examiner was proper under that rule and under section 1109.02 of the Manual of Patent Examining Procedure and the claim can not properly be reinstated."

This is a petition requesting that the Examiner be directed either to withdraw his action * * * cancelling claim 12 of * * * application or to enter the proposed amendment * * * reinserting the said claim.

It appears that the claim in question formed count 1 of the issue of Interference * * * and that the Board of Patent Interferences found that the parties were entitled to the same date of invention as to that claim. The pertinent portion of the Board's decision reads: "As to count 1, priority is hereby awarded against both parties since neither party has proven that he is in fact the prior inventor thereof."

[1] Title 35 section 135 of the United States Code provides that the decision of the Board of Patent Interferences on the question of priority "if adverse to the claim of an applicant, shall constitute the final refusal by the Patent Office of the claims involved." It seems clear that the decision of the Board in this case was adverse to the claim of each applicant within the meaning of the language last quoted. That decision was allowed to become final and cannot be collaterally attacked in ex parte prosecution.

[2] Under these circumstances the case is governed by Rule 265 which provides that the claims "in the application of the defeated or unsuccessful applicant or applicants stand finally disposed of without further action by the Examiner and are not open to further ex parte prosecution." The cancellation of claim 12 by the Examiner was proper under that rule and under section 1109.02 of the Manual of Patent Examining Procedure and the claim can not properly be reinstated.

The petition is denied.

DENIED

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,717,726. (See 3,023,939.)

2,828,895. (See 3,023,939.)

2,942,429, Van Dolah and Patterson, POULTRY CHILLING; **3,092,975,** R. S. Zebarth, ARTICLE CHILLING METHOD AND APPARATUS; **3,240,026,** Van Dolah and Patterson, POULTRY CHILLING, **filed** Feb. 2, 1967, D.C., W.D. Mo. (Kansas City), Doc. 16336–4, *Gordon Johnson Company and Swift & Company* v. *Ralph S. Zebarth and Ralph S. Zebarth, Inc.* Judgment, defendants have infringed; injunction writ issued against the defendants, Jan. 20, 1969.

3,023,939, H. A. Gustafson, DISPENSING CLOSURES; **2,828,895,** H. A. Mart, COMBINED SPOUT AND COCK FOR A DISPENSING TYPE RECEPTACLE; **2,717,726,** same, COMBINED SPOUT AND COCK; **3,111,245,** Libit and Newby, DISPENSING TYPE CLOSURE; **D. 195,603,** A. W. Newby, DISPENSING CLOSURE, **filed** Sept. 15, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1586, *Polytop Corporation* v. *U.S. Cap & Closure, Inc.* By agreement order complaint and counterclaim dismissed with prejudice, June 12, 1968.

3,087,196, Crockford, Feurt and Palmer, METHOD OF SLAUGHTERING ANIMALS, **filed** Aug. 26, 1966, D.C., District of Columbia (Washington), Doc. 2272–66, *Jack A. Crockford et al.* v. *William O. Reece and Swift & Company.* Stipulation by all counsel dismissing cause with prejudice, Oct. 11, 1968.

3,092,975. (See 2,942,429.)

3,111,245. (See 3,023,939.)

3,114,835, L. E. Packard, RADIOACTIVITY SPECTROMETRY IN SAMPLE ANALYSIS; **3,163,756,** Meeder and Kus, SAMPLE-CONVEYING AND TIGHT-SEALING MECHANISM FOR SCINTILLATION COUNTING; **3,188,468,** L. E. Packard, METHOD AND APPARATUS FOR AUTOMATIC STANDARDIZATION IN LIQUID SCINTILLATION SPECTROMETRY, **filed** June 7, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c916, *Nuclear-Chicago Corporation* v. *Packard Instrument Co. Inc.* Order joint and stipulated motion for dismissal granted, Apr. 1, 1968.

3,117,332. (See Re. 25,249.)

3,137,017. (See Re. 25,249.)

3,163,756. (See 3,114,835.)

3,188,468. (See 3,114,835.)

3,130,637, K. E. Golden, SLIDE PROJECTOR; **3,209,647,** W. J. Hall, SLIDE PROJECTOR USING A BOX OR CIRCULAR SLIDE MAGAZINE; **3,263,558,** K. E. Golden, FOCUSING MEANS FOR A SLIDE PROJECTOR; **D. 199,420,** R. W. Lanigan, SLIDE PROJECTOR; **D. 202,141,** W. J. Hall, ROTARY SLIDE TRAY, **filed** Dec. 4, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2345, *GAF Corporation* v. *Berkey Photo, Inc. and Atlas Rand Corp.*

3,203,002. (See Re. 25,249.)

3,209,647. (See 3,130,637.)

3,240,026. (See 2,942,429.)

3,263,558. (See 3,130,637.)

3,343,179. (See D. 203,435.)

3,346,300, L. A. Grant, BLAST FURNACE LINING REMOVING MACHINE; **3,389,755,** same, DEMOLITION TOOL CRADLE, **filed** Jan. 15, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c81, *Louis A. Grant, Incorporated* v. *Edward Gray Corporation and Gray-Keibler Inc.*

3,364,829, M. S. Ackerman, RECHARAGEABLE STROBOSCOPIC FLASH ATTACHMENT; **D. 210,052,** same, ELECTRONIC RECHARGEABLE FLASH ATTACHMENT FOR A PHOTOGRAPHIC CAMERA OR SIMILAR ARTICLE, **filed** Nov. 22, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2272, *Perfect Film & Chemical Corporation* v. *Aimes Engineering Co. Inc.*

3,375,796, Greenberg, Troast and Troast, BLANK-FORMING APPARATUS, **filed** Jan. 14, 1969, D.C., S.D.N.Y., Doc. 69–C–140, *I. C. Herman & Co., Inc.* v. *The Singer Company, Inc.*

3,384,085, R. M. Hall, SURGICAL CUTTING TOOL, **filed** Oct. 25, 1968, D.C., W.D. Mich. (Kalamazoo), Doc. 112, *Dr. Robert M. Hall* v. *Stryker Corporation.*

3,389,755. (See 3,346,300.)

Re. 23,830, A. B. Mojonnier, DISPENSING MECHANISM WITH TIME CONTROLLED FLOW, **filed** Jan. 21, 1969, D.C.N.J. (Newark), Doc. 75–69, *The Kartridg-Pak Co.* v. *J. G. Machine Works, Inc.*

Re. 25,249, G. P. Kelley, ADJUSTABLE DOCKBOARD; **3,117,332,** Kelley and Dallman, same; **3,137,017,** Pfleger and Ramer, same; **3,203,002,** G. McGuire, ADJUSTABLE DOCKBOARD WITH COUNTERBALANCING EXTENSION LIP, **filed** June 16, 1964, D.C., M.D. Tenn. (Nashville), Doc. 3809, *Kelly Company, Inc.* v. *Unarco Industries, Inc.* Consent judgment, patents valid and infringed by defendant; defendant now licensed under said patents, Dec. 12, 1968.

Re. 25,506, C. H. Stevens, CABLE CONNECTOR ASSEMBLY, **filed** Dec. 26, 1968, D.C., S.D. Ohio (Cincinnati), Doc. 6958, *Empire Products, Inc.* v. *Helox Industries, Inc. et al.*

Re. 26,520. (See D. 203,435.)

D. 195,603. (See 3,023,939.)

D. 199,420. (See 3,130,637.)

D. 202,141. (See 3,130,637.)

D. 203,435, Sallars and King, INFANT'S TRAINING CHAIR; **Re. 26,520,** same, TRAINING CHAIR; **3,343,179,** same, **filed** Feb. 10, 1969, D.C., N.D. Ohio (Cleveland), Doc. C69–98, *Hamilton Cosco, Inc.* v. *Century Products, Inc.*

D. 210,052. (See 3,364,829.)

REISSUES

JUNE 3, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

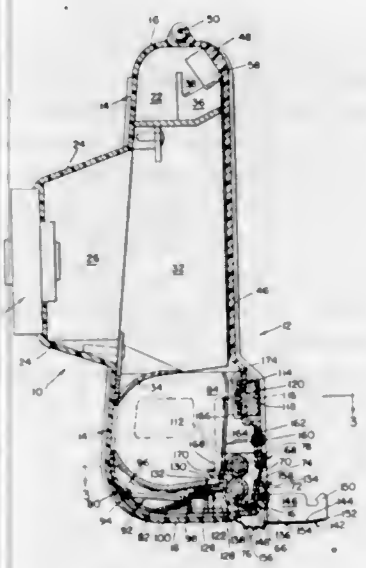
26,595
SELF-DEVELOPING CAMERA

Richard R. Wareham, Marblehead, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Original No. 3,249,032, dated May 3, 1966, Ser. No. 356,908, Apr. 2, 1964. Application for reissue Oct. 26, 1967, Ser. No. 682,698

Int. Cl. G03b *17/52*

U.S. Cl. 95—13 **8 Claims**



The camera housing consists of two sections which are movable with respect to each other so as to permit loading of two sheets, a photosensitive sheet and an image-recording sheet. Each section of the housing has a device for holding one of the two sheet supplies. The camera also includes pressure applying members, apparatus for locating successive areas of the photosensitive sheet in position for exposure, and apparatus for controlling the movement of the sheets through the camera including members for engaging successive portions of one of the sheets to arrest movement of the sheets.

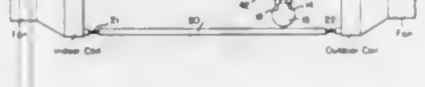
26,596
HEAT PUMP CONTROLS

Harry W. Jobes, Hollywood, Fla., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Delaware

Original No. 3,273,635, dated Sept. 20, 1966, Ser. No. 363,050, Apr. 17, 1964, which is a continuation-in-part of application Ser. No. 141,151, Sept. 27, 1961. Application for reissue Sept. 20, 1967, Ser. No. 669,989

Int. Cl. F28f *17/00*

U.S. Cl. 165—12 **11 Claims**



Control system for defrosting a heat pump in which the heat pump is periodically conditioned by a timer mechanism to initiate a defrost cycle, the defrost cycle being initiated and maintained only when the pressure of the refrigerant in the outdoor coil or the temperature of the outdoor coil is below a predetermined level. The defrost cycle is terminated within a predetermined time regardless of the condition of the outdoor coil.

26,597
CEMENTITIOUS SYSTEMS

Augustus B. Small, Brussels, Belgium, and Henry Nash Babcock, Old Greenwich, Conn., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original No. 3,234,035, dated Feb. 8, 1966, Ser. No. 282,217, May 22, 1963. Application for reissue Jan. 12, 1968, Ser. No. 698,985

Int. Cl. C04b *7/02*

U.S. Cl. 106—89 **19 Claims**

Portland cement shrinkage is controlled or eliminated by incorporating fluid coke in the cement compositions. Improved control is achieved over that obtained using conventional aluminum or iron shrinkage-counteracting materials.

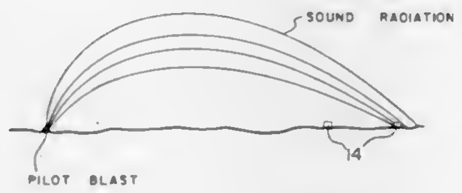
26,598
METHOD FOR DETERMINING SOUND FOCUS FOR MINING BLAST

Wallace G. Fetzer, Parkview, Ohio, assignor to Oglebay Norton Company, Cleveland, Ohio, a corporation of Delaware

Original No. 3,331,311, dated July 18, 1967, Ser. No. 524,799, Feb. 3, 1966. Application for reissue Dec. 20, 1967, Ser. No. 698,977

Int. Cl. F42d *1/00, 3/04*

U.S. Cl. 102—23 **4 Claims**



The present invention relates to a method for avoiding the damages due to atmospheric focusing of the air blast effects of a major explosion. *In particular, this method is carried out by generating pilot sound waves of insufficient magnitude to cause damage to determine if atmospheric focusing exists. The main charge is set off immediately after it is determined that there will not be a detrimental focusing effect.*

26,599
AUTOMOTIVE BOOSTER HEATER

Gordon J. Fairbanks and Kurt Staiger, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

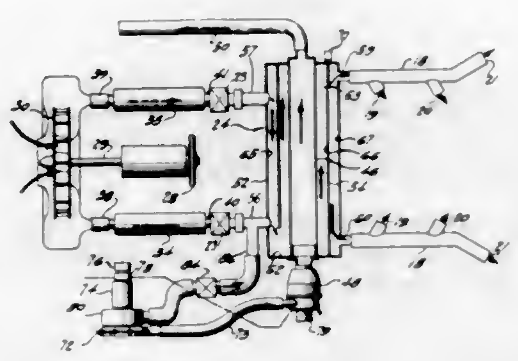
Original No. 3,273,799, dated Sept. 20, 1966, Ser. No. 343,606, Feb. 10, 1964. Application for reissue Nov. 13, 1967, Ser. No. 686,001

Int. Cl. G05d *23/00;* **B60h** *1/02*

U.S. Cl. 237—2 **28 Claims**

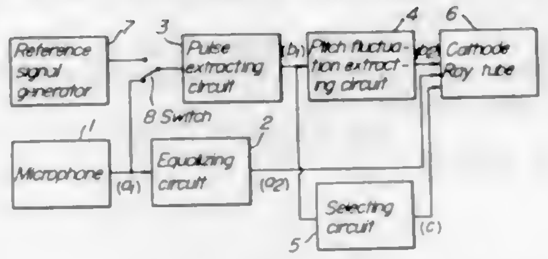
1. A booster heater for use with a conventional vehicle cab heater system having means for heating air including the vehicle engine, means for distributing the heated air to the vehicle cab, and means for forcing the heated air

through the heating and distributing means to the vehicle cab; said booster heater comprising a burner; a heat exchanger for the burner having an inlet for connection to said heating means and an outlet for connection to the distributing means of said vehicle; means providing unheated air to said burner heat exchanger; valve means between the unheated air providing means and said burner heat exchanger operable to permit the unheated air to pass to said burner heat exchanger only when the pressure output of the vehicle air forcing means at said valve means is less than the pressure output of said unheated air providing means at said valve means; and temperature responsive means for controlling the operation of said burner to control the temperature of the air passing to the vehicle cab.



26,600
APPARATUS FOR OBSERVING VOCAL CORD WAVE

Tanetoshi Miura and Tsuneji Koshikawa, by Hitachi, Ltd., Tokyo, Japan, a corporation of Japan, assignee
Original No. 3,345,979, dated Oct. 10, 1967, Ser. No. 349,059, Mar. 3, 1964. Application for reissue Dec. 13, 1967, Ser. No. 698,065
Claims priority, application Japan, Apr. 3, 1963, 38/16,372
Int. Cl. A61b *5/10*
U.S. Cl. 128—2 **4 Claims**

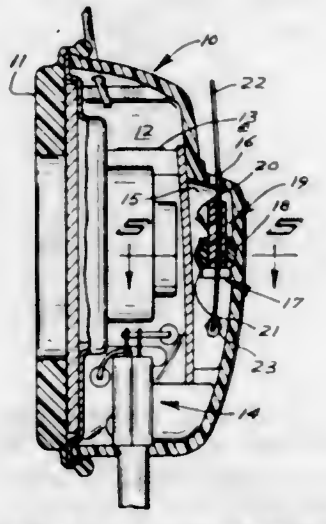


1. An apparatus for observing vocal cord waves comprising: microphone means for extracting electrical vocal cord waves including pitch fluctuation features of vocal cord vibrations from body wall vibrations at the tracea, filter means operatively coupled to the output from said microphone means for compensating for loss characteristics of the wall of the trachea to said vocal cord wave, and time base display means operatively coupled to the output from said filter means for displaying said vocal cord waves including the pitch fluctuation features on an expanded time base scale for observation purposes.

PATENTS
GRANTED JUNE 3, 1969
GENERAL AND MECHANICAL

3,447,160
ADJUSTABLE HEADSET

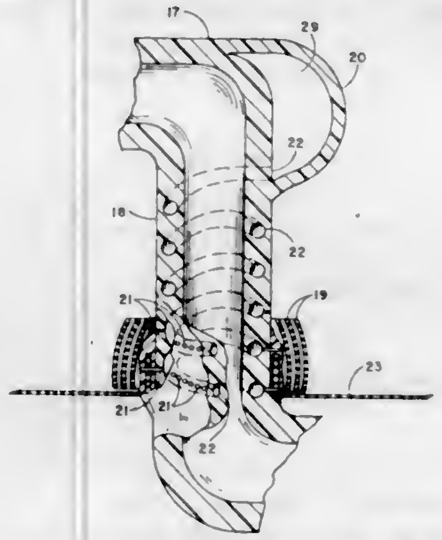
Harry Teder, Minneapolis, Minn., assignor to The Telex Corporation, Tulsa, Okla., a corporation of Delaware
Filed Nov. 29, 1965, Ser. No. 530,740
Int. Cl. A42b *1/06, 1/00*
U.S. Cl. 2—209 **5 Claims**



A headset in which an ear cup is adjustably disposed with respect to a headband to provide a four degree freedom of motion. The ear cup is rotatable about three mutually perpendicular axes and reciprocably displaceable about one of the three axes. Further adjustability of the the U-shaped headband itself is provided through the cooperative relationship existing between a C-shaped member disposed on suitable adjusting means to variably bias the U-shaped headband and the ear cup adjustably appended thereto. The headband elements, including the U-shaped headband, the C-shaped member and adjusting means may also be contained within a sleeve like head pad to maintain proper operative relationship between the elements and to protect the same from undesired interference.

3,447,161
DISINFECTANT DISPENSING PERCUTANEOUS CONNECTOR

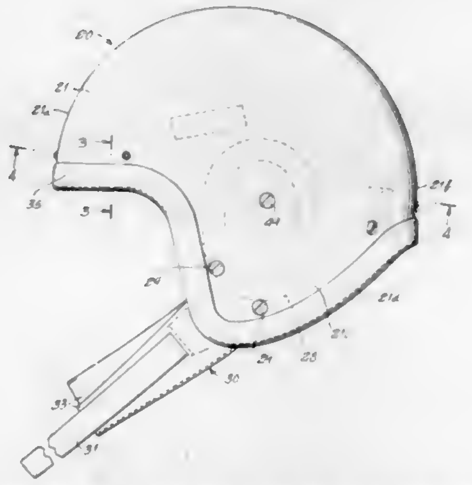
Anthony M. Weikel, Boston, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,162
Int. Cl. A61f *1/22;* **A61b** *19/00*
U.S. Cl. 3—1 **3 Claims**



A percutaneous connector having fluid and/or electrical conduit means, the connector being provided with a disinfectant filling site exterior of the skin and connected with a wall passage terminating in openings for dispensing a disinfectant into the subcutaneous region surrounding the connector.

3,447,162
SAFETY HELMET WITH IMPROVED STABILIZING AND SIZE ADJUSTING MEANS

Jackson A. Aileo, Carbondale, Pa., assignor, by mesne assignments, to Gentex Corporation, Carbondale, Pa., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,246
Int. Cl. A42b *1/08, 1/06;* **E06b** *7/22*
U.S. Cl. 2—3 **7 Claims**

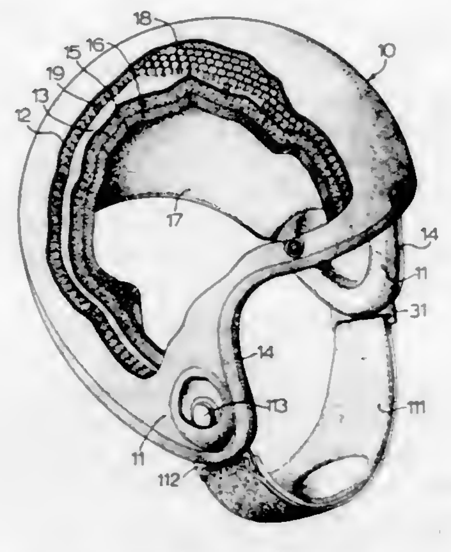


Safety helmet including a rigid shell adapted to receive the wearer's head with substantial space between the head and the shell, an internal rigging for supporting the shell on the head, and stabilizing means for limiting movement of the shell to prevent contact between the shell and the head. The rigging includes front and rear headband elements of fixed length. Headstraps extend over the crown of the head. Padded flaps attached to the headbands extend upwardly therefrom and spread any stress from the headbands over a substantial area of the head. Size adjustment is accomplished by insertion of pads of different thickness at the rear of the helmet, and also between ear enclosing cups and the helmet. Several modifications of size adjusting pads are shown and others are described. Stacks of pads on the inner surface of the shell, e.g., in the temple areas, stabilize the shell and limit its movement. A peripheral beading has a channel-shaped portion engaging the margin of the shell, and an inwardly projecting cylindrical portion which serves as a buffer to prevent contact between the shell and the head, and also partially blocks air flow through the space between the shell and the head.

3,447,163
SAFETY HELMETS

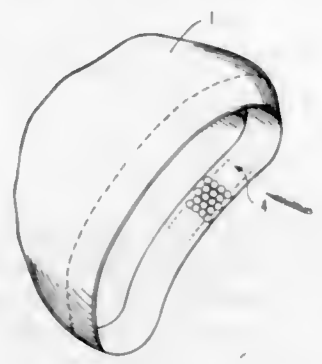
Peter W. Bothwell, 7 Red House Lane, Westbury-on-Trym, Bristol, England, and John M. Tojeiro, Townsend House, Barkway, near Royston, Hertfordshire, England
Filed Feb. 13, 1967, Ser. No. 615,723
Claims priority, application Great Britain, Feb. 16, 1966, 6,864/66; May 12, 1966, 21,179/66
Int. Cl. A42b *1/08*
U.S. Cl. 2—3 **2 Claims**

A safety helmet comprising an outer shell formed as a double skin member joined around the periphery and containing an impact energy absorbing material. The helmet is provided with a chin strap having a plug-in type fastener receivable in a recess in the interspace between the skins of the shell.



3,447,164
BATHING CAP

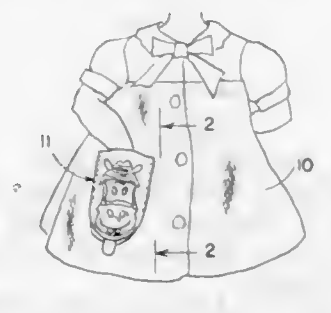
Ruth Arlene Greenhouse, 8736 Holloway Drive,
Los Angeles, Calif. 90069
Filed Dec. 13, 1967, Ser. No. 690,350
Int. Cl. A42b *1/12*
U.S. Cl. 2—68 **4 Claims**



The invention is directed to a bathing cap having a sealing strip extending about the circumference which includes a plurality of small, balloon-like members in closely adjacent staggered rows. When in use, the balloon-like members conform to the wearer's head and compress against one another to form a water-tight seal.

3,447,165
COMBINATION GARMENT AND TOY

Doris A. Brosk, 150 E. 69th St., New York, N.Y. 10021
Filed May 10, 1967, Ser. No. 637,577
Int. Cl. A41d *11/00, 27/20;* **A63h** *13/00, 3/14*
US. Cl. 2—75 **2 Claims**



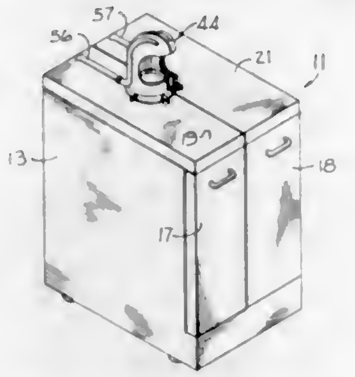
A combination child's garment, such as a dress, and toy, the latter providing a dual function of pocket and toy having movable parts which when the child places its hand in the pocket and manipulates the hand the pocket simulates animation.

ERRATUM

For Class 3—1 see:
Patent No. 3,447,161

3,447,166
COMBINED BATHING APPARATUS, COMMODE, ETC., FOR CONVALESCENT PATIENTS AND THE LIKE

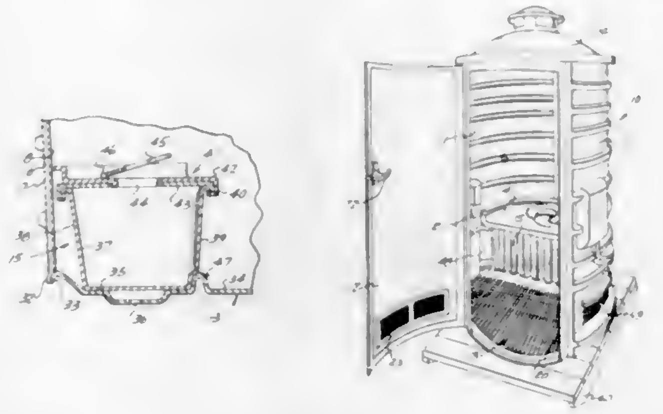
Lesley K. Gordon, Castro Valley, Calif.
(2212 Danville Blvd., Walnut Creek, Calif. 94529)
Filed May 18, 1966, Ser. No. 551,114
Int. Cl. A47k *17/00;* **E03d** *11/00*
U.S. Cl. 4—1 **9 Claims**



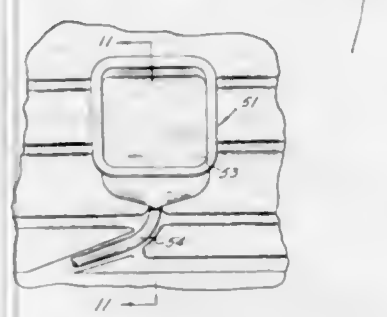
Apparatus for bathing a convalescent patient or other impaired individual is described which facilitates the bathing operation and includes means for automatically disposing of the results of bowel movements and the like without soiling of either the patient or the bath water. The apparatus includes a bathing cabinet which has doors which are openable for the entry of an individual for seated support within the cabinet. The doors sealingly engage each other when they are closed to provide a generally sealed enclosure about the body of the patient, and the cabinet includes an opening in its upper portion to permit the head of the patient to extend exteriorly of the cabinet. A seat is provided within the cabinet for supporting the patient, and a plurality of nozzles are mounted in spaced locations within the cabinet to direct a liquid upon the body of the seated patient. The seat is in the form of a commode seat and communicates with a drain pipe which extends to the exterior of the cabinet. A peripheral opening within the drain pipe adjacent the base of the cabinet allows drainage of the liquid sprayed from the nozzles through the drain pipe in a manner to flush the commode.

3,447,167
PORTABLE TOILET CABANA

David B. Harding, Grosse Pointe Woods, Mich., assignor to Sani-Jon of America, Inc., Warren, Mich.
Filed May 22, 1967, Ser. No. 642,654
Int. Cl. A47k *11/00;* **E04h** *14/00*
U.S. Cl. 4—116 **5 Claims**

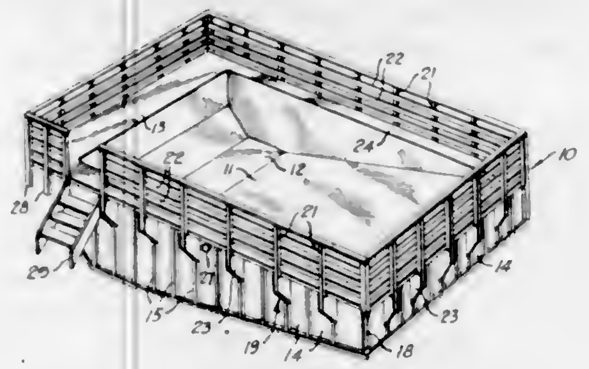


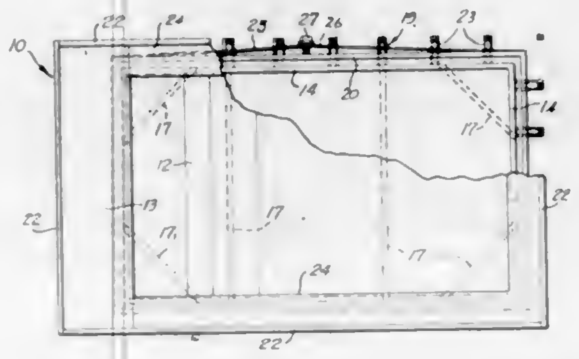
A portable cabana for outdoor chemical type toilets, formed of light-weight, thin, sheet plastic panels, configured for rigidity, and suitably indented to form toilet, toilet paper and urinal receiving sockets, joined together at their edges to form an unframed, approximately eliptical in horizontal cross-section closed structure.



3,447,168
SWIMMING POOLS

Donald P. Gabrielli, Spring Valley, and Joseph Chillino, Stony Point, N.Y., assignors to Epic Pools Corp., Monsey, N.Y., a corporation of New York
Filed Mar. 14, 1966, Ser. No. 534,121
Int. Cl. E04h *3/16*
U.S. Cl. 4—172 **1 Claim**



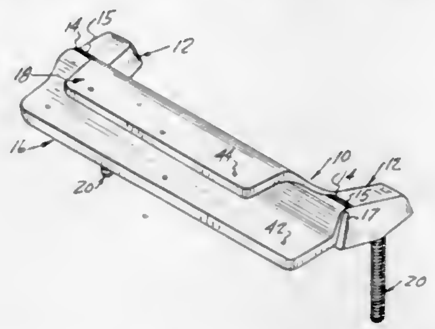


A prefabricated swimming pool has interconnected side walls enclosing a lined bottom and carrying spaced ribs. The ribs carry gussets which support upwardly extending posts. Camber bars are partially spaced from the side walls and are adjustable to compensate for water pressure inside the pool.

3,447,169
ONE-PIECE SINGLE-AXIS FLEXING HINGE FOR TOILET SEATS

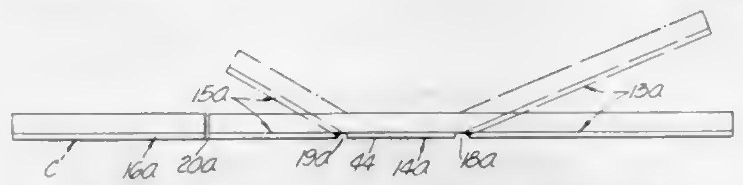
Robert E. Watson, Farmington, Mich., assignor to Swedish Crucible Steel Company, Detroit, Mich., a corporation of Michigan
Filed Nov. 18, 1966, Ser. No. 595,433
Int. Cl. A47k *13/12*
U.S. Cl. 4—240 **2 Claims**

The present invention consists of upper and lower hinge leaves joined to hinge posts on a common hinge membrane containing a single pivot axis and formed in a single integral unit from a material which will flex repeatedly for an indefinite number of times without cracking or breaking—for example, from polypropylene plastic. The hinge is molded in a single piece and eliminates hinge pins as well as the cracks between conventional hinge leaves and hinge pins where dirt and corrosive material lodges. The lower hinge leaf portion is secured by fasteners to the underside of the seat or ring and the upper hinge leaf portion to the lower side of the cover by similar fasteners. The hinge is fastened to the toilet bowl by threaded studs and nuts, the studs being either of different material seated in the hinge post body during molding or from the same material integral with the hinge post body and molded simultaneously therewith.



3,447,170
ARTICULATING PLATFORM STRUCTURE FOR SUPPORTING MATTRESS ON CONTOUR BEDS

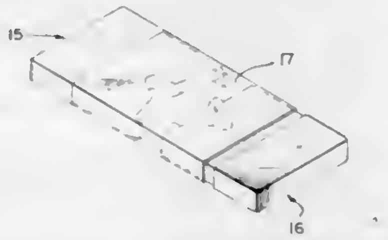
Melvin P. Spitz, Beverly Hills, Calif., assignor to Bedline Inc., Bell Gardens, Calif., a corporation of California
Filed Sept. 5, 1967, Ser. No. 665,428
Int. Cl. A61g *7/04, 7/06;* **A47c** *7/02*
U.S. Cl. 5—91 **2 Claims**



An articulate mattress supporting platform structure for an adjustable contour bed in which one or more rigid panels of plywood are secured to bed frame sections, each panel having a pad of cushioning material such as foam rubber bonded to its upper surface, and in the case of multiple panels, the panels being positioned end-to-end with adjacent edges spaced apart and bridged by the cushioning material so that when the panels are moved to a relatively angular position from a coplanar position, the bridging cushioning material will be compressed and creased. An enevlope encloses the cushioning material and is marginally secured to the associated panel or panels.

3,447,171
COMBINATION GOLF SHOE CALK MAINTENANCE KIT AND MONEY CLIP

Bird A. Eyer, 3409 Magnolia Blvd. W.,
Seattle, Wash. 98199
Filed June 29, 1967, Ser. No. 650,117
Int. Cl. B25f *1/00;* **B25b** *13/02;* **A47l** *23/22*
U.S. Cl. 7—1 **1 Claim**

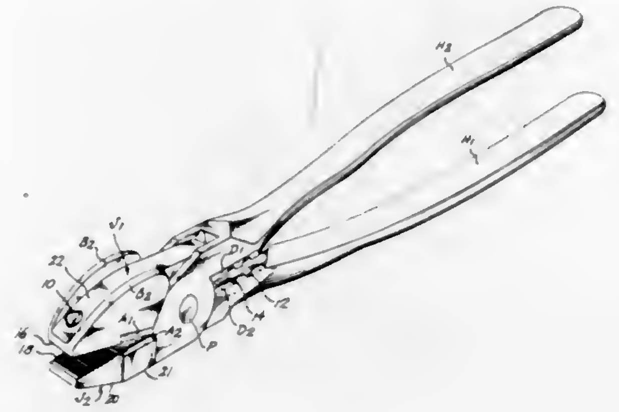


A combination golf shoe calk maintenance kit and money clip in which a sheath open at both ends receives a calk wrench at one end and a calk cleaning tool at the other end and has a money clip mounted thereon.

3,447,172

ELECTRICIAN'S TOOL

Virgil F. Clark, Rte. 2, Box 222, Burton, Wash. 98013
Continuation of application Ser. No. 393,208, Aug. 31, 1964. This application Dec. 19, 1966, Ser. No. 611,514
Int. Cl. B25b *7/22;* **H02g** *1/12;* **B21f** *13/00*
U.S. Cl. 7—5.2 8 Claims

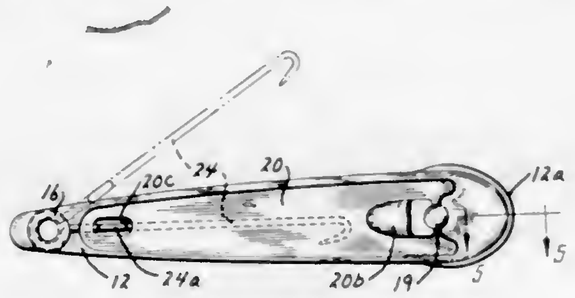


A plier type tool with a cable sheath slitter incorporated in the outer portion of one jaw thereof; a hammer surface on the other jaw thereof; a pair of coacting gripper jaws; a side placed pair of coacting cutter blades on the jaw side of the pivot; and a side placed pair of coacting stripper blades on the opposite side of the pivot. The slitter includes an open channel that is convexly curved longitudinally of the jaw, and concavely curved laterally of the jaw. An adjustable blade threaded into the jaw at a forward central position in the channel. Thumb pressure is used to press the blade relatively into the sheath.

3,447,173

FISHING LINE CLIPPER

Theodore W. Kleiman, 4620 Kratzville Road, Evansville, Ind. 47710
Filed May 29, 1967, Ser. No. 641,850
Int. Cl. B26b *11/00;* **B67b** *7/44;* **A45d** *29/00*
U.S. Cl. 7—14.3 3 Claims



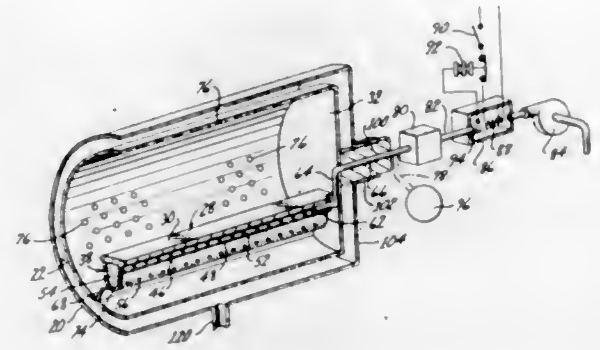
A fishing line clipper characterized by cutting edges defining a continuous curve and including a hooking accessory as well as knurled surfaces for ease in gripping.

3,447,174

LAUNDRY APPARATUS OR THE LIKE

Robert R. Candor, 5940 Munger Road 45459, and James T. Candor, 5540 Cynthia Lane 45429, both of Dayton, Ohio
Filed May 3, 1967, Ser. No. 635,848
Int. Cl. B08b *5/00;* **D06f** *29/02;* **F26b** *3/06*
U.S. Cl. 8—158 19 Claims

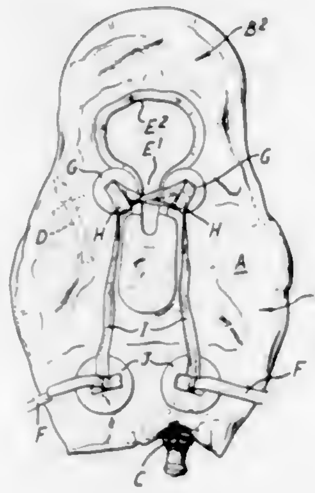
This disclosure relates to improved means for treating laundry or the like by tumbling the laundry in a supporting and rotating drum-like member and causing fluid to be forced through the laundry while the same is being compressed between the supporting drum and a nozzle means disposed within the drum, the nozzle means either forcing the fluid from the nozzle means through the compressed laundry or drawing the fluid through the laundry into the nozzle means.



3,447,175

INFLATABLE BODY-ATTACHMENTS FOR MARINE LIFESAVING

Stuart Sullivan, Manchester, England, assignor to Frankenstein Group Limited, a British company
Filed Dec. 26, 1967, Ser. No. 693,491
Claims priority, application Great Britain, Jan. 5, 1967, 702/67
Int. Cl. B63c *9/16*
U.S. Cl. 9—316 4 Claims



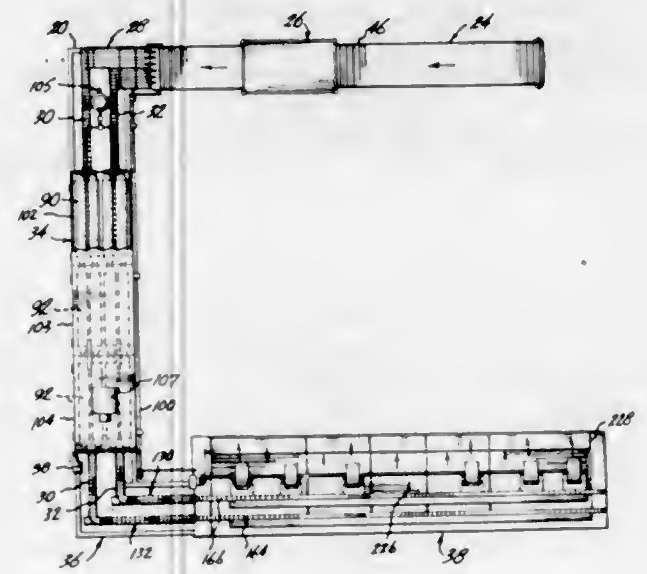
An inflatable lifejacket comprised of two similar superimposed panels of flexible material, formed to present a keyhole shaped aperture for the head of a wearer and flexible means attached to one panel to decrease the effective size of the aperture automatically upon inflation of the life jacket.

3,447,176

AUTOMATIC MACHINE FOR CANDLING, CLEANING, SANITIZING, AND GRADING OF EGGS

Lyle J. Butterworth, Tacoma, Larry D. Hiegel, Seattle, and Donald G. Scheffer, Renton, Wash., assignors to Dawson and Co., Inc., Tacoma, Wash., a corporation of Washington
Filed Oct. 10, 1967, Ser. No. 674,318
Int. Cl. A01k *43/08, 43/00*
U.S. Cl. 15—3.11 9 Claims

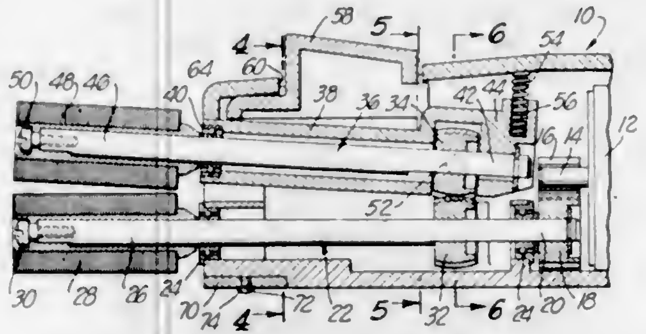
An automatic egg processing machine receives eggs on moving rolls of a cross loader guiding them through a candler for inspection. Thereafter eggs are moved on "around a corner and converging conveyor" which utilizes rotating brushes for egg orientation and paired coiled spring conveyors and spool conveyors for egg transporting. Eggs then continue on through washing, brushing, sanitizing and drying units. The latter include a relative moving sponge padded belt which absorbs moisture. Subsequently eggs are moved by a "around a corner and elevation differential conveyor." During such movement eggs are individually turned, guided, cushioned and directed to two levels to respective conveyors utilizing spaced, paired, upright, pusher arms. Then grading by weight is undertaken as eggs pivot calibrated responsive weight sensors positioned in line with the moving pusher arm conveyor. As weight sensors pivot, their guided magnet moves past a mercury switch controlling energy directed to a specific egg ejector. Ejected eggs are directed into corresponding rollaway grading sections. In so moving upon ejection from the top conveyor, eggs are lowered in a rotating brush to common level grading trays.



3,447,177

MECHANICAL WIRE STRIPPER

Lee C. Williams, Pasadena, and Bertram F. Butler, Encinitas, Calif., assignors to Kinetics Corporation of California, Solana Beach, Calif., a corporation of California
Filed Sept. 1, 1967, Ser. No. 664,972
Int. Cl. A46b *13/00;* **A47l** *25/00;* **H02g** *1/12*
U.S. Cl. 15—23 16 Claims

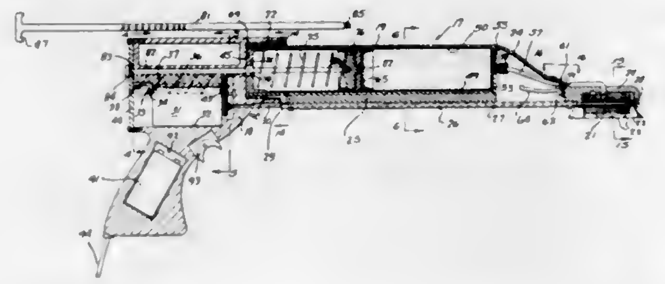


A wire stripper having rotatable brush shafts mounting aligned brushes, one of said shafts being pivotal relative to the other to move said brushes toward and away from each other while axes of the shafts remain at all times in a single plane. A control member controls the movement of the brush shafts and simultaneously closes switch contacts to rotate the shafts and brushes when the shafts and brushes are moved together. A selectively adjustable guard is positioned radially adjacent the brushes limiting the length of a wire end that may be inserted between the brushes.

3,447,178

ELECTRIC TOOTHBRUSH

John J. Pickering, 102 Barrett Ave., North Providence, R.I. 02904
Filed Jan. 26, 1968, Ser. No. 700,952
Int. Cl. A46b *13/04, 17/08*
U.S. Cl. 15—24 12 Claims

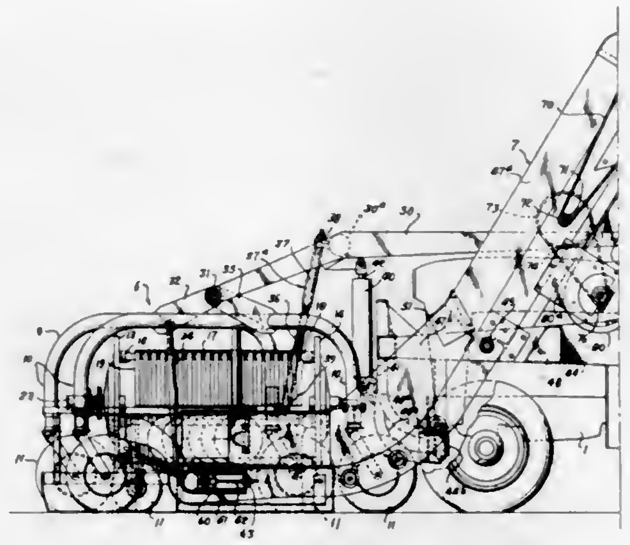


An electric toothbrush consisting of a pistol grip handle attached to an elongated main casing having a toothpaste compartment and having a rotary toothbrush at the forward end of the casing. The rear end of the casing contains an electric motor. The toothpaste compartment is provided with a spring-urged abutment disc adapted to abut the rear piston portion of a container of toothpaste to squeeze the paste through a front nozzle provided on the container. The nozzle is connected by a flexible tube to a housing containing the rotary brush. A manually-controlled pinch valve acting on the flexible tube is provided to control the feeding of the toothpaste. The rear end of the main casing has an air blower leading to the space behind the spring-urged abutment disc. The electric motor is drivingly-connected both to the rotary toothbrush and the blower.

3,447,179

TRASH PICKUP AND DISPOSAL DEVICE

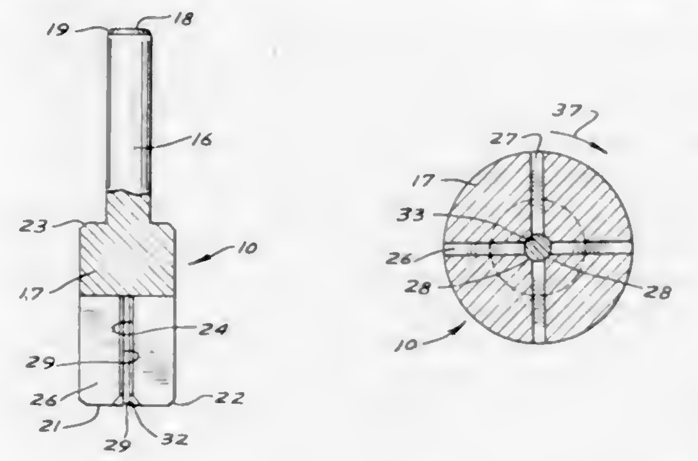
Jones E. Copeland, 3105 Darby Lane, Denton, Tex. 76201
Filed May 8, 1967, Ser. No. 636,845
Int. Cl. E01h *1/04;* **A01f** *77/06*
U.S. Cl. 15—81 16 Claims



A mobile, self-propelled trash pickup and disposal machine which includes laterally movable rotatable tines or brushes which move paper, bottles, cans and other debris on the terrain over which the device travels toward a conveyor where the debris is deposited on the entry end of the conveyor and is carried by the conveyor to a hopper mounted on the vehicle. A blower is provided for moving the debris from the conveyor into the hopper. The hopper is tiltably mounted with respect to the vehicle and may be raised to dump the debris therefrom. An automatically openable cover is provided on the hopper which is opened by the upwardly moving motion of the hopper in dumping the debris therefrom. The pickup mechanism and the outer end of the conveyor are pivotally mounted with respect to the vehicle whereby they may be raised off the ground while the device is being transported. The device is mounted on a tractor or like vehicle, and all components thereof are operated by hydraulic power supplied from the transporting vehicle.

3,447,180
WIRE STRIPPING TOOL

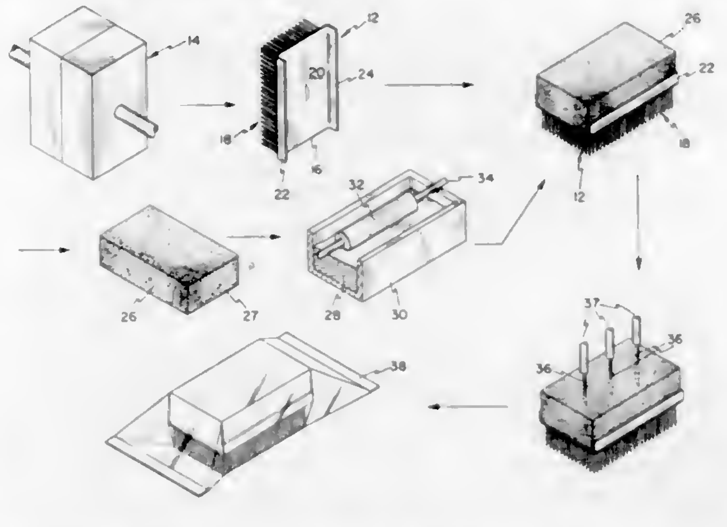
George J. Wasko, Rte. 2, Lakefield, Minn. 56150
Filed Sept. 13, 1965, Ser. No. 486,960
Int. Cl. B08b *1/04;* **B23d** *79/04, 79/10*
U.S. Cl. 15—93 10 Claims



A tool held in a chuck of a drill for removing coating from an end portion of a coated wire. The tool is a one-piece metal member having a shank integral with a cylindrical body. A uniform diameter axial bore extends into the body. A pair of longitudinal slots extend diametrically across the body through the bore. The slots have substantially parallel side walls spaced circumferentially a distance less than the diameter of the bore whereby each side wall has a longitudinal cutting edge operable to remove the coating from the wire.

3,447,181
SURGICAL SCRUB DEVICE

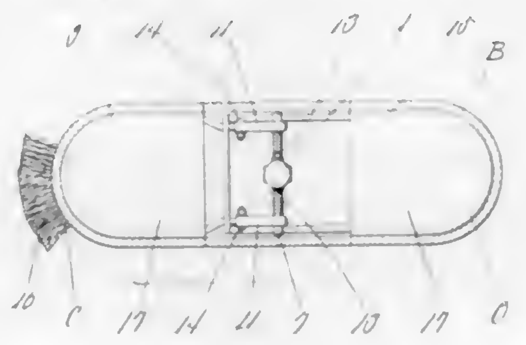
Donald G. Coker, Salt Lake City, and James C. Loveless, Layton, Utah, assignors to Deseret Pharmaceutical Company, Inc., Sandy, Utah
Filed Feb. 12, 1968, Ser. No. 704,670
Int. Cl. A46b *15/00;* **A47l** *13/14, 13/50*
U.S. Cl. 15—104.94 1 Claim



An end product for making a surgical scrub brush comprising molding a brush portion comprised of backing and bristles from synthetic resin and thereafter attaching a porous foam or sponge of selected size to the backing. Surgical detergent or the like is forced into the sponge, preferably at various depths for timed release during scrubbing. The surgical scrub device is thereafter packaged and sterilized.

3,447,182
MOP HOLDER

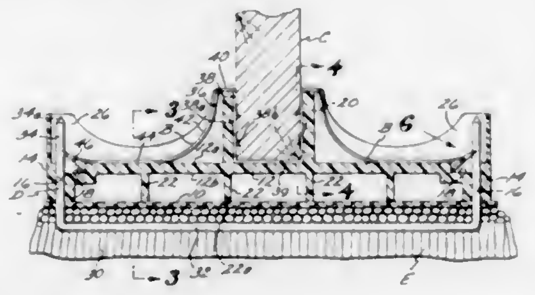
Teruko Shinagawa, 36 1-chome, Izuomatsuno-cho, Taisho-ku, Osaka, Osaka Prefecture, Japan
Filed Sept. 25, 1967, Ser. No. 670,326
Claims priority, application Japan, Nov. 29, 1966, 41/78,214
Int. Cl. A47l *13/252*
U.S. Cl. 15—147 1 Claim



A collapsible holder for a pocketed mop. A pair of coplanar wing members are mounted around a central shaft which is attached to the mop holder by a universal joint. Mounting members are rigidly secured to one of the wing members and pivoted on the central shaft, and have protuberances projecting outwardly and holding the other wing member with a supporting rod against the first wing member with the frames in a collapsible position. The arrangement permits collapsing of the wing member downwardly relative to the shaft simply by exerting an upward force on the mop handle, and returning it to the coplanar position by a downward force on the mop handle.

3,447,183
MOP STRUCTURE

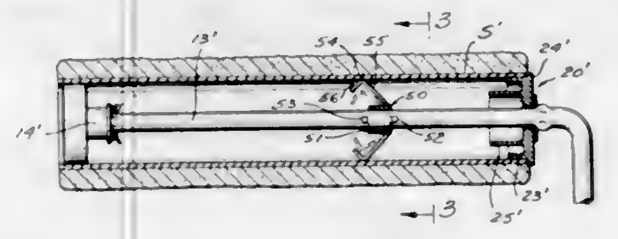
Robert M. McClung, 5422 Ludlow Ave., Garden Grove, Calif. 92641, and Fred J. McClung, 2925 Ellesmere St., Costa Mesa, Calif. 92626
Filed Dec. 13, 1967, Ser. No. 690,191
Int. Cl. A47l *13/255, 1/08*
U.S. Cl. 15—151 9 Claims



A mop structure which supports a mop head in a useable position from a body forming a part of the structure. Spring means also form a part of the structure which serves the dual function of permanently affixing an elongate handle to the head and removably supports a bail on the body to secure the mop head thereto.

3,447,184
CONSTRUCTION FOR PAINT ROLLER

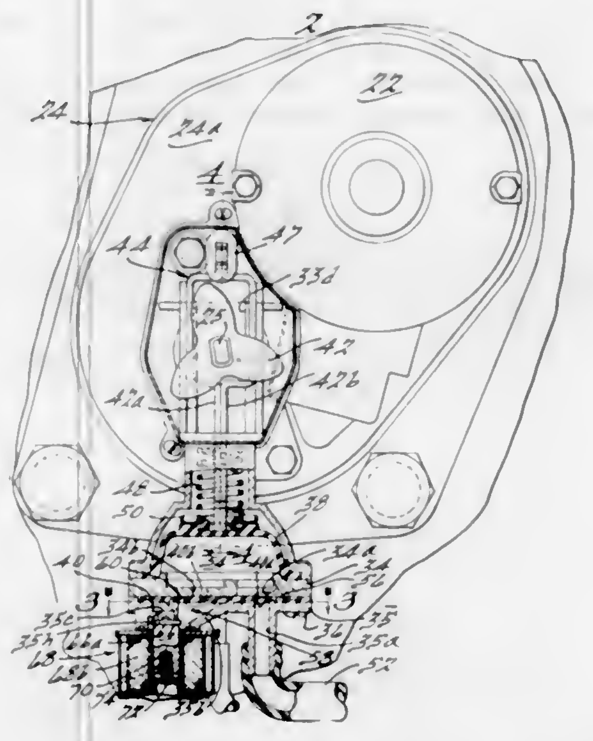
James J. McGinley, Williston Park, N.Y., assignor to Rollers By Baker, Inc., Brandon, Vt., a corporation of Michigan
Original application Feb. 18, 1965, Ser. No. 433,604, now Patent 3,335,446, dated Aug. 15, 1967. Divided and this application Mar. 31, 1967, Ser. No. 644,041
Int. Cl. B05c *1/08*
U.S. Cl. 15—230.11 4 Claims



A paint roller construction for facilitating removal of a roller sleeve without handling the sleeve, comprising inner and outer end caps for rotatably supporting the roller on the frame, gripper means on the axle of the frame for normally preventing axial movement of the sleeve relative to the frame, characterized by means for releasing the gripper means from the sleeve to effect removal of the sleeve responsive to movement of the inner end cap toward the outer end cap.

3,447,185
WINDSHIELD WIPING AND WASHING SYSTEM

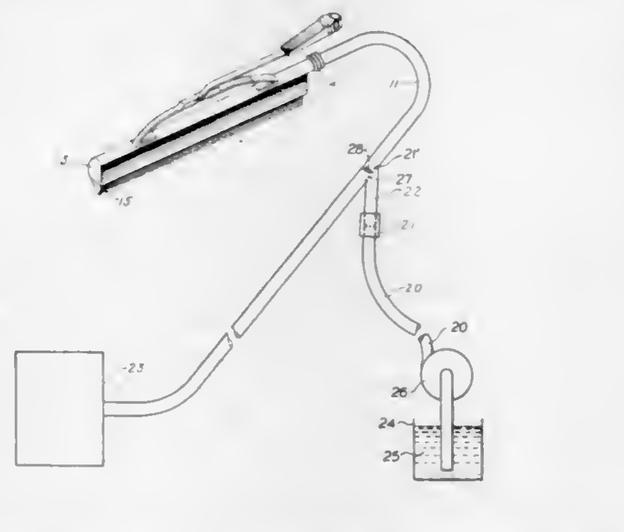
Andrew W. Zichichi, Royal Oak, and Klaus A. Michalke, Utica, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed July 5, 1966, Ser. No. 563,342
Int. Cl. B60s *1/48*
U.S. Cl. 15—250.01 8 Claims



A pump assembly for use as the washer pump in a windshield wiping and washing system for a motor vehicle. The discharge stroke of the pump diaphragm is effected by a yieldable driving connection between the motor shaft and the diaphragm and a solenoid valve is provided to selectively block discharge of fluid from the pressure chamber defined beneath the chamber diaphragm. The pressure chamber discharge may thus be blocked with the driving shaft rotating to trap pressure fluid in the pressure chamber and prevent discharge of the fluid from the chamber while the yieldable driving connection between the shaft and the diaphragm allows the motor shaft to continue to function to drive the wiper assembly.

3,447,186
WINDSHIELD WIPER, DEFROSTER AND WASHER

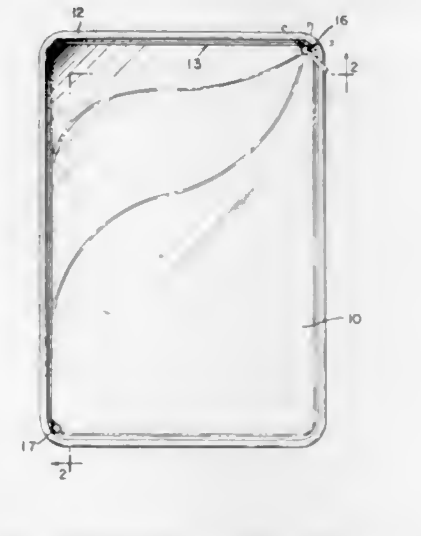
Alexander M. Senkewich, New York, N.Y., assignor of five percent each to Marjorie Kingston, Flushing, N.Y., and Linda Heilman, Rye, N.Y.
Continuation-in-part of application Ser. No. 426,029, Jan. 18, 1965. This application May 10, 1967, Ser. No. 637,601
Int. Cl. B60s *1/46, 1/54;* **A47l** *1/16*
U.S. Cl. 15—250.04 3 Claims



A windshield wiper that is supplied selectively with hot air, or cold or heated liquid, or a mixture of both mediums to one or more front and rear window wipers.

3,447,187
WIPER MECHANISM

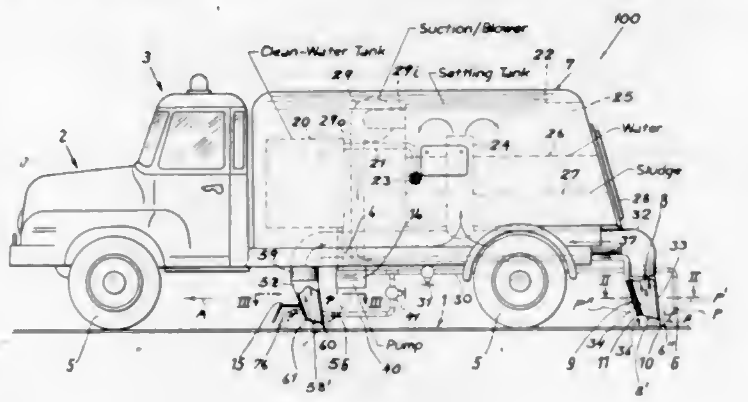
Robert E. Barrett, 11453 5th S., Seattle, Wash. 98168
Filed May 16, 1966, Ser. No. 550,437
Int. Cl. B60s *1/38*
U.S. Cl. 15—250.16 7 Claims



An apparatus for cleaning vehicle mirrors and small windows including a flexible wiper element having a length equal to one-half of the periphery of the surface to be cleaned and fixed at its opposite ends at opposite points on the periphery. An actuating means is connected to the element adjacent one end thereof. In normal operation the wiper moves from one side of the periphery to the other and moving assumes a sinuous shape.

3,447,188
ROAD-CLEANING VEHICLE

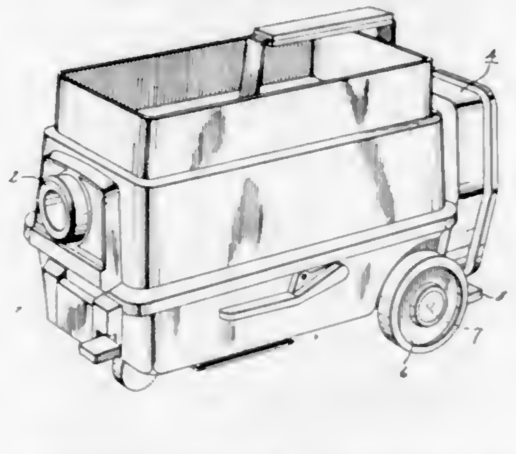
Wolfgang Maasberg, Krudenburg, Post Drevenack, Germany, assignor to Woma-Apparatebau Wolfgang Maasberg & Co., G.m.b.H., Rheinhausen, Germany, a corporation of Germany
Filed Mar. 16, 1967, Ser. No. 623,691
Claims priority, application Germany, Nov. 24, 1966, W 38,567
Int. Cl. A47l *11/29, 7/00;* **E01h** *1/08*
U.S. Cl. 15—320 **11 Claims**



A road-cleaning vehicle with an array of nozzles for directing high-pressure jets of water against a ground surface transversely to the direction of movement of the vehicle and a suction head having a longitudinally extending slot parallel to the nozzle array and opening close to the ground surface forwardly of the nozzles and under subatmospheric pressure for drawing the entrained particles and the liquid upwardly from the ground surface; the suction head is connected in series with a settling (sedimenting) tank while the nozzle array trains its jets upon the ground surface directly beneath the mouth of the suction head. An air curtain is provided forwardly of the suction head and is partly formed thereby so as to form a barrier to the passage of liquid beyond the mouth of the suction head as the vehicle moves along the road surface and the liquid jets are trained in this direction.

3,447,189
VACUUM CLEANER WITH CORD REEL

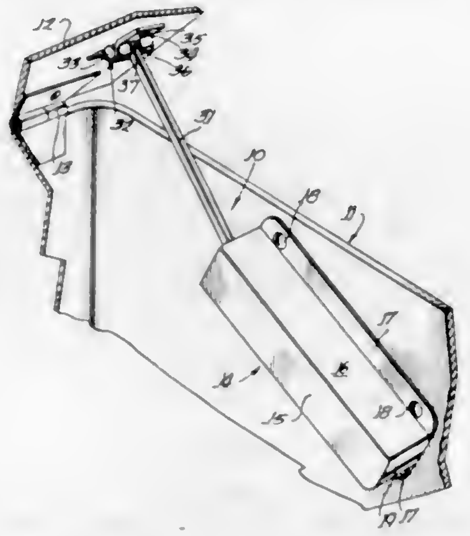
Louis J. Szabo, Fairview Park, Ohio, assignor to General Electric Company, a corporation of New York
Filed Nov. 12, 1965, Ser. No. 507,336
Int. Cl. A47l *9/26*
U.S. Cl. 15—323 **6 Claims**



An improved cord reel arrangement for a vacuum cleaner wherein a cord reel housing having top, bottom and side walls is uniquely constructed and positioned on a vacuum cleaner. The cord reel housing has an opening formed in one of its side walls for permitting the passage of an electrical cord, and a lever for controlling the operation of the cord reel extends through an opening which is formed in the other side wall of the housing. Thus, the cord control lever may be actuated from one side of the vacuum cleaner to retract the cord through an opening located at the other side of the vacuum cleaner. By this arrangement, the unwound cord is positioned at one side of the vacuum cleaner while the operator's feet are located at the other side of the vacuum cleaner so that when the cord is retracted, it does not become entangled around the feet of the operator.

3,447,190
COUNTERBALANCING LID SUPPORT

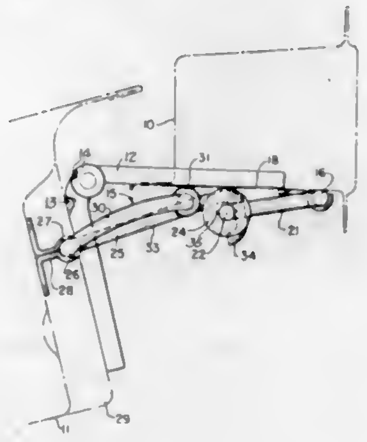
William H. Coe, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Rockford, Ill., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 678,065
Int. Cl. E05d *17/00;* **E05f** *1/00, 7/00*
U.S. Cl. 16—1 **6 Claims**



A counterbalancing lid support designed to support lids of school desk size and weight having a metal cover or housing secured within the pan of the desk and housing a plastic liner. A compression spring is positioned within the liner and a rod has a T-bar at one end fitting in a swivel mounted on the desk lid and a partial spherical member at the opposite end received in the plastic liner and abutting one end of the spring. Different weight lids can be accommodated with this lid support merely by changing the mounting location on the desk lid and pan.

3,447,191
DOOR CHECK

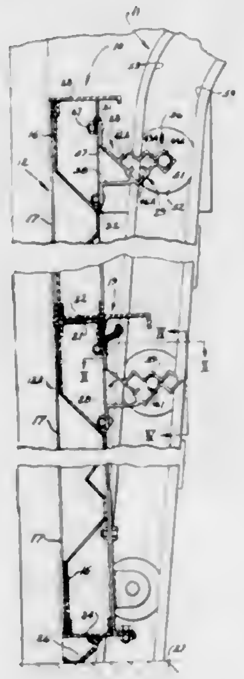
Robbert N. Peters, Son, Netherlands, assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed Mar. 6, 1967, Ser. No. 620,692
Int. Cl. E05f *5/02*
U.S. Cl. 16—82 **20 Claims**



This door check combines a torsion bar mounted vertically on the door pillar in the door jamb and a link pivotally mounted at one end on the door and having a hook on its other end arranged to engage a pin on the crank end of the torsion bar for a positive stop in the fully open position of the door. A roller mounted on the link inwardly from the hook end has rolling engagement on a surface of the pillar between a larger roller on the crank end of the torsion bar and the pillar, the smaller roller going from a position on one side of the larger roller in the closed position of the door to a hold-open position on the other side thereof when the hook engages the pin in the open-position of the door, the arrangement being such that there is greater resistance to closing of the door than in the opening thereof.

3,447,192
ROLLER GUIDE

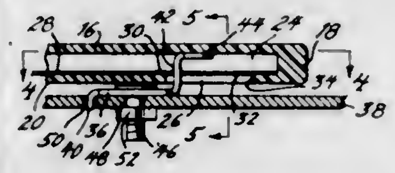
Paul E. Pemberton, Irving, Tex., assignor to Overhead Door Corporation, Dallas, Tex., a corporation of Indiana
Filed Aug. 11, 1967, Ser. No. 659,922
Int. Cl. E05d *13/02, 15/26;* **A47h** *15/00*
U.S. Cl. 16—104 **7 Claims**



Upwardly acting door structure including a plurality of horizontally hinged sections, each of which has a plurality of guide devices thereon for supporting said sections upon and guiding them along a pair of track means which are located near the opposite edges of said door structure. Each guide device includes a bracket capable of supporting a roller shaft in any one of a plurality of axially spaced positions, and each roller shaft has a roller mounted thereon and engageable with one of said track means.

3,447,193
FLEXIBLE COLLAPSIBLE HANDLE WITH CONCEALED HARDWARE

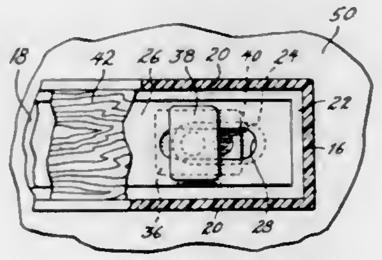
George W. Bush, Haddonfield, N.J., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey
Filed July 21, 1967, Ser. No. 655,029
Int. Cl. E05b *5/00;* **A47b** *95/02;* **A47j** *45/06*
U.S. Cl. 16—115 **9 Claims**



A collapsible handle for a carrying case made of a flexible handgrip having an outer soft sheath and an inner stiffer leaf spring with hardware to slidably attach the handgrip to the carrying case inwardly of its ends to substantially conceal the attaching means, the hardware including members extending through slots in said sheath and spring and crossheads on the members traversing the slots and means to effect attachment of the hardware to the wall of the case whereby the crossheads are automatically retained in their slot-traversing positions.

3,447,194
FLEXIBLE COLLAPSIBLE HANDLE WITH CONCEALED HARDWARE

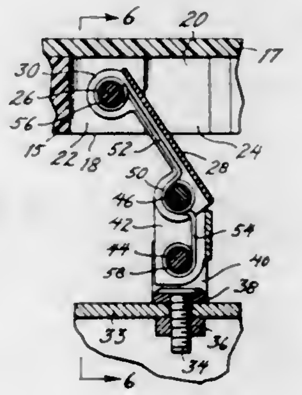
George W. Bush, Haddonfield, N.J., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 655,029, July 21, 1967. This application Oct. 30, 1967, Ser. No. 678,843
Int. Cl. B65d *25/28*
U.S. Cl. 16—115 **4 Claims**



A collapsible handle for a carrying case made of a flexible handgrip having an outer soft sheath and an inner stiffer leaf spring with hardware to slidably attach the handgrip to the carrying case inwardly of its ends to substantially conceal the attaching means, the hardware including members extending through slots in said sheath and spring and crossheads on the members whose length and width each exceed the width of the slot and means to effect attachment of the hardware to the wall of the case whereby the crossheads are automatically retained in slot-traversing positions.

3,447,195
HIDEAWAY COLLAPSIBLE HANDLE WITH SPRING MEANS URGING THE HANDLE TO COLLAPSED POSITION

George W. Bush, Haddonfield, N.J., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey
Filed Oct. 30, 1967, Ser. No. 678,844
Int. Cl. A47j *45/06;* **B65d** *25/28;* **A45c** *13/22*
U.S. Cl. 16—115 **4 Claims**



A collapsible handle in which the pivoted links attaching the handgrip to the cover or the well in a cover of a carrying case are confined within recesses in the handgrip when the handle is collapsed and resilient means urging the handgrip into the collapsed position so that if the cover is removed or hinged to an open position the handgrip will remain against the cover or in the well thereof at all times.

3,447,196

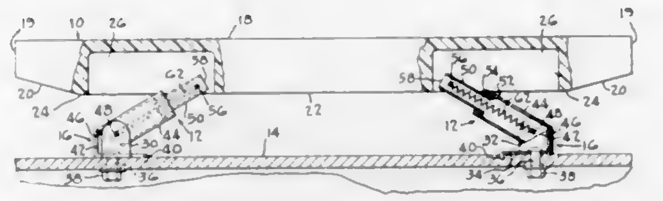
COLLAPSIBLE HANDLE OPERABLE BY EXERTION OF A PUSH DOWNWARDLY ON ONE END THEREOF

Marton, Szabo, Broomall, Pa., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey

Continuation-in-part of application Ser. No. 630,389, Apr. 12, 1967. This application Mar. 21, 1968, Ser. No. 714,975

Int. Cl. A45c *13/22, 13/26;* **E05b** *5/00*

U.S. Cl. 16—115 **7 Claims**



A collapsible handle for a carrying case, luggage and the like wherein the handle can be raised from its collapsed position by first depressing one end of the handgrip to raise its other end and then releasing the depressed end, the construction of the linkage means pivotally connecting the handgrip to the case wall being such as to provide toggle action to positively retain the handle in its collapsed position and spring action to positively raise the handle and prevent it from overturning.

3,447,197

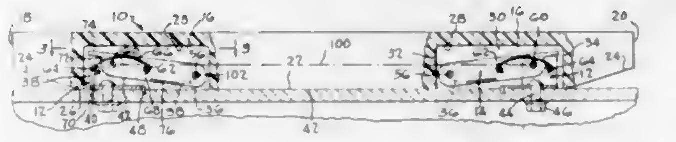
COLLAPSIBLE HANDLE OPERABLE BY EXERTION OF A PUSH DOWNWARDLY ON ONE END THEREOF

Marton Szabo, Broomall, Pa., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey

Continuation-in-part of application Ser. No. 630,389, Apr. 12, 1967. This application Apr. 5, 1968, Ser. No. 719,053

Int. Cl. A45c *13/26*

U.S. Cl. 16—115 **8 Claims**



A collapsible handle for a carrying case, luggage and the like in which the linkage pivotally connecting the handgrip to the case wall is urged selectively by leaf springs into a raised carrying position and a toggled collapsed position with the lower surface of the handgrip against or adjacent the case wall.

3,447,198

CHAIR CONTROL BACK BACK-PLATE WITH INTEGRALLY FORMED BEARINGS

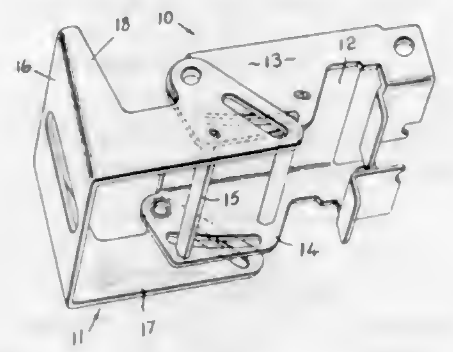
Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Ontario, Canada, a corporation of Ontario

Filed Sept. 28, 1966, Ser. No. 582,745

Int. Cl. A47c *7/46;* **F16c** *11/00*

U.S. Cl. 16—128 **1 Claim**

A chair control for the posture type chair in which the back back-plate which supports the chair back and the back-plate are pivotally connected; pivotal connection being formed by punching the material from which the plates are formed to form oppositely disposed bearings in the back-plate and oppositely disposed annular bearing members in the back back-plate, which bearing members fit into the bearings; the back back-plate being sufficiently rigid to prevent the bearing members being accidentally dislodged from the bearings during use.



3,447,199

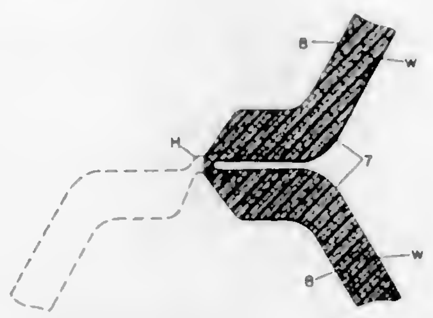
FOAMED PLASTIC HINGE AND ITS MANUFACTURE

David C. Trimble, Yorklynn, Del., assignor, by mesne assignments, to Hercules Incorporated, New Castle County, Del., a corporation of Delaware

Filed Apr. 8, 1966, Ser. No. 541,189

Int. Cl. B29c *3/00*

U.S. Cl. 16—150 **2 Claims**



This invention relates to a method of forming an integral hinge in a foamed plastic article and to the hinge so formed, the method comprising heating a workpiece consisting of a sheet of foamed plastic to forming temperature, introducing the same into a mold wherein the workpiece is thermoformed while the hinge is formed simultaneously by means of a blade on one mold section that is advanced into the workpiece and into a resilient backing member on the other mold section whereby the foamed material is collapsed by the blade and is bent sharply around the edge thereof by the deformed backing member to form a thin neck of collapsed material that is displaced outwardly of the surface of the material adjacent the backing member, after which the workpiece is cooled to setting temperature and the mold is opened to remove the same. The resulting hinge is characterized by very low pivotal resistance and by a minimum memory or swing-back tendency.

3,447,200

FISH HOLDER

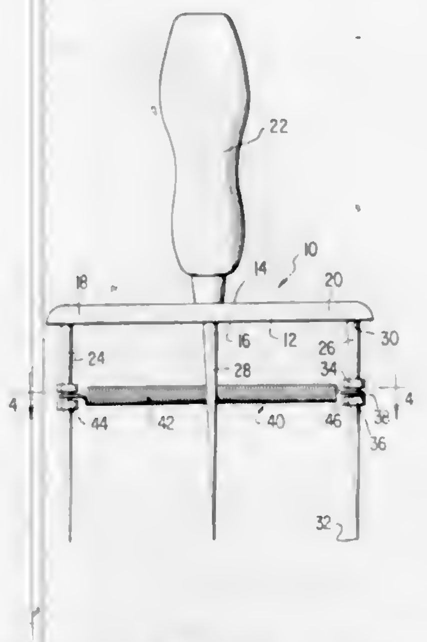
James A. Madre, Rte. 4, Box 452, Elizabeth City, N.C. 27909

Filed Jan. 3, 1967, Ser. No. 606,881

Int. Cl. A22c *25/08, 25/06;* **A47j** *43/18*

U.S. Cl. 17—70 **4 Claims**

A holding device for fish and the like having a handle connected to a bar with plural pick elements, and a spring member connecting the outermost pick elements for selective engagement of the fish in different positions for cleaning or handling.



3,447,201

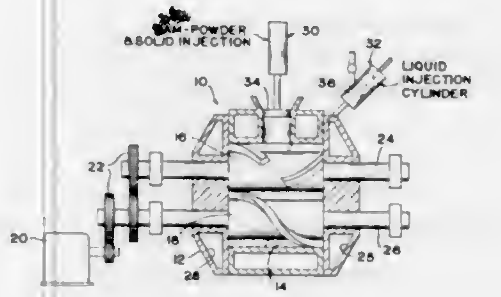
AUTOMATIC PLASTIC MIXING APPARATUS

Rex C. Seanor, Akron, Ohio, and S. Everett Perlberg, Fairlawn, N.J., assignors to Adamson United Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 19, 1966, Ser. No. 602,767

Int. Cl. B29h *1/10*

U.S. Cl. 18—2 **7 Claims**



A combination and mixing apparatus for elastomeric materials is provided and includes a housing defining a mixing chamber in which a rotary type mixing means is positioned. A variable speed motor is provided for the mixing means and other means are present to detect a change in motor torque. The apparatus includes means responsive to the torque detecting means and to the temperature sensing means for the plastic to change the speed of the drive motor.

3,447,202

SPINNING APPARATUS WITH A SPINNERET AND AN ELONGATED CHAMBER WITH MEANS TO PERFORM RETARDED COOLING

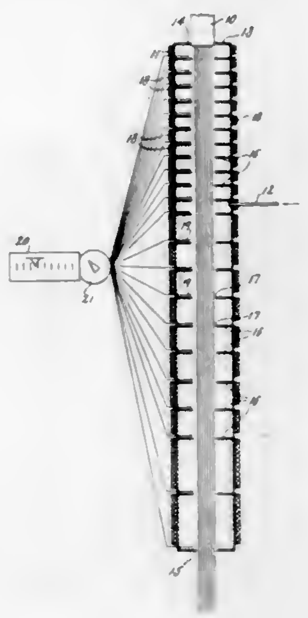
Haruto P. Kato, Clifton, N.J., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

Filed July 6, 1964, Ser. No. 380,442

Int. Cl. D01d *5/12;* **D01f** *7/06*

U.S. Cl. 18—8 **1 Claim**

A spinning device having an elongated heated jacket downstream from the spinneret with a cross-sectional area substantially larger than the face of the spinneret. The jacket has baffles which divide it into a plurality of zones which are separately heated and which have increasing length away from the spinneret face.



3,447,203

EXTRUSION APPARATUS

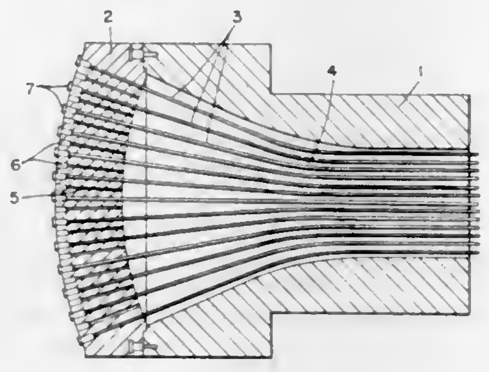
Ronald Campbell, Nazeing, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, Millbank, London, England

Filed July 5, 1967, Ser. No. 651,316

Claims priority, application Great Britain, July 6, 1966, 30,289/66

Int. Cl. B29f *3/04*

U.S. Cl. 18—14 **2 Claims**



A die for use in the manufacture of a perforated extrusion comprises a convergent die bush, having a pin carrier positioned at the entry end of the die, and on which is mounted an array of long flexible pins each anchored in the pin carrier and able, during an extrusion, to follow the plastic flow pattern in the extrusion.

3,447,204

EXTRUSION APPARATUS

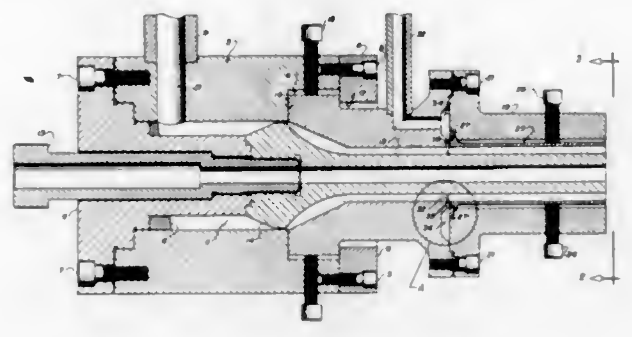
John J. Lainson, 1600 N. Elm, Hastings, Nebr. 68901

Filed May 1, 1967, Ser. No. 635,235

Int. Cl. B29f *3/014;* **B29d** *5/00*

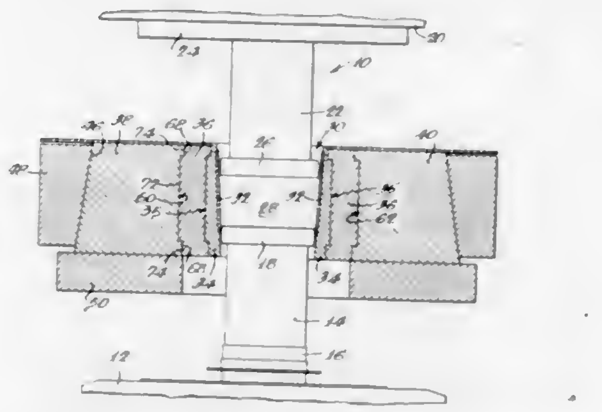
U.S. Cl. 18—14 **7 Claims**

A die for extruding a multiple layer plastic cylinder of the type employed in tubes or container walls. This die effects the simultaneous extrusion of bonded plastic layers with adjusting means being provided to control the total concentricity of the complete cylinder wall, and also the relative concentricity of one of the cylinder layers with respect to the other cylinder layer. An improved relative concentricity adjustment is attained by providing for the pivotal rotation on its longitudinal axis of an outer layer formng sleeve relative to an inner layer forming sleeve to control a concentricity passage defined by both sleeves. Additionally, a flow equalizing groove is located at this passage so that any foreign particles clogging the plastic input to the passage will not create layer imperfections.



3,447,205
PRESS MOLD BOX ASSEMBLY

Robert James Dorsey, Chicago, Ill., assignor to Wehr Corporation, a corporation of Wisconsin
Filed Nov. 29, 1966, Ser. No. 597,609
Int. Cl. B29c *1/06*
U.S. Cl. 18—34 **12 Claims**

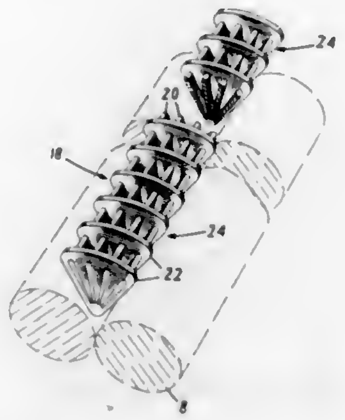


Contemplated is a mold box assembly for use in high pressure presses used in forming bricks or the like. The mold box assembly includes a large circular ring having a generally conical central aperture in which a plurality of removable wedges having surfaces that mate with the aperture surface are received. The wedges in turn support a mold box within the center of the apertures and during compression of the molded material, the loading on the mold box is substantially equally distributed about the ring. Because of the removability of the wedges, the mold box assembly is susceptible to rapid changing of the mold box to enable rapid conversion from one molded article size to another.

3,447,206
DRAW FRAME FOR BLENDING FIBERS

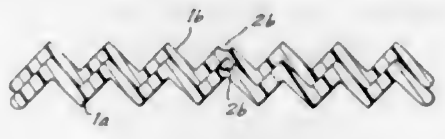
William G. Klein, Wellesley Hills, Mass., and Warner H. Tabor, Bristol, R.I., assignors to Whitin Machine Works, Inc., Whitinsville, Mass., a corporation of Massachusetts
Filed Oct. 24, 1967, Ser. No. 677,570
Int. Cl. D01h *5/00;* **D01g** *25/00, 27/00*
U.S. Cl. 19—243 **3 Claims**

The disclosure herein relates to apparatus and a process for blending multifiber slivers wherein slivers of fiber are conducted from the creels in a drawing frame into the back rolls of a drafting head by guide mechanisms which flatten each of the separate slivers and assemble the flattened slivers into superimposed relation so as to form a web before the slivers reach the back rolls.



3,447,207
STRAPPING DEVICE

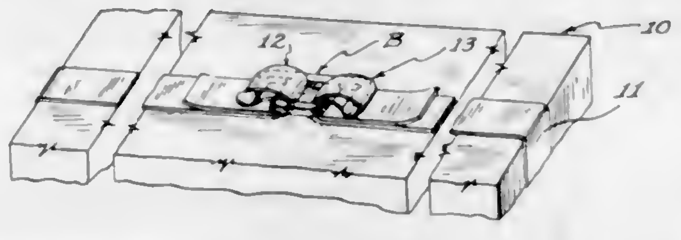
Josef Helmut Danzer, Wuppertal-Elberfeld, Germany, assignor to Trierer Walzwerk AG, Wuppertal-Langerfeld, Germany
Filed July 25, 1967, Ser. No. 656,988
Claims priority, application Germany, July 27, 1966, D 50,690
Int. Cl. B65d *63/10, 65/28*
U.S. Cl. 24—16 **9 Claims**



An elongated band of plastic material includes two transversely spaced longitudinal edge portions. In transverse cross section the band has an undulatory configuration. The band is provided with at least one strip-shaped weakened portion extending intermediate the edge portions in substantial parallelism therewith to thereby permit severing of the band along this weakened portion.

3,447,208
STRAP TENSION BUCKLE

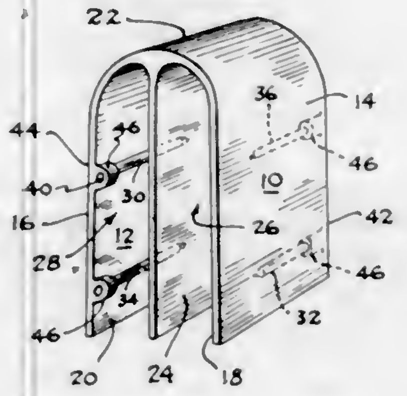
John R. Beach, Elmhurst, Ill., assignor to Signode Corporation, a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,801
Int. Cl. B65d *63/02, 63/08*
U.S. Cl. 24—23 **11 Claims**



A tension buckle of molded nylon in the shape of a flat E-frame is disclosed for symmetrical bridging connection between adjacent ends of packaging strap. The E-shape disclosed herein includes a main endwise run carrying endmost cantilever arms or crossbars terminating in enlarged free ends and a center arm of U-shape to present intermediate crossbars joined by an endwise run portion. The endmost crossbars are larger in transverse section than the intermediate crossbars and are carried by portions of the main endwise run that are of maximum transverse section for increased resistance to bending. Each endmost crossbar and adjacent intermediate crossbar form a crossbar set to receive a strap end in a reverse fold configuration wherein a strap bight portion embraces the endmost crossbar and buckle-gripping and overlapping strap-gripping strap portions lead between the intermediate crossbars and then endwise beyond the strap bight portion.

3,447,209
DIAPER CLIP

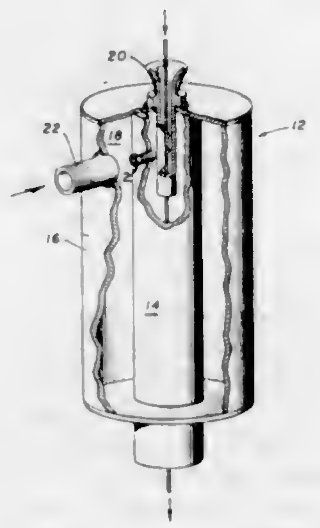
Alan L. Sullivan, Rte. 2, Box 153,
Burlington, Wis. 53105
Filed Aug. 14, 1967, Ser. No. 660,515
Int. Cl. A44b *9/00, 21/00*
U.S. Cl. 24—87 **3 Claims**



This invention relates to a diaper clip which when used in pairs are far superior to safety pins for fastening diapers to infants and small children. Specifically, the diaper clip comprises a pair of top joined spaced apart plates which have positioned between their opposed inner faces a spacing leaf. The plates as divided by the leaf thereby have formed therebetween two diaper edge receiving channels. The inner faces of the plates are each fitted with one or more pins whose points on one face project in the opposite direction to the points of the pins positioned on the face of the oppsite plate.

3,447,210
ORIFICE WITH FORAMINATE MEANS

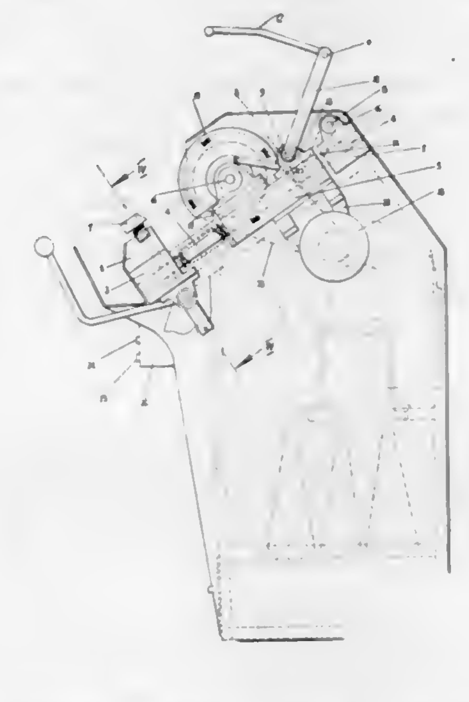
Paul D. Barlow, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,127
Int. Cl. D02g *3/00;* **D02j** *13/00;* **D01h** *13/00*
U.S. Cl. 28—1 **1 Claim**



A fluid metering orifice insert having an expansion chamber partitioned by a foraminous wall providing a diffused fluid stream.

3,447,211
SKIRT FRINGING APPARATUS

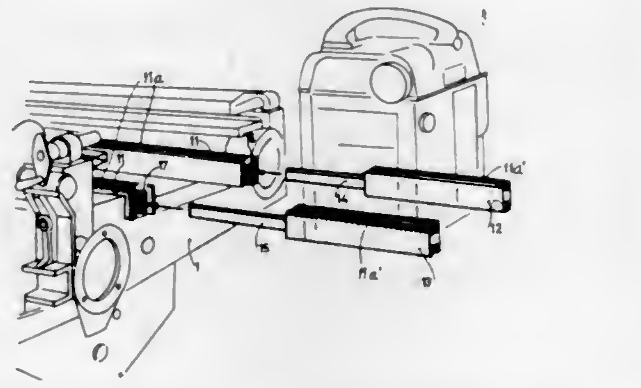
Robin Gore Rees, Dublin, Ireland, assignor to Desmond Martin Forde, Blackrock, Ireland
Filed July 18, 1967, Ser. No. 654,239
Claims priority, application Ireland, July 20, 1966, 810/66
Int. Cl. D06c *23/02;* **D04d** *7/08*
U.S. Cl. 28—18 **8 Claims**



A skirt fringing apparatus having a support and associated clamp for locating material on the support, a rotatable brush carrying drum borne by carriage members slidable on guides to bring the rotatable brushes into contact with material clamped on the support, an electric motor suspended beneath and movable with the drum, and a simple lever system for moving the guided carriage member towards the support.

3,447,212
GUIDE FRAME CONSTRUCTION FOR TYING ATTACHMENTS OF WARP TYING MACHINES

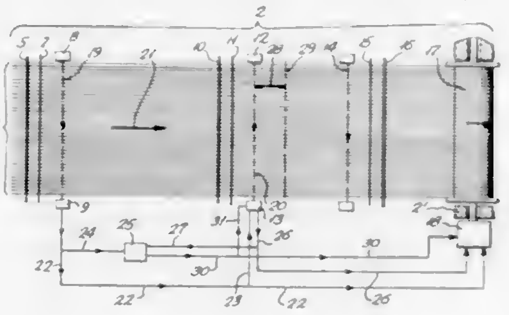
Alois Altenweger, Uster, Switzerland, assignor to Zellweger Ltd., Uster, Switzerland
Filed June 7, 1967, Ser. No. 644,235
Claims priority, application Switzerland, Aug. 10, 1966, 11,707/66
Int. Cl. D03j *1/18;* **D02h** *11/00*
U.S. Cl. 28—49 **5 Claims**



A warp tying machine includes one or more frames each having a guide for a warp tying attachment. The attachment is movable along the guide for the purpose of tying the warp threads to be used on a weaving machine. The warp tying frame includes one or more tying attachment guides which are arranged so that they may be displaced laterally or provided with an extension which may be either moved laterally or connected on the side edge of the existing guide for the purpose of providing a support and guide for the tying attachment extending beyond one side of the frame in order to facilitate the tying in operation for the warp threads especially where more than one warp beam is provided.

3,447,213
METHOD AND APPARATUS FOR DETECTING IRREGULARITIES IN A MOVING SHEET OF YARN

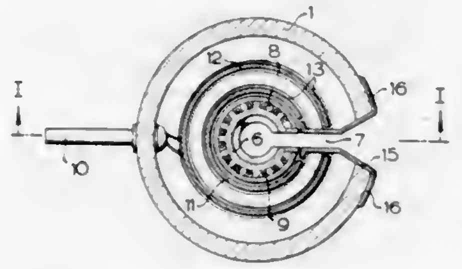
Sieme Dost, Emmen, and Michiel J. Duncker, Arnhem, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 696,242
Claims priority application Netherlands, Jan. 11, 1967, 6700367
Int. Cl. D02h *13/08;* **D03d** *45/10, 51/28*
U.S. Cl. 28—51 11 Claims



Method and apparatus for detecting irregularities in a moving sheet of yarn particularly during a warping process with at least two photoelectric detecting means spaced along the path of the moving sheet which comprises producing a signal with a first photoelectric detecting means when an irregularity in the sheet is observed thereby, reducing the speed of the sheet in response to said signal, producing a second signal with a second photoelectric detecting means spaced downstream of the first detecting means when the same irregularity is observed thereby and stopping the movement of the sheet in response to the second signal.

3,447,214
SINGEING DEVICE FOR THREADS

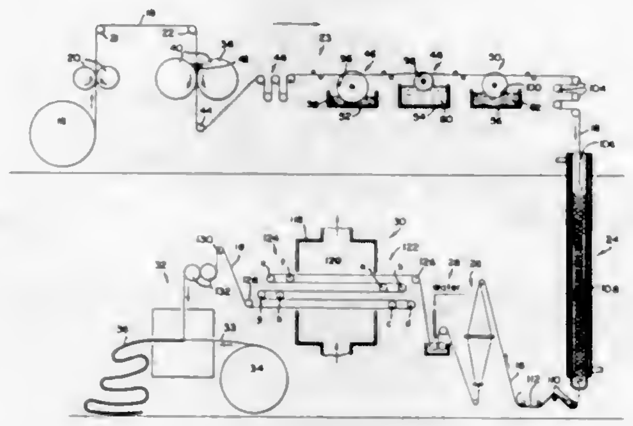
Willy Heimes, Krefeld, Germany, assignor to Palitex Project-Company, G.m.b.H., Krefeld, Germany
Filed Oct. 11, 1967, Ser. No. 674,407
Claims priority, application Germany, July 18, 1967, P 42,613
Int. Cl. D02j *3/16;* **D06c** *9/00*
U.S. Cl. 28—63 3 Claims



The present invention relates to a singeing device for threads in the textile industry, according to which the thread to be singed is passed axially through a hollow electrically heated cylinder.

3,447,215
PRODUCTION OF RANDOM DYED PILE TEXTILES

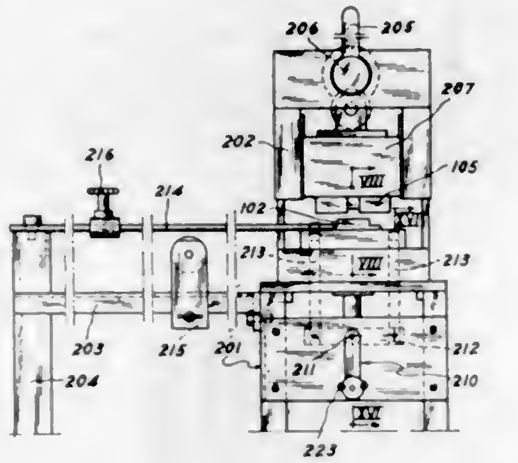
John G. Tillotson, Dalton, Ga., assignor to Advance Finishing, Inc., Dalton, Ga., a corporation of Georgia
Filed June 26, 1967, Ser. No. 648,652
Int. Cl. D02g; D04h *11/00*
U.S. Cl. 28—75 14 Claims



A continuous pile yarn dyeing process prints a pseudo-random multi-color pattern on a sheet of yarns, fixes the dyes, shuffles the yarns for optimum spatial separation of those printed adjacently, washes and dries the yarns, de-aligns the yarns pseudo-randomly, and forms them into pile in a backing sheet or web. The process can be modified to dye in solid colors with certain attendant advantages.

3,447,216
FINISHING AND ASSEMBLING TUBULAR METAL SLATS OF ROLLER BLINDS

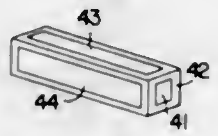
Jaime Colom Grau, Plaza General Primo de Rivera 31, Tarrasa, Barcelona, Spain
Filed Feb 9, 1967, Ser. No. 614,980
Claims priority, application Spain, Feb. 15, 1966, 323,442; June 22, 1966, 328,239
Int. Cl. B23p *19/04*
U.S. Cl. 29—24.5 9 Claims



In the manufacture of roller blinds, a process for finishing and assembling tubular metal slats having inner cores adapted to receive interlinking elements, which comprises providing the inner cores with means rigidly connected thereto adapted to act as counter-punches, dies and guides in the punching-out and drawing operations for the slats and in the assembling operations of the interlinking elements, placing the inner cores with said means within the slats and performing the said punching-out, drawing and assembling operations for the slats with the co-operation of the said means on the inner cores. Also, a press for carrying out the said process.

3,447,217
METHOD OF PRODUCING CERAMIC PIEZOELECTRIC VIBRATOR

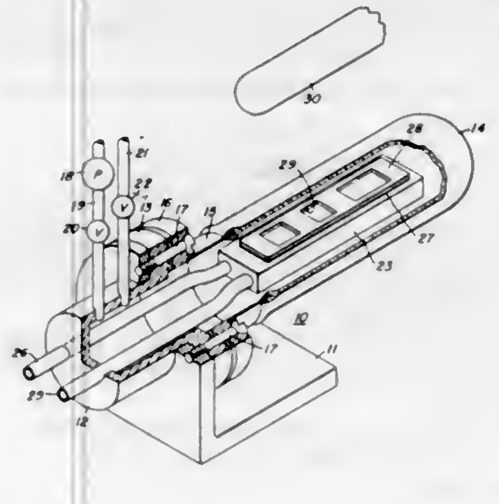
Akio Kumada, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed Jan. 27, 1965, Ser. No. 428,390
Claims priority, application Japan, Feb. 5, 1964, 39/5,743
Int. Cl. H04r *17/00*
U.S. Cl. 29—25.35 2 Claims



Piezoelectric vibrators and method of producing the same, comprising, as integral structure, lead titanate-zirconate with an intermediate layer formed therein by chemical reduction and ensuing oxidation.

3,447,218
METHOD OF MAKING A CAPACITOR

Archibald N. Wright, Schenectady, and Richard C. Merrill, Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 22, 1966, Ser. No. 603,960
Int. Cl. H01g *9/04, 13/00*
U.S. Cl. 29—25.42 4 Claims

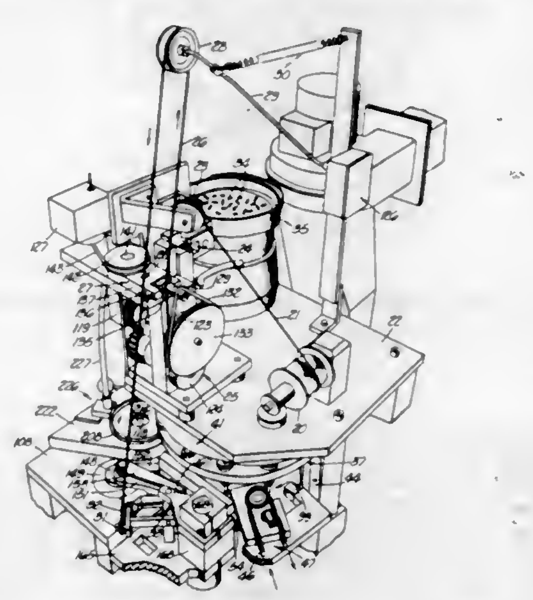


A capacitor has a continuous dielectric film which is formed by ultraviolet surface photopolymerization of perhalogenated material in the gaseous phase. The film is treated with a gaseous medium containing water vapor to effect an irreversible reduction in the dissipation factor.

3,447,219
AUTOMATIC SOLDER SLEEVE FABRICATING MACHINE

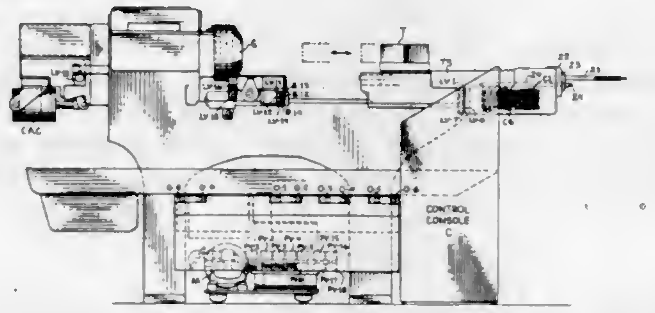
Donald R. Allan, Menlo Park, Calif., assignor to Raychem Corporation, Menlo Park, Calif., a corporation of California
Filed Aug. 7, 1967, Ser. No. 658,715
Int. Cl. B23p *23/04, 25/00*
U.S. Cl. 29—33 19 Claims

Apparatus for automatically fabricating and packaging solder sleeves from plastic sleeves and a roll of solder wire including a mechanism for feeding, flattening and perforating the solder wire, a mechanism for wrapping a metered portion of the perforated solder strip around one of a pair of cooperating mandrels to form a solder ring, a turntable for moving the mandrel pair to each of a plurality of additional stations where a heat-shrinkable plastic sleeve is positioned over the solder ring, the sleeve shrunk to its desired final shape, cooled and the completed solder sleeves inserted into a bandolier-like strip of packaging material. Apparatus is also provided for initially corrugating the strip of packaging material and for compressing the strip of packaging material around the sleeves carried thereby to insure a solid clamping action on the sleeves and proper spacing thereof.



3,447,220
SELECTIVE FLUIDIC CONTROL AND ACTUATING MEANS FOR MACHINE TOOLS

Morris R. Hicks, Brook Park, and Joseph C. Le Veque, Cleveland, Ohio, assignors to Bardons & Oliver, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 10, 1967, Ser. No. 652,127
Int. Cl. B23b *3/16*
U.S. Cl. 29—42 14 Claims

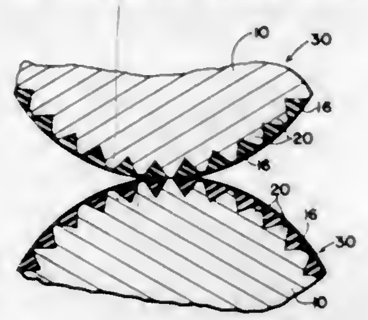


A machine tool employing a fluidic amplifier system for controlling and actuating in selected sequence a plurality of steps in an automatic cycle of the machine as well as during a manual cycle of operation. More particularly, the invention is directed to means whereby the selected programming of the cycle may be set up at a central control console conveniently located for the operator and sequentially executed through the actuation of relatively high fluid pressure responsive to relatively low pressure fluidic signals, for example, of about ⅙ p.s.i. or less, selectively imposed on said relatively high fluid pressure which is in turn directed to hydraulic pressure distribution means for actuating and/or controlling means or mechanisms of the machine to be activated.

3,447,221
ROLLER STRUCTURE AND METHOD OF MANUFACTURE

John W. Odiorne, Lynn, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,500
Int. Cl. B21b; G03d *3/12, 13/00*
U.S. Cl. 29—121 3 Claims

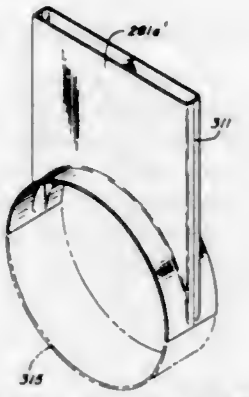
A roller having a high coefficient of friction and a precisely controlled diameter formed of a knurled metal core covered with an elastomer and ground to uncover the peaks of the knurling which are recessed beneath the surface of the elastomer.



3,447,222

METHOD OF FABRICATING GATE VALVE

Russell W. Bunch and Richard C. Cousins, Portland, Oreg., assignors, by mesne assignments, to Dillingham Corporation, a corporation of Hawaii
Continuation-in-part of application Ser. No. 566,027, July 18, 1966. This application May 31, 1967, Ser. No. 648,525
Int. Cl. B21d *53/00;* **B23p** *15/00;* **F16k** *3/00*
U.S. Cl. 29—157.1 **5 Claims**



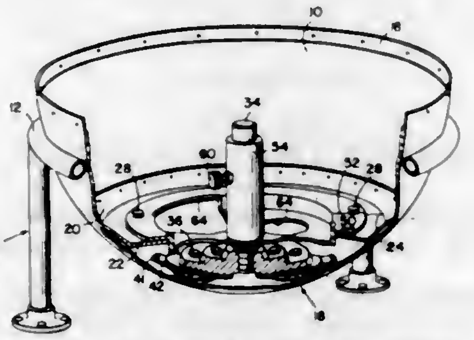
The method of fabricating the body shell of a blade type gate valve by performing certain pressing or blending operations on a flat metal blank in a manner to form two half body sections integrally joined together as mirror images of one another, and thereafter dividing the formed blank to separate the half body sections.

3,447,223

POSITIONING FIXTURE FOR USE IN ATTACHING IMPACT FUSE ASSEMBLIES WITHIN THE NOSE CAP OF A MISSILE

Sterling J. Brown, Huntsville, Ala., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 27, 1967, Ser. No. 619,528
Int. Cl. B23p *19/04*
U.S. Cl. 29—200 **5 Claims**

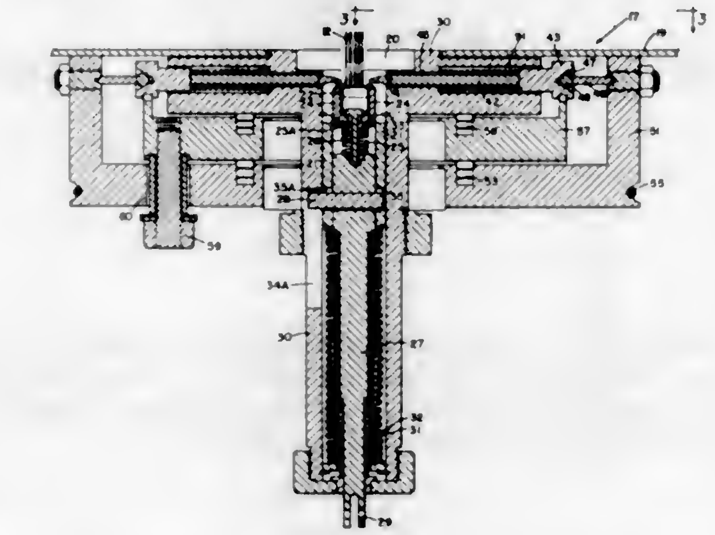
A positioning fixture including a central shaft having a first locator disc carried by the lower end thereof and adapted for securement of impact fuse assemblies thereto, and having a second locator disc secured coaxially about the shaft. The second locator disc has alignment means which, when aligned with fixed alignment means on the assembly ring of the missile nose cap, assure accurate positioning of the impact fuse assemblies within the nose cap.



3,447,224

ALIGNING APPARATUS

Robert W. Helda, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Oct. 28, 1966, Ser. No. 590,387
Int. Cl. B21f *1/02*
U.S. Cl. 29—203 **7 Claims**

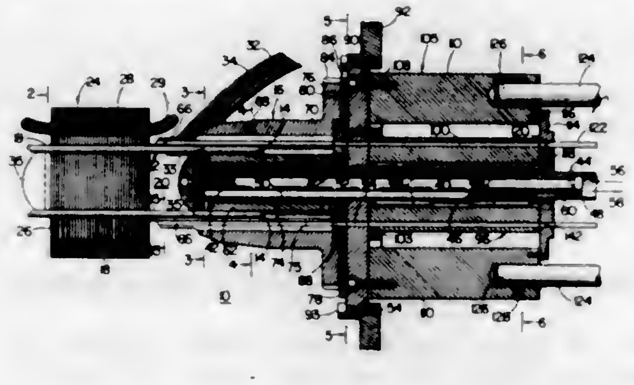


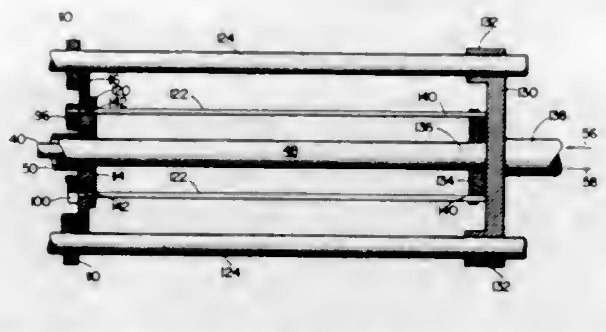
A plurality of rotatable lead aligning members having a blade shaped end are moved radially inward to just adjacent a plurality of leads to be straightened. Each blade portion is disposed between two adjacent leads. The blade portions are then rotated to slidably engage two adjacent leads. Each blade portion has a lead receiving notch on one side for receiving one lead. Relative movement between the lead aligning members and the leads is then effected for straightening the leads. The lead aligning members are then rotated back to a disengaging position and retracted.

3,447,225

APPARATUS AND METHOD FOR INSERTING DYNAMOELECTRIC MACHINE COILS AND SLOT WEDGES

Robert J. Eminger, Fort Wayne, Ind., assignor to Fort Wayne Tool & Die, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed July 8, 1966, Ser. No. 567,035
Int. Cl. H02k *15/04, 15/085*
U.S. Cl. 29—205 **8 Claims**



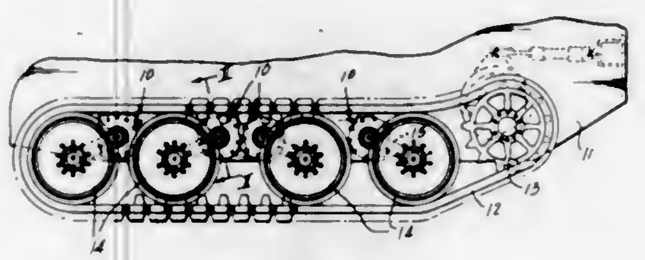


This disclosure relates to apparatus for inserting prewound coils and slot wedges into the slots of a dynamoelectric machine core member, wherein said wedges are formed by forming means prior to insertion into said slots.

3,447,226

TOOL FOR ASSEMBLING VANE AND ABUTMENT SEALS IN ROTARY ACTUATORS AND THE LIKE

George H. Davis, Tonawanda, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Mar. 16, 1966, Ser. No. 534,707
Int. Cl. B23p *19/02*
U.S. Cl. 29—235 **7 Claims**

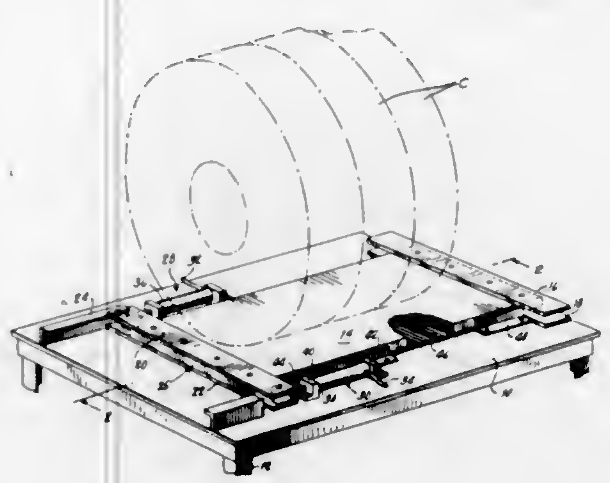


Seals are inserted in slotted abutments and wing shaft vanes of rotary actuators and while the wing shaft is assembled in the actuator housing, by engaging the body of a tool about a journal on the wing shaft, orienting a slotted seal guide with the slot into which a seal is to be received and thrusting a seal through the guide into the seal slot. The guiding slot in the tool is tapered to compress the seal so as to avoid damage thereto as it passes the edges at the entrance into the seal slot. A plunger is dimensioned to be inserted into and through the guide slot of the tool into the seal slot to effect matching of the slots and after withdrawal the plunger is used to thrust the seal into fully loaded position in the seal slot.

3,447,227

COIL SEPARATOR

Carl Arlen Wollam, Warren, Ohio, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed July 27, 1967, Ser. No. 656,435
Int. Cl. B23p *19/04;* **B25j** *3/00*
U.S. Cl. 29—239 **5 Claims**

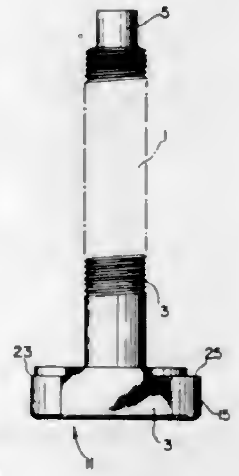


One end of an elastic sheet is attached to a planar surface adapted to receive a plurality of adjacent coils arranged with coincident horizontal axes, and with confronting radial faces in contact with each other. The other end of the sheet is fixed to a crosshead which is guided for movement along the face of the planar surface. A fluid pressure motor is fixed to the planar surface at each end of the crosshead and their pistons are connected thereto, whereby the elastic sheet may be stretched and coils thereon will be separated when the pistons of the motors are extended. Antifriction rollers are confined between the planar surface and the elastic sheet.

3,447,228

TOOL FOR PULLING BEARINGS

Eugene D. Knickerbocker, 410 Mulock St., Ontonagon, Mich. 49953
Filed Feb. 6, 1967, Ser. No. 614,280
Int. Cl. B23p *19/04*
U.S. Cl. 29—267 **1 Claim**

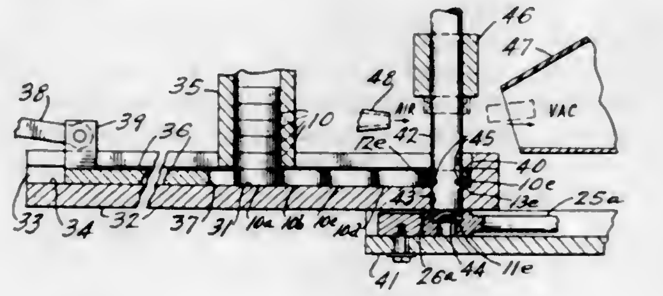


This invention involves a tool which is employed to simplify and expedite the pulling of bearing cages, and consists of a base which, in one dimension is substantially equal to the diameter of the bearing cage being pulled, while the transverse dimension of the base is reduced to permit insertion and removal of the puller from the bearing cage. The bearing cage puller disclosed herein operates on a wedging action principle in the cage pulling operation, and this wedging action is accomplished by means of a ball seated in position in the base to wedge against the usual lip of the bearing cage in the pulling operation.

3,447,229

METHOD AND APPARATUS FOR CAPTIVE WASHER ASSEMBLING

Robert L. Clark, Grand Rapids, Mich., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 27, 1966, Ser. No. 604,871
Int. Cl. B23p *11/00;* **B23q** *7/10;* **F16b** *21/20*
U.S. Cl. 29—418 **5 Claims**



A captive washer method and assembly, wherein the captive washer has a central body surrounded by a holding member. The central body is temporarily connected to the holding member by a plurality of spaced frangible tie bars. The apparatus for positioning the washer assembly includes a guide track for aligning and guiding a row of the washer assemblies. A plunger severs the central body from the holding member of an aligned one of the washer assemblies and moves it to a predetermined position. The plunger also removes the holder member and a stripper plate displaces the severed holding member from the plunger. A vacuum tube disposes of the displaced holding member.

3,447,230
ART OF MAKING SEAMLESS HOLLOW BODIES FROM SINTERABLE POWDERS

Roger B. Bargainnier, William Scheithauer, Jr., and Glenn A. Shaffer, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

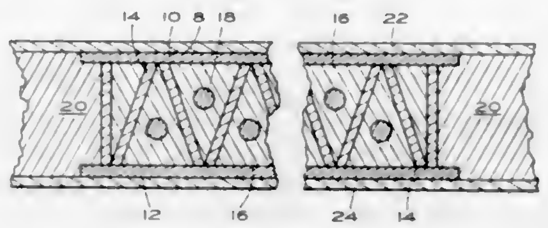
Filed Jan. 5, 1967, Ser. No. 607,510
Int. Cl. B22f *3/24;* **B21c** *1/24*
U.S. Cl. 29—420.5 18 Claims

A method of producing a tube shell by pressing, machining and sintering a metal powder is disclosed. This tube shell is then further fabricated by a drawing operation at an elevated temperature.

3,447,231
METHOD OF PRODUCING RIBBED-METAL SANDWICH STRUCTURES

Robert I. Jaffee, Worthington, Ohio, assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed June 21, 1967, Ser. No. 647,752
Int. Cl. B23k *31/02;* **B23p** *17/00*
U.S. Cl. 29—423 9 Claims



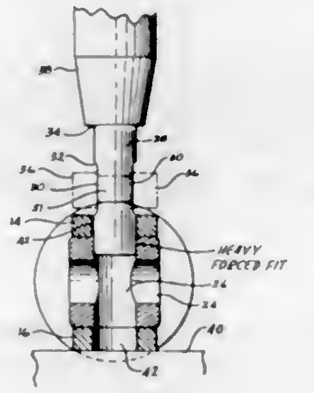
A method for partially removing metal filler members from roll-bonded, ribbed-metal structures, which consists of providing bimetallic filler members formed with cores of a metal disposed for independent tensile elongation relative to their surrounding cases and separating these cores from their cases after roll bonding by exerting a tensile force on said cores so as to effect independent tensile elongation relative to the cases to effect a reduction in cross-sectional dimensions of the cores and cause them to separate from the fillers. The cores of said fillers may then be removed by mechanical means. The cross-sectional dimensions of the cores are preferably shaped with a high ratio of height-to-width so that after being elongated in a direction parallel to the direction of rolling, the ratio of height-to-width of the cores is approximately unity.

3,447,232
UNIVERSAL JOINT PINNING CONSTRUCTION

George B. Stillwagon, Jr., Dayton, Ohio, asisgnor of one-half to Kenneth G. Fraser, Green Valley, Ariz.

Original application Jan. 7, 1965, Ser. No. 423,918. Divided and this application Sept. 5, 1967, Ser. No. 665,348
Int. Cl. B23p *19/00, 19/02;* **F16d** *3/26*
U.S. Cl. 29—434 5 Claims

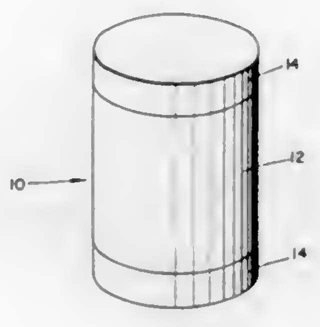
One longer pin is inserted within a bore of a bearing block with a heavy forced fit and two shorter, tubular pins are inserted with a heavy forced fit into opposite ends of a transverse bore in the same bearing block. The pins are prepared for insertion into the bores by the application of a phosphate coating to prevent galling or contact welding and by vibratory deburring to prevent scraping. The shorter pins abut against flats on the longer pin in the center of the bearing block and a fourth pin is inserted through aligned bores in the three pins. Rotational alignment of the longer pin about its axis is obtained by supporting it with the desired rotational alignment while simultaneously forcing it into its bore by a distance sufficient to cause it to be firmly gripped by the bearing block metal. The support for the longer pin is then released and the pin is forced the remaining desired distance into the bore.



3,447,233
BONDING THERMOELECTRIC ELEMENTS TO NONMAGNETIC REFRACTORY METAL ELECTRODES

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Martin Weinstein, Wayland, and Eldon J. Sherwin, Ashland, Mass.

Filed Sept. 30, 1966, Ser. No. 584,072
Int. Cl. B23k *31/02;* **H01l** *15/00;* **H01v** *1/30*
U.S. Cl. 29—472.9 2 Claims



1. A method of bonding a tungsten electrode to a thermoelectric element selected from the group consisting of lead-telluride and lead-tin-telluride, comprising the steps of:

cleaning the thermoelectric element and the electrode, lapping a surface of the thermoelectric element and the electrode to form a flat face on each,

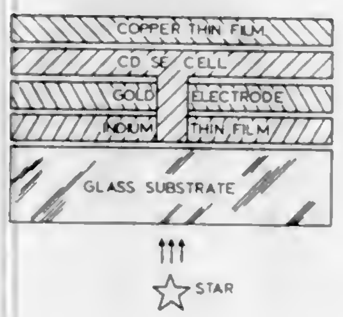
assembling the element and the electrode so that the lapped surfaces are in close contact, and

heating the assembly to a temperature of from 840 to 850° C. for a period of time sufficient to bond the electrode material onto the thermoelectric element and thereby form a strong stable bond therebetween.

3,447,234
PHOTOCONDUCTIVE THIN FILM CELL RESPONDING TO A BROAD SPECTRAL RANGE OF LIGHT INPUT

Frederick W. Reynolds, Ridgewood, and Arthur E. Meixner, Saddle Brook, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware

Filed Oct. 12, 1964, Ser. No. 403,124
Int. Cl. B01j *17/00;* **H01l** *15/02*
U.S. Cl. 29—572 5 Claims

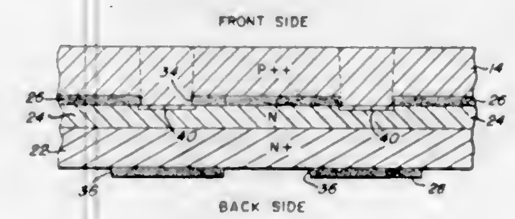


The process of making a photoconductor photocell comprising the steps of depositing an indium thin film bonding agent on a glass substrate; depositing a gold thin film on the glass substrate over the indium thin film, the indium thin film serving to bond the gold thin film thereto; forming electrodes from the gold film by etching away narrow sections thereof to define the boundaries of a cadmium selenide photoconductive cell; depositing an extremely thin film of cadmium selenide material over the defined boundaries as well as at least partially over the electrodes; and, depositing a suitable acceptor impurity over the cadmium selenide layer.

3,447,235
ISOLATED CATHODE ARRAY SEMICONDUCTOR

Warren C. Rosvold, Sunnyvale, and Wilhelm H. Legat, Woodside, Calif., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed July 21, 1967, Ser. No. 655,082
Int. Cl. B01j *17/00;* **H01l** *3/00, 7/00*
U.S. Cl. 29—578 8 Claims



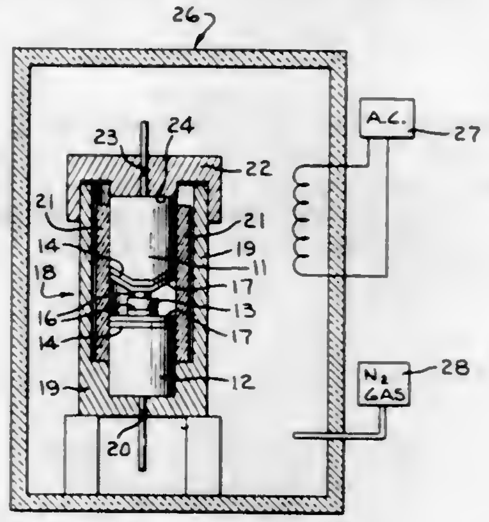
A method of making an array of isolated semiconductor cathodes on a common anode by employing a single photoresist operation to achieve simultaneous front and back alignment of masks for production of anode windows for selective diffusion on one side and for defining areas for etching of isolated cathodes on the opposite side.

3,447,236
METHOD OF BONDING AN ELECTRICAL PART TO AN ELECTRICAL CONTACT

Arthur L. Hatcher, Jr., Sinking Spring, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 11, 1966, Ser. No. 526,762
Int. Cl. H01l *1/10;* **B01j** *17/00*
U.S. Cl. 29—588 2 Claims

A method of joining and encapsulating nickel-coated molybdenum studs in a diode assembly to a semiconductor wafer having silver contacts by applying aluminum to the nickel and then positioning the studs and wafer in a glass sleeve after which the assembly is heated to a predetermined temperature to form an alloy interface between the aluminum and silver and then further heated to a temperature greater than the predetermined temperature to fuse the sleeve to the studs.



3,447,237
SURFACE TREATMENT FOR SEMICONDUCTOR DEVICES

Takashi Tokuyama and Keijiro Uehara, Tokyo-to, Japan, assignors to Kabushikj Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company of Japan

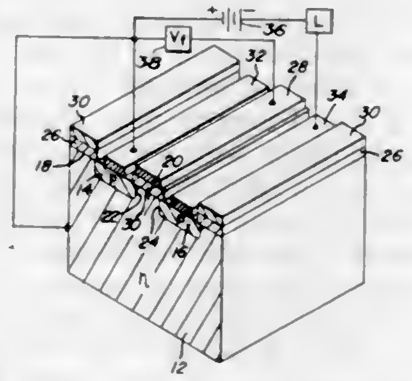
Filed July 29, 1964, Ser. No. 386,017
Claims priority, application Japan, Aug. 1, 1963, 38/40,209
Int. Cl. H01l *7/62*
U.S. Cl. 29—590 5 Claims

A process for the production of semiconductor devices whereby a silicon oxide film is formed on a surface of a semiconductor substrate, followed by deposition of a layer of lead on said film. This combination then is heated at 500–700° C. for at least 10 minutes in an oxidizing atmosphere, whereby a passivating film forms consisting essentially of silicon oxide and lead oxide. The temperatures employed are substantially lower than those conventionally used and prevent deterioration of the device.

3,447,238
METHOD OF MAKING A FIELD EFFECT TRANSISTOR BY DIFFUSION, COATING WITH AN OXIDE AND PLACING A METAL LAYER ON THE OXIDE

Michael S. R. Heynes and Peter J. Coppen, Sunnyvale, Calif., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

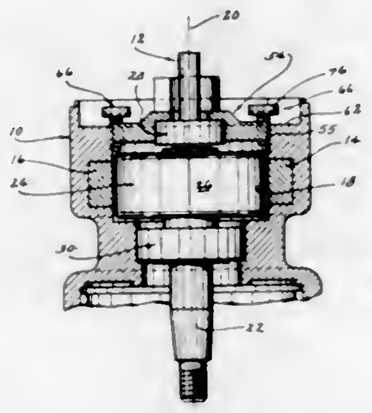
Filed Aug. 9, 1965, Ser. No. 478,054
Int. Cl. B01j *17/00;* **H01l** *7/24*
U.S. Cl. 29—590 8 Claims



A method of forming a field effect transistor, having extremely low turn-on or pinch-off voltage, includes the step of diffusion to form spaced source and drain regions. Subsequently an oxide is formed by a thermal vapor action. Following this a metal layer is formed over the surface of the oxide which lies between the source and drain regions. After this contacts are applied to the respective regions.

3,447,239
PRELOADING MEANS FOR MAGNETO BEARINGS

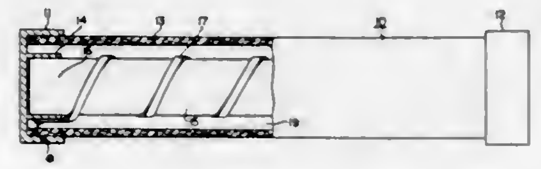
Fred S. Slick, Rockford, Ill., assignor to Slick Electro Inc., Rockford, Ill., a corporation of Illinois
Filed Jan. 24, 1966, Ser. No. 522,455
Int. Cl. H02k *15/00, 15/14;* **H02h** *15/16*
U.S. Cl. 29—596 **1 Claim**



A means of assembling magnetos of the disposable type in which a suitable axial preloading pressure is applied to the armature bearings, and the assembly then fixed thereat. The fastening means employed to establish the preloading pressure comprises driving "self-threading" members between the mutually-adjoining surfaces of the bearing-supporting member and the magneto frame while the preloading pressure is being maintained.

3,447,240
METHOD OF MAKING A FUSE WITH A SAND CORE

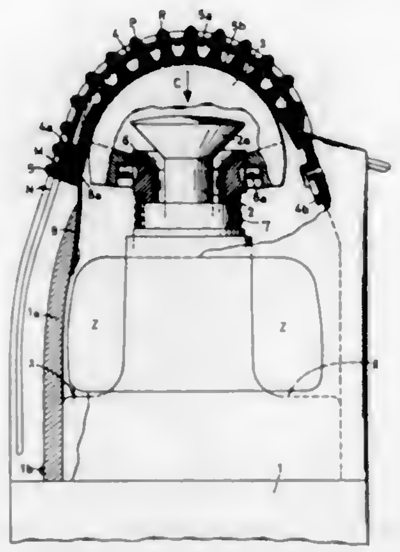
Charles McClure, Jr., Mercer, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 435,423, Feb. 26, 1965. This application Mar. 20, 1967, Ser. No. 624,389
Int. Cl. H01h *69/02*
U.S. Cl. 29—623 **8 Claims**



Sand is placed in a mold of suitable dimensions in accordance with the dimensions of the fuse tube and ferrule structure to be used in the fuse. A fluid is added to the sand which is then frozen to form a rigid core. Water is one suitable fluid. The core may be cylindrical in shape, cruciform, or have a spiral ridge. While the core is frozen, a fuse element is wound thereon, the turns of which are carefully spaced. The core and wound fuse element are placed in a fuse tube before unfreezing, the remainder of the space in the fuse tube filled with sand or other arc-extinguishing material, and ferrules attached. Thereafter the sand of the core is unfrozen and if desired, the fuse heated for a period of time to drive out substantially all fluid or moisture.

3,447,241
SHUTTER FOR AN ELECTRIC RAZOR HAVING A CLEANING FUNCTION

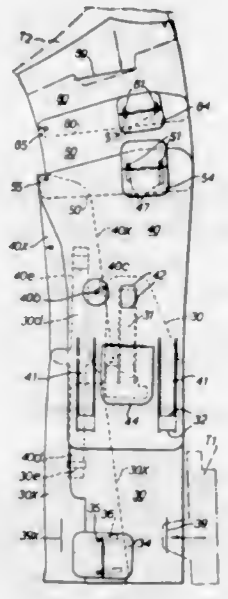
Ernst Moeckl, 1 Durrbach, 7 Stuttgart-Wangen, Germany
Filed Jan. 11, 1968, Ser. No. 697,134
Claims priority, application Germany, Jan. 13, 1967, M 57,518
Int. Cl. B26b *19/38*
U.S. Cl. 30—41 **10 Claims**



An electric razor which comprises a shearing cutter block. Means are provided for pendulum driving the shearing cutter block. A shearing sheet is also provided. A shutter covers and exposes, respectively, the shearing cutter block and cleans the shaving sheet. A shearing head is disposed within a shutter guide. A spring-biased snap-rest lock arrests the shutter in its shutter closing position. The snap-rest lock comprises a bending rod spring arrangement, and the latter is fixed to the shutter guide.

3,447,242
ADJUSTABLE PATTERNS FOR TAILORING

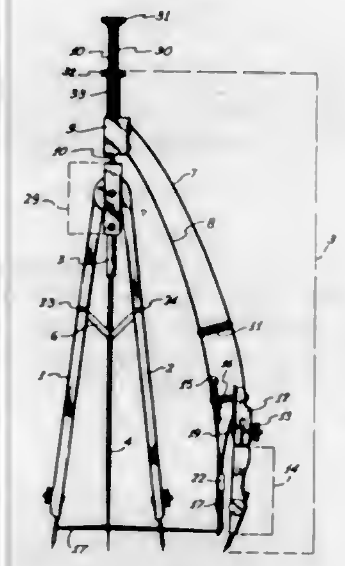
Leslie Glick, Leeds, England, assignor to Prices Tailors Limited, Leeds, England
Filed Oct. 7, 1966, Ser. No. 585,050
Claims priority, application Great Britain, Oct. 12, 1965, 43,336/65
Int. Cl. A41h *3/015*
U.S. Cl. 33—14 **4 Claims**



An adjustable pattern by which a standard pattern can be adjusted for variations in body dimensions, shape and stance and which comprises at least six portions which are interconnected for guided movement relative to one another. Figuration scales and indicators are provided for the interconnected and relatively movable adjusting portions to adapt the pattern for a regular or a nonregular figure.

3,447,243
ELLIPSOGRAPH

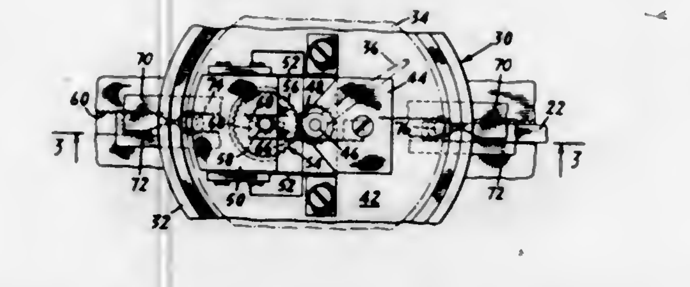
Ismael Diaz-Esparza, Unidad Santa Fe, Mexico, assignor to Ellipsograph, S.A., Augustin, Mexico
Filed Apr. 18, 1967, Ser. No. 631,754
Int. Cl. B43l *11/04*
U.S. Cl. 33—30 **3 Claims**



An ellipsograph made up of a centering needle, a pair of compass arms equally but adjustably spaced with respect to the centering needle, a resilient tracing arm rotatable about the axis of the centering needle, and a reel-borne thread extending in a loop of adjustable length about the lower ends of the compass arms and the tracing arm is disclosed. The mounting for the tracing arm permits it to move vertically as required to keep its drawing tip in contact with the surface on which the ellipse is being drawn. The resilience of the tracing arm urges its tip outwardly at all times to keep the thread loop taut.

3,447,244
CALIPER

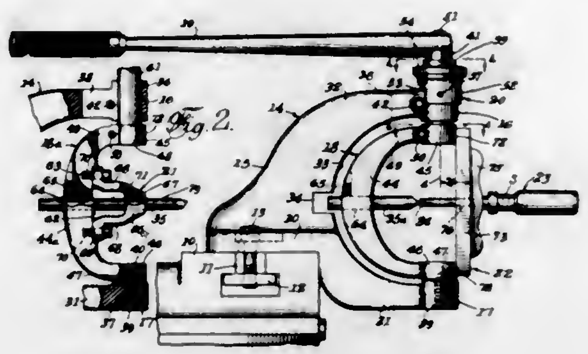
Jule A. Scholl, 41—31 51st St., Woodside, N.Y. 11377
Filed Aug. 7, 1967, Ser. No. 658,678
Int. Cl. G01b *5/02*
US. Cl. 33—147 **6 Claims**



The dial read-out mechanism of the caliper includes a resiliently mounted, free floating cluster gear including a small gear meshing with and driven by the rack and a larger gear meshing with and driving the pinion to which the pointer is attached. The axes of rotation of the cluster gear and pinion are located in a plane parallel to the rack. A flexible cover on the caliper bar protects the rack against dust.

3,447,245
METHOD FOR CUTTING RADII ON WORKPIECE

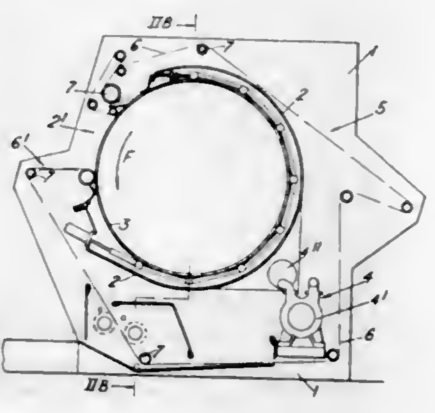
Warren B. Holdridge, 116 W. 154th St., Gardena, Calif. 90247
Original application June 14, 1965, Ser. No. 463,780, now Patent No. 3,345,893, dated Oct. 10, 1967. Divided and this application Nov. 21, 1966, Ser. No. 595,956
Int. Cl. B27g *23/00*
U.S. Cl. 33—185 **3 Claims**



The method of locating the cutting end of the bit on the yoke of a radii cutter in which a micrometer depth gauge is placed at a known distance from the axis of rotation of the yoke and, when adjusted to a position readable on the micrometer, serves as a locator for the cutting end of the bit.

3,447,246
DRIER FOR LEATHER

Rudolfo Franceschi, Milan, Italy, assignor to I.T.E.S. Industria Ticinese Essiccatol Speciali S.p.A., Milan, Italy, an Italian company
Filed Mar. 27, 1967, Ser. No. 626,211
Int. Cl. F26b *13/10, 13/04*
U.S. Cl. 34—92 **7 Claims**

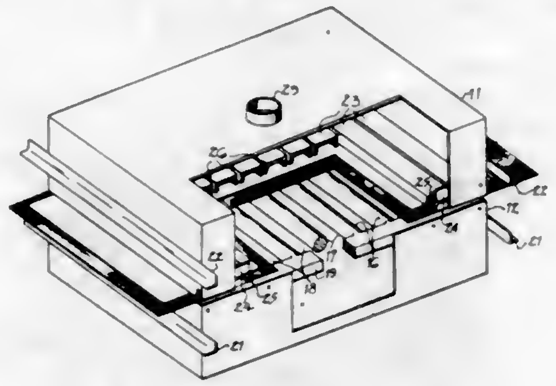


Vacuum drier for leather having a cylinder heated from inside and partly rotating in a casing in which the vacuum is created. The leather to be treated adheres to said cylinder. A frame shaped elastic gasket seals together the cylinder and the casing and a flexible band feeds the leather to the cylinder from outside the casing and keeps it adhering thereto inside said casing.

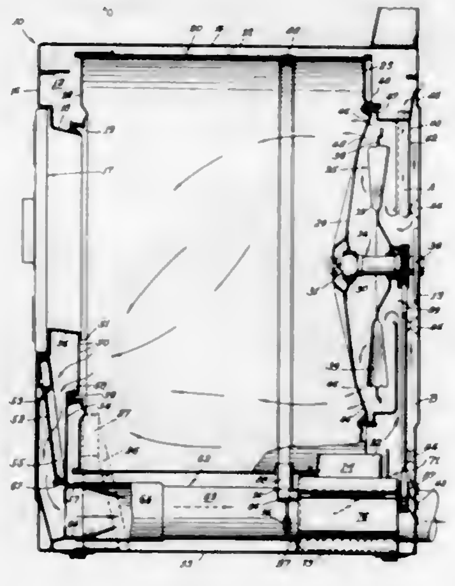
3,447,247
METHOD AND EQUIPMENT FOR DRYING WEB MATERIAL

Robert A. Daane, Rockford, Ill., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 18, 1967, Ser. No. 691,267
Int. Cl. F26b *13/04, 3/04*
U.S. Cl. 34—122 **6 Claims**

To remove moisture from a wet permeable web, particularly during the production of light weight paper, drying air is impinged on the web at high velocities, whereby the momentum of the high velocity air causes it to penetrate the web to improve the efficiency of the drying operation both by increasing the exposure of internal web fibers to the evaporative effect of the aair and also by physically blowing or pushing moisture particle through and out of the web.



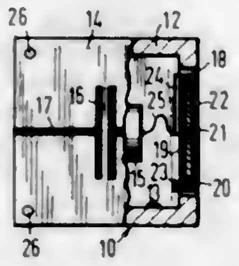
3,447,248
DRIVE SYSTEM FOR CLOTHES DRYERS
Robert D. Triplett, Leo V. Buck, and Terry J. Laue, Effingham, Ill., assignors, by mesne assignments, to Fedders Corporation, a corporation of New York
Filed Jan. 12, 1968, Ser. No. 697,453
Int. Cl. F26b *11/02, 11/18*
U.S. Cl. 34—139 7 Claims



A slack-compensating system for belt drive arrangements for a clothes dryer basket and fan and including a motor-driven shaft having two pulleys respectively engaging a belt surrounding the basket and a belt engaging a fan-drive pulley, the motor being pivoted to bear on the belts, and an idler pulley assembly including a rocker arm or lever having a pulley biased against the basket drive belt by a tension spring.

3,447,249
ELECTRONIC BUILDING SET
Georg Greger, Munich, Germany, assignor to Intertrading Corporation Establishment, Vaduz, Liechtenstein
Filed May 5, 1966, Ser. No. 547,999
Claims priority, application Germany, May 7, 1965, J 28,087
Int. Cl. G09b *23/06, 23/18*
U.S. Cl. 35—19 17 Claims

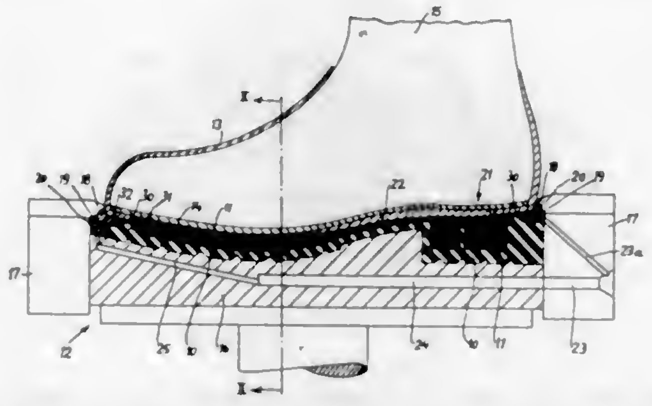
An electronic building set is constructed such that the circuit components and line connections are housed in building bricks. The building bricks each have at least two faces having a permanent magnet and a contact plate associated with each of such faces in such manner that when two bricks are placed together in a circuit, the necessary contact pressure between the contact plates of the two bricks is produced by magnetic attraction.



3,447,250
PAINTING GUIDE KIT
Dolores Annette Van Savage, 2319 Patwynn Road, Wynnwood, Wilmington, Del. 19803
Filed May 22, 1967, Ser. No. 639,963
Int. Cl. G09b *11/10*
U.S. Cl. 35—26 3 Claims

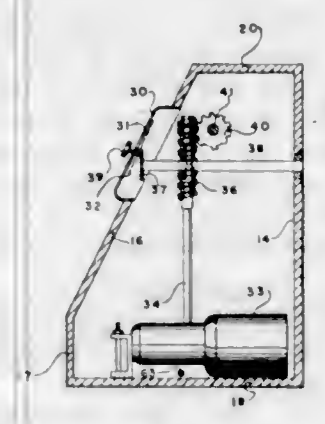
A plurality of guide sheets each having an arrangement of painting aid indicia successively corresponding to foreground and then background objects of a picture, are employed in painting a picture on the back side of a sheet of transparent material.

3,447,251
SHOE WITH AIR CUSHION SOLE AND METHOD FOR MANUFACTURING THE SHOE
Erich Drexler, 5 Linsenpfad, 6719 Kirchheimbolanden, Pfalz, Germany
Filed May 1, 1967, Ser. No. 635,158
Claims priority, application Germany, Apr. 30, 1966, St 25,319
Int. Cl. A43c *13/08*
U.S. Cl. 36—14 24 Claims



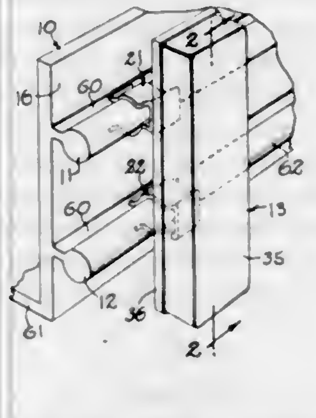
A shoe having an upper to which is attached a bottom comprised of a preformed sole held spaced from the bottom of the lasted upper by a spacer situated between the bottom of the lasted upper and sole. The spacer is located inwardly of the edge of the sole, a cushion layer fills the space between the bottom of the lasted upper and the sole inwardly of the spacer, and an attaching strip surrounds the edge of the sole, the adjacent shoulder of the lasted upper and fills the space between the bottom of the lasted upper and the sole outwardly of the spacer. Also a method of joining the preformed sole to the bottom of the lasted upper by holding it against a cushion layer of smaller size than the sole and with a spacer surrounding the cushion layer and forming a connecting strip around the edge of the sole and the adjacent shoulder of the lasted upper.

3,447,252
RADIO AND/OR TELEVISION LOG HOLDER
James R. Laney, Jr., 319 Evergreen Trail, Ponderosa Hills, Parker, Colo. 80134
Filed Sept. 23, 1966, Ser. No. 581,647
Int. Cl. G09f *11/295*
U.S. Cl. 40—31 7 Claims



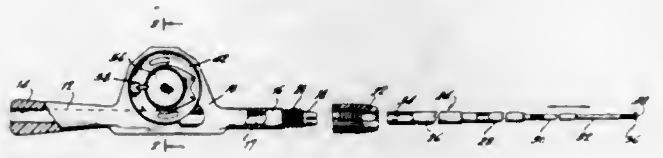
A radio and/or television log holder, having a scroll-type log, utilizes a clock motor mechanism to operate a clock and wind the scroll log on a reel in synchronization with the time schedule.

3,447,253
ILLUMINATED DISPLAY SIGN
Terrence M. Coad, Rockford, Ill., assignor to Snaplite Displays, Inc., Rockford, Ill., a corporation of Illinois
Filed Oct. 28, 1966, Ser. No. 590,323
Int. Cl. G09f *13/00*
U.S. Cl. 40—130 9 Claims



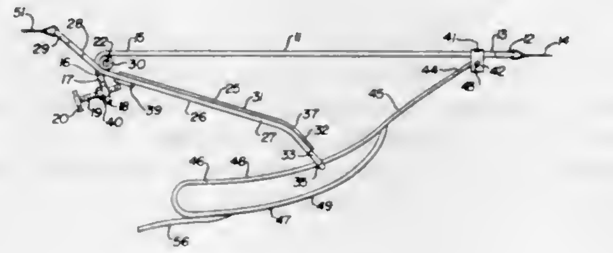
A lighted display sign includes individually illuminated and interchangeable letters detachably snapped on and energized through parallel conducting rails mounted on a sign board. Each letter is formed as a flat printed circuit board designed in the shape of the particular letter and capable of conducting current from the rails to lamps attached to the board. The rails are extruded or molded from plastic which is coated with electrical conducting material and, in one embodiment, are formed integrally with a plastic display face to enable manufacture of the sign board as a one-piece unit.

3,447,254
COLLAPSIBLE FISHING ROD
Nathan Sobel and Andrew H. Sobel, both of 2819 W. 12th St., Brooklyn, N.Y. 11224
Filed Sept. 2, 1966, Ser. No. 577,013
Int. Cl. A01k *87/00, 89/00, 87/06*
U.S. Cl. 43—18 5 Claims



A collapsible fishing rod which can be conveniently collapsed to a size of approximately six inches has clamping means for the fishing rod and a first bore located therein which is coaxial with and also communicates with a second bore located in the handle or grip end of the fishing rod. The handle is provided with an integral receptacle for receiving and rotatably mounting a reel whose pivot means is laterally offset from the common axis of the first bore and the second bore. In its assembled form, the collapsed rod will be no longer than the overall length of the handle body, from the base of the grip to the end of the rod clamping means, since the telescoped rod is straddled by the flanges of the reel.

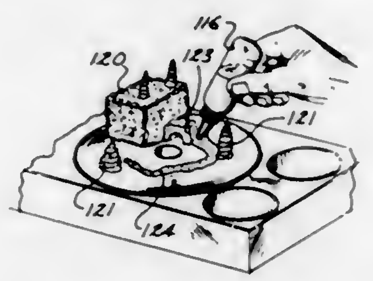
3,447,255
TROLLING DEVICE
Luther E. Walden, Vancouver, British Columbia, Canada, assignor of fifty percent to John J. Kozak, North Vancouver, British Columbia, Canada
Filed Mar. 27, 1967, Ser. No. 626,100
Int. Cl. A01k *95/00*
U.S. Cl. 43—43.13 8 Claims



A trolling device connectable to a trolling line having a van pivotally connected at the rear end of the device and normally assuming a downwardly and forwardly inclined operative position when the device is moved through the water. A lever has a connection with a hook line and is operatively connected to the vane. When a predetermined pull is exerted on the hook line, the lever is adapted to move the vane from its operative position to a non-operative position in line with the direction of movement of the device through the water. The device is equipped with stop means to limit movement of the vane, and has a pivotally mounted substantially rigid guard slidably attached to the vane.

3,447,256
SAND GAME AND APPARATUS THEREFOR
Asa B. Compton, Spencerville, Md., assignor, by mesne assignments, to KMS Industrial, Inc., Ann Arbor, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 599,588, Dec. 6, 1966. This application July 20, 1967, Ser. No. 654,920
Int. Cl. A63h *33/00;* **A63f** *9/00*
U.S. Cl. 46—1 8 Claims

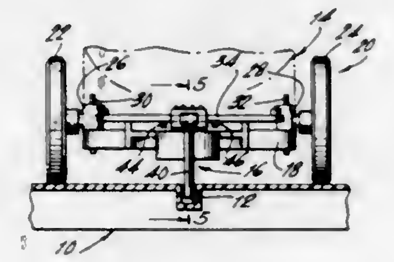
A suspension of sand or analogous particulate material in water or other liquid is dispensed onto a highly absorptive or capillary surface which quickly draws out the liquid to fix the deposited particulate material in ornamental forms. The capillary surface is preferably fibrous, but may be of sand of contrasting color. Structural support elements, such as deformable wires, give support to the deposited forms, increasing the variety of designs.



3,447,257

REVERSIBLE STEERING MEMBER

Michael Ieda, Williston Park, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed July 13, 1966, Ser. No. 564,942
Int. Cl. A63h *17/26, 33/26*
U.S. Cl. 46—213 **1 Claim**

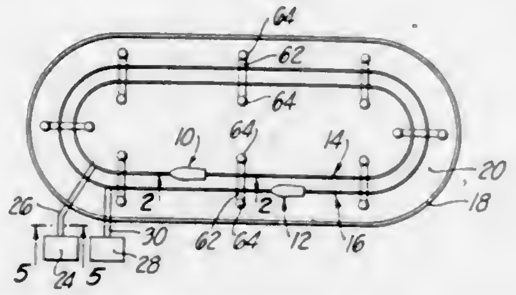


A toy vehicle which can either operate on a track having a guide groove or on an ungrooved, flat surface, wherein the steering arrangement for the vehicle includes a single, selectively mountable member which, in one operative mounted position, has a guide which is projected into and engages the guide groove so as to steer the vehicle along the track and, in another operative mounted position, renders effective cooperating detent structure so as to hold the front wheels of the vehicle in various steering positions.

3,447,258

MODEL WATER RACING TOY

William Moore, Los Angeles, Calif., assignor of thirty-three and one-third percent interest to Thomas P. Mahoney, Malibu, Calif.
Filed Feb. 14, 1967, Ser. No. 615,949
Int. Cl. A63h *23/00, 21/00, 19/30*
U.S. Cl. 46—243 **10 Claims**

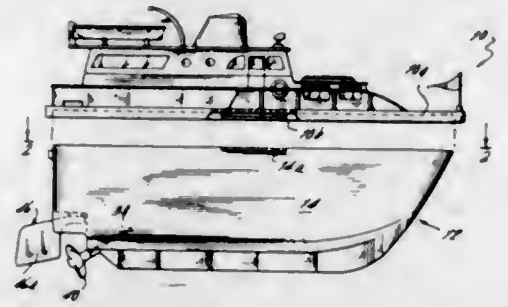


A floating toy boat having a keel projecting beneath the water surface to engage a guide track extending through the water in a predetermined path of boat travel. The boat and track engagement simultaneously guides the boat along the path of travel and serves as an electrical contact for supplying electricity to the boat propulsion means in the boat.

3,447,259

TOY BOAT

George Cagen, Brooklyn, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Mar. 16, 1967, Ser. No. 623,595
Int. Cl. A63h *33/26, 29/22, 23/04*
U.S. Cl. 46—243 **10 Claims**

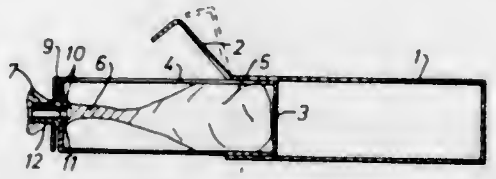


A toy boat powered by a battery operated motor and having a rearwardly disposed pivotally mounted rudder which is movable between a nonsteering and steering position to firstly, cause steering of the boat and, secondly, to effect opening and closing of the energization circuit of the motor. In addition to powering the boat, the motor is effective in pumping water from the boat which otherwise might adversely effect the operation of the motor.

3,447,260

TRANSPORT AND STORAGE PACKAGE

Sven Gösta Birger Abelius, Ydregatan 9, Linkoping 5, Sweden
Filed Apr. 12, 1967, Ser. No. 630,239
Claims priority, application Sweden, Apr. 13, 1966, 4,994/66
Int. Cl. A01g *9/02;* **B65d** *85/00, 5/58*
U.S. Cl. 47—34.11 **10 Claims**



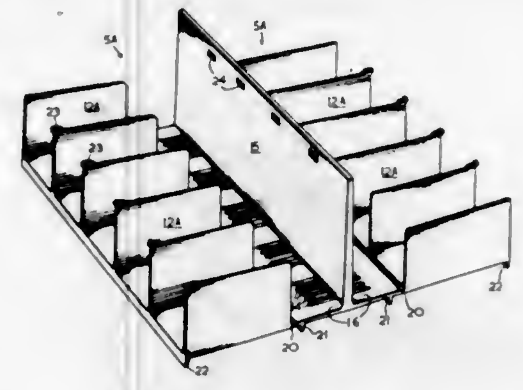
A packabe for the transport and temporary storage of moist granular compositions comprises a sleeve element, a flat box movable into and out of the sleeve element to give access to a bag of tight thin-walled material which contains the moist composition and is placed in the box, an apertured closure plate non-rotatably mounted in the box or formed by one of the box side walls, with which closure plate the twisted-together neck portion of the bag is engaged. A tubular body extends into the bag neck portion and is rotatably mounted and guided in the aperture of the closure plate, thereby pressing the bag material against the edges of the aperture in a manner to allow communication between the bag content and the atmosphere through the bag neck portion and the tubular body.

3,447,261

PROPAGATION DEVICE

Archibald John Hundt, Castle Hill, New South Wales, Australia, assignor to Walter Barr Pty. Limited, Enfield, New South Wales, Australia, a corporation of New South Wales
Filed Oct. 5, 1966, Ser. No. 584,451
Claims priority, application Australia, June 28, 1966, 7,582/66
Int. Cl. A01g *9/02, 9/10;* **B65d** *5/48*
U.S. Cl. 47—34.13 **6 Claims**

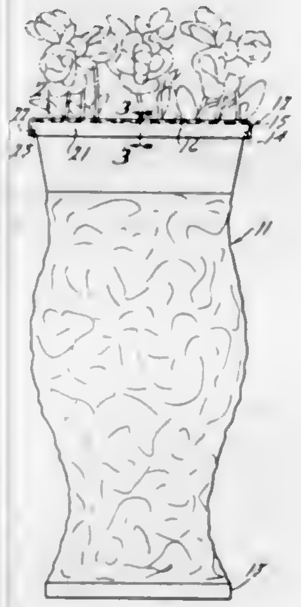
A multiple plant propagation device in which a side section is hingeably connected at an end thereof to the base of an inverted T-shaped section for movement between an upright position, in which the side section is engageable with the upstanding wall and a lowered open position. The side section includes a plurality of spaced walls thereon which in the lowered position define a succession of U-shaped channel sections for the side section and in the upright position define with the base and wall of the T-shape section isolated compartments with open upper ends.



3,447,262

FLOWER ARRANGING DEVICE

John J. Uhl, 14236 Longacre, Detroit, Mich. 48227
Continuation-in-part of application Ser. No. 678,941, Oct. 30, 1967. This application June 6, 1968, Ser. No. 734,913
Int. Cl. A01g *5/00*
U.S. Cl. 47—41.11 **1 Claim**

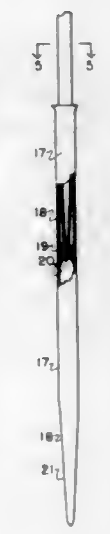


A device for facilitating the arrangement of cut flowers or the like comprising a container having an open end and an arranging member that is adapted to be conveniently affixed to the container adjacent its open end. The arranging member is formed as an integral piece having an annular rim that is positioned at the upper extremity of the mouth of the associated container, a depending flange portion integrally connected to the outer extremity of the rim portion and adapted to be juxtaposed to the outer periphery of the upper end of the associated container and an interlocking flange portion integrally connected to the depending flange portion and adapted to underlie a shoulder of the associated container for fixing the arranging member relative to the container. The arranging member further includes a plurality of supporting members that extend across the rim portion and which define a plurality of spaced gaps to pass the stems of the flowers or the like and for supporting the flowers in their arranged position.

3,447,263

PLANT STAKES

Veiga Johnson, 498 Home St., Winnipeg 10, Manitoba, Canada
Filed Feb. 10, 1967, Ser. No. 615,163
Int. Cl. A01g *17/14;* **F16l** *27/12, 37/02*
U.S. Cl. 47—47 **1 Claim**

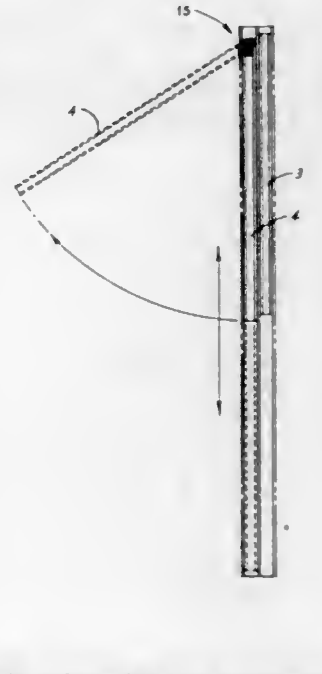


A plant stake made in sections of tubular material so that the sections can be added to one another to increase the length of the stake as the plant grows and having internal connections between the sections and apertured in the lower end of the soil engaging section to permit the passage of water and/or liquid fertilizer through the stake into the ground around the roots of the plant supported by the stake.

3,447,264

SWING-IN WINDOW SASH

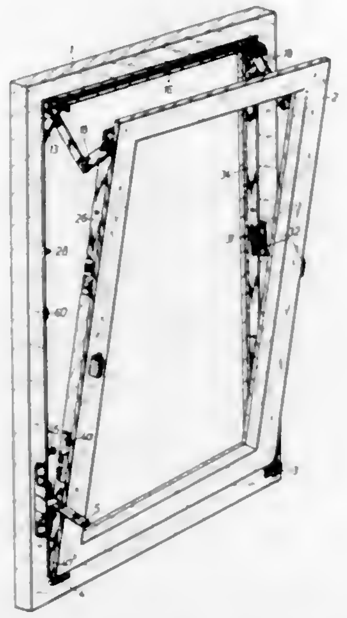
Edwin E. Foster, 1801 Camp Craft Road, Austin, Tex. 78746
Filed Sept. 5, 1967, Ser. No. 665,590
Int. Cl. E05d *15/22*
U.S. Cl. 49—150 **9 Claims**



A window sash primarily for aluminum windows being adapted for inward and upward swinging along an axis parallel to its upper margin, said sash being counterbalanced by any of a marked variety of spring devices; there being latch means for maintaining said sash in operative, slideable disposition with detents for preventing premature swinging of the sash subsequent to unlatching action.

3,447,265
FITTING FOR TIPPING AND SWINGING OF WINDOWS OR THE LIKE

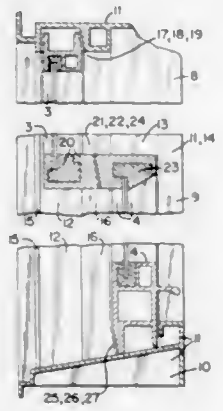
Wilhelm Weber, 4 Nymphenburger Strasse,
1 Berlin 62, Germany
Filed June 21, 1967, Ser. No. 647,850
Claims priority, application Germany, June 22, 1966,
W 41,832
Int. Cl. E05d *15/52, 15/50*
U.S. Cl. 49—192 **11 Claims**



A fitting for tipping a window or the like including an immovable frame and a wing, which comprises a cross shaft having a laterally projecting arm and including a cross shaft lever. The cross shaft is disposed in the frame and covered by the wing. An operation lever is secured to the frame on the closing side of the latter. A control rod is guided in the frame and connected with the cross shaft lever. The control lever has a first control slot. The cross shaft lever has a second control slot. A control bolt projects through the first and second control slots. The projecting arm is pivotally connected with the control lever and forcibly guided by the control bolt in the first and second control slots.

3,447,266
WINDOW SASH WEATHER SEALS

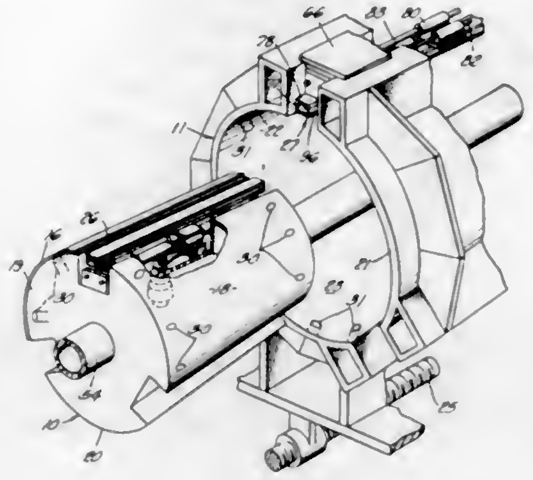
Peter Nachtsheim, South Plainfield, N.J.
(Box 368, Montreal 3, Quebec, Canada)
Filed Dec. 18, 1967, Ser. No. 691,662
Int. Cl. E05d *15/16, 15/06, 13/00*
U.S. Cl. 49—458 **5 Claims**



A double-hung window in a wall frame, that reduces the amount of weather-stripping needed, to weather-seal the window when closed, by more than two-thirds, over that required by existing double-hung windows. Advantage is taken of the fact that no weather-stripping is needed when the double-hung window is only slightly opened, thereby saving material, labor and operating efforts.

3,447,267
GRINDING APPARATUS AND METHOD

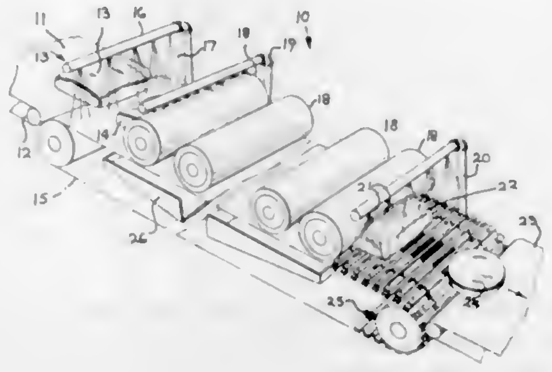
Edward H. Kelber, Stanton, Calif., assignor to Swedlow Inc., Garden Grove, Calif., a corporation of California
Filed Feb. 13, 1967, Ser. No. 615,593
Int. Cl. B24b *11/00, 9/08*
U.S. Cl. 51—3 **10 Claims**



An apparatus and method whereby one surface of a curved member, such as a portion of an aircraft windshield, is supported while a second surface thereof is ground and polished by a compound action, and then supported on the second surface while the first is ground and polished in a similar manner. An apparatus for accomplishing the grinding and polishing may include male and female mandrels which are essentially coaxially mounted and are relatively rotatable. Both mandrels carry reciprocating grinding elements.

3,447,268
POLISHING APPARATUS

John E. Scott, 761 Ross Road, Columbus, Ohio 43213
Filed July 5, 1966, Ser. No. 562,732
Int. Cl. B24b *13/00, 11/00, 9/14*
U.S. Cl. 51—4 **3 Claims**



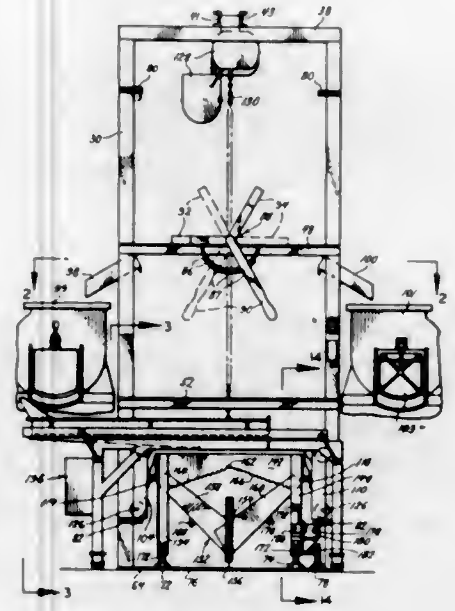
This invention relates to polishing apparatus and method of polishing glass articles, especially those having extensive concavo-convex surfaces requiring optical quality finishing such as TV picture tube face plates and the like. Various sizes and shapes of glass articles are rigidly restrained against horizontal and rotative movement during their conveyance beneath a series of rotatable grinding and polishing heads.

ERRATUM

For Class 51—135 see:
Patent No. 3,447,306

3,447,269
VIBRATORY FINISHING DEVICE WITH LOADING AND DISCHARGE MEANS

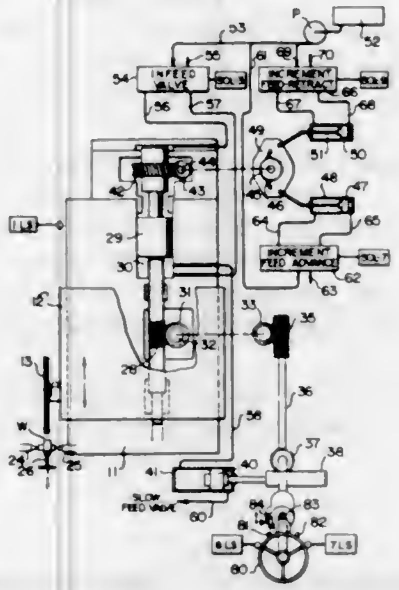
Gerald L. Rudnick, Palos Hills, and Leonard M. Haluch, Chicago, Ill., assignors to Productive Equipment Corporation, Chicago, Ill., a corporation of Illinois
Filed July 25, 1966, Ser. No. 567,554
Int. Cl. B24b *31/00;* **B65b** *69/00, 21/02*
U.S. Cl. 51—163 **5 Claims**



A vibratory finishing device having containers for receiving grinding media and parts to be finished which dumps onto a screen for separating the parts and media. A hopper is laterally movable under the screen and vertically movable to transfer the media back to the container.

3,447,270
PRECISION PRODUCTION GRINDER

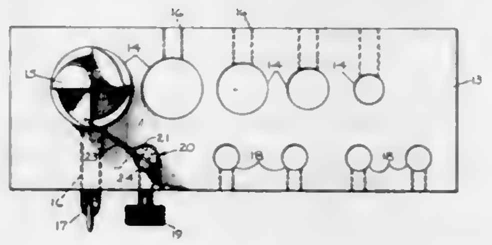
Glenn M. Snyder, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1966, Ser. No. 605,038
Int. Cl. B24b *49/04*
U.S. Cl. 51—165 **6 Claims**



This subject has to do with a precision production grinder wherein the workpieces are gauged beginning at a point prior to the sparkout of the grinding operation and wherein when the dimension of a gauged to workpiece approaches the tolerance limits, the advance of the grinding wheel support is automatically adjusted to assure that the next ground workpiece is within the tolerance limits. This subject particularly has to do with the provision of a gauge which is applied to the workpiece during the grinding thereof and wherein the gauge is coupled to control means for automatically actuating the conventional increment feed of the wheel support. Another feature is that when the gauge determines that a workpiece is approaching the undersize limit thereof during a grinding operation, the wheel support is automatically retracted to prevent further grinding whereby undersize workpieces are eliminated.

3,447,271
END MILL FIXTURE

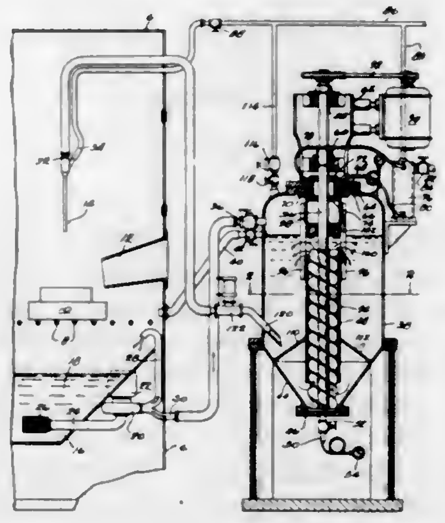
Milton H. Neeb, Canandaigua, N.Y., assignor to Stone Conveyor Company, Inc., Honeoye, N.Y.
Filed Aug. 18, 1966, Ser. No. 573,291
Int. Cl. B24b *3/06*
U.S. Cl. 51—225 **1 Claim**



A fixture for supporting end mills of different sizes for grinding including a support block with a plurality of different size openings for receiving the shank of the tool and indexing means to locate the tool in proper position.

3,447,272
METHOD FOR WET ABRASIVE BLASTING

Arthur H. Eppler, 2518 W. Wisconsin Ave., Milwaukee, Wis. 53233
Original application Mar. 12, 1965, Ser. No. 439,198, now Patent. No. 3,343,304, dated Sept. 26, 1967. Divided and this application May 17, 1967, Ser. No. 639,079
Int. Cl. B24b *1/00*
U.S. Cl. 51—319 **6 Claims**

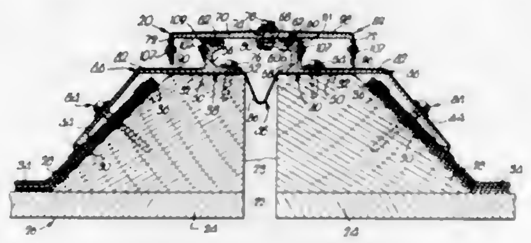


A tank separate from the sump of the blasting equipment contains a batch of slurry of abrasive which is maintained in suspension by high velocity circulation of the carrier liquid pending pneumatic pressure delivery to the blast nozzle, the entire contents of such tank being maintained under high pressure without pumping, the circulation including little back pressure notwithstanding flow through an apertured baffle.

3,447,273

EXTRUDED ROOF JOINT COVER

Wenzel W. Thom, Wichita, Kans., assignor of one-half to Cecil D. Jones, Wichita, Kans.
Filed Apr. 10, 1967, Ser. No. 629,446
Int. Cl. E04d *3/38;* **E04f** *15/14*
U.S. Cl. 52—58 **16 Claims**



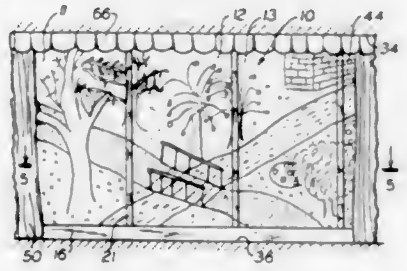
An integrated set of extrudable cover assemblies for weather sealing the marginal areas of roof structural components. Each of the assemblies includes structure for covering the margin of a horizontal roof component to seal the same against atmospheric conditions and an elongated body for supporting the margin covering structure. The body of each of the assemblies includes a horizontally disposed base portion, a flashing member portion extending downwardly and outwardly from the base portion, and an upright portion disposed for strengthening the body with respect to vertical flexure thereof.

Each of the expansion joint assemblies is provided with a cover element which spans the expansion joint and rides on the uppermost extremity of the upright beam portion of the assembly.

3,447,274

SCENERY SYSTEM

Louis Davidson, 24 Waterview Road, Oceanside, N.Y. 11572
Filed June 14, 1967, Ser. No. 645,904
Int. Cl. E06b *7/00;* **G09f** *7/18, 19/22*
U.S. Cl. 52—173 **12 Claims**

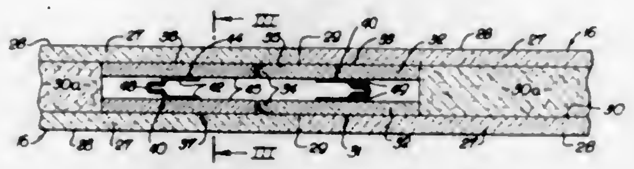


This specification discloses improved apparatus for assembling large scenery pictures, with or without a partition having openings through which the scenery is viewed. The scenery is made up of modular picture panels that are assembled into a continuous picture by connectors that hold the panels straight and with a minimum of interference with the visibility of the scene. The parts of the connectors that extend over the fronts of the edges of the panels are preferably transparent so as not to hide those areas. Space is provided behind the picture for the storage of other modular panels that can be substituted for those in the picture to obtain a change of scene. The specification discloses a partition in front of and spaced from the continuous picture of an outdoor scene with windows and/or doors through which the outside scene can be viewed. Other features relate to the holders for the panels including those in storage; the latter fitting into the channels that keep the panels out of contact with one another for protection when stored.

3,447,275

WALL CONSTRUCTION AND SOUND ATTENUATION MEANS THEREFOR

Wayne W. Vaughan, Malibu, Richard R. Wilson, Van Nuys, Paul B. Powell, Jr., Downey, and Lloyd S. Henry, Montrose, Calif., assignors to Vaughan Interior Walls, Inc., Los Angeles, Calif., a corporation of California
Filed May 18, 1966, Ser. No. 550,986
Int. Cl. E04b *1/82, 2/08, 1/99*
U.S. Cl. 52—582 **6 Claims**

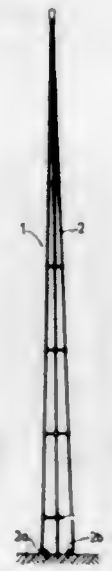


A partition wall construction having a sound attenuation means between spaced partition panels to increase the sound transmission loss, the sound attenuator means including a continuous elongated metal resilient member having side walls adapted to be secured to interior surfaces of the spaced panels and having a continuous unbroken cross section configured in the fashion of and resembling a U-section with the bottom portion of the U-section reduced in width and generally resembling a tuning fork cross section.

3,447,276

MAST STRUCTURES

Erik Patrik Viktor Svensson and Uno Nyberg, Stockholm, Sweden, assignors to KGL Luftfartsstyrelsen, Stockholm, Sweden, a Swedish civil service department
Filed Aug. 4, 1965, Ser. No. 477,090
Claims priority, application Great Britain, Aug. 17, 1964, 33,613/64
Int. Cl. E04h *12/08*
U.S. Cl. 52—648 **3 Claims**

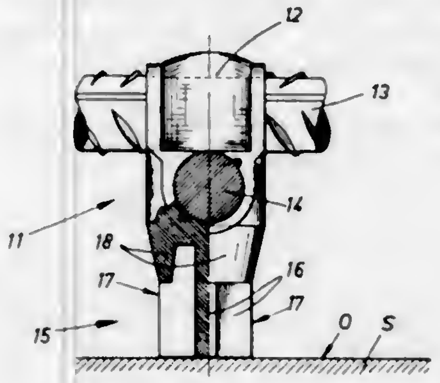


There is disclosed herein a mast structure for use particularly on an airfield or the like in the support of approach lights, antennae, meteorological instruments, etc. This mast structure comprises legs made up of lightweight tubing, the legs being rigidly interconnected by spaced bracing members which join the legs and hold them in position through the use of friction connections whereby the mast is a rigid structure in normal use but can readily collapse or at least partially collapse if it is hit by an aircraft, for example.

3,447,277

PLASTIC CONNECTING ELEMENT FOR REINFORCING OR STRENGTHENING RODS

Willy W. Korf, Baden-Baden, Germany, assignor to Ferrotest G.m.b.H., Basel, Switzerland
Filed Dec. 29, 1966, Ser. No. 605,717
Int. Cl. E04c *5/16;* **F16b** *7/00*
U.S. Cl. 52—687 **10 Claims**

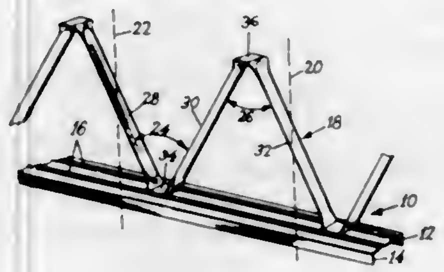


This invention relates to a connecting element for connecting two intersecting reinforcing rods of a structural steel mat, embodying spacing means for spacing the mat above a supporting surface in the form of crossing webs, and a ring surrounding the same.

3,447,278

TRUSS ELEMENT

Howard W. Collins, % Armco Steel Corporation, Middletown, Ohio 45042
Filed Dec. 8, 1965, Ser. No. 512,565
Int. Cl. E04c *3/09, 1/18*
U.S. Cl. 52—694 **1 Claim**



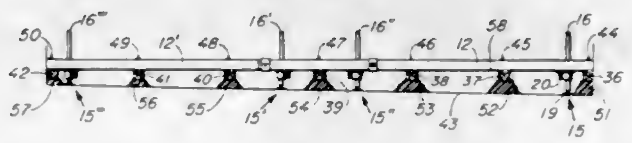
1. A truss element comprising,
a linear lower chord member, said chord member being channel shaped in cross section and having a base and downwardly extending legs on either side of said base;
two spaced parallel longitudinally extending ribs projecting upwardly from said base;
a supporting web secured to said base, said web comprising a strip of metal having in succession a plurality of equal but opposite bends, the portions of said strip intermediate of said bends being concave upwardly,
each of said bends including a flat portion parallel to said base, alternate flat portions being resistance welded to said ribs.

3,447,279

PROCESS AND APPARATUS FOR LEVELING FLOORS

David G. Martens and Edward P. Craft, Princeton, West Va., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Feb. 14, 1967, Ser. No. 615,945
Int. Cl. E04g *23/00, 21/00;* **E04b** *1/00*
U.S. Cl. 52—741 **3 Claims**

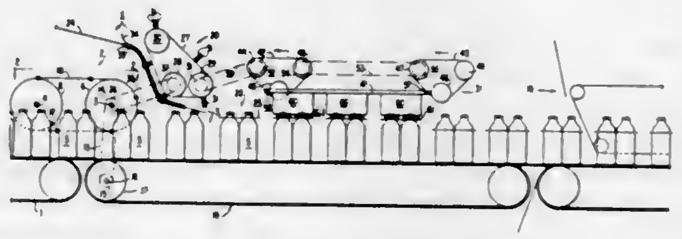
This invention relates to a method of establishing a level bearing surface over any surface and more particularly to a system whereby a level bearing surface may be quickly established over sagging or uneven floors or subfloors in order to reduce the time required to install new, level floors. The invention is carried out by holding, at the same time, all of the new floor joists in a level plane by means of level adjusting devices and introducing a rigid cellular plastic foam between the joists and the surface to be leveled.



3,447,280

PACKAGING ASSEMBLING APPARATUS

Ernest R. Cunningham, Libertyville, Ill., and John Hohl, Bern, Switzerland; said Hohl assignor to Owens-Illinois, Inc., a corporation of Ohio, and said Cunningham assignor to Illinois Tool Works, Inc., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,472
Int. Cl. B65b *21/24, 13/16, 27/04*
U.S. Cl. 53—48 **12 Claims**

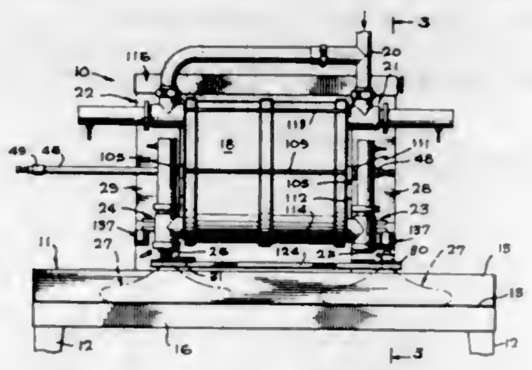


An apparatus for assembling resilient apertured carriers with groups of bottles to form packages convenient for carrying. Carriers are deposited on top of groups of bottles moving in spaced relation on a conveyor, then telescoped over the shoulder and into embracing relation with the body of the bottles to form packages.

3,447,281

APPARATUS FOR FILLING CONTAINERS

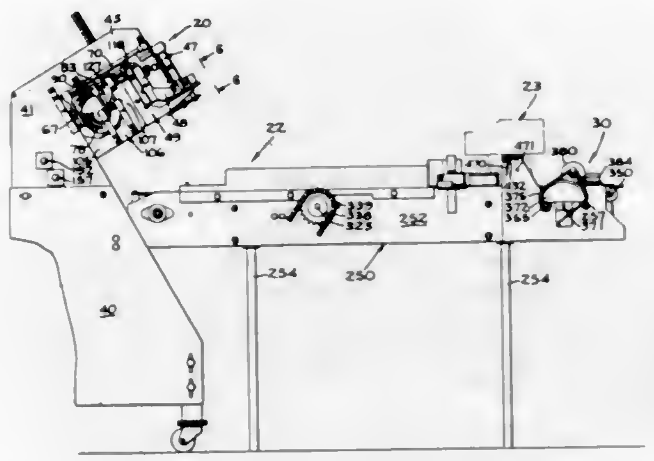
Charles G. Buford, 17727 Laxford Ave., Azusa, Calif. 91702, and Wesley E. Buford, 1045 N. Azusa, Covina, Calif. 91722
Filed May 19, 1966, Ser. No. 551,458
Int. Cl. B65b *3/12, 7/28, 57/08*
U.S. Cl. 53—59 **41 Claims**



A machine for filling liquid into a series of containers, including a cylinder containing a piston which acts upon movement in two opposite directions to fill liquid into containers at two different filling locations. Two holders are provided near each filling location, one for holding and positioning the neck of a container to be filled, and the other for holding a cap or other closure element to close the container. Upon each cycle of operation, the first holder shifts a carried container first from a retracted position to a filling position and then back to the retracted position after filling, for engagement with and closure by a cap retained in the second holder.

3,447,282
CONTAINER HANDLING APPARATUS

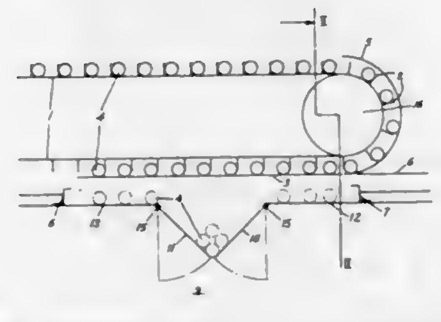
Harold J. Mumma, Riverside, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,901
Int. Cl. B65b *57/00, 35/30;* **B67b** *3/26*
U.S. Cl. 53—75 **16 Claims**



A container dispenser is arranged to carry either a nested stack of filler flats or a nested stack of egg cartons and to feed containers successively off the bottom of the stack to an underlying, intermittently driven conveyor. The conveyor indexes the containers to a position beneath an egg discharge conveyor which is arranged to individually drop eggs into the pockets of a container until a row thereof is filled, at which time the container will be indexed forwardly to allow the succeeding row or succeeding container to be filled in a similar manner. An egg carton closing mechanism is positioned at the downstream end of the conveyor to close and lock the covers on the egg cartons, and means are provided to vary the speed of the conveyor and the size of the intermittent indexing movements of the conveyor when the apparatus is changed from operation with filler flats to operation with cartons, or vice versa.

3,447,283
DEVICE FOR FILLING STORAGE CONTAINERS WITH ROD-SHAPED PRODUCTS AND ESPECIALLY CIGARS

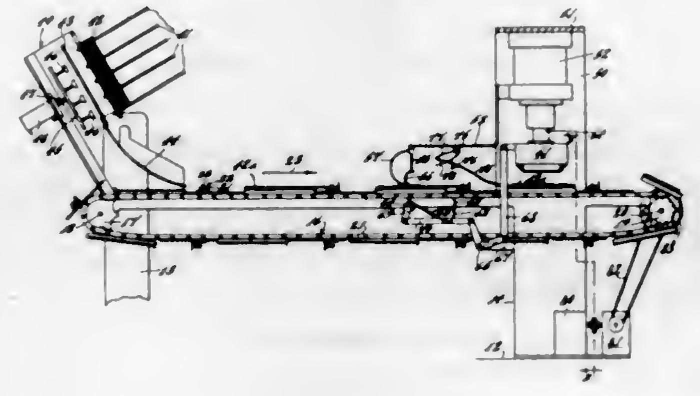
Jean Godet, Paris, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed June 5, 1967, Ser. No. 643,626
Claims priority, application France, June 8, 1966, 64,716
Int. Cl. B65b *19/34, 35/40*
U.S. Cl. 53—148 **6 Claims**



An intermediate storage receptacle in a device for automatically filling rod-shaped products conveyed by feeding means into containers, the receptacle located between the feeding means and the containers. A cyclically reciprocating sliding support between the feeding means and the receptacle for temporary accumulation of a predetermined number of the products; pusher plates reciprocatingly movable in opposite directions underneath the sliding support, which move the accumulated products in orderly rows into the intermediate storage receptacle.

3,447,284
IN-LINE SEALING MACHINE

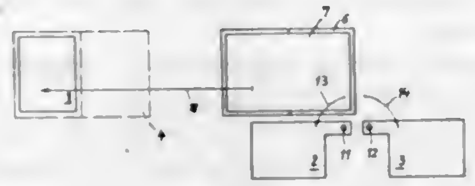
George C. Sparks, 101 Rorer St., Erdenheim, Pa., and Maurice D. Hartman, Jr., P.O. Box 133A, Harleysville, Pa. 19438
Filed June 12, 1967, Ser. No. 645,250
Int. Cl. B65b *11/08, 49/08, 51/14*
U.S. Cl. 53—209 **7 Claims**



This invention relates generally to packaging machinery, and is especially concerned with such machines as are adapted to form and seal packages from sheet material.

3,447,285
TWO-STAGE EDGE-FOLDING MACHINE FOR FOIL-WRAPPED ITEMS

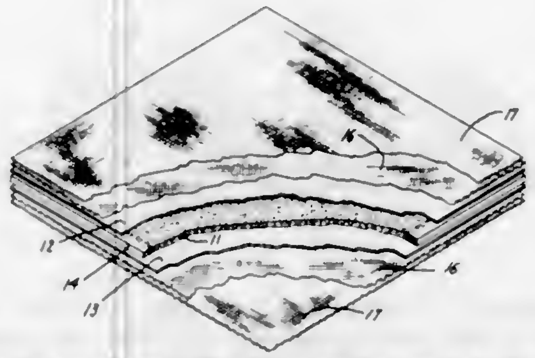
Roland Hörnlein, Schwabisch Gmund, and Gerold Domhan, Waldstetten, Germany, assignors to Walter Hörnlein Metallwarenfabrik, Schwabisch Gmund, Germany
Filed May 5, 1967, Ser. No. 636,364
Claims priority, application Germany, May 13, 1966, H 59,392
Int. Cl. B65b *9/02*
U.S. Cl. 53—393 **10 Claims**



The disclosure is of a two-stage edge-folding machine for foil-wrapped items such as moulded chocolate bodies in an installation for producing such items, comprising a two-stage edge-folding tool working with top and bottom dies and conveying devices, wherein the conveying devices consist of three suction devices movable up-and-down, the first suction device being transversely displaceable for transferring the items to the first edge-folding stage, and the other two suction devices being commonly transversely displaceable for transferring items from the first to the second edge-folding stages and from the second edge-folding stage to a delivery respectively and also being pivotable sideways out of and back into initial positions for giving an up-and-downwardly movable edge-folding tool access to the items in succession.

3,447,286
TOTALLY ENCLOSED LIQUID PERMSELECTIVE MEMBRANE

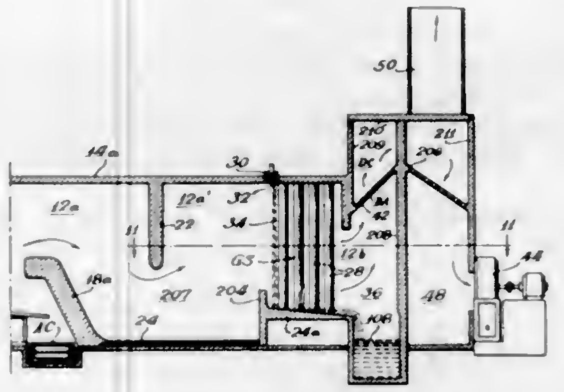
Angelo Dounoucos, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 2, 1967, Ser. No. 657,944
Int. Cl. B01d *59/14*
U.S. Cl. 55—16 **20 Claims**



A totally enclosed liquid membrane for the separation of gases is described wherein a porous body having more-or-less direct channels extending therethrough from face-to-face and providing at least about 10% open area is completely enclosed together with a selected liquid filling the channels between non-porous layers of solid permselective membrane material, the latter preferably having low permeability to the gas or vapor phase of the contained liquid.

3,447,287
INCINERATOR HAVING IMPROVED SCRUBBER

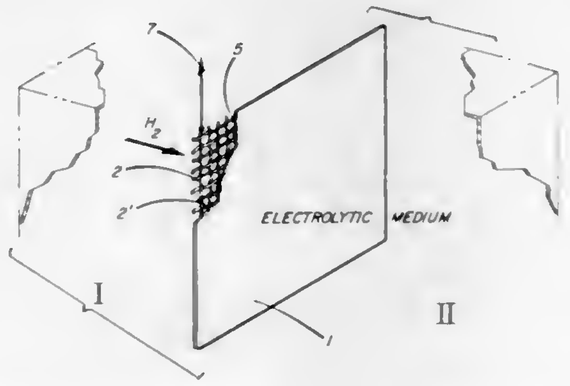
Lester Hans Andersen, Bensenville, Ill., assignor to Clear Air Waste Reduction, a corporation of Illinois
Continuation-in-part of application Ser. No. 527,368, Feb. 14, 1966. This application Dec. 18, 1967, Ser. No. 691,619
Int. Cl. B01d *45/10, 47/00*
U.S. Cl. 55—85 **19 Claims**



The specification discloses scrubber and dryer apparatus particularly useful in conjunction with municipal incinerators for the removal of fly ash from the gaseous combustion products. The scrubber comprises a chamber having surface-porous castable refractory piers in several rows, each row of which is staggered with respect to the preceding row. In one embodiment, the chamber widens from front to rear and the spacing between adjacent piers in each succeeding row decreases. The ash is trapped by impingement on a continuous curtain of water disposed at the inlet of the scrubber just upstream of the piers. Water to form the curtain is pumped into a manifold set transverse to the chamber inlet and having a slot therein. The gases carry the water downstream in relatively large droplets to impinge on the piers where the water and trapped ash flows off. The dryer chamber comprises a deflecting arch having openings therein that directs the gases against the chamber walls whereby water is stripped therefrom. The gases, after passing through the scrubber and then the dryer, are exhausted as substantially clear air, having a tested dust loading value of from 54 to 68% below the commonly accepted standard of 0.85 lb. dust/1000 lbs. flue gas. The scrubber and dryer can be used for other gases, e.g. for trapping SO_2 in the production of sulfuric acid. A method of scrubbing gases is disclosed.

3,447,288
GAS-DIFFUSION ASSEMBLY INCLUDING THIN HYDROGEN-PERMEABLE IMPERVIOUS FOIL

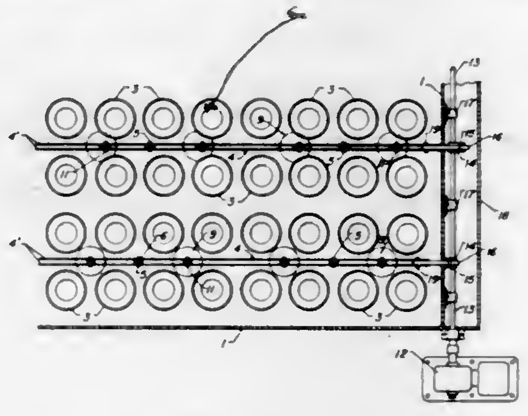
Walter Juda, Lexington, and Robert Lee Novack, Arlington, Mass., assignors to Prototeck Incorporated, Cambridge, Mass., a corporation of Massachusetts.
Filed Aug. 23, 1965, Ser. No. 481,748
Int. Cl. B01d *13/00*
U.S. Cl. 55—158 **7 Claims**



The invention relates to the providing of a novel gas-permeable impervious foil, as for such purposes as fuel cell electrodes and the like, the foil being thin enough to be non self-supporting, but rendered structurally useable by sintered connection to a relatively rigid openings-provided base support of a metal compatibly sinterable to the foil without closing off said openings.

3,447,289
COLLECTOR TUBE RAPPER SYSTEM

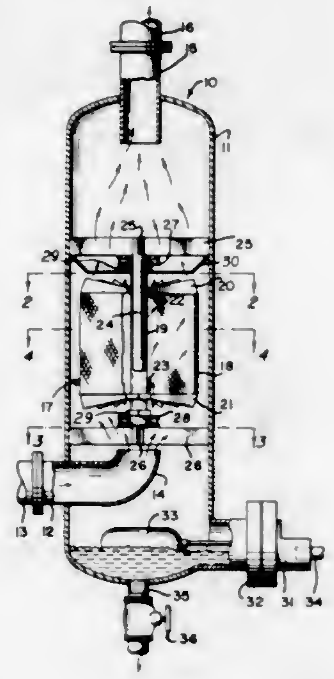
Edward H. R. Pegg, Port Chester, N.Y., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed May 8, 1967, Ser. No. 636,725
Int. Cl. B01d *45/12, 45/18*
U.S. Cl. 55—300 **4 Claims**



Freely swinging pendulum members are spaced along and suspended from spaced apart reciprocable rapper bars in a parallel row arrangement with the collector tubes of a multi-type centrifugal separator unit. Each loosely hung pendulum member is actually spaced between a group of four collector tubes so that it will be capable of striking each of the four tubes in a substantially uniform manner, with two tubes receiving impact as its particular supporting bar is pulled in one direction and the other two tubes being hit as the bar is moved in the opposing direction. A plurality of movable rapper bar means may all be reciprocated from a common motor operated rotating shaft.

3,447,290
SEPARATOR FOR DISENTRAINMENT OF MATERIAL FROM A GASEOUS FLUID STREAM

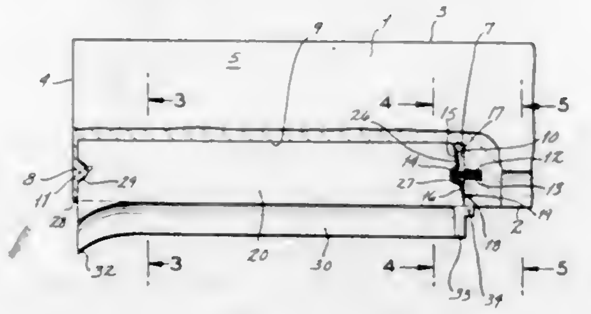
Ralph H. Flory, Waynesboro, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1967, Ser. No. 668,366
Int. Cl. B01d *45/14*
U.S. Cl. 55—322 6 Claims



The fluid separator comprises an open ended, cylindrical filter screen coaxially mounted for rotation within a vessel. The vessel is provided with an inlet to receive a gaseous fluid containing entrained material to be separated, which inlet is positioned to discharge the gaseous fluid into an open end of the filter screen. A plurality of vanes associated with the filter screen and positioned to be impinged by the gaseous fluid to thereby cause rotation of the screen and the gaseous fluid stream to assume a spiral flow path within the filter screen. A first outlet is provided in said vessel for receiving the cleaned gaseous fluid stream and a second outlet for the removal of disentrained material.

3,447,291
DETACHABLE MOWER BLADE

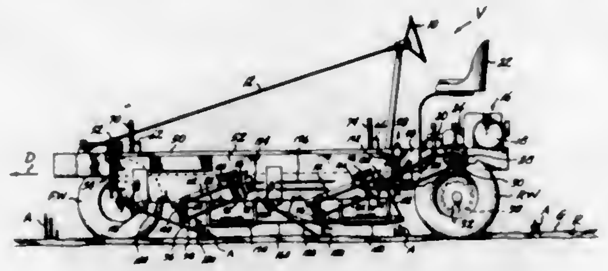
Henry M. Guetterman, 5601 Concordia Road, Belleville, Ill. 98004
Filed Dec. 15, 1966, Ser. No. 602,097
Int. Cl. A01d *55/18*
U.S. Cl. 56—295 9 Claims



A cutter blade for removable disposition within a socket provided in the cutter arm or blade support of agricultural equipment designed for mowing, which blade is provided with female portions for reliably engaging cooperating male members within the socket.

3,447,292
ASPARAGUS HARVESTING MACHINE AND METHOD

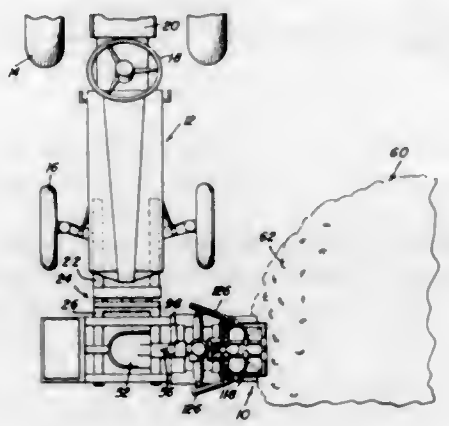
William F. Rehmke, Seattle, Wash., assignor to Pacific Products, Inc., Seattle, Wash., a corporation of Washington
Filed Feb. 18, 1966, Ser. No. 528,511
Int. Cl. A01d *45/00*
U.S. Cl. 56—327 22 Claims



A machine for harvesting asparagus in which stalks of a predetermined height are pinched between parallel upwardly moving belts with their presence being detected by a sensing finger which in turn causes actuation of a cutter that is manipulated downwardly and in the direction of travel of the vehicle to sever the stalk at ground level. The cutting edge of the cutter is carried substantially vertically to the rear and to the side of the stalk to be cut. The edge is also generally below the top of the stalk to be cut. The edge is then positioned horizontally directly behind the stalk to be cut and is maintained in this position for a brief time while it is drawn through the stalk by the motion of the vehicle. A rotary solenoid causes both rotary and arcuate downward movement of the cutting edge from its non-cutting position. The disclosure also includes a method wherein the presence of a stalk of a predetermined size is detected and in response to such detection a cutter is moved from a particular non-cutting position to a position directly behind the stalk to be cut thereafter being moved through the stalk and then returned to its non-cutting position.

3,447,293
MECHANICAL HARVESTER FOR FRUIT TREES

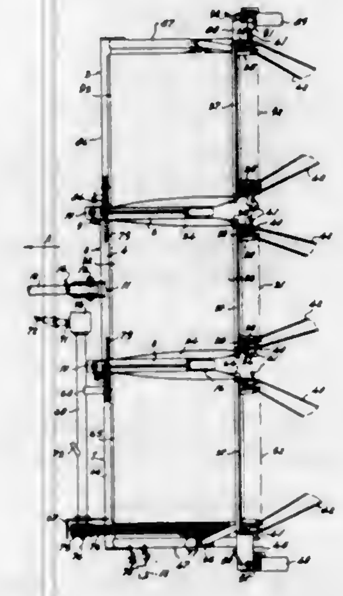
Ray F. Townsend, Dade City, Fla., assignor to Townsend Harvester Corporation, a corporation of Florida
Filed Sept. 17, 1965, Ser. No. 488,094
Int. Cl. A01g *19/00*
U.S. Cl. 56—328 6 Claims



A mechanical harvester that has a pair of rakes reciprocally mounted on an elevating frame. When the rakes are reciprocated toward the fruit area of a tree the rakes open and remain open through the entire inward travel thereof. At the end of the travel, the rakes close and are held closed throughout the outward travel of the rakes, thereby pulling the fruit off the tree.

3,447,294
IMPLEMENTS FOR WORKING CROP LYING ON THE GROUND

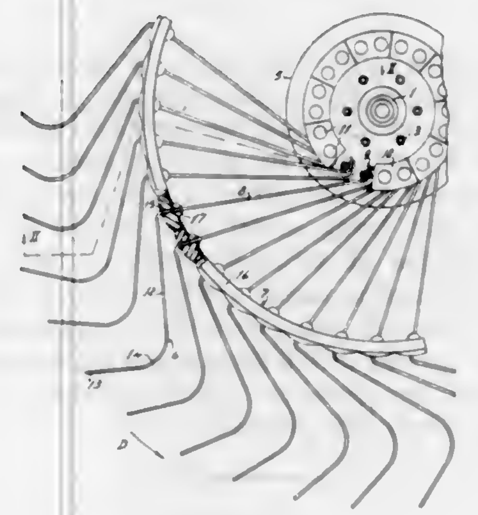
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed Nov. 17, 1965, Ser. No. 517,200
Claims priority, application Netherlands, Dec. 4, 1964, 6414089; June 8, 1965, 6507236
Int. Cl. A01d *79/02*
U.S. Cl. 56—372 15 Claims



An agricultural implement with a frame having two or more portions, a rotatable crop working member mounted on each portion to rotate about an axis of rotation, the portions being pivotally connected to one another to pivot about an axis substantially parallel to the direction of travel, one or more ground wheels located on each side of the axis of rotation of the working members when the implement is viewed from the side.

3,447,295
RAKE WHEELS

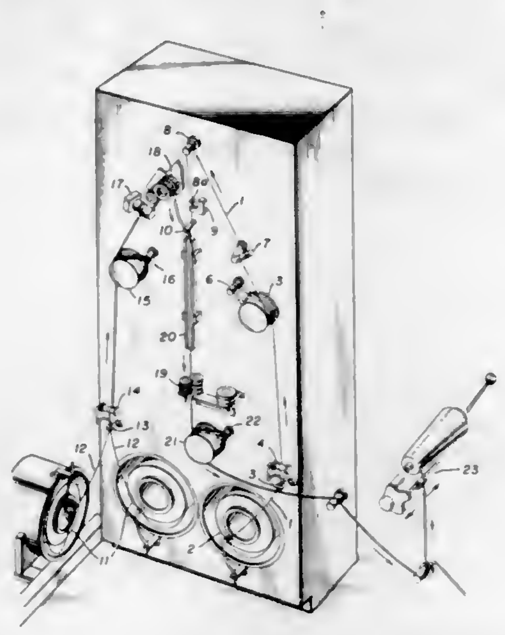
Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., Willemstad, Curacao, Netherlands Antilles, a limited-liability company
Filed June 15, 1965, Ser. No. 464,119
Claims priority, application Netherlands, July 13, 1964, 6407947, 6407948
Int. Cl. A01d *77/02*
U.S. Cl. 56—400 20 Claims



This invention relates to rake wheels of the kind that have circumferentially mounted resilient tines which are fastened to a central region of the rake wheel by spokes integral with the tines. Adjacent the juncture between the tines and the spokes, resilient supports are provided for the tines.

3,447,296
METHOD AND APPARATUS FOR PRODUCING A NOVEL HIGH BULK CONTINUOUS FILAMENT LOW STRETCH YARN

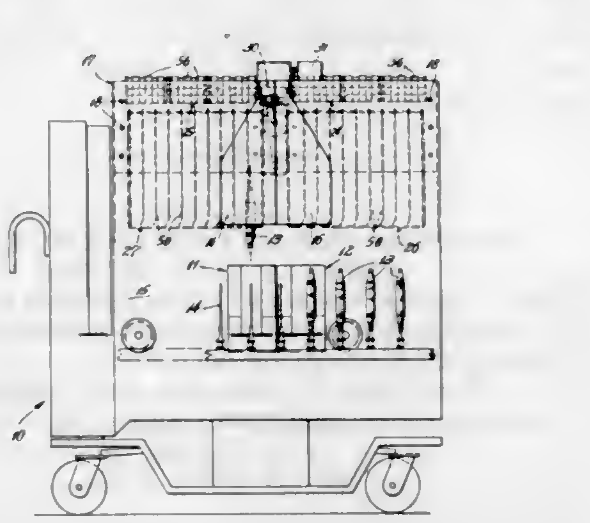
Ronald W. Chidgey and William H. Hills, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application May 31, 1966, Ser. No. 553,890, now Patent No. 3,401,516, dated Sept. 17, 1968. Divided and this application Jan. 2, 1968, Ser. No. 694,896
Int. Cl. D01h *13/26;* **D01d** *5/22*
U.S. Cl. 57—34 8 Claims



A process and apparatus for producing a synthetic filament composite singles yarn having a high degree of bulk and yet a low degree of stretch. A substantially untextured core yarn of at least one synthetic continuous filament is forwarded to a zone of contact with a sheath yarn composed of a plurality of textured synthetic continuous filaments. The core and the textured yarns are false-twisted together and bonded while so twisted. The false twist is released and the so produced singles yarn is taken up.

3,447,297
ORIENTING AND STACKING OF DOFFED PACKAGES

Edwin O. Du Buis, Pearl River, and Edward L. Cucksey, Upper Nyack, N.Y., assignors to Willcox & Gibbs, Inc., New York, N.Y., a corporation of New York
Filed Oct. 10, 1967, Ser. No. 674,290
Int. Cl. D01h *9/10;* **B65b** *57/18;* **D65b** *57/20*
U.S. Cl. 57—53 19 Claims

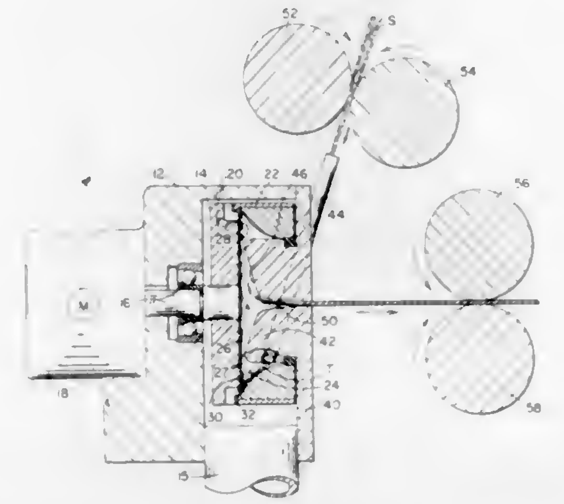


The device receives the packages i.e., wound bobbins or tubes as they are ejected from the spindles by the doffing units mounted on a carriage movable along a row of spindles in a spinning frame and orients and feeds the packages in a predetermined manner and stacks them in an orderly manner in compartments in removable receptacles mounted on the carriage, said compartments being preferably formed by removable separators in the receptacles and being filled seriatim under control of the packages deposited therein.

3,447,298

TURBINE SPINNING APPARATUS

Joel Clarence Collins, Seneca, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 31, 1967, Ser. No. 612,950
Int. Cl. D01h *7/00*
U.S. Cl. 57—58.89 **9 Claims**



This disclosure relates to textile machinery utilizing a plurality of spinning units each having a rotor providing a centrifugal spinning cavity having a peripheral wall free from apertures defining a smooth trumpet-shaped, fiber drafting surface and a transverse end wall having air exit apertures. The end and peripheral walls are joined at the larger diameter end of the peripheral wall providing a V-shaped fiber accreting groove. The fiber feeding means introduces fibers into the spinning cavity at a point spaced from the fiber drafting surface and axially spaced from the fiber accreting groove by at least about one-half of fiber length. A yarn exit passageway is positioned coaxially with respect to the rotor.

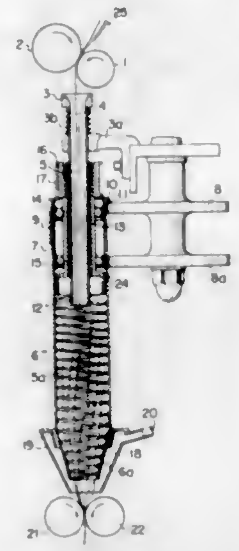
The control means of the disclosure consists of an enclosure for each of the rotors in communication with the air exit apertures therein, air suction means communicating with each of the air enclosures and a valve for each of the enclosures effective to cut off air flow upon absence of a yarn in order to prevent continuation of fiber feeding into a spinning unit.

3,447,299

METHOD AND DEVICE FOR ROTARY CONVEYING OF FIBERS

Eizaburo Negishi, Yono-shi, Japan, assignor to Kabushiki Kaisha Negishi Kogyo Kenkyusho, Saitama-ken, Japan, a joint-stock company of Japan
Filed Mar. 7, 1968, Ser. No. 711,294
Claims priority, application Japan, Sept. 15, 1967, 42/59,136
Int. Cl. D01h *7/00*
U.S. Cl. 57—58.89 **5 Claims**

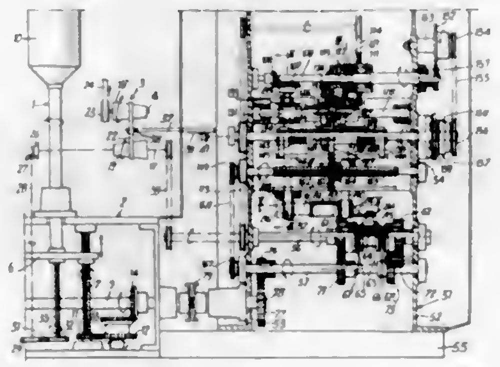
Fibers are introduced into the head open end of a rotary cylinder containing a coaxial coil of a wire-like member rotating in the same direction as the cylinder but at a differential speed to produce a screw conveying action toward the tail open end of the cylinder on the fibers, which are caused by centrifugal force to press against the coil and cylinder and thereby to be positively conveyed in the yarn spinning direction in an air spinning or open-end spinning as they rotate together with the cylinder.



3,447,300

MECHANISM FOR EFFECTING RISING AND FALLING MOVEMENTS OF SPINDLES FOR TEXTILE BOBBINS

Jean Frederic Herubel, Guebwiller, Haut-Rhin, France, assignor to N. Schlumberger & Cie, Guebwiller, Haut-Rhin, France, a French company
Filed Aug. 31, 1967, Ser. No. 664,817
Claims priority, application France, Sept. 8, 1966, 75,711
Int. Cl. D01h *13/00;* **B65h** *54/00*
U.S. Cl. 57—95 **7 Claims**



A mechanism for effecting the rising and falling movements of spindles for winding bobbins of filamentary textile material and providing for progressive reduction in the travel of the spindles to give the bobbins cone-shaped ends, reversing of the drive causing the rising and falling movement being under the control of two spaced detents engaged on screw-threaded portions of opposite pitch of a reduction screw which is turned through a part revolution for each rising or falling movement thereby adjusting the spacing of the detents and the lateral movement required of the member supporting them to effect the next change-over of movement.

3.447.301

TWINE

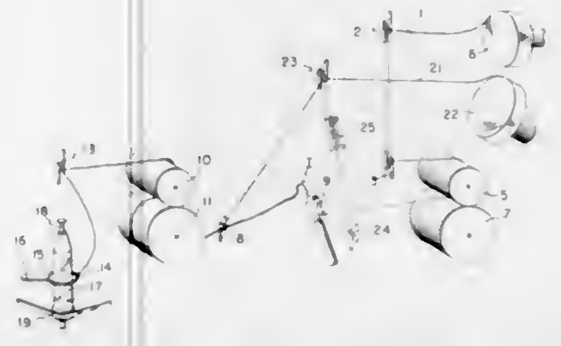
Keith L. Orser, Auburn, N.Y., assignor to Columbian Rope Company, Auburn, N.Y., a corporation of New York
No Drawing. Filed Sept. 30, 1964, Ser. No. 400,567
Int. Cl. D02g *3/04, 3/08*
U.S. Cl. 57—151 **11 Claims**

By using synthetic fibers having certain elongation characteristics at break in a quantity having a tensile strength of about half of the tensile strength of vegetable fibers and covered with paper, a twine is produced with an energy absorbing capability sufficient to withstand impact loads equal to the impact load limit of a vegetable fiber twine using enough fiber to have a much higher tensile strength. Thus, for example, instead of a baler twine having a normal tensile strength exceeding 300 pounds, the invention produces a baler twine having the same energy absorbing capability but with only enough fiber to provide a tensile strength of less than 175 pounds.

3,447,302

YARN PROCESSING

Frederick C. Field, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 450,075, Aug. 16, 1954. This application Jan. 30, 1959, Ser. No. 790,789
Int. Cl. D02g *3/04*
U.S. Cl. 57—157 **4 Claims**

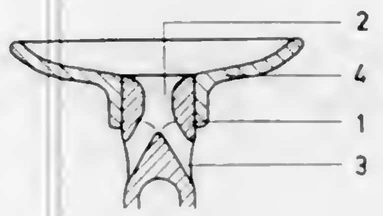


A chenille-like yarn characterized by high bulk and stability under tensile stress is provided by feeding at least two groups of filaments at considerably different rates through a zone of turbulence, produced by a fluid jet, so that the groups are combined with one forming a stress-bearing core and the other forming highly convoluted filaments extending outward in a multitude of elongated loops.

3,447,303

FLYER HEAD CAP FOR ROVINGS

Erich Loepfe, Zollikerberg, Switzerland, assignor to Aktiengesellschaft Gebrueder Loepfe, Zurich, Switzerland, a corporation of Switzerland
Filed Aug. 4, 1967, Ser. No. 658,509
Claims priority, application Switzerland, Aug. 11, 1966, 11,709/66
Int. Cl. D01h *7/26*
U.S. Cl. 57—115 **5 Claims**

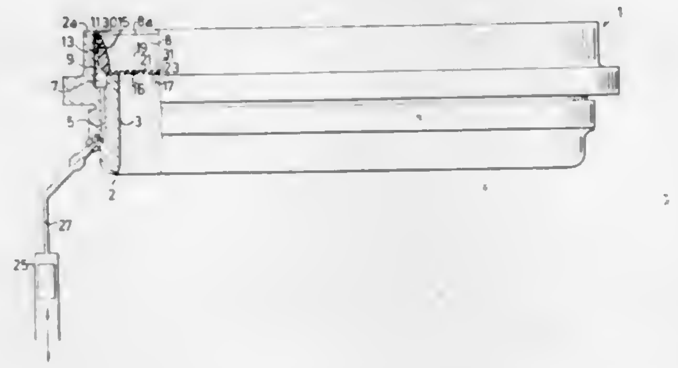


A flyer head for rovings is provided with a coaxially mounted plate-like cap the outer diameter of which is substantially greater than the diameter of the flyer head and which constitutes at least a portion of the upper surface of the inlet opening for the rovings.

3,447,304

LUBRICATED SPINNING RING

Ernst Nuessli, 3 Bietenholzweg, 8307 Effretikon, Zurich, Switzerland
Filed Nov. 15, 1967, Ser. No. 683,297
Claims priority, application Switzerland, Nov. 19, 1966, 16,688/66
Int. Cl. D01h *7/62, 7/52*
U.S. Cl. 57—120 **9 Claims**

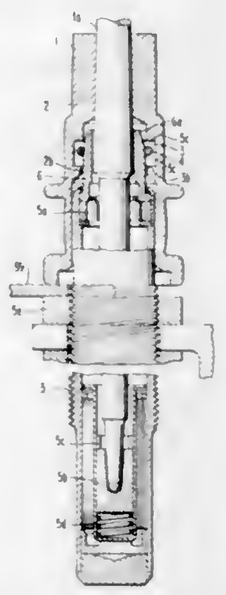


A spinning ring is made of two rings which form between each other an annular cavity to which a lubricating fluid is supplied and which communicates through an annular row of narrow flow passages with the running surface of the spinning ring on which the travellers run.

3,447,305

LOCKING DEVICE FOR SPINDLES OF SPINNING OR TWISTING MACHINES

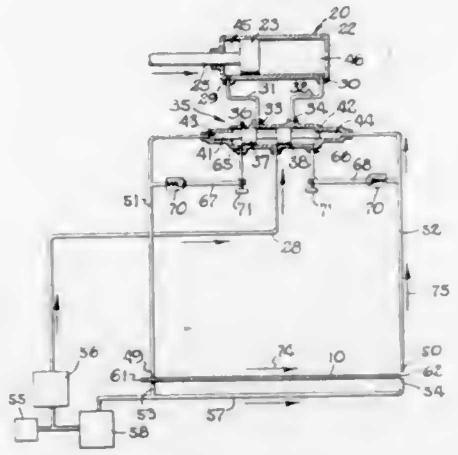
Fritz Stahlecker, Bad Uberkingen, and Sigmund Kemmler, Geislingen, Steige, Germany, assignors to Spindelfabrik Sussen, Schurr, Stahlecker & Grill G.m.b.H., Sussen, Wurttemberg, Germany
Filed Mar. 21, 1967, Ser. No. 624,839
Claims priority, application Germany, Mar. 28, 1966, S 102,832
Int. Cl. D01h *7/14, 7/22*
U.S. Cl. 57—132 **7 Claims**



A locking device for spindles of spinning and twisting machines, having a stationary housing containing a collar bearing and a footstep bearing for rotatably mounting therein a center shaft secured to a wharve. The wharve has a downwardly opening axial bore and annular recess. A locking unit is provided for preventing unintentional axial movement of the rotary unit and includes a bushing around the shaft, secured to the housing unit and having an annular locking recess near its free end containing a split locking spring ring. The bushing is provided with a cam for radially expanding the ring during disassembly and assembly. The rotary unit recess is provided with sidewalls to engage the ring and push it into or out of the bushing recess when the rotary unit is moved with sufficient force downwardly into the housing unit or upwardly out of the housing unit, respectively.

3,447,306
ABRADING MACHINE

Zigmant Jakimcius, Rockford, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed Sept. 16, 1966, Ser. No. 579,991
Int. Cl. B24b *21/00;* **F15b** *13/02, 5/00*
U.S. Cl. 51—135 **9 Claims**



A pneumatic cylinder responds to pneumatic signals produced by sensing nozzles and receivers positioned along opposite side edges of an endless abrading belt and induces controlled back and forth edgewise travel of the belt to maintain the latter generally centered on its supporting rolls while eliminating repetitive and overlying abrasive cuts on the work surface being abraded.

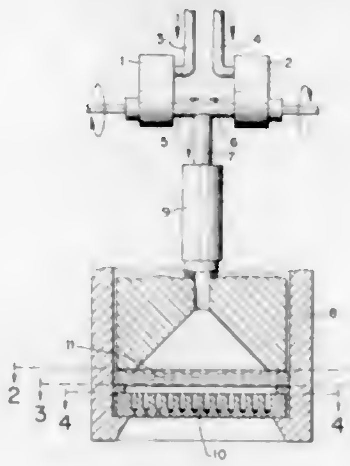
3,447,307
YARN OF THE FLAKE TYPE

Johnathan L. Rhyne, Lincolnton, N.C., assignor of twenty percent each to Paul C. Rhyne, Jr., and Joseph M. Rhyne, Lincolnton, and Charles T. Stowe, Jr., Belmont, N.C.
Continuation-in-part of application Ser. No. 635,134, May 1, 1967. This application July 6, 1967, Ser. No. 651,566
Int. Cl. D02g *3/38, 3/00;* **D01h** *13/02*
U.S. Cl. 57—139 **16 Claims**

A novelty yarn characterized by a series of relatively short lengths of auxiliary strands intertwisted with at least two uninterrupted lengths of ground strands, and wherein certain of the lengths of auxiliary strands are of different characteristics, such as color or dye affinity, from other lengths of auxiliary strands.

3,447,308
MULTIFILAMENT YARNS FOR REINFORCING ELASTIC ARTICLES

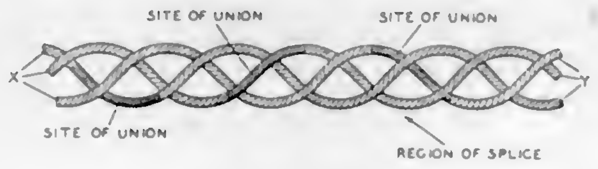
Wilhelmus J. Fontijn and Korstiaan J. M. van Drunen, Dieren, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Aug. 28, 1967, Ser. No. 663,812
Claims priority, application Netherlands, Sept. 8, 1966, 6612628
Int. Cl. D02g *3/04;* **D01d** *7/04*
U.S. Cl. 57—140 **12 Claims**



Reinforcing material for elastic articles and more particularly for automobile tires. The material is made up of multifilament synthetic linear high polymer yarns, each yarn having a plurality of filaments and each filament composed of at least two different polymers. One polymer functions as the matrix and the other polymer consists of a multiplicity of continuous cores having substantially the same length as, and being disposed uniformly throughout, the matrix. The cores are characterized by their uniformity in cross-sectional dimensions and by their substantially continuous nature. A novel system is provided for making such filaments.

3,447,309
SPLICED CORD

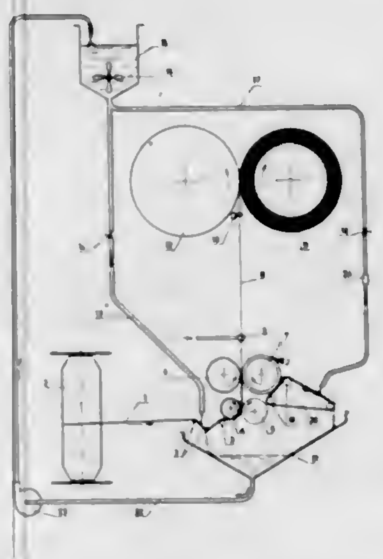
Wayne D. Alexander, Chester, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Original application Sept. 10, 1963, Ser. No. 307,891, now Patent No. 3,315,458, dated Apr. 25, 1967. Divided and this application Dec. 21, 1966, Ser. No. 619,101
Int. Cl. D02g *3/00;* **B65h** *69/06*
U.S. Cl. 57—142 **2 Claims**



A pair of multi-ply twisted cords are untwisted and spliced to minimize the bulk thereof by joining the separated strands at staggered sites along the cord. The cord is then twisted to restore the original twist. The spliced cords are particularly characterized by the yarn pairs being overlapped from ¼ to 3 inches to improve the uniformity, strength and flexibility of the region of splice.

3,447,310
METHOD FOR THE PRODUCTION OF YARN AND A YARN OBTAINED BY APPLYING THE SAID METHOD

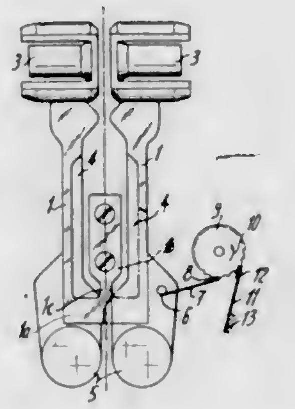
Cornelis Bok, Leidschendam, and Hendrik Johannes Selling and Martinus Adriaan van den Boom, Delft, Netherlands, assignors to Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek Ten Behoeve van Nijverheid, Handel en Verkeer, a corporation of the Netherlands
Filed June 20, 1967, Ser. No. 647,388
Claims priority, application Netherlands, July 7, 1966, 6609569
Int. Cl. D01h *13/30, 13/28, 5/28*
U.S. Cl. 57—164 **7 Claims**



A method for the production of untwisted yarn from staple fibre material. A roving or sliver is brought into a wet condition and is, under maintenance of the wet condition, subsequently drawn at a high speed to form a thin sliver, false-twisted and cross-wound into a fibre packet. By sizing this fibre packet an unwindable yarn packet is obtained, the yarn being suitable for weaving like conventional twisted yarn.

3,447,311
ELECTRONIC TIMEPIECE

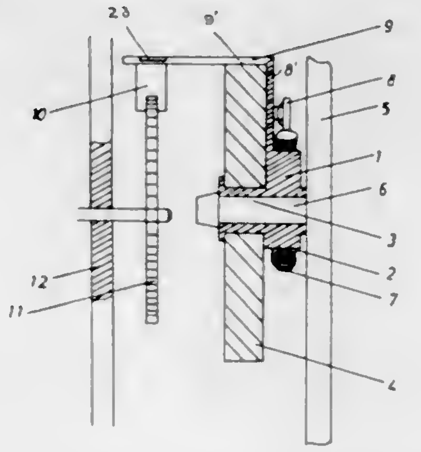
Andre Beyner, Neuchatel, Rene Besson, Les Loges, and Remy Chopard, Neuchatel, Switzerland, assignors to Ebauches S.A., Neuchatel, Switzerland, a firm of Switzerland
Filed Mar. 3, 1967, Ser. No. 620,510
Claims priority, application Switzerland, Mar. 29, 1966, 4,744/66
Int. Cl. G04c *3/00;* **G10g** *7/02*
U.S. Cl. 58—23 **4 Claims**



An electronic timepiece including mechanical resonator, the oscillations of which are maintained electronically, a counting device actuated by the resonator that transforms the oscillating movements of the resonator into rotary movements of a counting wheel, the resonator being constituted by a symmetrical flexion-type oscillator having a U-shaped portion with two arms thereof participating in flexion in the fashion of a tuning fork and with two rigid limbs thereof adapted to compensate for gravity position effects, each rigid limb being connected to one of the flexible arms in the vicinity of the free end thereof, the counting device being attached to the resonator at a selected point of at least one of the rigid limbs of such resonator as the limb is submitted to a vibratory oscillating movement under the effect of the vibrations of the flexible arm with which such rigid limb is associated, the counting device being practically insensitive to accelerations resultant from shocks to which the timepiece is subjected.

3,447,312
MOUNT FOR MASS BODY AND PAWL IN ELECTRICALLY WOUND CLOCKWORK

Albrecht Haag, Schwenningen am Neckar, Germany, assignor to Kienzle Uhrenfabriken G.m.b.H., Schwenningen am Neckar, Germany, a limited-liability company of Germany
Filed Apr. 27, 1967, Ser. No. 634,345
Claims priority, application Germany, Apr. 29, 1966, K 59,124
Int. Cl. G04c *1/06*
U.S. Cl. 58—40 **9 Claims**

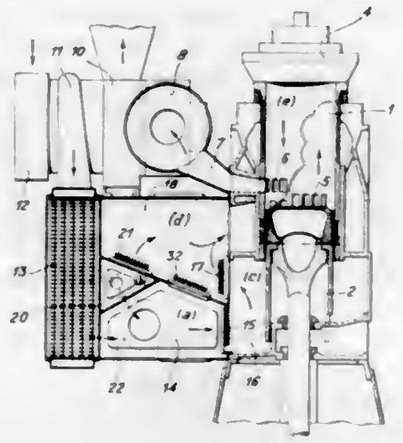


A plastic member serves as a bearing hub for an oscillatory disc shaped inertia body, the latter to be given an impulse in a substantially tangential member to elongate a helical spring stretched over a fusee-like axial projection of the hub. The member includes a radial portion bent over the peripheral portion of the inertia body to carry a pawl to drive a ratchet wheel as the driven wheel of a work train.

3,447,313
SUPERCHARGED TWO-STROKE CYCLE INTERNAL COMBUSTION PISTON ENGINE

Richard Stoffel, Winterthur, and Gosen Joop Hellingman, Wiesendangen, Switzerland, assignors to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Oct. 2, 1967, Ser. No. 672,247
Claims priority, application Switzerland, Oct. 11, 1966, 14,638/66
Int. Cl. F02b *41/10, 75/02;* **F01k** *23/14*
U.S. Cl. 60—13 **9 Claims**

There is disclosed a two-stroke cycle internal combustion piston engine of one or more cylinders having an exhaust-driven supercharger and having moreover for each cylinder a separate air pump, formed by the underside of the piston in that cylinder. This pump draws air through a check valve from a reservoir common to all cylinders (fed by the supercharger) and pumps it through another check valve into a separate air chamber for its cylinder, from which air flows into the cylinder through scavenging ports. This pump produces in the air chamber a peak pressure between 1.1 and 1.3 times the absolute pressure in the reservoir. In addition a supplementary air blower is provided, for use when the engine is operated at less than full load, connected between the reservoir and a further air chamber common to all cylinders, this last-named chamber connecting via check valves with the air chambers individual to the cylinders.



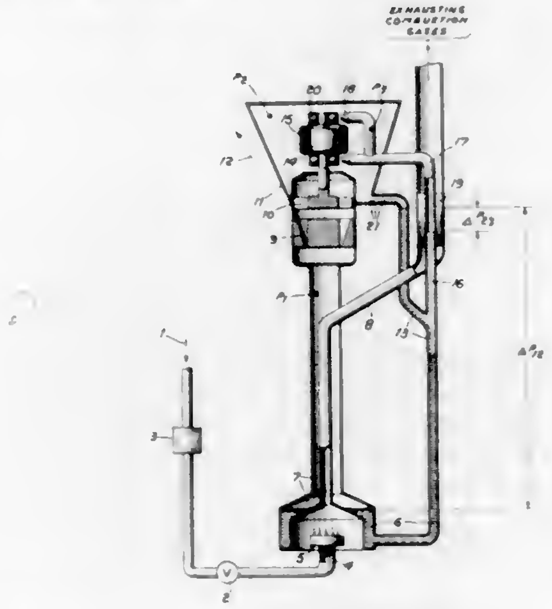
3,447,314
LUBRICATING ARRANGEMENT FOR MERCURY-VAPOR TURBOGENERATOR

Charles P. Majkrzak, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed May 8, 1967, Ser. No. 636,836

Int. Cl. F01k *25/14;* **F02c** *7/34;* **F16n** *7/40*

U.S. Cl. 60—36 10 Claims



An arrangement is provided for using residual heat and exhausted gases to heat a lubricating fluid, to vaporize it, and to create a pressure differential across a nozzle or orifice located in the condenser of a mercury vapor turbogenerator so as to lubricate the bearings with a vapor mist. The lubricating fluid is then condensed and consequently is entrapped atop the liquid mercury column in the feed line. This is possible due to the greater specific weight of the mercury with respect to the lubricant.

3,447,315
FUEL SYSTEMS FOR GAS TURBINE ENGINES

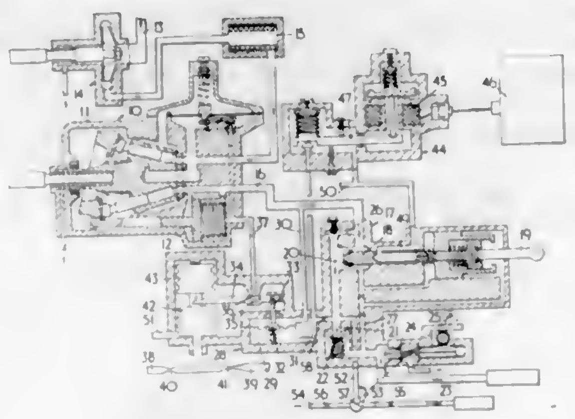
Geoffrey Albert Long, Sutton Coldfield, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

Filed Feb. 14, 1967, Ser. No. 615,993

Int. Cl. F02c *9/04*

U.S. Cl. 60—39.28 3 Claims

A fuel system having a pump for delivering fuel to the engine under the control of a throttle valve, has a shut off valve controlling flow to the main burner supply passage and there is a subsidiary passage supplying fuel to a starter burner passage through a control valve, this valve and the shut off valve being operable together so that as the shut off valve is opened to permit flow through the main burner supply passage, supply through the starter burner passage is reduced.



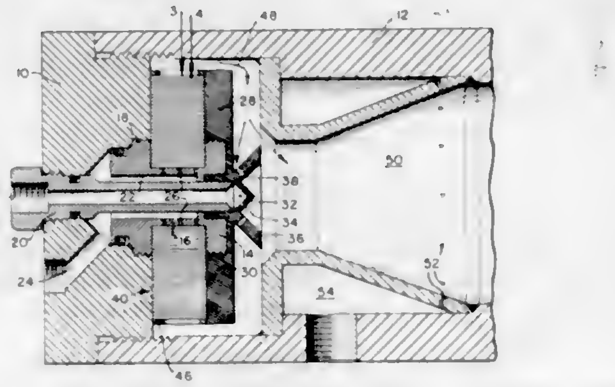
3,447,316
RADIAL OUTFLOW DECOMPOSITION CHAMBER

William D. White, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 7, 1965, Ser. No. 462,152

Int. Cl. F02k *9/02, 7/08*

U.S. Cl. 60—39.46 4 Claims



An apparatus for decomposing a catalytically decomposable liquid into gaseous products of decomposition wherein the apparatus includes an annular chamber and at least two juxtaposed porous strips of substrate catalytic screen material wrapped in a spiral within said chamber. One of the screen strips is straight cut and the other is bias cut. A means is provided for delivering a catalytically decomposable liquid to the chamber for outward flow therefrom in all radial directions through the screen material.

3,447,317
COMBUSTION CHAMBER

Robin Michael Dakin, Ansty, England, assignor to Bristol Siddeley Engines Limited, London, England

Filed Apr. 7, 1967, Ser. No. 629,211

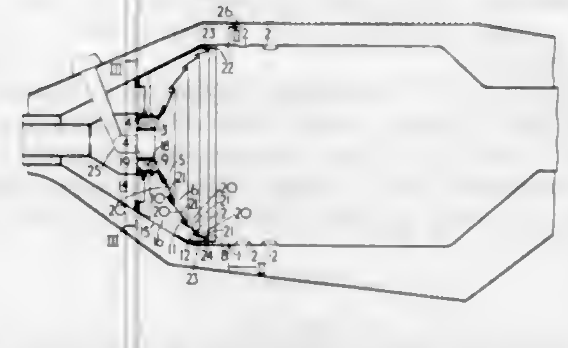
Claims priority, application Great Britain, Apr. 20, 1966, 17,196/66

Int. Cl. F02c *1/00;* **F23m** *9/00*

U.S. Cl. 60—39.65 6 Claims

A flame-tube, for a gas turbine combustion chamber, having an inwardly-concave, upstream end wall formed from overlapping, co-axial frusto-conical rings spaced apart radially. The portions of the frusto-conical surfaces

of the rings which are exposed to the interior of the flame-tube together define the concave inner surface of said end wall. The overlapping portions of each pair of adjacent rings define an annular passage, open at each end, through which air is introduced into the flame-tube, to cool the whole of the ring surfaces.



3,447,318
WALL ELEMENT FOR COMBUSTION CHAMBERS

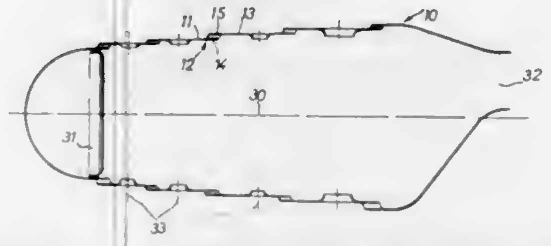
Jacques Emile Jules Caruel, Dammarie-les-Lys, and Armand Jean-Baptiste Lacroix, Itteville, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France

Filed Dec. 4, 1967, Ser. No. 687,864

Claims priority, application France, Dec. 8, 1966, 86,716

Int. Cl. F02g *1/00;* **F02c** *7/12;* **F02k** *11/00*

U.S. Cl. 60—39.65 7 Claims



A wall element for a combustion chamber which comprises, successively considered in the downstream direction, a relatively thin upstream portion, a thickened portion whose internal surface is substantially an extension of the upstream portion, and a relatively thin downstream portion which is substantially an extension of the external surface of the thickened portion, the thickened portion containing axial passages directed downstream. In accordance with the invention, the section of each axial passage in the thickened portion, as defined by a plane parallel to the three said portions of the wall element, increases in the downstream direction, and is triangular for example. As a consequence, the speed of the cooling air reduces as it progresses downstream and its means speed inside the passage is thus higher than at the exit from the passage, a factor which improves cooling.

3,447,319
HYDROPNEUMATIC SYSTEM

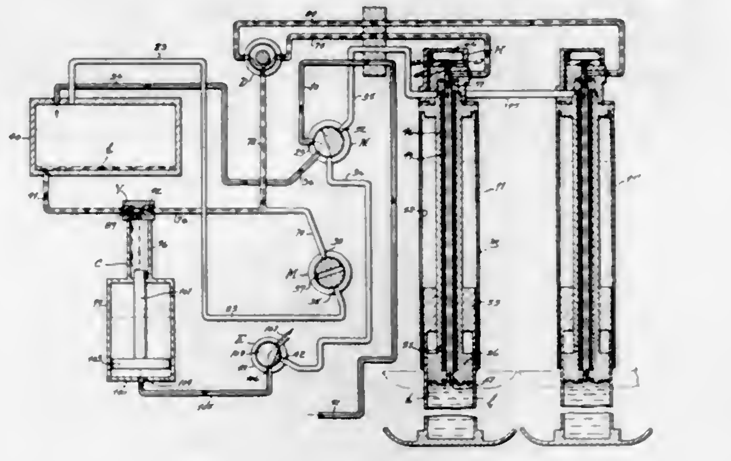
Raymond L. Konkle, Clinton, Iowa, assignor to Central Steel Tube Company, Clinton, Iowa, a corporation of Iowa

Filed June 10, 1966, Ser. No. 556,647

Int. Cl. F15b *15/18, 17/00, 3/00*

U.S. Cl. 60—51 5 Claims

A master control valve for use in a hydropneumatic system having asource of air, a source of hydraulic fluid, and a work-performing element operable responsive to a flow of air and hydraulic fluid controlled by said master control valve, there being a pressure booster provided within the system for increasing the hydraulic fluid pressure above the line pressure of the air and a release or check valve located within said work performing element for maintaining same in operable position until released by the flow of air directed by said control valve.



3,447,320
CONDENSING STEAM TURBINE PLANT

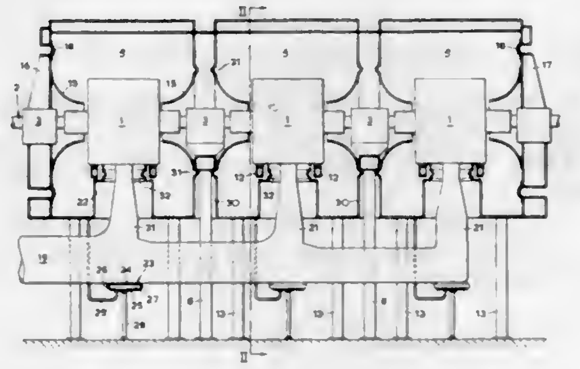
Keith Norman Hitchcock, Geoffrey Bernard Thomas, and Henry Watson, Rugby, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Dec. 20, 1967, Ser. No. 692,012

Claims priority, application Great Britain, Dec. 21, 1966, 57,256/66

Int. Cl. F01k *19/00*

U.S. Cl. 60—95 8 Claims



The invention provides a radial condensing steam turbine plant in which the or each L.P. turbine and its associated chamber housing the condensing means are separate from each other and are separately supported so as to permit relative movement to take place between them, and flexible bellows are provided at each end of the chamber, which bellows extend to and are sealed to the L.P. turbine casing or its support structure, depending upon the positioning of the steam exhaust ports of said turbine, so as to enclose the chamber around its L.P. turbine, the flexible bellows thus permitting said relative movement to take place.

3,447,321
UNCONTROLLED NUCLEAR DECAY PROPULSION AND/OR POWER SYSTEMS

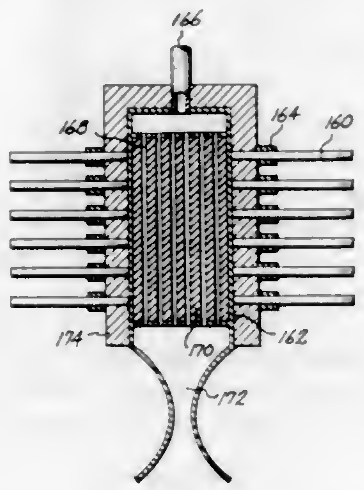
Jacob B. Romero, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Continuation-in-part of applications, Ser. No. 395,804, Sept. 11, 1964, and Ser. No. 435,853, Mar. 1, 1965. This application Nov. 15, 1965, Ser. No. 507,822

Int. Cl. G21d *3/10;* **F05h** *1/00*

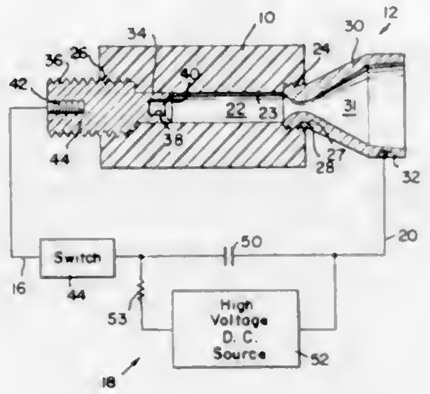
U.S. Cl. 60—203 1 Claim

A method and apparatus are disclosed for obtaining propulsion and/or power on an intermittent basis from an uncontrolled nuclear heat source such as a radioisotope. A heat containment vessel is interposed between the heat source and the ambient surroundings thereof, to absorb at least a portion of the heat from the source therein. Then, alternately, (1) the thermal energy of the absorbed heat is converted into another form of energy appearing as propulsion and/or power, and (2) the rate of heat flow to the ambient surroundings from at least one of the heat sources and the vessel, is increased so as to maintain a tolerable temperature in the vessel. The heat source and the vessel may be moved in relation to one another so as to increase the rate of heat flow from the source to the ambient surroundings; as, for example, by altering the dimensional characteristics of the heat source so as to increase the rate of heat flow therefrom. Or, the heat may be conveyed from the vessel so as to increase the rate of heat flow therefrom.



3,447,322
PULSED ABLATING THRUSTER APPARATUS

Frithjof N. Mastrup, Manhattan Beach, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Oct. 25, 1966, Ser. No. 589,348
Int. Cl. F02k *11/00;* **H01j** *1/02;* **H05b** *7/02*
U.S. Cl. 60—203 **5 Claims**



Propulsion apparatus having a body with a passage therethrough, the body being of dielectric material capable of releasing gas when subjected to heat. One electrode member is positioned to seal one end of the passage and another electrode member with an aperture therein is positioned in the other end of the passage. Electrical apparatus is connected to the electrode to generate electrical discharge arcs along the passage to effect heating of the material to release gas therefrom into the passage and through the passage and out the other electrode member to develop thrust in the body.

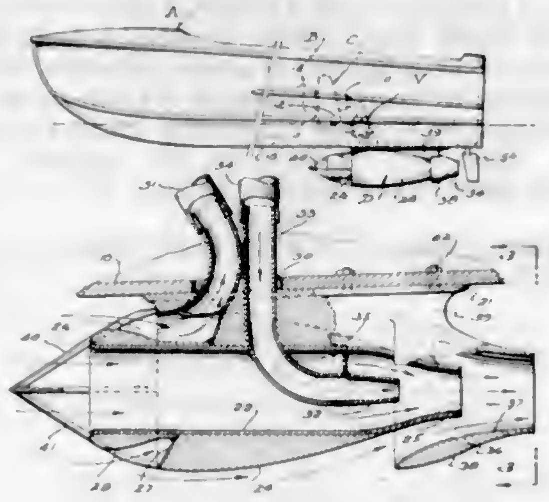
3,447,323
HYPERGOLIC METHOD FOR IGNITING HIGH ENERGY DIFLUOROAMINO COMPOUNDS

Barry D. Allan, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed July 26, 1967, Ser. No. 657,722
Int. Cl. C06d *5/08;* **C06b** *15/00*
U.S. Cl. 60—205 **9 Claims**

The method for achieving hypergolic ignition by bringing high energy compounds characterized by the presence of difluoroamino groups into contact with a second compound which is either antimony pentachloride, aluminum chloride, gallium trichloride or titanium tetrachloride.

3,447,324
WATER JET PROPULSION MEANS

Howard V. French, 2302 Campus Court, Abilene, Tex. 79601
Filed Oct. 18, 1967, Ser. No. 676,221
Int. Cl. B63h *11/08*
U.S. Cl. 60—221 **10 Claims**



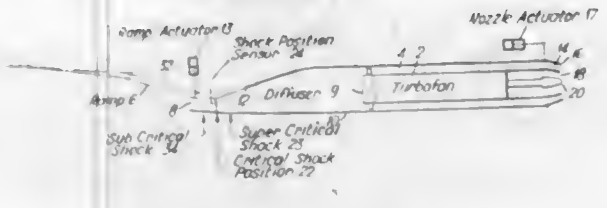
A water propulsion means for a water craft including a pod having an elongate, cylindrical barrel fixed to the bottom of the craft and having front and rear ends, a hydro-dynamically contoured exterior and a central, longitudinal flow passage, a secondary venturi nozzle at the rear end of the flow passage, an annular forwardly opening scoop in the forward portion of the barrel concentric with and spaced radially outward of the forward end of the flow passage, a suction pipe communicating with the scoop and extending to the inlet side of an engine driven pump in the craft, a delivery pipe extending from the outlet of the pump to the barrel and connected with a primary nozzle arranged centrally in the flow passage and directed rearwardly into the secondary nozzle and an elongate, annular, axially extending flow augmenting sleeve concentric with and engaged freely about and projecting rearwardly from the rear end of the barrel.

3,447,325
CONTROLLING SUPERSONIC AIR INTAKES

David Terence Tiley, London, England, assignor to Bristol Siddeley Engines Limited, London, England, a British company
Filed Aug. 14, 1967, Ser. No. 660,391
Claims priority, application Great Britain, Aug. 15, 1966, 36,397/66
Int. Cl. F02k *1/18, 1/12*
U.S. Cl. 60—242 **5 Claims**

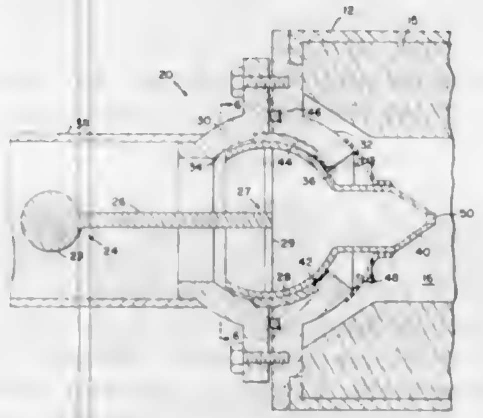
A jet propulsion engine has a variable-area discharge nozzle for varying the swallowing capacity of the engine and a variable-geometry supersonic air intake. The position of the terminal shock in the intake is controlled by

varying the intake geometry in response to shock position error to a sufficient degree to produce an intake geometry error. This intake geometry error in turn produces such a variation in the swallowing capacity of the engine as to make a further correction of the shock position sufficient to result in an over-correction error of the shock position, which produces correction of the intake geometry.



3,447,326
FLUID INJECTOR, SELF-COMPENSATING FOR LATERAL ACCELERATION

William F. Fuller, Riverside, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 10, 1967, Ser. No. 629,825
Int. Cl. F16j *15/16;* **F16k** *41/00;* **E21b** *33/00*
U.S. Cl. 60—251 **4 Claims**

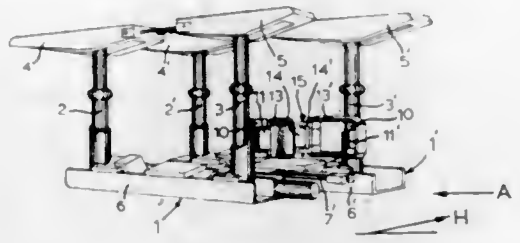


An injector for use in hybrid motors or liquid-controlled solid propellant motors. The injector includes a substantially spherical head having a nozzle disposed thereon in communication with the interior of the head and extending into the longitudinal perforation of the propellant to inject liquid oxidizer across the propellant grain. The head is provided with means for displacement thereof responsive to and at a magnitude proportional to lateral accelerations acting on the rocket, to direct flow of the oxidizer in substantially equal distribution across the propellant grain to assure even and complete combustion thereof. A bearing means is carried in the support for the head to provide substantially frictionless movement of the head and to provide a seal for the head.

3,447,327
MOVABLE FACE SUPPORT

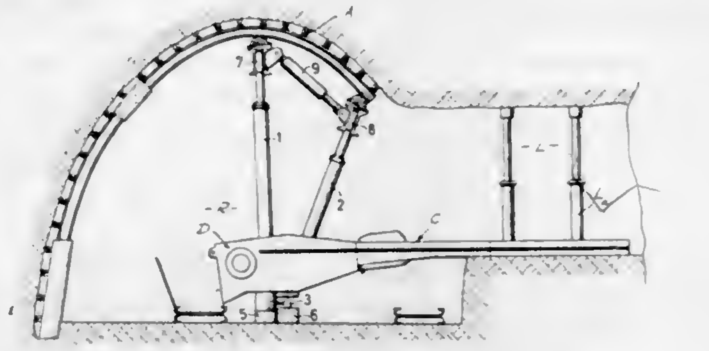
Freerk J. Fontein, Heerlen, Hendrik E. Loonen, Brunssum, and Frans H. Creuels, Hoensbroek, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
Filed Jan. 18, 1967, Ser. No. 610,187
Claims priority, application Netherlands, Jan. 19, 1966, 6600679; Aug. 6, 1966, 6611110
Int. Cl. E21d *11/00*
U.S. Cl. 61—45 **7 Claims**

A face support consisting of two supporting frames which can be alternately advanced parallel to each other by means of an advancing device and a parallel guide composed of guide rails and guide members cooperating with these rails and which are coupled by means of a bipartile coupling member the parts of which are so connected to each other and to the supporting frames that they can pivot on a shaft which is substantially parallel to the props. The guide rails and the guide members cooperating therewith are so constructed that the guide members can turn with respect to the centerline on the guide rails. The coupling member is sufficiently rigid that a released frame is kept upright by this coupling member, the parts of which are generally rectangular and consist of spring steel strips bent at right angles and provided with hinges, as described in the U.S. patent application 524,528 which has not yet been laid open to public inspection. The foregoing abstract should not be construed as indicating the principles or scope of the invention disclosed in this document.



3,447,328
MINE ROOF SUPPORTS

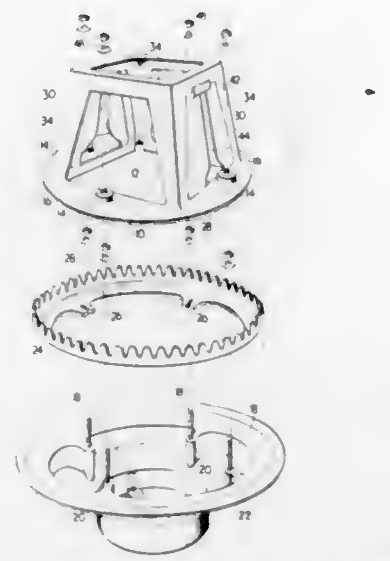
Fritz Schuermann, Winz-Niederwenigern, Germany, assignor to Bergwerksverband G.m.b.H., Essen, Germany, a corporation of Germany
Filed Apr. 10, 1967, Ser. No. 629,547
Claims priority, application Germany, Apr. 30, 1966, B 86,907
Int. Cl. E21d *11/16;* **B65g** *25/02, 27/08*
U.S. Cl. 61—45 **2 Claims**



The present invention consists of a roof support arrangement in a gate road leading to the working face of a longwall coal mine working, comprising; a pair of roof support frames of which each has, on the one hand, elongated roof and floor engaging means extending in the direction of the gate road, and on the other hand, a pair of rams extending from the elongated floor engaging means to the elongated roof engaging means for forcing them respectively against the floor and roof; means connected with the two frames and capable of causing relative movement between them in the direction of the gate road when the rams of one frame are depressurised to provide a self-advancing action of the frames, at least one of the frames being attached to traction means extending along the longwall coal face to anchor the traction means; and means for adjusting the distance between the two roof-engaging means in a direction perpendicular to them.

3,447,329
DRAIN STRUCTURE

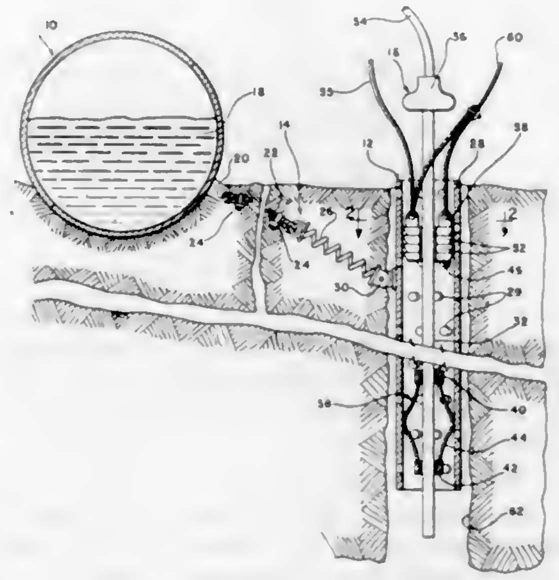
John E. Emberson, Scarborough, Ontario, Canada, assignor to Wade International Limited
Filed Dec. 27, 1965, Ser. No. 516,470
Claims priority, application Canada, Nov. 20, 1965, 945,828
Int. Cl. E03c *1/26*
U.S. Cl. 61—63 **1 Claim**



A drain head has a removable plate which contains a notch, the sides of which converge together and are shaped along their length in the form on one half of a parabola bisected through its focus.

3,447,330
METHOD AND APPARATUS FOR ANCHORING SUBMERGED PIPELINES

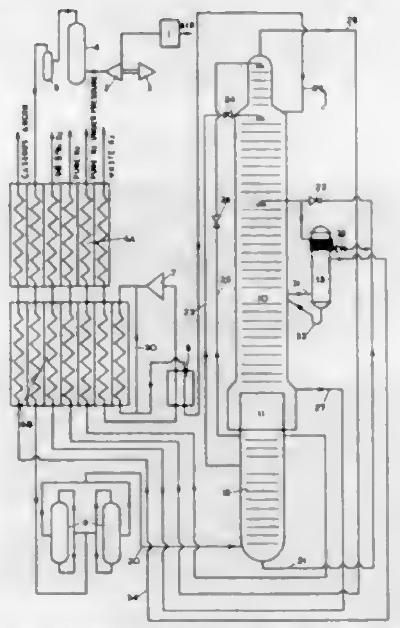
Malcolm R. J. Wyllie, Allison Park, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,985
Int. Cl. F16l *1/00, 3/00;* **E02d** *7/24*
U.S. Cl. 61—72.3 **7 Claims**



A plain double open-ended hollow perforated pipe is jetted into the underwater formation to serve as an anchor while the pipeline, pre-assembled to the anchor pipe at the surface, is caused to be submerged. Thereafter, the pipeline is made to be bouyant, and resilient means are provided in the linkage between the pipeline and the anchor.

3,447,331
AIR SEPARATION EMPLOYING WASTE NITROGEN REHEATED BY INCOMING AIR IN WORK EXPANSION

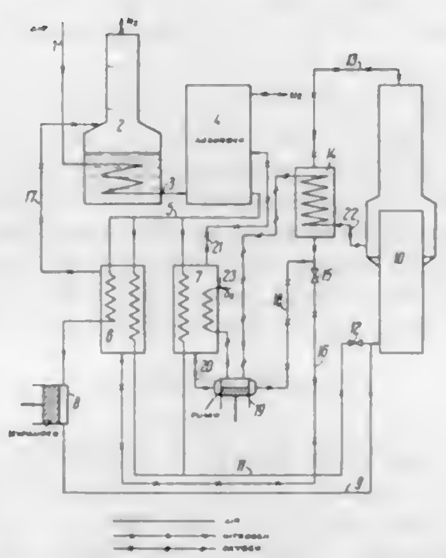
Kenneth C. Smith, Carshalton, England, assignor to The British Oxygen Company Limited, a British company
Filed May 9, 1967, Ser. No. 637,271
Claims priority, application Great Britain, June 1, 1966, 24,522/66
Int. Cl. F25j *5/00, 3/04*
U.S. Cl. 62—13 **6 Claims**



Air is cooled in reversing exchangers and separated into nitrogen and oxygen product streams in a double rectification column. Waste nitrogen from the low pressure column is heated in the reversing exchanger and is then work expanded to provide refrigeration for the process.

3,447,332
AIR SEPARATION EMPLOYING SEPARATED NITROGEN AS HEAT EXCHANGE FLUID IN LIQUID OXYGEN PUMP JACKET

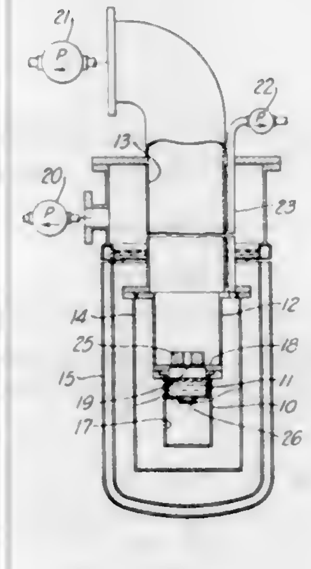
Genrikh Maxovich Basin, ulitsa Gorkogo 8, kv. 8; Ilya Vladimirovich Gorenshtein, ulitsa Lenina 48, kv. 14; Mark Eleazarovich Lemberg, prospekt Shevchenko 8-a, kv. 19; Semen Grigorievich Linetsky, Krasnoflotsky pereulok 9, kv. 6; Anatoly Eliseevich Myasoed, ulitsa Gagarina 8, kv. 23; Jakov Benediktovich Zanis, ulitsa Tolstogo 13, kv 3, all of Odessa, U.S.S.R.
Filed July 13, 1967, Ser. No. 653,184
Int. Cl. F25j *3/08, 5/00*
U.S. Cl. 62—13 **1 Claim**



Impurities are adsorbed from compressed air after which the air is split into three portions. First and second portions of air are cooled by separated air fractions, recombined and then throttled while the third portion of air is cooled by separated air fraction, work expanded and then combined with the throttled air and introduced into a rectification column. Liquid oxygen from the column is heat exchanged with gaseous nitrogen exiting the column after which the oxygen is pressurized in a jacketed oxygen pump. A portion of the nitrogen from the oxygen heat exchange passes through the pump jacket after which the nitrogen is used to regenerate the absorber.

3,447,333
HELIUM FILM REFRIGERATOR

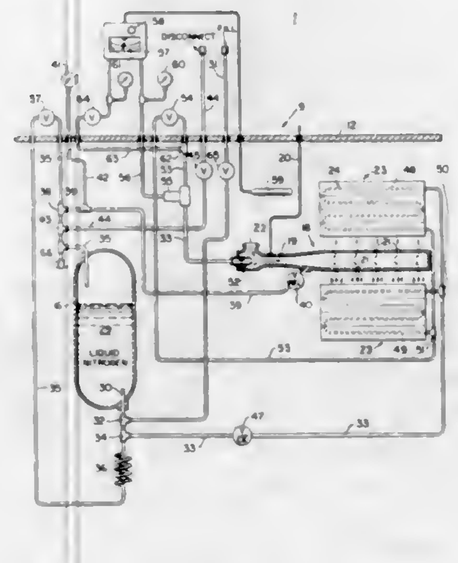
David L. Goodstein, Pasadena, Calif., assignor to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Mar. 17, 1967, Ser. No. 623,966
Int. Cl. F25b *19/00*
U.S. Cl. 62—45 **16 Claims**



A refrigerator utilizing helium 4 for operation below 1° K. A refrigerator incorporating a reservoir of liquid helium 4 in the superfluid state, with a passage for flow of the helium 4 to an evaporation chamber to form a film for evaporation and cooling.

3,447,334
ENVIRONMENTAL SYSTEM FOR PRESERVATION OF PERISHABLES

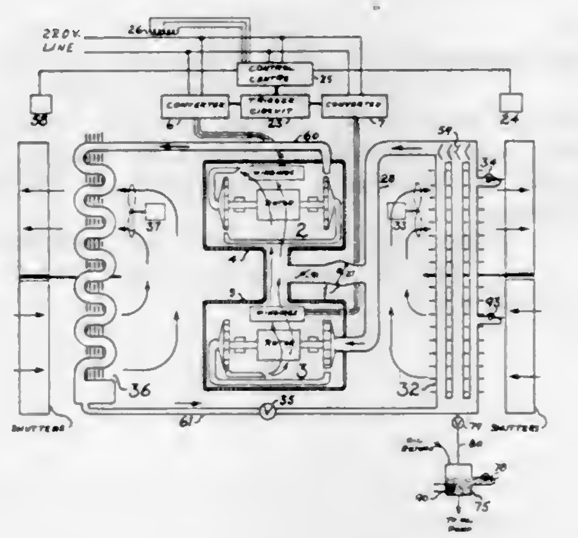
John G. Kimball, Rolling Hills Estates, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 7, 1967, Ser. No. 688,830
Int. Cl. F25d *17/06;* **F28d** *3/00*
U.S. Cl. 62—64 **16 Claims**



A method and apparatus for the preservation of perishables wherein a refrigerant is passed through heat exchange means and expelled at high velocity through ejector means which serve in a first ejector pumping stage to draw in outside fluid, as necessary, and to recirculate the flow of the inside or ambient refrigerated environmental fluid by generating a secondary atmospheric flow which mixes with the ejected refrigerant. The gaseous mixture then moves via distribution means of a second ejector pumping stage to induce eddy flow of the refrigerating atmosphere as the mixture moves at medium velocity into heat exchange relationship with said heat exchange means, cooling and humidifying the perishables.

3,447,335
VARIABLE CAPACITY CENTRIFUGAL HEAT PUMP

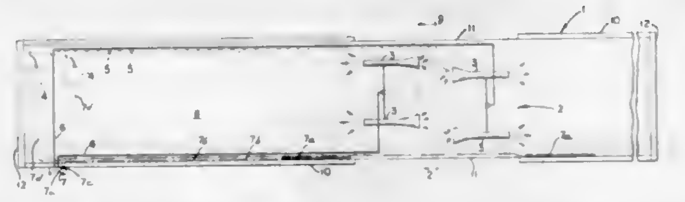
John D. Ruff, 206 Birch St., and Phillip R. Wheeler, 209 W. Pine St., both of Alexandria, Va. 22305
Filed Sept. 22, 1967, Ser. No. 676,368
Int. Cl. F25b *29/00, 41/00, 1/10*
U.S. Cl. 62—159 **17 Claims**



This invention is an electrically powered air conditioning and heat pump system using small centrifugal compressors. Stability in operation over a wide range of operating conditions is accomplished by modulating system capacity by compressor speed control. A feed back of compressor motor current level provides the basis of this control.

3,447,336
REFRIGERATION ARRANGEMENT

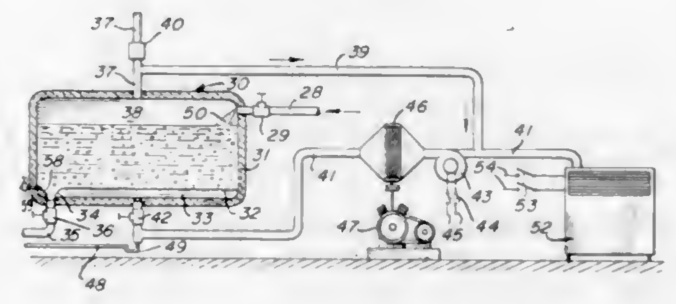
Harold E. Gramse, Chicago Heights, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,819
Int. Cl. B60h *3/04*
U.S. Cl. 62—239 **18 Claims**



A refrigeration arrangement for a railroad car comprising a source of liquid nitrogen under a vapor pressure attendant to delivery of the nitrogen, under thermostatic control, to a converging atmospheric collector disposed within the car, the collector comprising a heat exchanger including encircling coils of the liquid nitrogen about the collector's scoop, the trailing end of the coil being connected with a tube of low thermal conductivity and low coefficient of friction and extending into the scoop from its widened end to its shortened end, a venturi tube being connected to the end of the scoop and the exiting end of the tube having a nozzle being surrounded by the conical venturi tube end portion of the scoop to develop a venturi or suction action and drawing the atmosphere within the car into the scoop for cooling of the atmosphere and dehumidifying same and for depositing moisture in the form of ice and snow on the interior surface of the scoop which is of high thermal conductivity material, the venturi tube being of low thermal conductivity material and receives the atmosphere and the liquid nitrogen which expands to a gas in the venturi throat, the exit end of the venturi tube being coupled to an exhaust tube opening into the car, the exhaust tube being of low thermal conductivity and having an outside air tube connecting with its entrant part and with an outside air control valve on the car for mixing of outside air and the car atmosphere and nitrogen gas for dispersal into the car environment.

3,447,337
TRANSPORTING AND STORING FRUIT AND VEGETABLE PRODUCTS

Norman J. Skruch, St. Joseph, Alvin I. Nelson, Champaign, and Alexander L. Reiter, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 7, 1965, Ser. No. 485,418
Int. Cl. F25d *3/02;* **A23b** *7/04*
U.S. Cl. 62—318 **7 Claims**

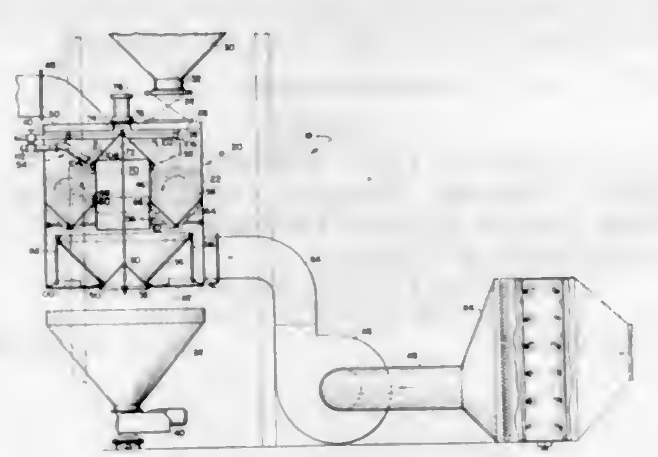


Apparatus for transporting and storing under preserving conditions fruit and vegetable products comprising a means for flowing an aqueous fluid containing the product into a container, means for separating the fluid in the container from the product to isolate the product, means for subjecting the isolated product in the container to a storage preserving atmosphere containing an amount of oxygen less than that found in ordinary air by introducing the atmosphere to the container, means for mixing the isolated product in the container after the storage period with an aqueous fluid and then means for conveying the product from the container by flowing the aqueous fluid containing the product from the container.

3,447,338
APPARATUS FOR COOLING PARTICULATE SOLIDS

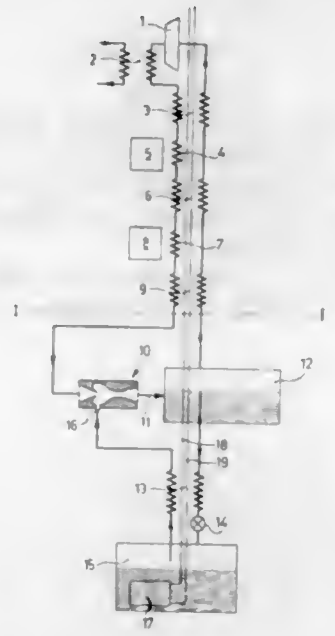
Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Original application Jan. 15, 1965, Ser. No. 425,702, now Patent No. 3,345,180. Divided and this application Apr. 20, 1967, Ser. No. 632,395
Int. Cl. F25d *17/02;* **F26f** *17/12*
U.S. Cl. 62—374 **11 Claims**

Cooling apparatus including a vessel having therein an apertured frustoconical plate for so directing a cooling fluid into a bed of particles in the vessel as to effect circulation of the particles as they are cooled and a system for distributing a liquid onto the circulating particles together with dump mechanism and a control system.



3,447,339
COLD PRODUCING SYSTEMS

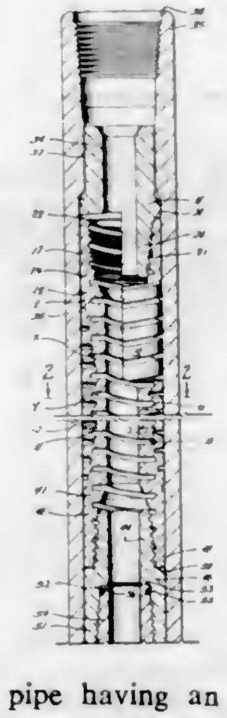
Johan Adriaan Rietdijk, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 12, 1967, Ser. No. 637,960
Claims priority, application Netherlands, May 25, 1966, 6607168
Int. Cl. F25b *1/00*
U.S. Cl. 62—500 **6 Claims**



This invention relates to a cold producing apparatus for cooling an electronic element including its current conductors which extend to a higher temperature environment and produce heat during operation of the element. The apparatus includes means for compressing a fluid medium, a heat exchanger for initial cooling of the medium to a temperature below its inversion temperature, an ejector for expanding and cooling the medium to a lower intermediate temperature and pressure, and a first reservoir for receiving said expanded medium and conducting it through a choke to a second reservoir at a lower temperature and pressure.

3,447,340
RESILIENT UNIT FOR DRILL STRINGS

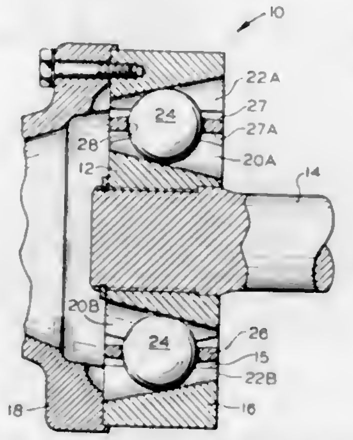
William R. Garrett, Midland, Tex., assignor to Smith Industries International Inc., a corporation of California
Filed May 29, 1967, Ser. No. 641,877
Int. Cl. F16c *1/00, 3/00;* **F16d** *3/06*
U.S. Cl. 64—1 **8 Claims**



An imperforate pipe having an inner helical groove staggered relative to an outer groove to form a spring pipe is provided at each end with an internally threaded box. A rigid barrel is disposed around the spring pipe. The lower ends of the pipe and barrel are releasably connected to the upper ends of inner and outer tubes of a telescopic joint provided with replaceable wear sleeves and travel limit stops. The lower end of the inner tube and the upper ends of the pipe and barrel are provided with connection means for making connection to a drill string.

3,447,341
BALL CAGE FOR BALL TYPE CONSTANT VELOCITY JOINT

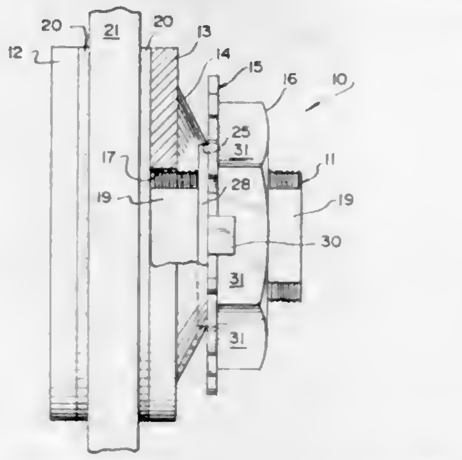
Fred F. Miller, Jr., Sylvania, Ohio, assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Dec. 19, 1966, Ser. No. 602,875
Int. Cl. F16d *3/30;* **F16c** *19/20, 33/38*
U.S. Cl. 64—21 **10 Claims**



1. A constant velocity universal joint of the type having an inner member with ball receiving grooves therein, an outer member with an axial opening in which the inner joint member is received, the outer joint member having ball receiving grooves in the surface thereof surrounding the opening therein, each groove in the inner member disposed in a paired mirror-image relationship with a groove in the outer member, a drive ball positioned in each pair of grooves, and an annular ball cage positioned between said members and having ball receiving openings therein for holding the drive balls in a single plane, wherein the improvement comprises, each of said ball receiving openings having opposed axially facing wall portions formed arcuately in the circumferential direction, the axial distance between the medial portion of said opposed axially facing wall portions being substantially greater than the diameter of the ball received therein, each of said openings also having opposed circumferential facing wall portions which are so formed and sufficiently spaced for allowing the ball received in the opening to shift circumferentially relative thereto and relative to the axially facing wall portions.

3,447,342
TORQUE LIMITER DEVICE

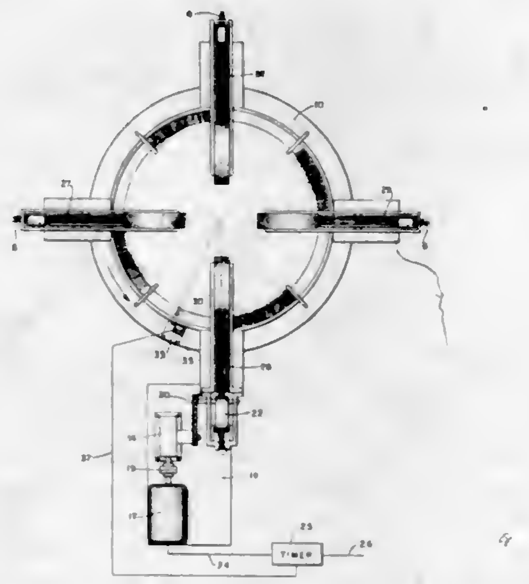
Charles E. Hein, Newfield, N.Y., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 30, 1967, Ser. No. 678,782
Int. Cl. F16d *7/02;* **F16b** *39/00*
U.S. Cl. 64—30 **7 Claims**



A disc spring biased torque limiter is disclosed herein to provide a structure whereby a drive element such as a sprocket is frictionally engaged by pressure plates under a resilient force of a magnitude determined by a nut tightened on the hub of the torque limiter.

3,447,343
APPARATUS FOR KNITTING FROSTED PILE FABRIC

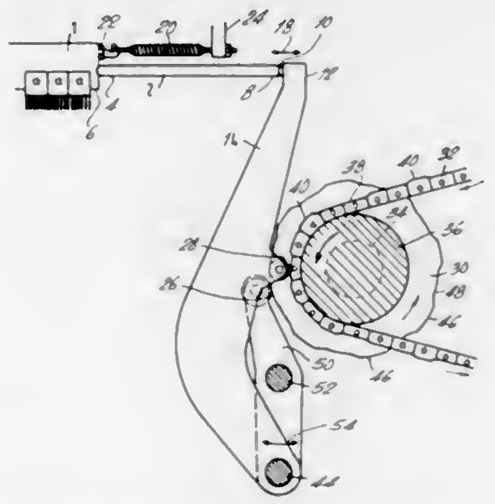
Daniel Frishman, Andover, and George R. Clyman, Danvers, Mass., assignors to Reid Meredith, Inc., Lawrence, Mass., a corporation of Massachusetts
Filed July 11, 1966, Ser. No. 564,064
Int. Cl. D04b *9/12, 9/44*
U.S. Cl. 66—9 **6 Claims**



The apparatus of the present disclosure is directed to knitting a frosted deep pile fabric for making wigs or other textile products on a circular knitting machine having at least two cards in which one of the cards is fed with a sliver continuously and the second card is fed with a sliver of a color different from the first sliver and the feed of the second card is done on an intermittent basis. Means is provided circumferentially in advance of the intermittently fed card to raise the needles in timed relation to the intermittent feed.

3,447,344
WARP KNITTING MACHINE

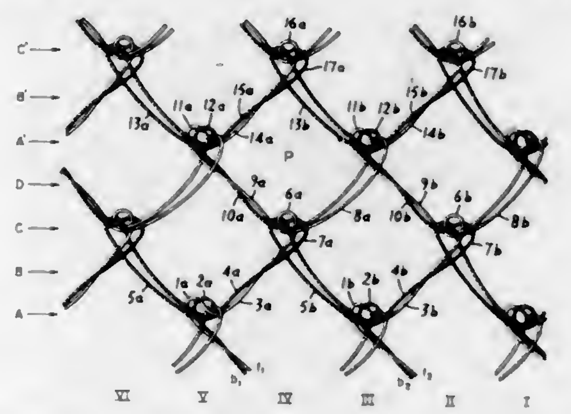
Arno Zwingenberger and Adolf Hagel, Naila, Bavaria, Germany, assignors to Karl Liebrandt, Naila, Bavaria, Germany
Filed Aug. 17, 1967, Ser. No. 661,248
Claims priority, application Germany, Aug. 30, 1966, L 54,422
Int. Cl. D04b *15/70*
U.S. Cl. 66—86 **4 Claims**



A warp knitting machine, more particularly a raschel knitting machine, in which the alternating movement of the guide bars, for stich formation in underlapping and overlapping, is brought about by a unified integrated employment of cammed chain links and cammed control discs which are rotatable about a common fixed axis, while a plurality of alternating actuating levers which operate the reciprocating guide bars are additionally pivotally carried on an auxiliary shaft supported by one of the free ends of the control levers. With this unitary common fixed axis shaft type of improved construction, the chain links movable on chain drums with variable elevation of cam chain links, and cams also carried on the control discs, there results a simplified and more dependable construction and operation of the machine.

3,447,345
KNITTED MESH FABRIC

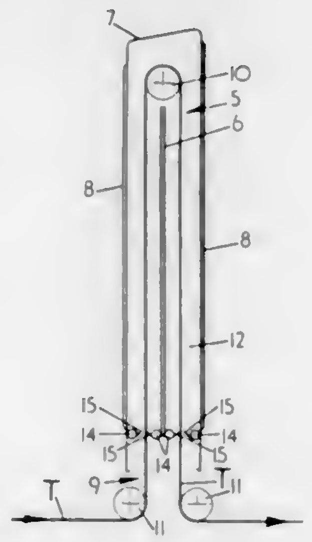
Milton Kurz, 461 Barnard Ave., Cedarhurst, N.Y. 11516
Filed Oct. 21, 1966, Ser. No. 588,590
Int. Cl. D04b *21/12, 21/14*
U.S. Cl. 66—195 **3 Claims**



A knitted mesh fabric containing diamond shaped polygons, useful as backing material or "scrim," which is produced on a conventional warp or Raschel knitting machine equipped with two guide bars and one needle bar, such fabric being knitted by having the threads from each guide bar form, in the four-course series set-up, two contracted loops and one elongated loop, thus utilizing substantially equal amounts of thread from each bar, and by having both guide bars form contracted loops in the same courses and on the same needles, thus locking all thread intersections into the fabric for a uniform mesh formation.

3,447,346
STEAM TREATING APPARATUS

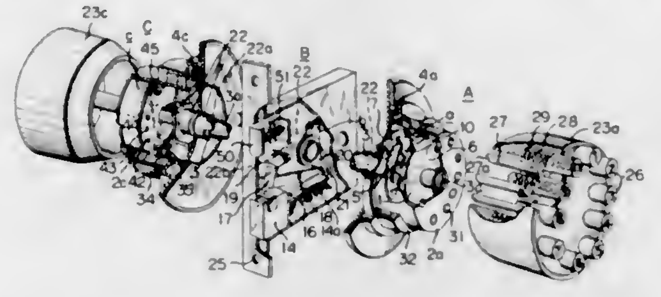
David Edward Pepler Norton, Macclesfield, England, assignor to Sir James Farmer Norton & Co. Limited, Salford, England, a British company
Filed Nov. 9, 1966, Ser. No. 593,217
Claims priority, application Great Britain, Nov. 9, 1965, 47,405/65
Int. Cl. D06f *37/26*
U.S. Cl. 68—5 **3 Claims**



A dye fixation for fabrics including a narrow sinuous fabric passageway with the walls thereof being heated and the passageway filled with superheated steam.

3,447,347
PUSHBUTTON COMBINATION LOCK

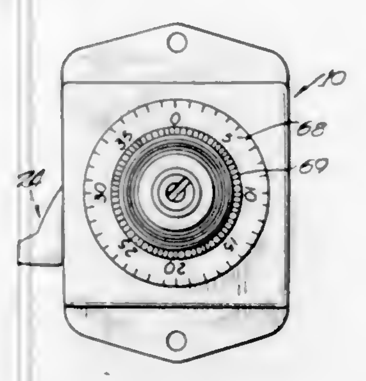
Yoichi Kawamura, 171 Nishikubo-cho, Hodogaya-ku, Yokohama-shi, Kanagawa-ken, Japan
Filed Nov. 28, 1967, Ser. No. 686,012
Claims priority, application Japan, Nov. 30, 1966, 41/78,571
Int. Cl. G05g *5/04;* **E05b** *37/00, 63/20*
U.S. Cl. 70—213 **6 Claims**



A door lock which, when locked, can be unlocked from its exterior side only when certain pushbuttons are manipulated in accordance with a preset combination code, which can be readily changed when necessary. These pushbuttons, thus manipulated, actuate teeth on two disks which, together with the operation of a ratchet and pawl, cause an unlocking tube to undergo a specific rotational displacement whereby an unlocking mechanism releases a bolt cocked in locking position, thereby permitting the bolt to retract under spring force into the unlocked position.

3,447,348
COMBINATION LOCKER LOCKS

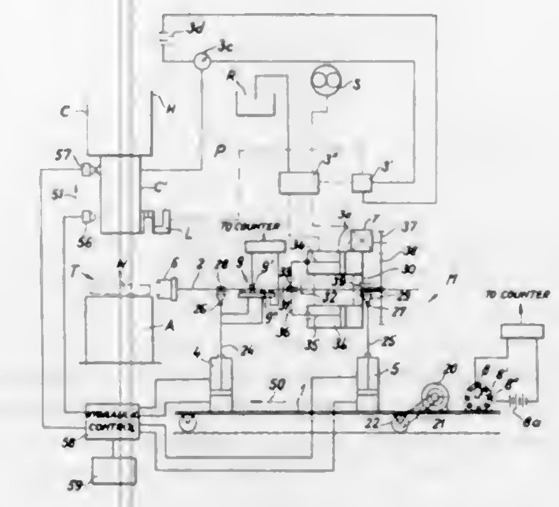
Robert L. Dauenbaugh, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed July 26, 1967, Ser. No. 656,270
Int. Cl. E05b *37/08, 65/44*
U.S. Cl. 70—285 **5 Claims**



Combination locks operated by both permutation means and by means of a master key, including a family of locks of similar appearance for use on the doors of lockers and other enclosures each including a common self-contained unit assembly comprising a common dial, knob and escutcheon positioned at the exterior of the door, and a self-contained unit lock assembly positioned at the rear of the door and inaccessible when the door is locked, these two assemblies being joined together by threaded studs projecting from the rear of the escutcheon and extending through aligned openings in the door and casing housing the lock components, the lock components in the several embodiments of lock assemblies containing either a self-locking or a manual upset lock combination of plural common components and altered by the mere substitution of relatively few parts.

3,447,349
METHOD OF AND SYSTEM FOR OPERATING A HIGH-SPEED FORGING PRESS

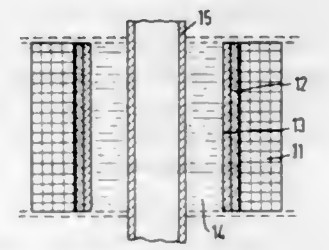
Paul Lippke, Augustastrasse 17, Neuwied (Rhine), Germany
Filed Aug. 2, 1965, Ser. No. 476,517
Int. Cl. B21d *22/00*
U.S. Cl. 72—21 **13 Claims**



A method of and system for operating a high-speed forging press in which a carriage carrying the manipulating tongs is advanced continuously toward the press while the manipulator and carriage move relatively and intermittently in accordance with the press stroke as determined by a digital control of the manipulator movement so that during the working stroke of the press, the workpiece is immobilized but the manipulator is thereafter advanced to maintain the constant-rate movement of the carriage. Control is effected by means of a counter responsive both to the incremental movement of the carriage and the manipulator and triggered by pulses obtained from the ram. Hydraulic means on the carriage lays the workpiece on the anvil of the press and thereafter raises it therefrom.

3,447,350
METHOD AND DEVICE FOR THE MAGNETIC FORMING OF METALLIC WORKPIECES

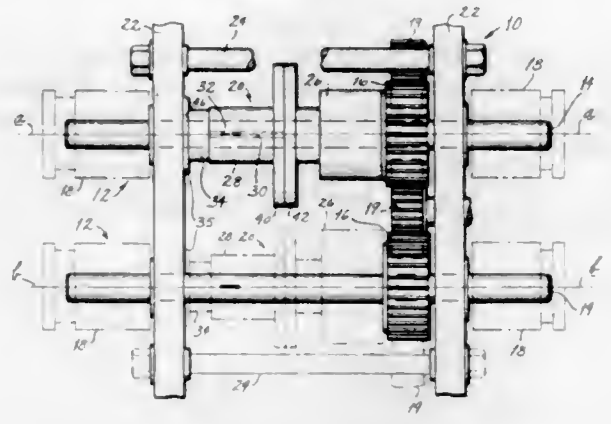
Horst Schenk, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 462,280, June 8, 1965. This application Feb. 5, 1968, Ser. No. 703,186
Claims priority, application Germany, June 10, 1964, S 91,449
Int. Cl. B21d *26/14;* **B21j** *5/04*
U.S. Cl. 72—56 **4 Claims**



Apparatus for forming metallic workpieces with pulsed magnetic fields produced by work coils including a mechanically stable member and member of high electrical conductivity in juxtaposition to the work coil and an incompressible fluid medium between the stable member and the workpiece, thereby producing by the coil magnetic field a shock wave through the two members and fluid medium to exert forming pressure upon the workpiece.

3,447,351
ROLL FORMING MACHINE INCLUDING DIVIDED ROLL PARTS AND SPACERS THEREFOR

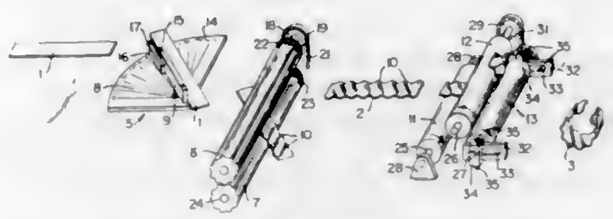
Charles W. Werntz, Ferguson, Mo., assignor to Engel Equipment, Inc., St. Louis, Mo., a corporation of Missouri
Filed Dec. 30, 1964, Ser. No. 422,245
Int. Cl. B21d *5/12*
U.S. Cl. 72—181 **2 Claims**



U-shaped spacer clips are removably force fitted on the spindles of roll forming machines, selectively between parts of forming rolls or at their ends, making it possible to use the same rolls for selectively forming government locks, etc., of different sizes. Each spacer clip has a pair of diametrically opposite shoulders facing in the same direction as the open end of the U-shape of the clip. When force is applied to these shoulders to withdraw the clip from the roll spindle, the force deflects the clip sufficiently to relieve the grasp of its force fit.

3,447,352
CORRUGATED PIPE COUPLING FORMING METHOD

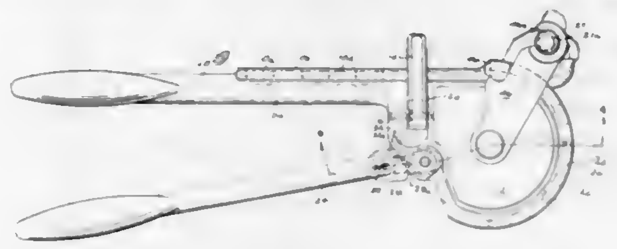
Robert F. Miller, Lafayette, Calif., assignor to Davis-Miller Corporation, Hayward, Calif., a corporation of California
Filed Dec. 23, 1966, Ser. No. 604,427
Int. Cl. B21b *1/12;* **B21d** *13/04;* **F16l** *21/06*
U.S. Cl. 72—187 **6 Claims**



Apparatus and method for forming a band-type coupling for joining sections of helically corrugated pipe. An elongated flat sheet blank is formed with a series of corrugations along its length at an angle relative to its longitudinal axis substantially equal to the helix angle of the pipe sections to be coupled, and thereafter is curled about an axis normal to its longitudinal axis.

3,447,353
TUBE AND ROD BENDER

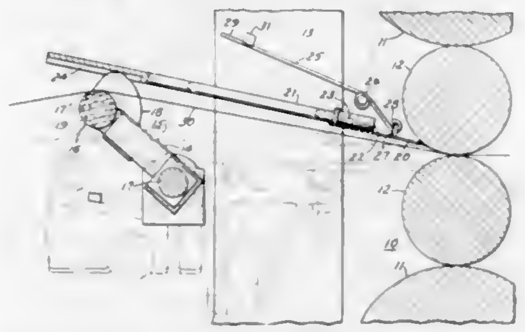
Walter J. Noveske, Grafton, Ohio, assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Nov. 26, 1965, Ser. No. 510,008
Int. Cl. B21d *7/024*
U.S. Cl. 72—217 **8 Claims**



A tube and rod binder having a handle with a mandrel disposed on the end of the handle, a hook for engaging the tube and forcing it into the mandrel seat, a first large gear pivotally mounted on the mandrel, a second small gear for driving the large gear and a ratchet handle having a ratchet pawl in engagement with the second gear.

3,447,354
STRIP GUIDING APPARATUS

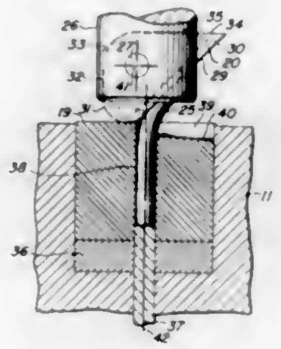
Hugh J. Jackson, Orchard Park, N.Y., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,643
Int. Cl. B21b *39/20, 39/08*
U.S. Cl. 72—250 **1 Claim**



An apparatus for guiding the leading end of an advancing strip emerging from a mill roll stand. A strip guide actuated by the raising and lowering of strip tensioning means prevents damage to the moving strip by contact with the guide.

3,447,355
HOOK BOLT BENDING HEADER TOOL

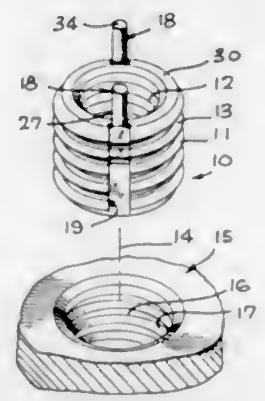
Peter S. Villa, Hershey, and Charles W. Schaeffer, Lebanon, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware
Filed Sept. 13, 1966, Ser. No. 579,074
Int. Cl. B21d *11/04;* **B21j** *7/20*
U.S. Cl. 72—321 **3 Claims**



An apparatus for bending a rod has a die for supporting the rod and another die pivotally attached to a die holder on an axis displaced to one side of and at right angles to the longitudinal axis of the rod. On movement of the pivotally mounted die towards the supporting die, the end of the rod contacts the pivotally mounted die and causes it to rotate on its axis solely by the reaction between the rod and the pivotally mounted die, and bend the rod.

3,447,356
METHOD OF FORMING LOCKING KEYS FOR THREADED ELEMENTS

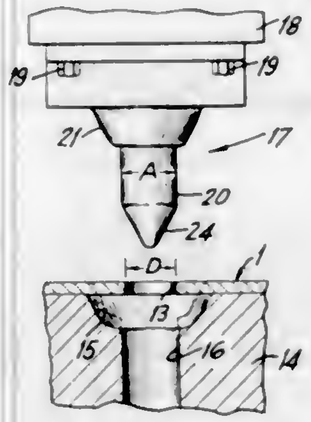
Robert Neuschotz, 1162 Angelo Drive,
Beverly Hills, Calif. 90210
Original application Sept. 21, 1965, Ser. No. 488,931, now Patent No. 3,346,031, dated Oct. 10, 1967. Divided and this application Aug. 14, 1967, Ser. No. 660,516
Int. Cl. B21d *31/00*
U.S. Cl. 72—377 **9 Claims**



A method of forming a locking key for a threaded element, in which method deforming force is exerted transversely against a portion of an elongated piece of material from which the key is to be made, to thereby reduce the thickness of that portion of the key relative to an axially outer locking portion thereof, while at the same time widening the deformed portion in another transverse direction. The application of force is so controlled as to provide the thinned but widened portion of the key with a region which is slightly thicker than two other regions at its opposite axial sides, to thus tend to reduce the width at that first region, and assure effective contact of the key at the two "other regions" with the side walls of a retaining groove in the threaded element. A fourth region at the axially inner end of the key may also be slightly thickened.

3,447,357
METHOD OF MANUFACTURING A LINK MEMBER WITH A SPHERICAL BEARING

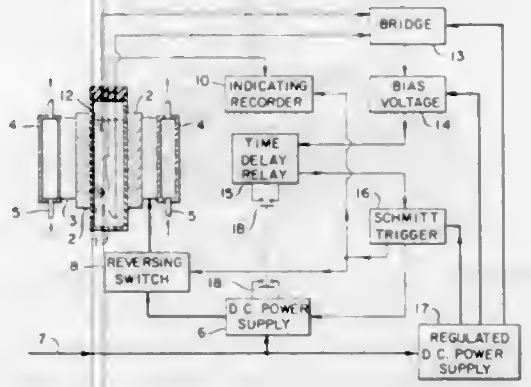
Ho Chow, River Edge, N.J., assignor to The Helm Universal Corporation, Fairfield, Conn., a corporation of Connecticut
Filed Sept. 28, 1965, Ser. No. 490,923
Int. Cl. B21d *43/28, 22/00;* **B21k** *27/06*
U.S. Cl. 72—324 **5 Claims**



A sheet metal member for a linkage joint characterized by a bowl-shaped portion with a hole therein is formed under the urging of mating bowl-shaped die elements. The male die includes a pilot portion substantially larger in diameter than a corresponding hole initially present in the sheet metal member.

3,447,358
METHOD AND APPARATUS FOR MEASURING CLOUD POINT TEMPERATURES

George T. F. Crespin, Ellesmere Port, Donald M. Roycroft, Greatboughton, and Colin D. Price, Chester, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 28, 1965, Ser. No. 475,422
Claims priority, application Great Britain, July 28, 1964, 30,018/64
Int. Cl. G01n *25/02;* **G01k** *17/00*
U.S. Cl. 73—17 **9 Claims**

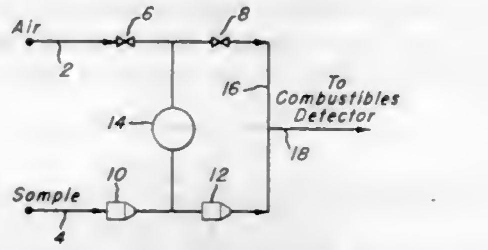


A technique for determining the cloud point temperature of oil having a sample vessel with a refrigeration unit surrounding it to reduce the temperature of the oil. The cloud point temperature is determined when the difference in temperature between two thermometers remotely spaced in the oil passes through zero.

3,447,359
AIR DILUTION ATTACHMENT FOR EXPLOSIVE-GAS ANALYZERS

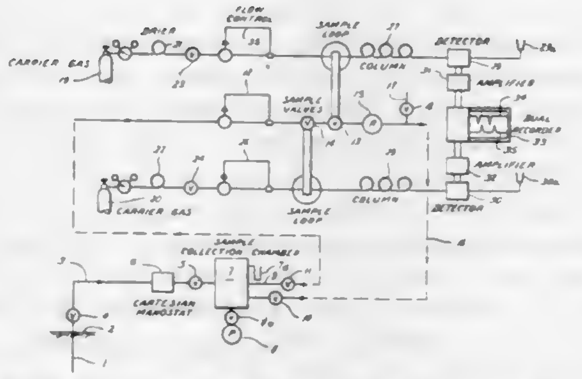
Sixt Frederick Kapff, Homewood, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Mar. 31, 1966, Ser. No. 539,155
Int. Cl. G01n *31/00*
U.S. Cl. 73—23 **5 Claims**

This invention concerns the combination of a pneumatic bridge and a combustible detector. The pneumatic bridge, which is provided with a pressure differential detector that indicates a pressure imbalance in the bridge, mixes a gaseous sample and air together at a predetermined ratio. When the detector indicates an imbalanced condition, an adjustable valve in the bridge provides means for regulating flow through the bridge so that the mix ratio remains constant.



3,447,360
METHOD OF AND APPARATUS FOR EXPLORING FOR DEPOSITS OF HELIUM AND DETECTION OF HELIUM IN GASEOUS MIXTURES

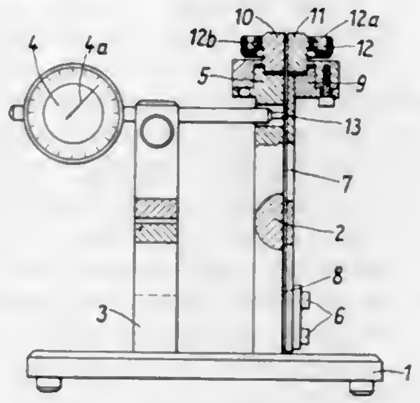
John L. Laseter, Houston, Tex., assignor to Independent Exploration Company of Texas, Houston, Tex., a corporation of Texas
Filed July 26, 1965, Ser. No. 474,780
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 **8 Claims**



Samples of subsurface soil gas are withdrawn at various rates to establish a maximum rate of withdrawal above which the balance between the constituents is upset from what it is in situ. Each sample is circulated in a closed loop after it is withdrawn to maintain it a homogeneous mixture. A test sample is removed from the sample in the closed loop and introduced into a stream of carrier gas. The test sample is passed through a chromatograph, then to a helium detector.

3,447,361
METHOD AND APPARATUS FOR TESTING FLUID SEALS OR THE LIKE

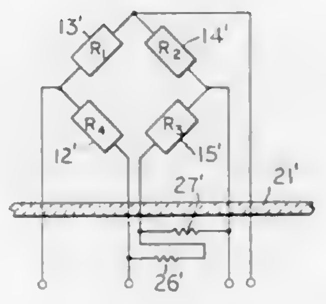
Wilhelm Schmitt, Erbach, near Heppenheim, Germany, assignor to Carl Freudenberg, Weinheim, Germany
Filed Jan. 30, 1967, Ser. No. 612,553
Claims priority, application Germany, Jan. 31, 1966, F 48,300
Int. Cl. G01n *3/08*
U.S. Cl. 73—88 **14 Claims**



Apparatus for testing radial pressure between annular elastic fluid seals and the surfaces within which or onto which the seals are placed. Comprises two jaws one of which is rigid and the other of which is spring-mounted. The jaws define a conical surface along which a seal to be tested is moved axially to undergo radial deformation and to effect minute displacement of the spring-mounted jaw. A gauge measures the displacement and indicates the pressure between the seal and the jaws.

3,447,362
COMPENSATED SEMICONDUCTOR STRAIN GAGE TRANSDUCERS

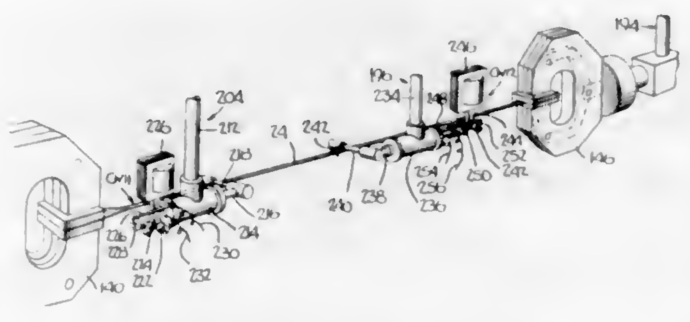
Hsia S. Pien, 104 Harding St., Newton, Mass. 02158
Filed Apr. 26, 1965, Ser. No. 453,880
Int. Cl. G01n *27/00;* **G01l** *1/22, 5/10*
U.S. Cl. 73—88.5 **6 Claims**



A transducer involving a force-responsive member is equipped with semiconductor strain gages connected in a bridge network which is compensated for the different temperature-coefficient patterns of the gages, without being unbalanced and without requiring temperature-sensitive compensators, by a first external resistance which is in series with one of the gages and of constant value low in relation to the gage resistances, and by a second external resistance which is in shunt relation to one of the gages and of constant value high in relation to the gage resistances.

3,447,363
TENSILE TESTING APPARATUS

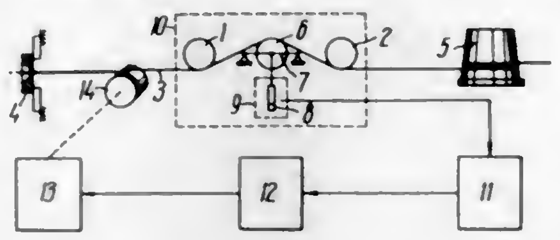
George Goldfinger, New Haven, Conn., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
Filed Aug. 11, 1966, Ser. No. 571,745
Int. Cl. G01n *3/08*
U.S. Cl. 73—95 **17 Claims**



Tensile testing apparatus particularly for use in testing highly stretchable materials, for example, cured rubber. The apparatus includes, for example, a resistance bridge for developing a resistance change representative of the stress-producing force. The apparatus also includes means responsive to the initial thickness of a test specimen of predetermined width for adjusting, for example, the input voltage to the bridge in accordance with the initial thickness of the specimen. The apparatus also includes, for example, means responsive to the resistance change and to the adjusted input voltage for indicating the stress on a test specimen.

3,447,364
APPARATUS FOR AUTOMATIC TESTING OF WIRE STRENGTH DURING DRAWING

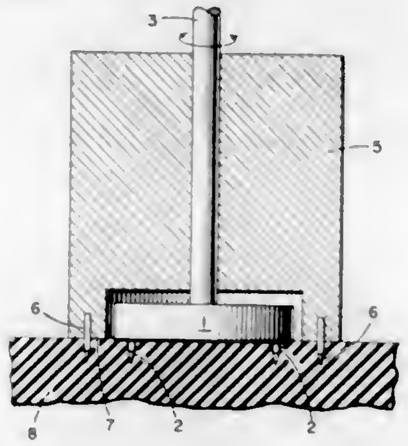
Ilya Markovich Gelfand, pr. Lenina, 10, kv. 23; Nikolai Ivanovich Zavalischin, ul. Kirova, 196, kv. 14; and Gennady Petrovich Kulachenkov, ul. Mira, 12/2, kv. 7, all of Magnitogorski, U.S.S.R.
Filed Apr. 7, 1966, Ser. No. 540,927
Int. Cl. G01n *3/28*
U.S. Cl. 73—95.5 **1 Claim**



Apparatus for testing wire strength during drawing of the wire including a transducer which senses variation in wire tension and controls a drag generator which acts on a drag roller to vary the braking effort on the wire in order to insure uniform wire tension.

3,447,365
APPARATUS FOR DETERMINING MODULAR PROPERTIES OF AN ELASTOMER AND NON-DESTRUCTIVE TEST METHOD

Dewi Gerwyn Lloyd, Wrexham, Wales, and John Payne, Oswestry, England, assignors to Monsanto Chemicals Limited, London, England, a British company
Filed Mar. 6, 1967, Ser. No. 620,965
Claims priority, application Great Britain, Mar. 7, 1966, 9,795/66
Int. Cl. G01n *3/24*
U.S. Cl. 73—101 **12 Claims**



An apparatus and method for determining modular properties of an elastomer. The apparatus comprises a member having projections therefrom which penetrate the surface of the elastomer, which member is provided with means for effecting a relative angular displacement between the member and other parts of the elastomer and is surrounded by a housing also containing projections therefrom which penetrate the surface of the elastomer at a distance from the member while permitting angular displacement thereof. Either the torque required to effect displacement of the member is measured or a known torque is applied and the displacement is measured.

3,447,366
PROCESS OF DETERMINING DIMENSIONS AND PROPERTIES OF CUTTING EDGES OF MOLECULAR DIMENSIONS

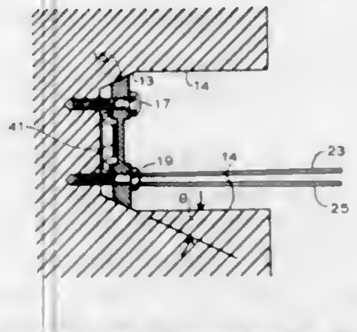
Humberto Fernandez Moran Villalobos, 5807 Dorchester Ave., Chicago, Ill. 60637
No Drawing. Filed June 22, 1965, Ser. No. 466,877
Int. Cl. G01n *19/02*
U.S. Cl. 73—104 **11 Claims**

The dimensions and properties of ultrasharp cutting edges and in particular the edges of diamond knives are

determined by (a) direct microscopic examination with magnification ranging from that of light microscopy to electron microscopy, (b) electron optical examination of surface characteristics of the cutting edge facets, (c) using edge to cut ultrathin sections of selected specimens and microscopically examining the section and cut surface of the specimen, (d) pressing edge into selected thin film of plastic material and microscopically examining the indentation formed and (e) mounting the cutting tool in a highly evacuated or gas filled tube with the edge as an emitter of ions or electrons to produce field-ion or field-electron emission image of the edge on a fluorescent screen.

3,447,367
LOAD CELL WITH REMOVABLE, LOW HYSTERESIS LOAD SENSORS

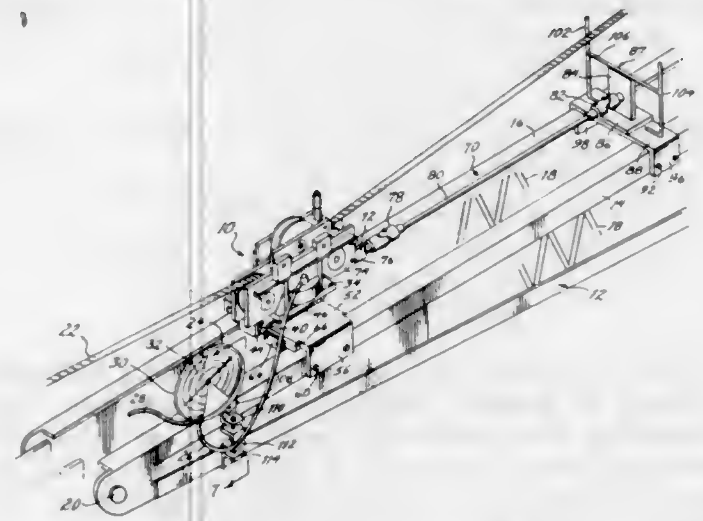
Robert B. Taylor, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed Apr. 19, 1967, Ser. No. 632,052
Int. Cl. G01l *5/12*
U.S. Cl. 73—141 **7 Claims**



For measuring normal compression forces, a load cell including a block having a bore with at least one removable sensor plug secured therein. A strain gage is mounted on the plug in a plane parallel to the direction of the force applied to the block. The peripheral edges of the plug and the bore are tapered to minimize hysteresis effects caused by transverse distortion of the block and to facilitate removal of the plug. Where multiple plugs are used, they are distributed throughout the block to permit sampling of the load at a number of points so that the load may be averaged electrically.

3,447,368
CRANE SAFE LOAD INDICATOR

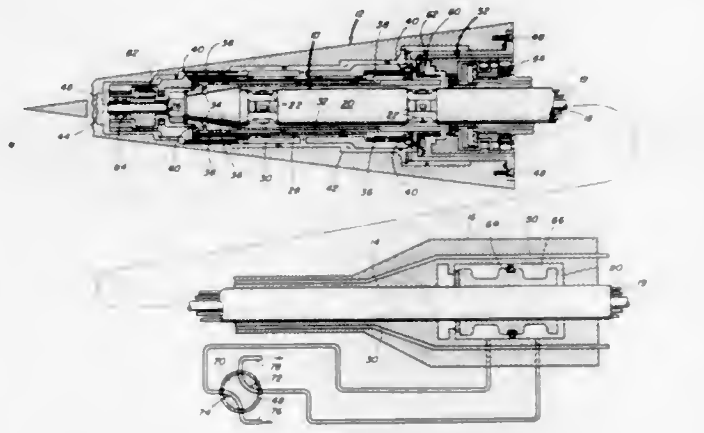
Thomas J. Daly, 447 Alcyon Blvd., Pitman, N.J. 08071
Filed Apr. 12, 1967, Ser. No. 630,273
Int. Cl. G01l *5/12*
US. Cl. 73—144 **5 Claims**



Crane safe load indicator with tensiometer and enlarged scale gauge mounted on crane boom by flexible arresting gear and including roller to permit lateral traversing as load cable feeds from drum.

3,447,369
WIND TUNNEL BALANCE

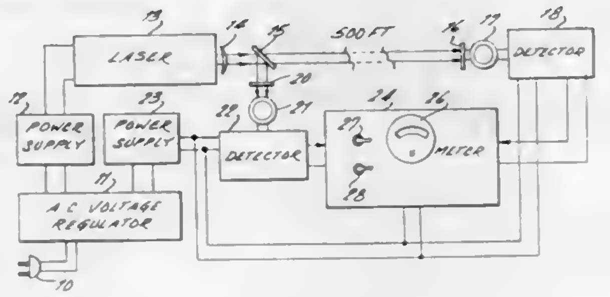
Eugene V. Horanoff, Clarksville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 27, 1967, Ser. No. 678,604
Int. Cl. G01m *9/00*
U.S. Cl. 73—147 **7 Claims**



A wind tunnel balance for performing magnus and roll damping testing simultaneously having the wind tunnel model supported by a plurality of bearings such that the model may be spun by a two stage turbine. An air operated clutch is employed to engage and disengage the model support from the turbine. Magnus forces and moments are monitored by strain gages mounted at various locations on the balance, roll damping experienced by the rotating model is monitored by a tachometer, and the angular position of the model is monitored by transducers.

3,447,370
ATMOSPHERIC MEASURING SYSTEM

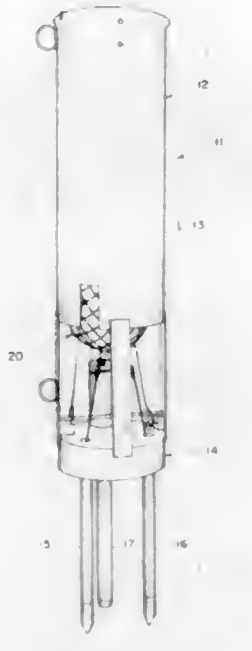
Herbert D. Tanzman, Elberon, N.J., assignor to Winslow Tele-Tronics, Inc., Asbury Park, N.J., a corporation of Pennsylvania
Filed Apr. 10, 1967, Ser. No. 629,634
Int. Cl. G01w *1/00*
U.S. Cl. 73—170 **8 Claims**



A measuring system for determining the amount of fog or smoke in the air is described. The device uses a laser light beam which generates a concentrated beam of light having a wave length which is substantially monochromic. The wave length chosen (6328 A.) lies within the red portion of the spectrum and monopass filters are used so that all the ambient light, including sunlight, is blocked from the detecting systems. The laser light generator is connected to a regulated power source and its beam traverses about 500 feet to a first detector which generates a direct current voltage. A similar detector is set up near the source and derives its light input from a beam splitter positioned in the path of the laser beam. Switching means are provided for determining the percentage of light lost in transit through the atmosphere.

3,447,371
IN-SITU VELOCIMETER

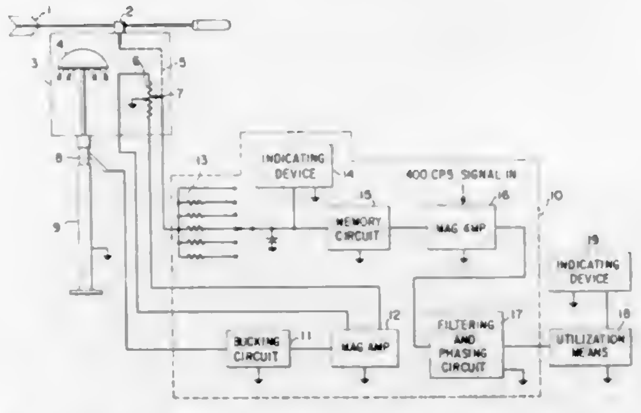
Robert S. Bennin, Spring Valley, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 20, 1967, Ser. No. 634,036
Int. Cl. G01w *1/00*
U.S. Cl. 73—170 **8 Claims**



An in-situ velocimeter is provided for measuring and recording the velocity of sound propagation through the ocean floor. The velocimeter consists of a disposable free-fall vehicle, a buoyant retrievable vehicle and an ejection-release mechanism. The free-fall vehicle comprises a cylinder having three hollow legs two of which receive acoustic transducers and the third a plastic tube for taking core samples of sediment. The plastic tube and the transducers are removable from the hollow legs through attachment to a net which encloses the buoyant retrievable vehicle. Recording equipment and electronic circuitry for transmitting radio signals are housed in two of three spheres comprising the buoyant retrievable vehicle.

3,447,372
CROSSWIND SENSING SYSTEM

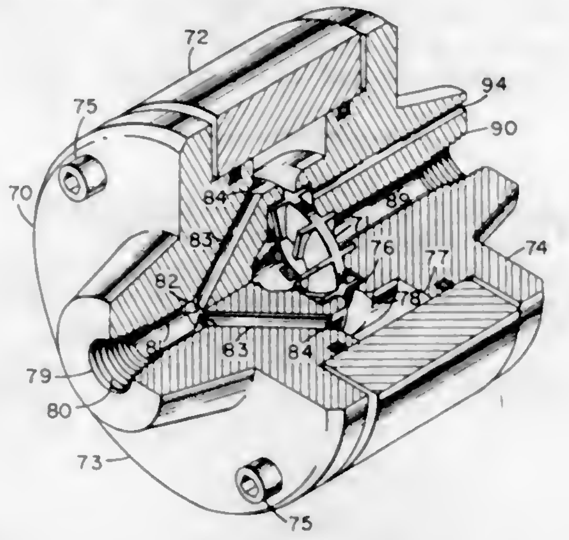
Ira I. Goldberg and George I. Fisher, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Mar. 30, 1967, Ser. No. 628,233
Int. Cl. G01w *1/02*
U.S. Cl. 73—189 **5 Claims**



A crosswind sensing system of simplified construction is adapted for use directly on military vehicles and gun carriers to derive accurate indication and windage data for correction of the direction of the gun with respect to the crosswind, said system being provided in a wholly self-contained unitary structure under protection of casing means which serves to control the amount of wind about highly responsive sensing means therein.

3,447,373
BEARINGLESS FLOWMETER EMPLOYING FLUID SUPPORT FOR ROTOR

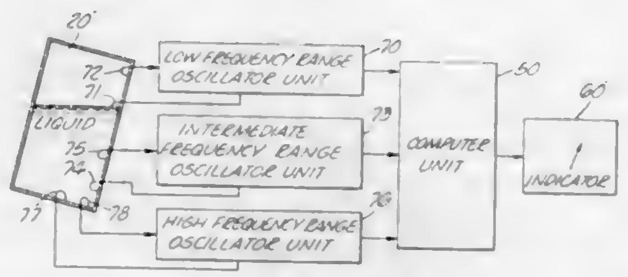
George C. McNabb, Attleboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Sept. 27, 1966, Ser. No. 587,366
Int. Cl. G01f *1/06*
U.S. Cl. 73—229 **34 Claims**



A flowmeter has a cylindrically shaped chamber through which fluid is made to flow so that it progresses radially therethrough; a rotor is located within the chamber having a shape generally conformable to the chamber but being somewhat smaller; a radial progression of fluid tends to center the axis of rotation of the rotor at the chamber center, so that the periphery of the rotor is separated at all points from the chamber walls, permitting rotation without any physical contact between rotor and chamber; in some versions the radial flow spirals through the chamber to thereby impart rotation to the rotor; in other versions the radial flow may be more direct, with vanes on the rotor imparting rotation to the rotor; various output devices may be employed therewith for detecting the frequency of rotation of the rotor, which frequency is indicative of fluid flow rate.

3,447,374
METHOD AND MEANS FOR DETERMINING VOLUME OF LIQUID IN A TANK

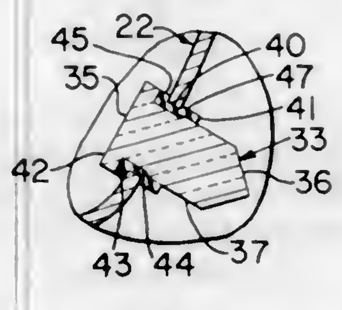
George I. Cohn, 915 Monarch Drive, Pasadena, Calif. 91103, and Harold Tornheim, 430 N. Auburn, Sierra Madre, Calif. 91024
Filed May 18, 1967, Ser. No. 639,504
Int. Cl. G01f *23/28*
U.S. Cl. 73—290 **7 Claims**


20
72
71
LIQUID
75
74
77
78
LOW FREQUENCY RANGE OSCILLATOR UNIT
70
INTERMEDIATE FREQUENCY RANGE OSCILLATOR UNIT
73
HIGH FREQUENCY RANGE OSCILLATOR UNIT
76
COMPUTER UNIT
50
60
INDICATOR

Means to measure the volume of liquid in a tank independently of angular attitude in space, comprising electromagnetic wave radiating means such as microwave antenna disposed in respective specific locations on the interior boundary of a specimen liquid tank. Electromagnetic wave energy is generated and supplied the radiating means while the frequency of the wave energy is repetitively varied through a waveband or frequency spectrum, and radiated wave energy is received either at the same antenna or another such means. The frequency spectrum is chosen so that during the sweep thereof three or more resonant mode frequencies are detected irrespective of the extent of the volume of liquid in the tank and the pitch and roll angles of the tank. The procedure is repeated for each of a number of degrees of tank pitch and each of a number of tank roll angles and a computer record is made of the matrix of tank pitch, roll, liquid volume and resonant frequencies at each repetition of the procedure. Thereafter, tanks of like configuration and dimensions may be similarly equipped. By repeating the radiating-detecting procedure and measuring the pitch and roll angles of the tank and computer-comparing the set of resonant frequencies and tank-attitude data with the recorded matrix of pitch, roll, liquid volume and resonant-frequencies information stored, the volume of liquid in the tank at any time is determined as that corresponding to matching of pitch, roll, and resonant frequencies information as stored in the computer memory.

3,447,375
BEVERAGE CONTAINER HAVING SIGHT GAGE MEANS

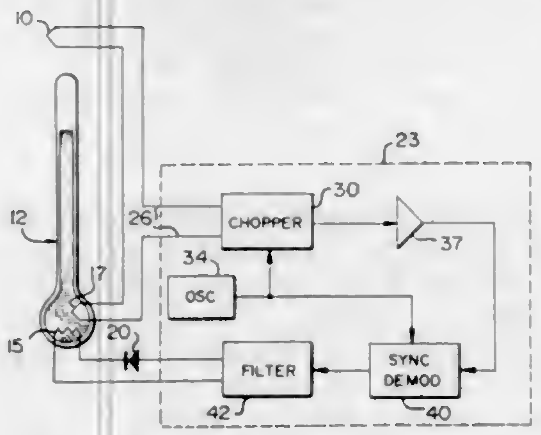
John H. Fox, Jr., Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,592
Int. Cl. G01f *23/02*
U.S. Cl. 73—327 **5 Claims**



This disclosure relates to an improved beverage container having sight gage means made of a solid light transmitting material and extending through opaque outer wall means of such container wherein such sight gage means has outer easily visible viewing surface means and inner surface means arranged to be surrounded by a beverage within such container, such outer surface means having a normally bright appearance which becomes dark upon surrounding the inner surface means with beverage.

3,447,376
HIGH ACCURACY TEMPERATURE MEASURING DEVICES

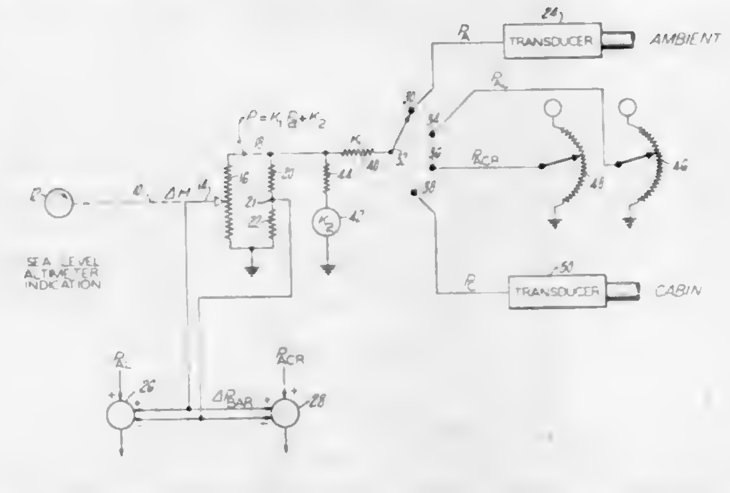
John Turtora, Fairfax, and Jean Charitat, Jr., Falls Church, Va., assignors to Radiation Systems Incorporated, Alexandria, Va., a corporation of Nevada
Filed Apr. 12, 1966, Ser. No. 542,025
Int. Cl. G01k *5/18*
U.S. Cl. 73—359 **8 Claims**



A thermoelectric thermometer having a sensing probe and a reference probe connected in series opposition to produce a signal indicative of the temperature difference between the probes. The reference probe is in thermal contact with a thermally sensitive temperature indicator and a temperature-varying device. The temperature difference signal causes the temperature-varying device to change the temperature of the reference probe and indicating device, so as to null the temperature difference signal at which null the temperature indication of the indicating device is the temperature to which the sensing probe is exposed.

3,447,377
ALTITUDE-TO-PRESSURE TRANSFORMATION

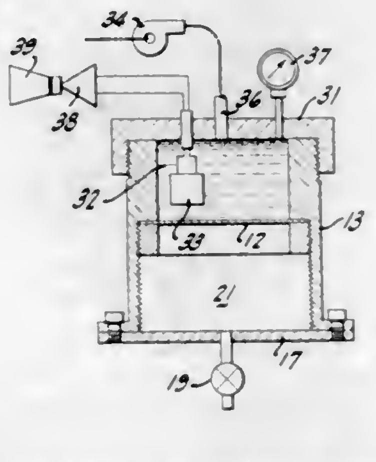
Stanley G. Best, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,115
Int. Cl. G01l *7/20*
U.S. Cl. 73—384 **6 Claims**



Any one of several different pressures may be coupled to a network fed by a standard voltage so as to form a density signal as a function of pressure; the density signal is fed to a potentiometer, the setting of which is controlled by a change in altitude scheduled under operator control; the change in altitude may either be a rate or a deviation for compensating barometric changes. The potentiometer may be used singly or in a bridge configuration which provides differential pressure changes as a function of altitude changes at a given pressure.

3,447,378
PEAK PRESSURE MEASUREMENT BY ACOUSTIC EMISSION

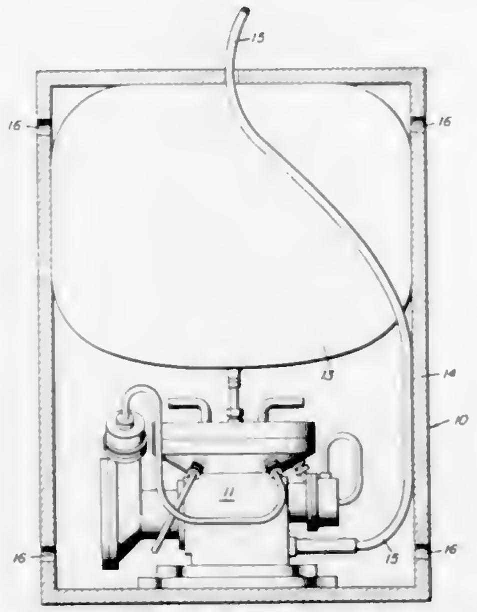
Harold L. Dunegan and Clement A. Tatro, both of 868 Leland Way, Livermore, Calif. 94550; said Tatro assignor to said Dunegan
Filed Sept. 7, 1967, Ser. No. 666,084
Int. Cl. G01l *7/08*
U.S. Cl. 73—396 **9 Claims**



The invention disclosed and claimed herein relates to the determination of maximum pressures by a passive-pressure transducer utilizing acoustic emission of materials. The invention provides for the placement of a solid material such as a diaphragm in a position to experience applied pressure establishing plastic deformation and the subsequent determination of the maximum-applied pressure by determination of reapplied pressure upon such material at which acoustic emission commences.

3,447,379
DEEP WATER HYDROBAROPHONE

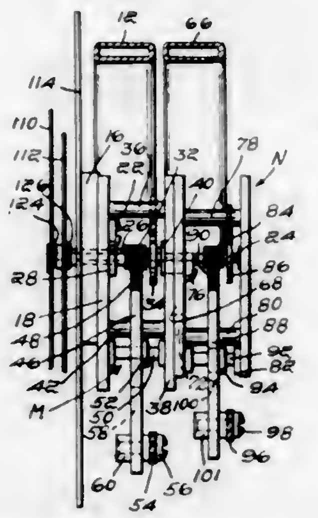
Edward L. Peters, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 5, 1966, Ser. No. 584,612
Int. Cl. G01l *9/00*
U.S. Cl. 73—398 **1 Claim**



A hydrobarophone has a main pressure transducer mechanism with an inflatable flexible bag responsive to pressure conditions within a body of water. The transducer and bag are enclosed within a temperature shield in the form of a housing made of glass fiber material to isolate the hydrobarophone from sudden temperature changes encountered in the body of water.

3,447,380
PRESSURE INDICATING APPARATUS

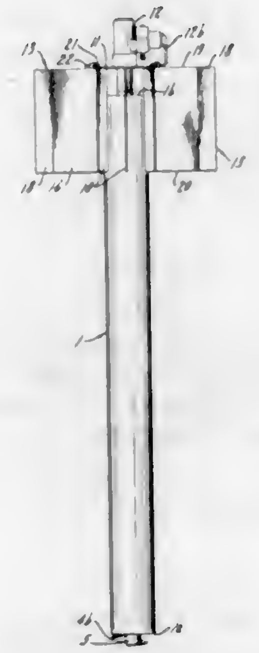
Sidney C. Martin, 12 Bridge St.,
Concord, N.H. 03301
Filed June 30, 1967, Ser. No. 650,459
Int. Cl. G01l *7/04*
U.S. Cl. 73—412 **2 Claims**



Pressure indicating apparatus having at least two movements separately communicating with two pressure gauge tubes, which movements may be calibrated separately whereby two readings, such as pressure and vacuum gauge readings respectively, can be obtained with a unitary device.

3,447,381
SAMPLING MECHANISM

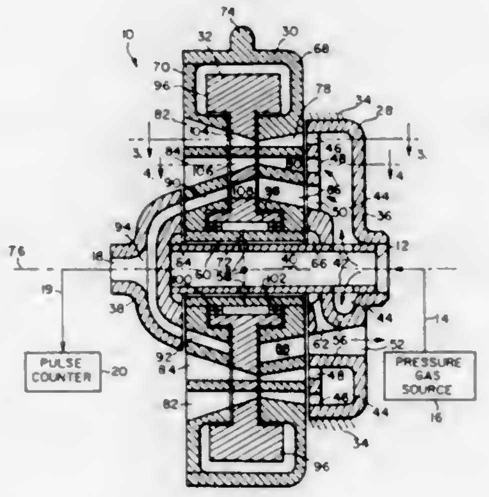
Robert W. Langtry, Chicago, Ill., and Richard Shepherd 3rd, and Earl A. Clark, Norfolk, Va., assignors, by mesne assignments, to Commercial Testing & Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Sept. 6, 1966, Ser. No. 577,385
Int. Cl. G01n *1/00*
U.S. Cl. 73—424 **5 Claims**



A coal sampling device where a rotatable auger inside a tubular member carries the coal samples to receiving hoppers at the opposite end of the tubular member.

3,447,382
DOUBLE INTEGRATING ACCELEROMETER

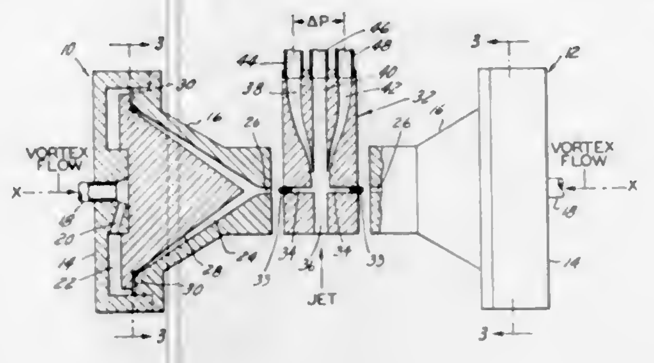
Ralph A. Eyman, Windermere, Fla., assignor to Martin Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed July 6, 1965, Ser. No. 469,658
Int. Cl. G01p *7/00*
U.S. Cl. 73—490 **15 Claims**



This invention relates to an accelerometer arrangement involving a pendulous mass in which a flywheel is mounted, with rotation of the pendulous mass in one direction or the other in response to external acceleration controlling the porting of pressurized fluid to control the speed and direction of rotation of the flywheel. Significantly, the flywheel produces the second integral of such acceleration, and will continue to do so irrespective of internal factors that may exist between the flywheel and the pendulum.

3,447,383
TWIN VORTEX ANGULAR RATE SENSOR

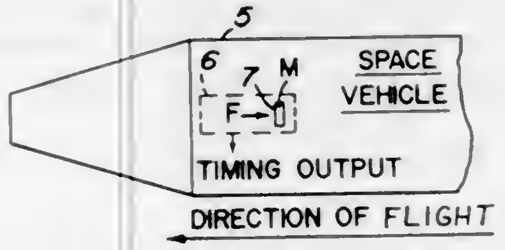
Frank Justin Camarata, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 4, 1966, Ser. No. 518,726
Int. Cl. G01f *1/00*
U.S. Cl. 73—505 **6 Claims**



A device using two counter-moving or counter-rotating vortices to sense the rate and direction of rotational movement of a body about a reference axis wherein the vortices are generated in a pair of non-rotating chambers by the injection of fluid in such chambers.

3,447,384
SELF-POWERED TIMING SYSTEM FOR SPACE VEHICLES

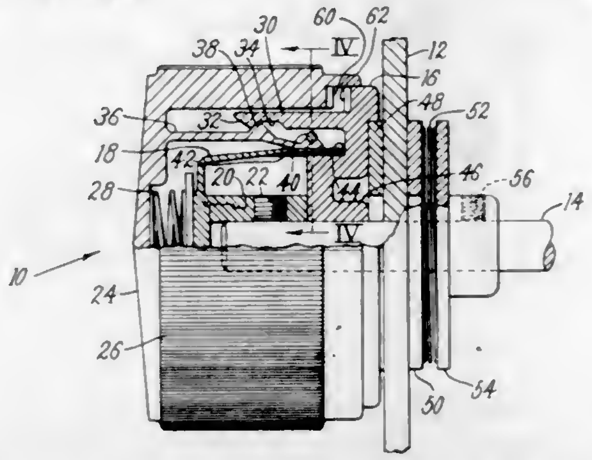
Abraham L. Korr, 8712 Hickory Drive,
Philadelphia, Pa. 19136
Filed Sept. 25, 1967, Ser. No. 670,479
Int. Cl. F16h *5/78*
U.S. Cl. 74—3.5 **7 Claims**



A piston in an air or like fluid-pressure cylinder is provided as an inertial mass which moves from a forward piston of rest in response to the setback force of launching and stores energy in a compression spring which then drives it forward. The piston is permitted to move forward at a rate dependent upon how rapidly the air or fluid pressure from the cylinder is released through an outlet conduit. The conduit is connected into a rotary timing or pallet disk having a plurality evenly-spaced radial air-jet openings or outlet ports around the periphery from which the air or fluid pressure finally escapes. The release of air or fluid pressure through the successive outlet ports and the rotation of the pallet disk is step-by-step for timing under control of an oscillatory pallet-type valve element associated therewith. The pallet disk is driven as a result of the piston movement, through a gear rack that meshes with and drives a gear train connected with a shaft on which the disk is mounted. The timing system is thus self-powered and provides timing air or fluid pressure and mechanical drive from movement of the same inertial piston element. The return movement of the piston element at or near the position of rest serves to effect timed operation of a switch or other function control device and thus provides a timed output from the system.

3,447,385
AXIALLY SHIFTABLE CONTROL KNOBS

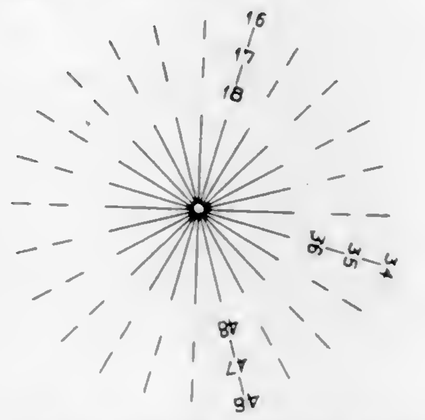
Donald Robert Humphreys, Marblehead, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed Oct. 31, 1967, Ser. No. 679,380
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.5 **5 Claims**



A low cost control knob comprising three coaxial members each of which is provided with teeth for intermeshing and positively determining direct and reduction drive relation. It has one of its members biased into speed changing relation and adapted to be shifted manually to a direct driving position, thus insuring rotational adjustment with accuracy and ease.

3,447,386
TUNING MECHANISM

Arthur Berenbaum, Holland, and Rufus F. Shelby, Philadelphia, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 677,977
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.8 **9 Claims**

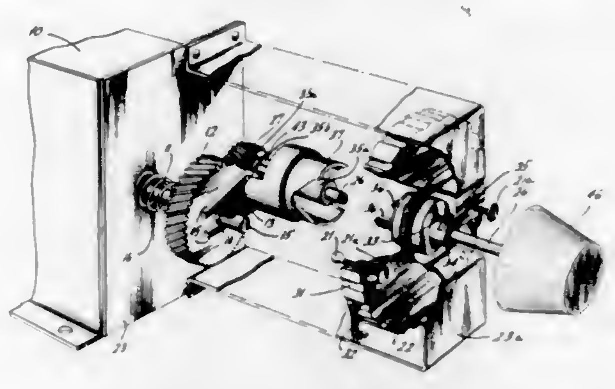


A preset UHF tuning mechanism including twenty-four detented positions covering the 70 UHF channels, and means operable automatically in each such position to select a desired one of a group of channels assigned to that position. The UHF tuner is driven by a detented tuner knob through a pair of meshed helical gears. Adjustable positioning means, presettable for each of the 24 detented positions, imparts limited axial movement to one helical gear relative to the other, with consequent fine rotary adjustment of the tuner to select the desired UHF channel of a detented group.

3,447,387
TUNING MECHANISM

Arthur Berenbaum, Holland, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 681,826
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.8 **9 Claims**

A presettable UHF tuning mechanism including twenty-four detented positions for the 70 UHF channels, and means operable automatically in each such position to select a desired one of the group of channels assigned to that position. The UHF tuner is driven by a detented tuner knob through a pair of meshed helical gears. Adjustable positioning means, presettable for each of the 24 detented positions, imparts limited axial movement to one helical gear relative to the other, with consequent fine rotary adjustment of the tuner to select the desired UHF channel of a detented group.



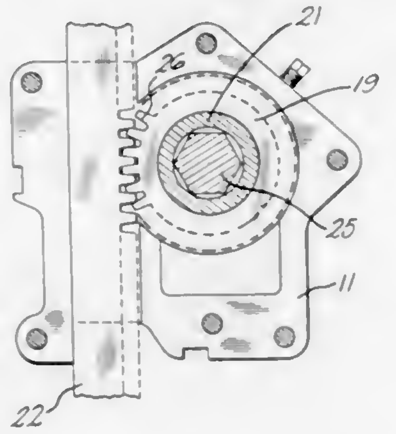
3,447,388
ACTUATORS

Donald E. Darnell, Northville, Mich., assignor to Power Components, Inc., Dearborn, Mich., a corporation of Michigan

Filed May 8, 1967, Ser. No. 636,790

Int. Cl. F16h *19/04*

U.S. Cl. 74—29 **12 Claims**



The actuators disclosed herein comprise a housing having axially aligned openings therein communicating with the cavity within said housing. A pair of gears are positioned within the cavity. Bushings having inwardly facing flanges are positioned in the openings. Each of the gears has counterbores on opposite faces thereof, the counterbores adjacent the bushings receiving the flanges of the bushings. A retainer ring engages the juxtaposed counterbores of the gears. A rack is meshed with each of the gears and extends outwardly through openings in the housing.

3,447,389
THRUST TRANSMITTING DEVICE

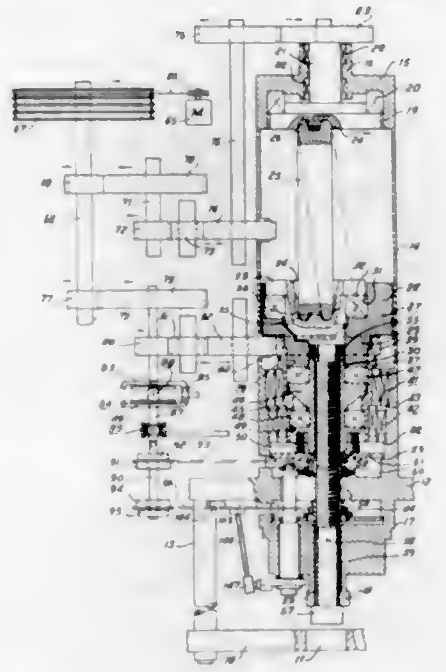
John D. Hamaker, 4401 N. Grand River Ave., Lansing, Mich. 48906

Continuation-in-part of applications Ser. No. 541,871, Feb. 24, 1966, and Ser. No. 304,036, Aug. 23, 1963, now Patent No. 3,244,014. This application July 17, 1967, Ser. No. 653,966

Int. Cl. F16h *21/22*

U.S. Cl. 74—44 **4 Claims**

A thrust transmitting device including a pair of spaced sockets having annular grooves formed therein in face relation and a wobbly pin extending between the sockets. At both of its ends, the wobbly pin has annular ribs respectively engaged in the socket grooves. The longitudinal axis of the wobbly pin is inclined to the plane in which the socket grooves are disposed, whereby relative movement of the sockets will cause the annular ribs of the wobbly pin to roll in the socket grooves. This device has particular utility in converting rotational movement to reciprocal movement.



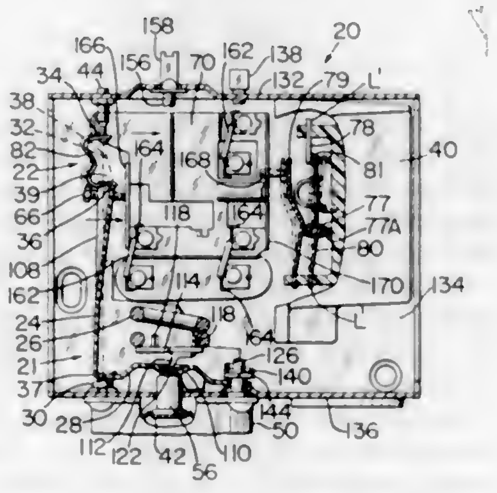
3,447,390
NEGATING SPRING CONSTRUCTION FOR A PRESSURE REGULATOR AND THE LIKE

Arthur L. Good, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Dec. 6, 1966, Ser. No. 599,514

Int. Cl. F16h *21/44*

U.S. Cl. 74—100 **17 Claims**



This invention relates to a pressure regulator and the like which is provided with a negating spring construction.

Such negating spring construction varies the spring rate of the range spring, so that the regulator can be responsive to entirely different on and off pressure ranges from those of the regulator without such negating spring construction.

The negating spring may be a bowed compression spring that is applied to an arm lever of the controller so that a varying angular force is applied to the lever as such lever rocks in response to pressures to be regulated.

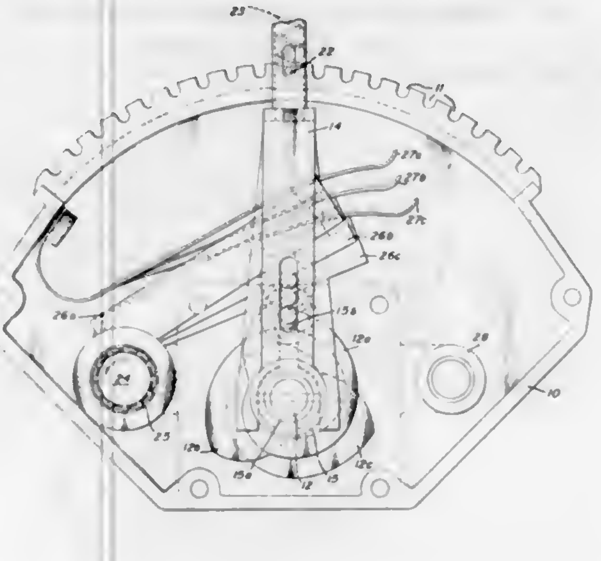
3,447,391
VARIABLE SPEED GEARS

Derek B. Hargreaves, Wych Cottage, Wych Lane, Adlington, near Macclesfield, England; Eric Staniforth, Wood End Farm, Kerridge Road, Rainow, Macclesfield, England; and Roy Goostrey, 20 Sandringham Road, Hurdsfield, Macclesfield, England

Filed Sept. 28, 1966, Ser. No. 582,664

Int. Cl. F16h *29/12*

U.S. Cl. 74—125.5 **6 Claims**



Speed gearing having ratio which may be varied continuously, includes plurality of one-way clutches on output shaft, same number of cams on input shafts, and one follower roller engaging each cam. Each follower roller transmits cam movement to a one-way clutch via a drive member, cams being arranged to operate clutches in sequence to provide continuous movement of output shaft. Follower rollers supported by fork-like lever swingable about input shaft, rollers being slidable along length of lever. Lever may be temporarily fixed in various positions of adjustment to alter relative location of roller axes and thereby vary effective lengths of clutch drive members.

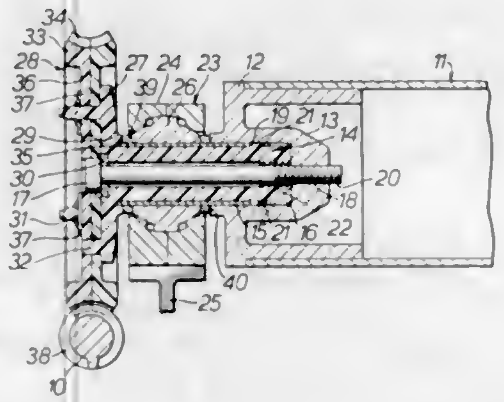
3,447,392
TORQUE TRANSMISSION SHAFTS

Claude Edward Kawchitch, 1 Palmer St., Jolimont, Victoria, Australia

Filed Oct. 11, 1967, Ser. No. 674,452

Int. Cl. F16h *57/00;* **G05f** *1/04*

U.S. Cl. 74—411 **8 Claims**



Torque transmission shaft comprising a core of a nonmetallic material sheathed by tubular sleeve of metal, the core and the sleeve being torsionally coupled together at or adjacent one end of the shaft only.

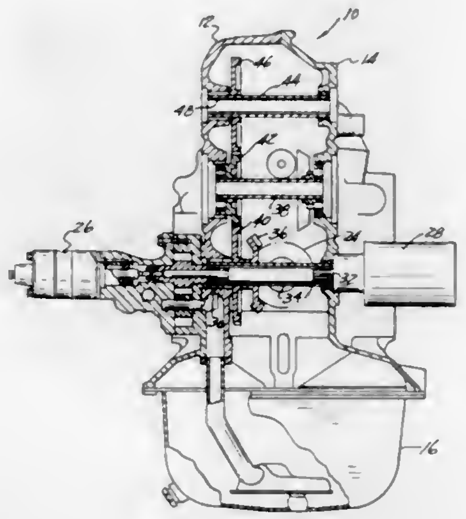
3,447,393
ENGINE ACCESSORY DRIVE SHAFT CONSTRUCTION

William A. Wiseman, Muskegon, and Paul G. Eberly, Muskegon Heights, Mich., assignors to Continental Motors Corporation, Detroit, Mich., a corporation of Virginia

Filed Aug. 29, 1967, Ser. No. 664,098

Int. Cl. F16h *1/20*

U.S. Cl. 74—421 **5 Claims**



A fabricated accessory drive shaft for an aircraft engine formed from an internally splined shaft having a gear press fitted and induction welded on the shaft. The opposite ends of the shaft are drivingly engaged with a pair of opposedly mounted accessory units with the gear coupled to the output of the engine crankshaft.

3,447,394
STEERING SPINDLE BEARING SUPPORT

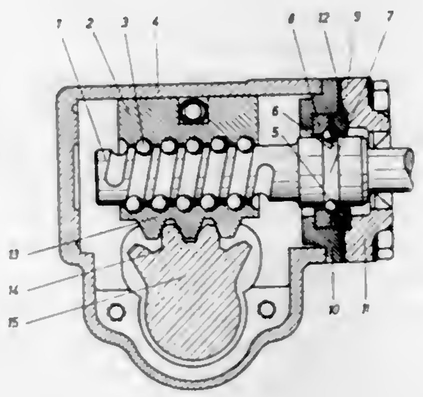
Heinrich Wagner, Schwabisch Gmund, and Hans-Ch. von Fraunberg, Alfdorf, Germany, assignors to Zahnradfabrik Friedrichshafen Aktiengesellschaft, Friedrichshafen, Germany, a corporation of Germany

Filed June 26, 1967, Ser. No. 648,648

Claims priority, application Germany, June 25, 1966, Z 12,292

Int. Cl. F16h *1/20*

U.S. Cl. 74—424.8 **5 Claims**



The invention relates to steering spindles for vehicles and bearing support of such spindles in which radial support is effected by the conventional ball bearing worm at the end of the spindle in conjunction with a ball bearing spaced therefrom and wherein axial and radial support is effected by the latter ball bearing.

3,447,395
CAMSHAFT

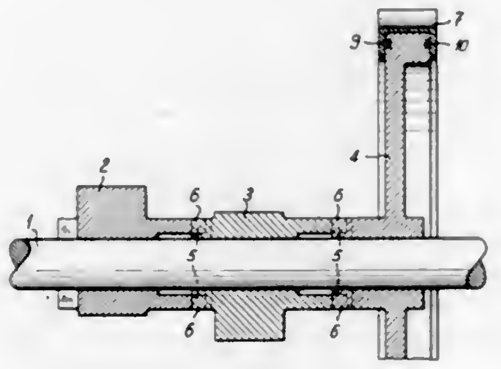
Henri Charles Edouard Latour, Geneva, Switzerland, assignor to Motosacoche S.A., Geneva, Switzerland, a corporation of Switzerland

Filed June 15, 1967, Ser. No. 646,283

Claims priority, application Switzerland, Sept. 13, 1966, 13,228/66

Int. Cl. F16h *53/02*

U.S. Cl. 74—567 **10 Claims**



A camshaft of the tubular type rotating on a fixed axle especially suitable for an internal combustion engine includes separately made sintered cams. The cams are fixed in invariable positions relative to one another on the shaft by means such as slots and tenons on the terminal portions of their axes. The toothed driving wheel may be similarly made for attachment to the terminal portion of an end cam. The wheel may include a plastics overcasting on its teeth.

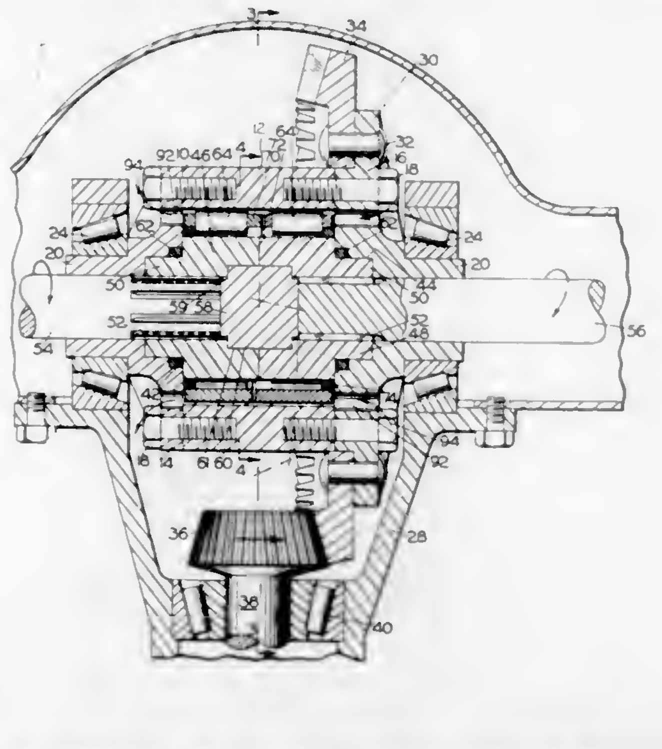
3,447,396
DIFFERENTIAL MECHANISM

James M. Seliger, 303 SE. 172nd Ave., Portland, Oreg. 97233

Filed June 9, 1967, Ser. No. 644,929

Int. Cl. F16h *35/04*

U.S. Cl. 74—650 **4 Claims**



The invention includes a differential mechanism of the type using a roller connection between a drive member and driven means. The rollers are confined in cages, and included in the mechanism are two sets of friction devices one of which provides for a positive operating control of the roller-containing cages and the other of which eliminates shock and other reactions which otherwise may be caused by loose fitting parts.

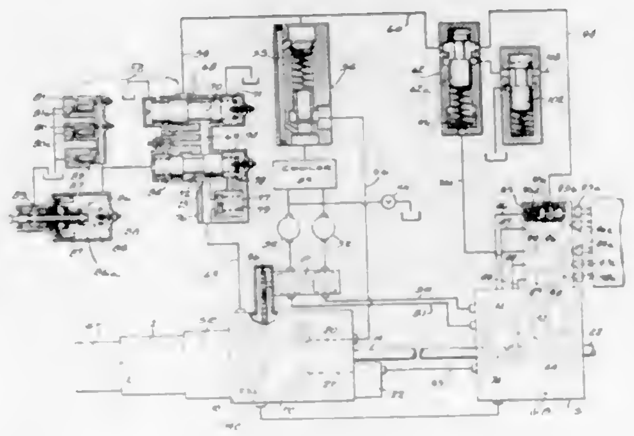
3,447,397
GEAR TRANSMISSION DRIVEN BY TORQUE CONVERTER AND CONSTANT SPEED CLUTCH

James B. Black, Roscoe, and Samuel Luzaich, Rockford, Ill., assignors to Twin Disc Incorporated, Racine, Wis., a corporation of Wisconsin

Filed Feb. 14, 1967, Ser. No. 615,983

Int. Cl. F16h *47/08*

U.S. Cl. 74—732 **7 Claims**



A variable ratio transmission controlled by fluid operated friction clutches and drivingly connected to a turbine by a constant speed and modulated fluid operated master clutch and by a torque convertor.

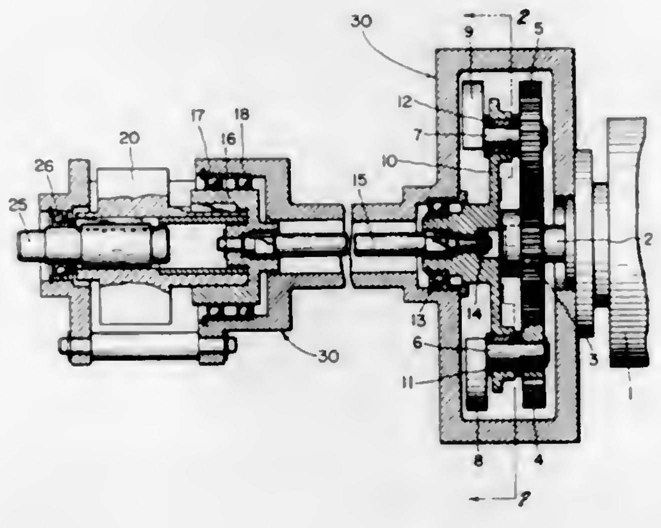
3,447,398
ENERGY TRANSFER DEVICE

Hsin Sheng Chen, Raritan, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed July 27, 1967, Ser. No. 656,396

Int. Cl. F16h *3/74*

U.S. Cl. 74—752 **3 Claims**



Apparatus for converting the low torque rotation of a prime mover into a high torque and increased amplitude oscillating output without increasing the torque reaction to the operator. The high torque output may be used for any application. The apparatus includes a motor which drives a pair of eccentric weights which are

mounted on an upper mass. Centrifugal force developed by the rotation of the eccentric weights produces an oscillating torque acting on the upper mass. There is a torsion bar which connects the upper mass to a lower mass. The torsion bar transfers the torque produced at the upper mass to the lower mass to oscillate the lower mass at a large amplitude. A one-way clutch may be provided at the lower mass to provide a unidirectional output.

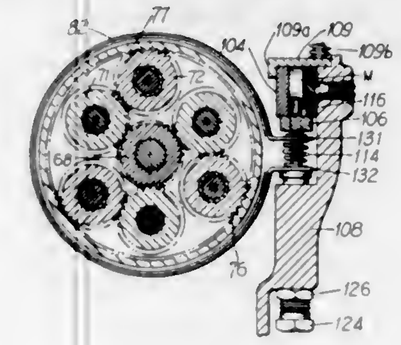
3,447,399
TRANSMISSION ASSEMBLY FOR TRACTOR

Max Hungerford, La Grange, Mich., assignor to American Machine & Foundry Co., a corporation of New Jersey

Continuation-in-part of application Ser. No. 601,632, Dec. 14, 1966, now Patent No. 3,329,249. This application Mar. 23, 1967, Ser. No. 625,364

Int. Cl. F16h *57/10*

U.S. Cl. 74—769 **6 Claims**



A garden type tractor including a rigid frame embodying a tubular housing between the output shaft of the engine and the axle assembly, the tubular housing accommodating the drive shaft enclosed in a tubular casting fixed at one end to the engine support and to the transmission and rear axle. The transmission includes a planetary unit for transmitting power from the input shaft to the output shaft at any one of three selected speeds and includes in its assembly friction-type brake bands enclosing drums mounted for rotation and associated with ring gears. The friction bands encircle the drums and are actuated to engage the periphery of the drums to selectively prevent the drums from rotating. In the transmission there is included a clutch plate for operative association with an end of one of the drums. A structure is provided for selectively effecting application of the brake bands and the clutch plate, the structure being manually operable and conveniently located for actuation by the operator. Associated with the transmission and the operating mechanism, a take-off shaft is provided to be selectively operated from the same manually actuated mechanism. Included in the drive to the rear axles is a two-speed differential structure multiplying the speed ratios and incorporating manual controls for selective use.

3,447,400
SPEED CONTROL APPARATUS

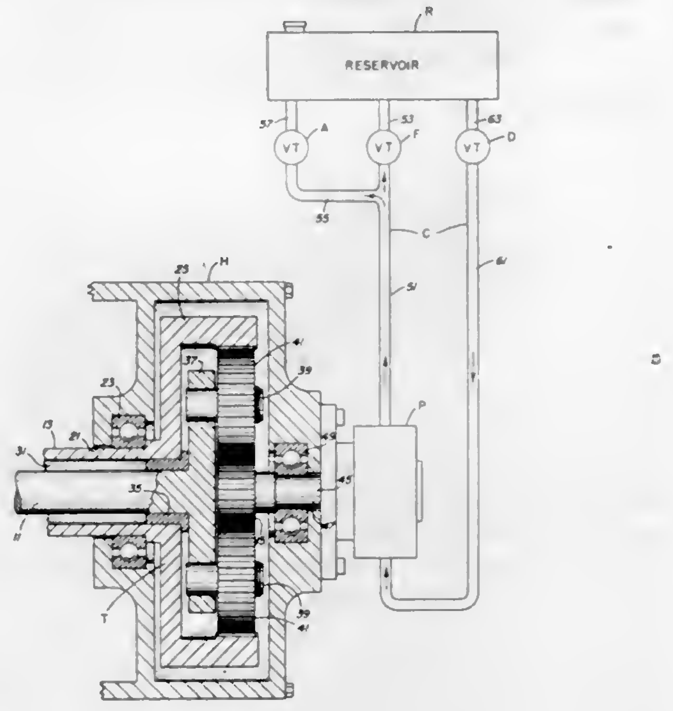
Melius Serniuk, 4011 Bardaguera Place, Bonita, Calif. 92002

Filed June 30, 1967, Ser. No. 650,341

Int. Cl. F16h *3/44*

U.S. Cl. 74—782 **1 Claim**

A speed control apparatus comprising a housing which supports a drive shaft carried coaxially within a hollow driven shaft. A sun gear is disposed adjacent the end of the drive shaft and is mounted on a shaft which drives a reversible hydraulic pump. An internally toothed ring gear is arranged concentrically with the sun gear and a plurality of pinions are drivingly interposed between the sun gear and ring gear and are carried by a carriage driven by the drive shaft.



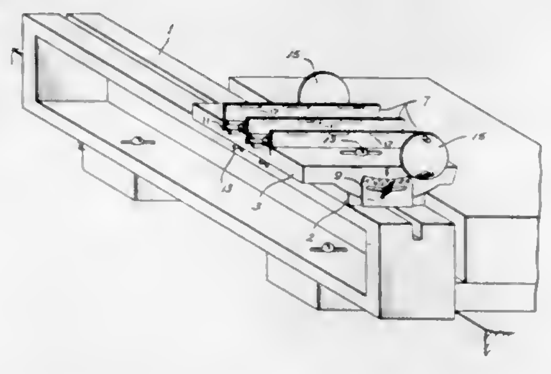
3,447,401
CIRCULAR SAW SHARPENING APPARATUS

Theo Rasmussen, 5217 Avenue P, Galveston, Tex. 77550

Filed Dec. 20, 1966, Ser. No. 603,393

Int. Cl. B23d *63/12*

U.S. Cl. 76—43 **5 Claims**

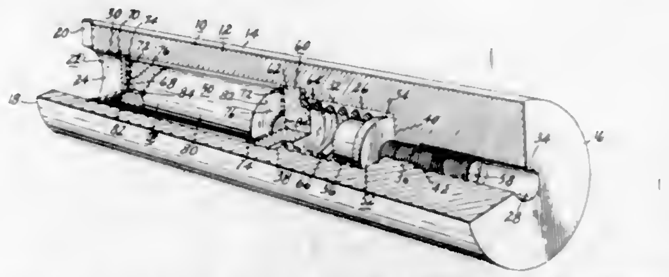


1. An apparatus for jointing, gumming and shaping the saw teeth of a circular saw blade which comprises in combination a portable slide base slidably connected to a supporting structure which has mounted thereon a power driven grinding wheel adjacent to said portable slide base; a quadrant base means rotatably connected to said slide base to provide movement around a horizontal axis perpendicular to the diameter of said grinding wheel; holding means for said circular saw blade independent of said quadrant base; means on said quadrant base for manually guiding said circular saw blade and said holding means towards said grinding wheel; means for stopping said circular saw blade fastened to said holding means as it is manually moved toward said grinding wheel; means for setting the vertical angle of said circular saw blade in a vertical plane perpendicular to the diameter of said grinding wheel; means for setting the vertical angle of said circular saw blade in a vertical plane parallel to the diameter of said grinding wheel; and means for setting the horizontal angle at which the face of said saw teeth of said circular saw blade are disposed with the diameter of said circular saw blade.

3,447,402

DAMPED TUNED BORING BAR

Joseph C. Ray, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 25, 1967, Ser. No. 678,057
Int. Cl. B23b *29/02*
U.S. Cl. 77—58 **14 Claims**

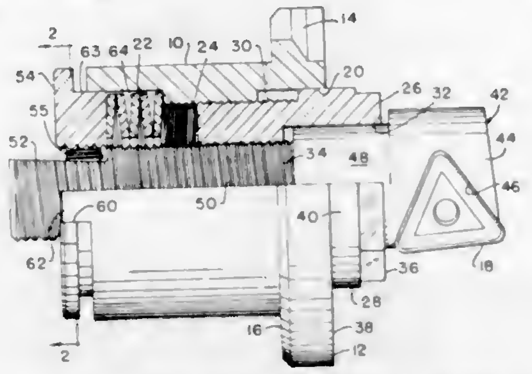


A machine tool boring bar body assembly of constant length for vibration control, wherein a boring bar body having a central bore contains an internal vibration damper comprising a resilient compression means yieldingly retained between the inner end of the bore and an intermediate abutment means; two viscoelastic absorber elements, which supply both the spring and damping mechanism for the damper, slidably retained between the intermediate and a fixed front abutment means; and a damping mass freely supported and journalled by and between the viscoelastic absorber elements, with the resilient compression means applying a preload on the viscoelastic absorber elements, said preload, as an alternative, being variable by the addition of an adjustable rear abutment means which permits a stiffness variation in the viscoelastic absorber elements thus allowing vibration control adjustment of the boring bar body assembly.

3,447,403

ADJUSTABLE BORING UNIT

Daniel H. Vogel, Sr., and Gerald C. Theriault, Washington, Ill., assignors to Allegheny Ludlum Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 17, 1968, Ser. No. 737,448
Int. Cl. B23b *47/00*
U.S. Cl. 77—58 **14 Claims**



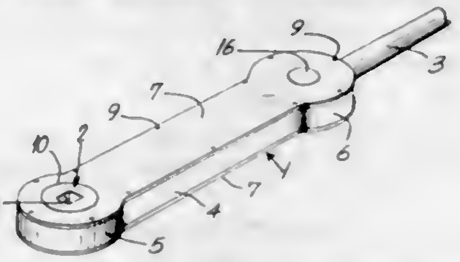
A boring unit for insertion into a recess in a boring bar or the like including high precision differential thread adjustment means together with spring biasing means to provide for adjustment of a cutting insert with the capability of retaining the exact adjusted position.

3,447,404

SOCKET WRENCH WITH LEVER OPERATED PAWL MEANS AND A THRUST BLOCK FOR SAID PAWL MEANS

Gaston Lachance, St. Apolline de Patton, Quebec, Canada
Filed Sept. 27, 1967, Ser. No. 670,890
Int. Cl. B25b *21/02*
U.S. Cl. 81—54 **6 Claims**

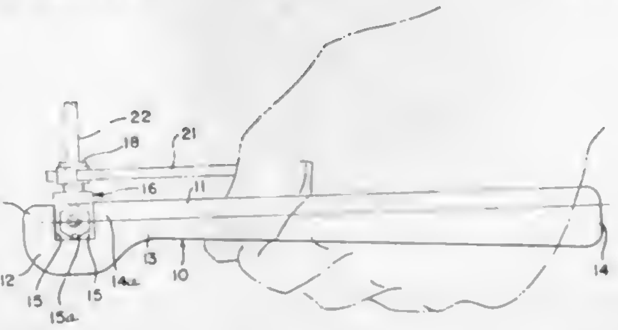
This invention concerns a socket wrench comprising a handle, at one end of which a socket member is rotatable, and a lever pivotally mounted at the other end of the handle, the handle housing a mechanism whereby operation of the lever in both directions with respect to the handle will cause unidirectional rotation of the socket member.



3,447,405

FITTING WRENCH

Fred A. Lennon, Chagrin Falls, Emery J. Zahuranec, Solon, Zoltan Szohatsky, Mentor Township, Lake County, and Edward Beck, Cleveland Heights, Ohio, assignors to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio
Filed Sept. 28, 1967, Ser. No. 671,333
Int. Cl. B25b *13/02*
U.S. Cl. 81—119 **6 Claims**

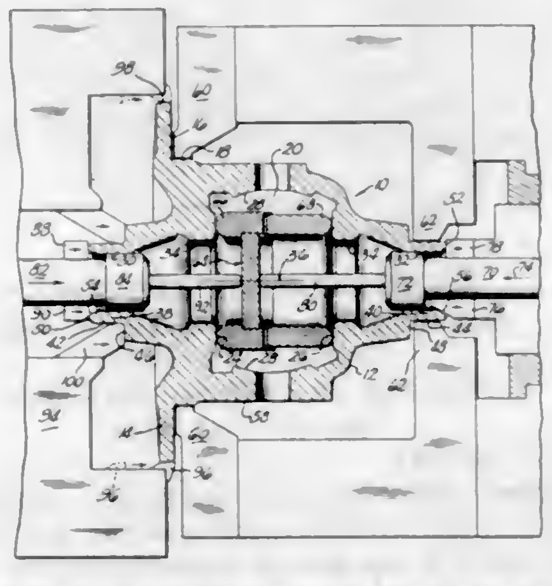


A wrench having a handle with a head positioned at least at one end thereof. The head is provided with a set of jaws opening laterally of the wrench handle and providing substantially parallel jaw faces. The geometric center of each jaw face falls on a line generally perpendicular to the plane of the face and passing approximately through the geometric center of the remaining face and of the handle.

3,447,406

METHOD OF MACHINING EXTERNAL SURFACES ON A GEAR CASE

Lloyd H. Joichi, Detroit, Mich., assignor to La Salle Machine Tool Inc., Warren, Mich., a corporation of Michigan
Filed Feb. 21, 1967, Ser. No. 617,699
Int. Cl. B23b *1/00;* **B23q** *17/00*
U.S. Cl. 82—1 **3 Claims**

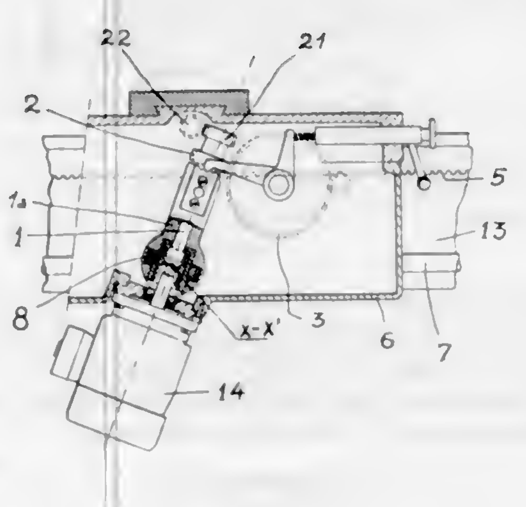


A method for machining the external surfaces of a gear case wherein the machined surfaces are machined until they are located predetermined distances from one of the side gear thrust faces in the internal cavity in the case to insure that the thrust faces can be subsequently machined to a desired location relative to each other and relative to an external case surface portion.

3,447,407

CARRIAGE CONTROL DEVICES FOR MACHINE TOOLS

Henri René Bruet, Paris, France, assignor to Etablissements A. Cazeneuve, a French company
Filed Aug. 15, 1966, Ser. No. 572,335
Claims priority, application France, Aug. 27, 1965, 29,651
Int. Cl. B23b *21/00*
U.S. Cl. 82—22 **2 Claims**

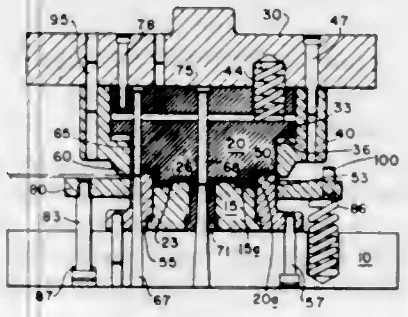


A mechanism for moving the carriages of a machine tool wherein a motor has operating speeds greater than the rate of rotation of the feeding drive for the carriages and serves to drive the carriages during periods when the tools are inoperative.

3,447,408

METHOD AND APPARATUS FOR PIERCING BLANKING FUEL PUMP DIAPHRAGMS

William Russell Parrent and Robert J. Gray, Fairfield, Ill., assignors to Airtex Products, division of United Industrial Syndicate, Inc., a corporation of New York
Filed Mar. 21, 1966, Ser. No. 541,903
Int. Cl. B26d *7/14, 5/08*
U.S. Cl. 83—21 **7 Claims**

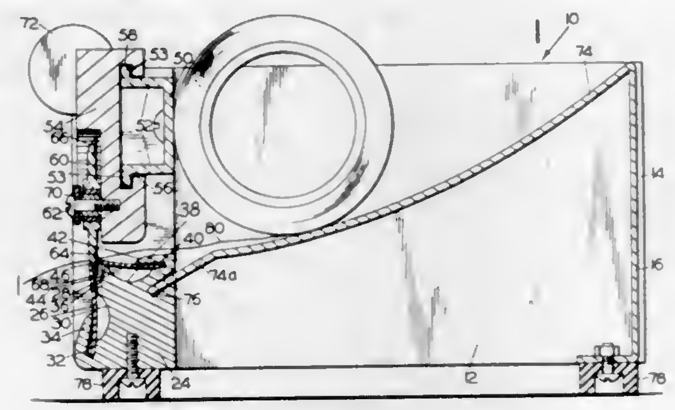


This invention relates to fuel pumps of the type which uses so-called "loop diaphragms," namely, diaphragms having a curved or bight formation or deformation arched in the direction of the fuel chamber, and more particularly to method and apparatus for cutting and piercing such diaphragms from sheet material. The particular feature of the invention resides in initially forming the arch and the diaphragm and holding the arch formed while the diaphragm is being blanked and pierced.

3,447,409

PAPER CUTTER

Clarence T. Lewis, 833 E. Jackson, Medford, Oreg. 97501
Filed Jan. 23, 1967, Ser. No. 611,080
Int. Cl. B26d *1/18, 5/10;* **B23d** *19/00*
U.S. Cl. 83—485 **8 Claims**

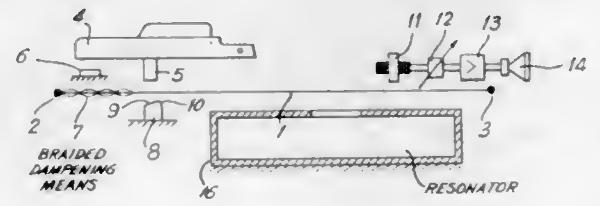


A paper cutter has a base provided with a carrier movable in a lateral direction on the base. A shear wheel is rotatably supported on the carrier and has a beveled cutting edge. Two cutter blades are supported on the base with one blade engaging one side of the shear wheel and the other blade engaging the other side. The wheel engaging portions of the blades are mounted so that they are normally closer together than the thickness of the portion of the shear wheel which they engage and one of the blades is flexible for flexing away from the other blade to have engageable disposition against the shear wheel.

3,447,410

STRING INSTRUMENTS HAVING A KEYBOARD

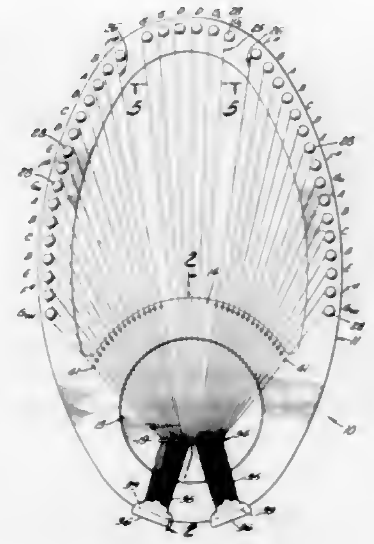
Ernst Zacharias, Trossingen, Wurttemberg, Germany, assignor to Hohner Malth., AG.
Filed Dec. 27, 1966, Ser. No. 604,774
Claims priority, application Germany, Jan. 19, 1966, H 58,277
Int. Cl. G10c *3/18*
U.S. Cl. 84—247 **10 Claims**



A musical instrument and more particularly a piano-type of string instrument having a keyboard, such as a clavichord. The instrument has a key means which is accessible for actuation by the operator, and a tangent is carried by the key means to be displaced upon actuation thereof. A stationary anvil is situated in the path of movement of the tangent, and a string extends between and is normally spaced from the tangent and the anvil. A damping means coacts with the string at only one side of the anvil so that when the key means is actuated the tangent will be displaced to a position where the string is clamped between the tangent and anvil to vibrate on the opposite side of the anvil. Upon release of the key means, the string again becomes spaced from the anvil and tangent so that the damping means terminates the vibrations of the string.

3,447,411
STRINGED MUSICAL INSTRUMENT

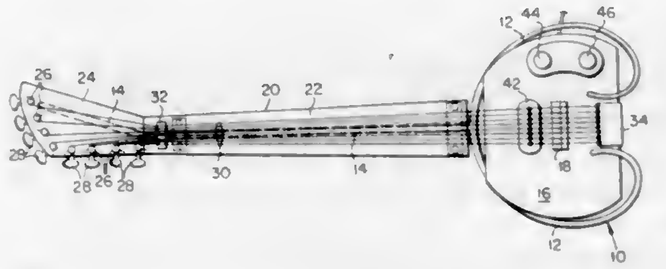
Daniel E. Bloxsom, Jr., 523 S. Lucerne,
Los Angeles, Calif. 90005
Filed Oct. 11, 1965, Ser. No. 494,693
Int. Cl. G10d *1/04*
U.S. Cl. 84—264 16 Claims



A fretless stringed instrument having a main frame of generally elliptical shape provided with a resonator supported within one end of the frame and having a group of chord strings along its major axis arranged between two groups of octavely-related strings. Preferably, each of the latter groups include two sets of octavely-related strings with the scales of one group progressing oppositely to those in the other group. All strings are supported by a bridge resting on the resonator and extending crosswise of the major focus of elliptical frame with their opposite ends flaring in opposite directions from the longitudinal axis of the frame. A separate mute is provided for each string and includes means for releasably holding the associated string muted for prolonged periods if so desired. Plucking one string creates sympathetic resonant response of both simple and complex nature in other strings to produce strong overtones characterized by their brilliance, fullness, richness and pleasing timbre.

3,447,412
GUITAR NECK CONNECTION

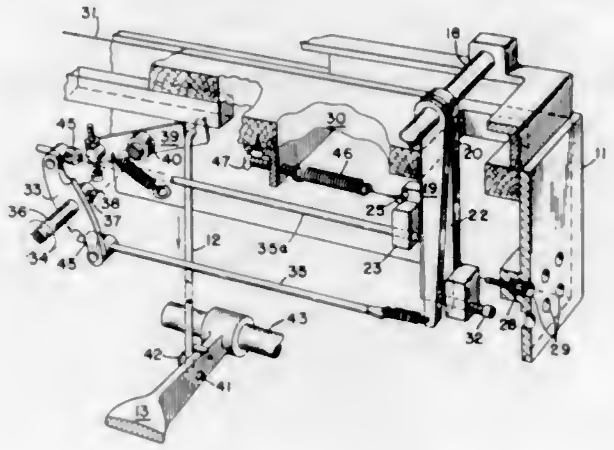
Fred C. Marshall, 1310 3rd St.,
Berkeley, Calif. 94710
Filed Jan. 3, 1967, Ser. No. 606,673
Int. Cl. G10d *1/08*
U.S. Cl. 84—267 2 Claims



An electric stringed instrument wherein the connection between the finger board and the part supporting the bridge is resiliently flexible; the finger board is made of a metal plate and formed to present a smooth surface without frets to the strings; and the string-supporting end edge of the bridge is of smoothly rounded conformation and has a metal covering in contact with the strings.

3,447,413
GUITAR TONE CHANGING DEVICE

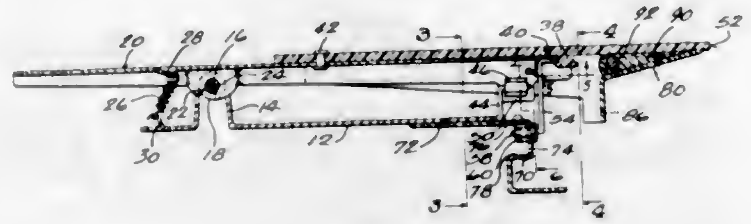
Ronald T. Lashley, Graham, N.C., and Buddie G. Emmons, Madison, Tenn., assignors to Emmons Guitar Company, Inc., Graham, N.C., a corporation of North Carolina
Filed Mar. 18, 1965, Ser. No. 440,684
Int. Cl. G10d *1/08, 3/12*
U.S. Cl. 84—312 3 Claims



A tone changing device for a steel guitar having a pair of cooperating linkages associated with each guitar string which are selectively movable by one or more foot pedal-actuated control rods to vary the string tension and change the musical pitch of the string accordingly.

3,447,414
KEYBOARD ORGANIZATION

Thomas S. Lo Duca, 2232 S. 62nd St.,
Milwaukee, Wis. 53219
Filed Nov. 4, 1966, Ser. No. 592,216
Int. Cl. G10c *3/12*
U.S. Cl. 84—436 5 Claims

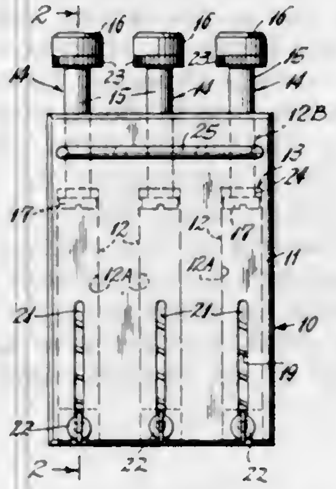


The invention contemplates that prefabricated keys of appropriate color and design will be individually mounted permanently upon separately fabricated levers. At the front of the keyboard, each key has an integral portion interlocked with a notch at the end of the lever. The rear end of the key is then riveted to the lever as a permanent assembly. The lever has the form of a channel which is pivoted near its rear end to a base and which, at its forward end, must be guided for precise movement in a predetermined plane and for a predetermined range in that plane.

3,447,415
MUSICAL PRACTICE DEVICE

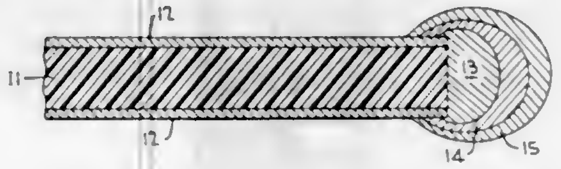
Warren E. Kime, 803 E. Redwood Lane,
Arlington Heights, Ill. 60004
Filed Feb. 13, 1967, Ser. No. 615,653
Int. Cl. G09b *15/06*
U.S. Cl. 84—465 8 Claims

This invention is directed to a practice device and exerciser for enhancing the dexterity and/or coordination necessary for playing a wind-type musical instrument such as a horn, trumpet, clarinet, saxophone and the like. The practice device comprises essentially of a housing having one or more bores extending therethrough in which a valve means is reciprocally mounted for limited movement in each of the respective bores and a spring means is provided for individually biasing each of the respective valve means with means for individually adjusting the bias or force of the springs acting on the respective valve means to vary the amount of force or pressure needed for actuating the valve means.



3,447,416
ELECTRIC INITIATOR

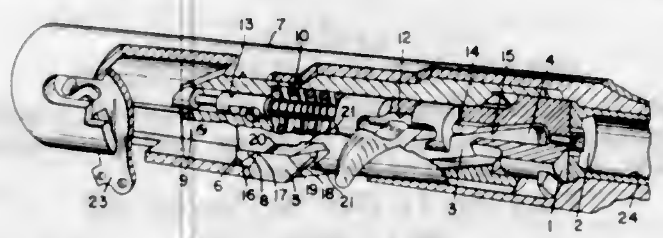
Maurice Apstein, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 1, 1967, Ser. No. 665,692
Int. Cl. F42b *3/10*
U.S. Cl. 86—1 5 Claims



An inexpensive, easily manufactured electric initiator for fuze detonators which is safe and reliable in operation. The wire bridge of conventional initiators is replaced by a thin-film chemically-deposited nickel-phosphorus resistor having a very small area and deposited on an insulating substrate. The conductor leads are replaced by thin films of metal of good conductivity electroplated over the nickel-phosphorus. The thin-film resistor bridge is coated with lead styphnate by dipping the end of the substrate into a slurry of the explosive using slightly modified paper-match-making machinery.

3,447,417
GUN WITH A FLOATING BREECH BOLT

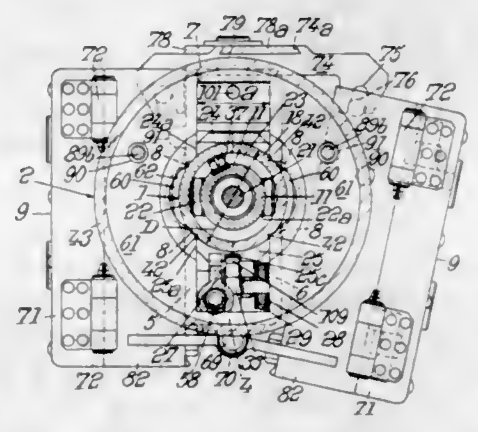
Bruno Civolani, Bologna, Italy, assignor to Benelli S.p.A. Divisione Armi, Viale Mameli, Italy, a corporation of Italy
Filed Feb. 27, 1967, Ser. No. 618,595
Claims priority, application Italy, Mar. 9, 1966, 5,172/66
Int. Cl. F41d *3/04*
U.S. Cl. 89—182 1 Claim



In a fixed barrel gun, a construction wherein the return of the bolt head is caused by the energy stored in a spring during its compression by the breech bolt and wherein there is sufficient axial play between the breech bolt and the bolt head to accommodate different extents of movement between the breech bolt and the bolt head due to different types of cartridges.

3,447,418
BREECHCASE FOR FIREARM

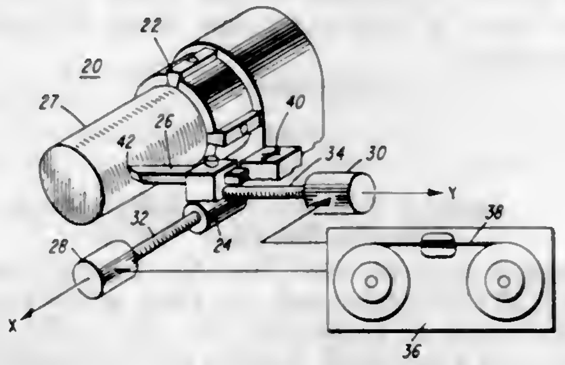
Bernard Maillard, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a society of Switzerland
Filed Apr. 1, 1968, Ser. No. 717,524
Claims priority, application Luxemburg, July 31, 1967, 54,210
Int. Cl. F41d *1/02, 5/02, 11/00*
U.S. Cl. 89—199 9 Claims



The breechcase comprises a portion of substantially rectangular cross-section having in one of its small sides an ejection passage for the empty cartridge cases, and in its two large sides introduction openings for the cartridges coming alternately from two feed mechanisms respectively. The breech mechanism, which reciprocates in the breechcase, is substantially cylindrical. A helical counter-recoil spring, of substantially the same external diameter as the breech mechanism, is provided between the breech mechanism and the rear of the breechcase. The breechcase has, at the level of the cartridge introduction openings, four guiding surfaces, situated on a common geometrical cylinder parallel to the axis of the gun barrel, for guiding the breech mechanism and the counter-recoil spring.

3,447,419
NON-CONTACTING TOOL TIP POSITIONING SYSTEM

George B. Foster, Worthington, Ohio, assignor to Reliance Electric & Engineering Co., Columbus, Ohio, a corporation of Ohio
Filed Feb. 21, 1967, Ser. No. 617,549
Int. Cl. B23c *3/06;* **H02p** *5/46*
U.S. Cl. 90—13 26 Claims



There is described below apparatus and method for the control of machine tools, particularly for positioning a cutting tool tip with high accuracy to establish a zero reference for the machine tool.

3,447,420

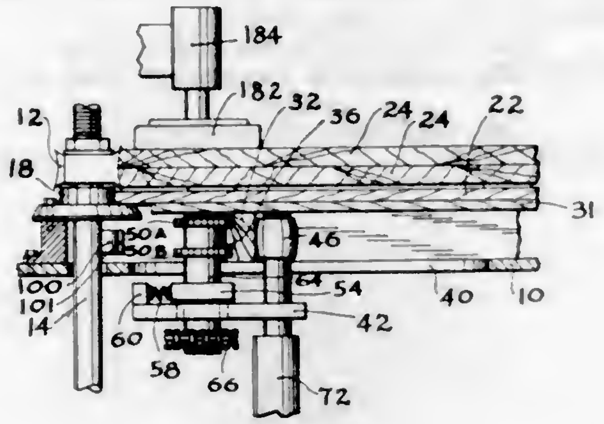
AUTOMATIC SHAPER

Arthur J. Rhodes, 1509 N. Halsted St., Chicago, Ill. 60622, and Bernard H. Rhodes, Chicago, Ill.; said Bernard H. Rhodes assignor to Arthur J. Rhodes, Chicago, Ill.

Filed Aug. 11, 1966, Ser. No. 571,863

Int. Cl. B23c *1/18;* **B27c** *5/02*

U.S. Cl. 90—13.2 19 Claims



A workpiece is mounted on a pallet, together with a pattern having a cam edge defining the contour for the finished piece. This rather heavy assembly is slidably supported on a smooth tabletop and need never be lifted by the operator. A conventional rotary cutting tool is mounted near one side of the table. Means are provided below the table for moving the workpiece in the path determined by its pattern, to generate the finished contour.

The pallet carries a downwardly extending peripheral flange and a carriage below the tabletop carries feed means including a pressure element and a feed element extending up to engage opposite faces of said flange. The feed element has gear teeth for positive driving engagement with cooperating recesses on the flange, and the pressure element may be a roller, spring-pressed toward the gear teeth and engaging the other side of the flange. The carriage and all the feed means are movably guided as a unit, and yieldingly urged toward the cutting tool with force enough to hold the cutter into the work. Excess force merely maintains a steady pressure of the work pattern against a rotatable collar coaxial with the cutting tool.

The element engaging the inner face of the pallet flange can be withdrawn below the table to release the pallet carrying the finished piece so that it can slide away and make way for another pallet carrying an unfinished workpiece.

To get maximum efficiency in the use of the cutter, the pallet carries additional cams to actuate electrical controls and vary the speed of the cutter at a variety of different speeds, depending on the depth of the cut taken by the cutter at different points along the periphery of the workpiece.

3,447,421

VEHICLE LIFT

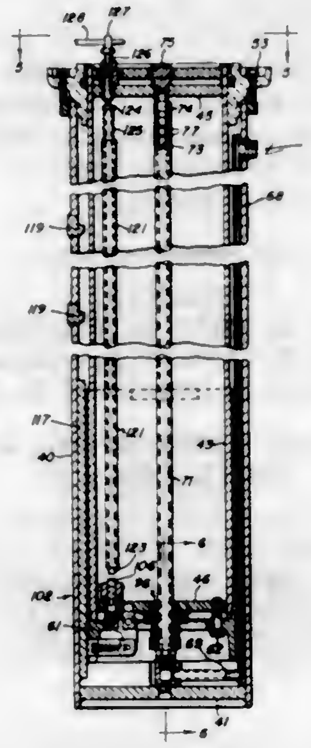
James J. Pelouch, 7041 Hilton Road,
Brecksville, Ohio 44141

Application June 14, 1967, Ser. No. 646,113, now Patent No. 3,393,772, dated July 23, 1968, which is a continuation-in-part of application Ser. No. 402,433, Oct. 8, 1964, now abandoned. Divided and this application June 3, 1968, Ser. No. 734,128

Int. Cl. F15b *21/04, 13/04, 11/08*

U.S. Cl. 91—4 5 Claims

A piston and cylinder arrangement particularly adapted for use in a vehicle lift comprising a hollow piston construction located within a cylinder and movable between upper and lower positions therein. Hydraulic fluid is contained within the piston and an air supply tube extends into the piston and includes restricted opening means for permitting a low airflow rate into the piston in the lower position thereof and permits a high airflow rate into the piston in positions above the referred to lower position. A float type air valve is located in the upper end portion of the piston and is held in closed position by the float in the lower position of the piston when sufficient hydraulic fluid level is contained in the piston and when there is insufficient hydraulic fluid level in the piston, the air valve is maintained in open position and the low airflow rate is insufficient to close the same. The high airflow rate in positions of the piston above the referred to lower position of the piston is sufficient to hold the air valve closed regardless of the hydraulic fluid level. A check valve is located in the lower end portion of the piston and is movable between open and closed positions. This valve is open in the upward movement of the piston permitting hydraulic fluid flow from the piston to the cylinder and this valve is in the closed position upon downward movement of the piston, thereby prohibiting hydraulic fluid flow from the cylinder to the piston. A control valve is located in the lower end portion of the piston and is movable between an open position whereat fluid flow is permitting between the piston and cylinder and a closed position whereat fluid flow is prohibited between the piston and the cylinder. The structure is also provided with a safety latch member connected to the control valve which is engageable with stops positioned along the cylinder wall and this latch member is biased toward the latched position. The latch member is unlatched in the open position of the control valve and is moved to a latched position in the closed position of the control valve.



3,447,422

ZERO BACKLASH FLUID MOTOR

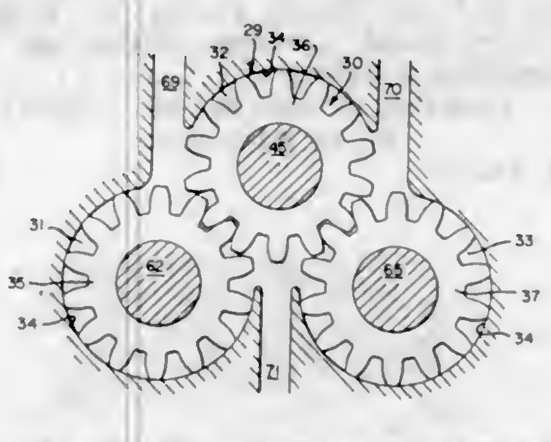
Jerald D. Bidlack, East Aurora, and Kenneth D. Garnjost, Buffalo, N.Y., assignors to Moog Inc., East Aurora, N.Y., a corporation of New York

Filed May 11, 1967, Ser. No. 637,819

Int. Cl. F01c *1/28*

U.S. Cl. 91—89 15 Claims

A zero backlash fluid motor having contacting force transmitting elements such as gear teeth on rotary members such as gears which mesh and are biased or preloaded unidirectionally regardless of rotational direction or output torque loading.



3,447,423

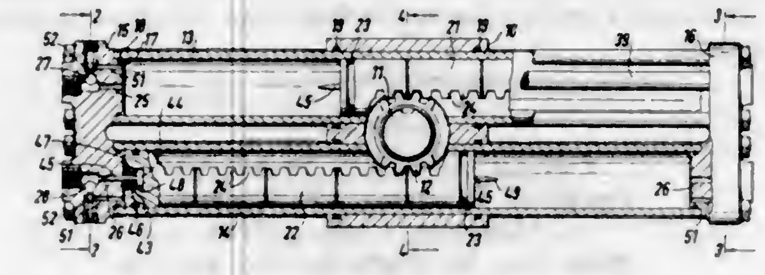
ROTARY FLUID PRESSURE ACTUATORS

Howarth Padgett Henry, London, England, assignor to E. Mathews Engineering Company Limited, London, England

Continuation-in-part of application Ser. No. 519,033, Jan. 6, 1966. This application Aug. 10, 1966, Ser. No. 571,550

Int. Cl. F01b *7/04, 11/02*

U.S. Cl. 91—395 2 Claims



A rotary fluid pressure actuator comprises at least one double acting piston mounted in a cylinder having end closures, an output shaft mounted intermediate the ends of the cylinder with its axis normal to and offset from that of the cylinder, bearings for the output shaft, a rack on the piston, a gear pinion on the output shaft engaging the rack of the piston, ports in the end closures of the cylinder for the admission of fluid under pressure to move the piston and rotate the output shaft and for the escape of fluid, the ports in the end closures comprising passages parallel to the axis of the cylinder, and means carried by the piston to obstruct the passages comprising pins arranged to enter and restrict flow of fluid through the passages as the piston approaches the end of its stroke. The pins having a maximum diameter less than the diameter of the passages providing a clearance constituting an escape path for liquid which is increasingly restricted as the pins move into the passages.

3,447,424

HYDRAULIC CYLINDERS HAVING A QUICK EXHAUST

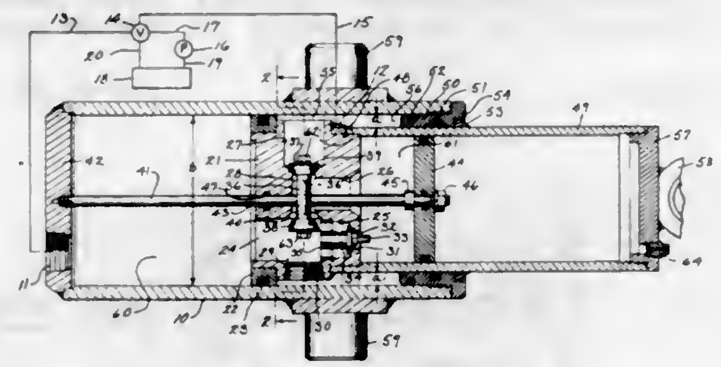
Roy O. Billings, 6621 W. Wisconsin Ave.,
Wauwatosa, Wis. 53213

Filed Sept. 19, 1967, Ser. No. 672,677

Int. Cl. F15b *11/08, 15/22;* **F01b** *3/00*

U.S. Cl. 91—422 11 Claims

An hydraulic cylinder having a movable piston with a tubular piston rod, and having a fixed disk within the tubular piston rod defining an auxiliary exhaust reservoir between it and the movable piston, a valve in the movable piston which is automatically closed by the fluid pressure during extension movement and which is automatically opened during retraction movement to allow a substantial portion of the hydraulic fluid in the main cylinder chamber to be quickly exhausted into the auxiliary reservoir during such return movement, there being an automatic valve for allowing emptying of said auxiliary reservoir during the extension stroke.



3,447,425

PNEUMATIC RAILWAY VEHICLE BRAKE CYLINDER ASSEMBLIES

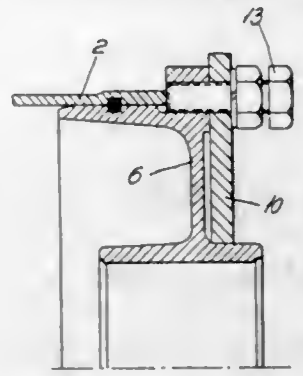
Ragnar H. Nilsson, Malmo, Sweden, assignor to Svenska Aktiebolaget Bromsregulator, Malmo, Sweden

Filed Sept. 27, 1966, Ser. No. 582,350

Claims priority, application Great Britain, Sept. 30, 1965, 41,496/65

Int. Cl. F16j *13/02*

U.S. Cl. 92—161 1 Claim



A space saving railway vehicle pneumatic brake cylinder assembly is provided comprising a cylinder head secured to a mounting on the vehicle, and a cylinder body detachably secured to a cylindrical portion of the cylinder head. The assembly is provided with means for locking the cylinder body against both axial and rotational displacement relative to the cylinder head.

3,447,426

PISTON AND DRIVER ASSEMBLY FOR FLUID OPERATED FASTENER DRIVING TOOLS

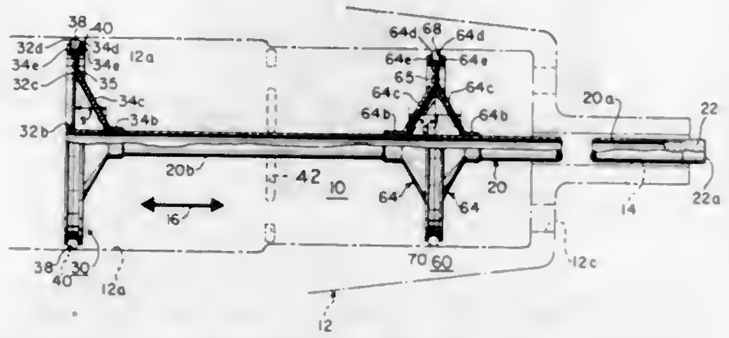
Allen R. Obergfell, Park Ridge, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed Apr. 28, 1967, Ser. No. 634,628

Int. Cl. F16j *1/12*

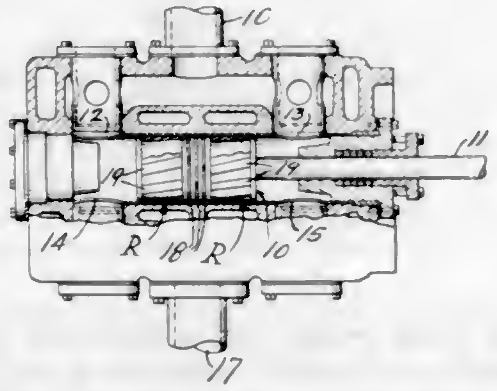
U.S. Cl. 92—175 12 Claims

A piston and driver assembly for fluid operated fastener driving tools comprising a unitary, elongated, hollow stem including a plug at one end of the stem adapted for driving engagement with fasteners positioned in the drive track of the tool. A piston is mounted on the stem remote from the plug, and the piston comprises a pair of thin, circular piston members extending outwardly of the stem, each member having a central opening and a flanged portion around the opening which is secured to the stem. The piston members are joined to one another around an annular ringlike area spaced radially outward of the stem, and each member is formed with a shoulder around its outer periphery which is adapted to cooperate with the shoulder of the adjacent member to form a seating space for a replaceable resilient annular sealing ring. In driving tools employing differential cylinders for automatic piston return, the piston and driver assembly includes a second piston of similar construction spaced intermediate the plug and first-mentioned piston.



3,447,427
PISTON RIDER RING

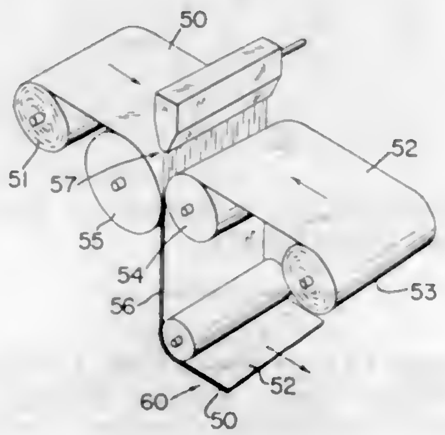
Scott C. Mickle, Fredericktown, Ohio, assignor to Cooper Industries, Inc., Mount Vernon, Ohio, a corporation of Ohio
Filed Aug. 8, 1967, Ser. No. 659,061
Int. Cl. F16j *9/12*
U.S. Cl. 92—253 **3 Claims**



An improved rider ring for compressors having at least one cylinder and piston. Rider rings are used in both horizontal and vertical machines to support or guide the piston within its cylinder. The rider ring is fabricated from a low friction material and comprises a unitary band held within a relieved area of the piston. The effective outside diameter of the rider ring is larger than that of the piston so that a substantial portion of the weight of the piston and its piston rod is supported by the rider ring, in the case of a horizontal machine. A plurality of grooves in the outer surface of the rider ring extends throughout its length at an angle to its axis such that adjacent lands on each side of any groove will intersect any axial line passing through any groove. The depth of the grooves is sufficient to permit fluid passage therethrough to prevent the build-up of a substantial pressure differential between the ends of the rider ring. The grooves of the rider ring extend spirally or at an angle to the axis of the rider ring so that the piston will not bottom out or rest upon a groove which would drop the piston from the desired supported or guided position.

3,447,428
METHOD FOR MAKING A POUCH OF LAMINATED SHEET MATERIAL

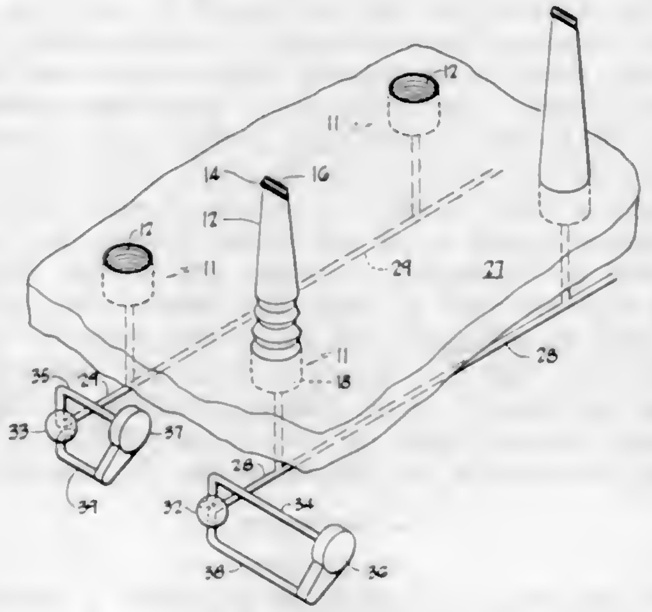
Donald R. Crane, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,658
Int. Cl. B31b *49/04*
U.S. Cl. 93—35 **6 Claims**



A tobacco pouch made of multi-layered sheet means comprised of at least two layers of plastic material and a layer of metallic foil suitably laminated together and formed in a simple manner to define an inexpensive pouch which has a feel similar to the feel of an expensive leather pouch.

3,447,429
POP-UP TRAFFIC SENTINAL

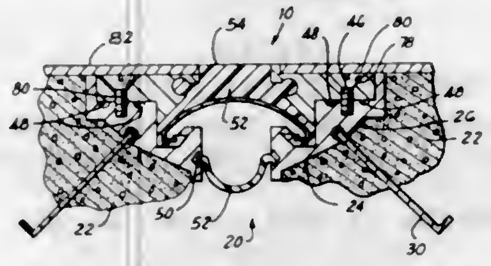
Joseph W. Bowersox, 271 Figueroa St., Monterey, Calif. 93940
Filed Apr. 24, 1967, Ser. No. 633,166
Int. Cl. E01f *9/00, 9/10, 9/04*
U.S. Cl. 94—1.5 **8 Claims**



Traffic cones are provided with flexible walled ring corrugations so that the cones will collapse or extend when the air pressure inside thereof is either negative or positive, respectfully. Each of such cones is provided with a receptacle within which it can collapse, and several of such receptacles are located below and flush with the surface of a roadway, and are connected at spaced apart locations to a common air conduit having reversibly connected thereto an air pump.

3,447,430
EXPANSION JOINT COVER

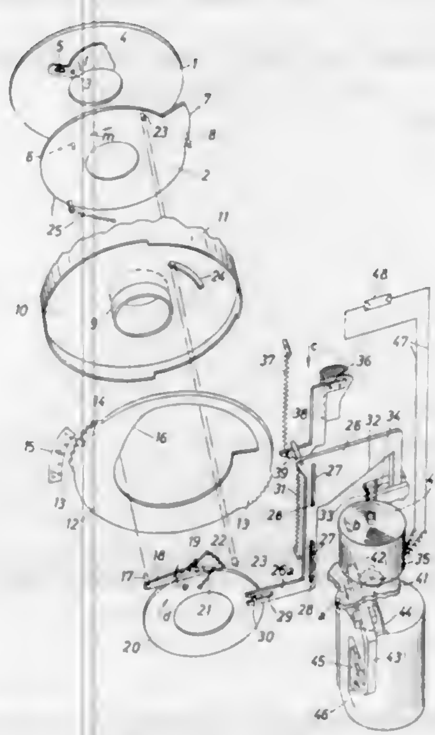
Frank W. Gausepohl, Houston, Tex., assignor to Argil J. May Manufacturing & Distribution Corp., Houston, Tex., a corporation of Texas
Filed Mar. 16, 1967, Ser. No. 623,736
Int. Cl. E01c *11/02, 11/10;* **E04f** *15/16*
U.S. Cl. 94—18 **6 Claims**



An expansion joint cover assembly for structural sections disposed in spaced relationship having an elongated joint therebetween. The cover is formed of an elongated bridging member of sufficient width to span the joint to be covered and a pair of elongated mounting members secured to the structural members adjacent the joint. The bridging member is formed of resilient material and is provided with a pair of bulb-shaped longitudinally-extending tongues, one tongue on each face confronting the mounting members. Each tongue is lockingly engaged with a bulb-shaped groove in the confronting face of the mounting member.

3,447,431
MANUALLY AND AUTOMATICALLY OPERABLE CAMERA

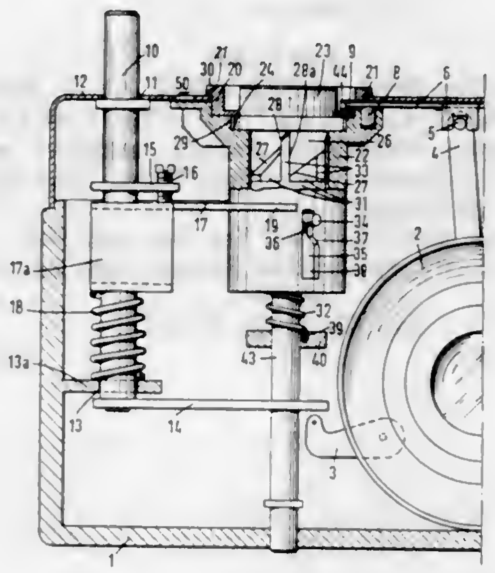
Gerd Kiper, Munich, Germany, assignor to Agfa-Gevaert AG., Leverkusen, Germany
Filed Feb. 8, 1966, Ser. No. 525,876
Claims priority, application Germany, Feb. 13, 1965, A 48,393
Int. Cl. G01j *1/10*
U.S. Cl. 95—10 **20 Claims**



A camera wherein the scanning member for the needle of the exposure meter transmits motion to the diaphragm setting ring by way of two elements which are spaced from each other in idle position of the setting ring. A selector is provided to adjust the distance between the two elements prior to movement of the scanning member into engagement with the needle.

3,447,432
CAMERAS

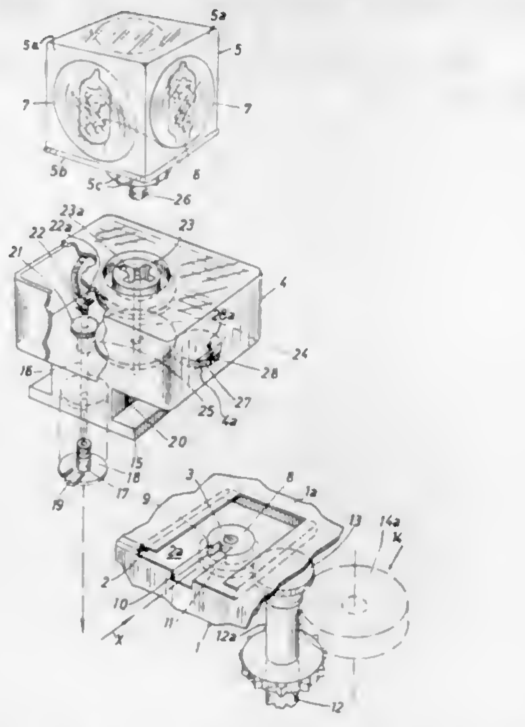
Karl Heinz Lange, 49 Holserstrasse, 498 Bunde-Ennigloh, Westphalia, Germany
Filed Nov. 15, 1966, Ser. No. 594,438
Claims priority, application Germany, Nov. 16, 1965, B 84,522
Int. Cl. G03b *19/04*
U.S. Cl. 95—11 **15 Claims**



A camera for either daylight or flash light exposures, using a flash-bulb unit with preferably four flash-bulbs, the unit being held in a socket. A step mechanism for the socket and the flash contacts are only operative by the shutter in the flash ranges, so that in case of a flash exposure the flash bulb unit is only advanced for making the camera ready for a subsequent flash or daylight exposure.

3,447,433
PHOTOGRAPHIC CAMERA WITH FLASH UNIT

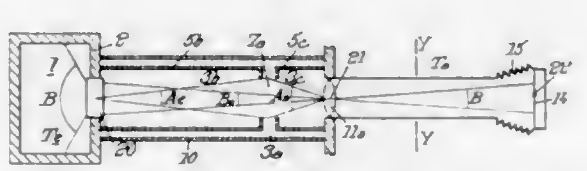
Richard Wick, Grunwald, near Munich, Dieter Engelsmann, Unterhaching, Munich, and Alfred Winkler, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed June 30, 1966, Ser. No. 561,853
Claims priority, application Germany, July 26, 1965, A 49,849; Aug. 4, 1965, A 49,907
Int. Cl. G03b *15/035;* **F21v** *19/04*
U.S. Cl. 95—11 **28 Claims**



The casing of a photographic camera has an accessory shoe which can receive the foot of a housing forming part of a flash unit provided with an indexible socket for multiple flash bulb containers. The camera casing accommodates a drive including a rotary clutch element in the shoe which is automatically engaged by a complementary clutch element in the foot when the latter is properly inserted into the shoe whereby the complementary clutch element indexes the socket and the multiple flash bulb container in response to manipulation of the film transporting mechanism.

3,447,434
APPARATUS FOR OBSERVING AND PHOTOGRAPHING OBJECTS IN CLOSED SPACES

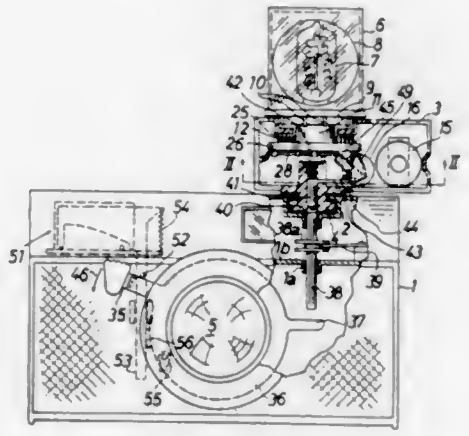
Michel Bougon, Versailles, France, assignor to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Filed Apr. 10, 1967, Ser. No. 629,500
Claims priority, application France, Apr. 25, 1966, 58,934
Int. Cl. G03b *17/55*
U.S. Cl. 95—11 **10 Claims**



An apparatus for observing or photographing objects in a closed space having a first and second optical system and an evacuated chamber. The first optical system gives an image of an object located in the closed space. The second optical system provides a second image of the first image on an image receiver or observer's eye-piece. The evacuated chamber is divided into two portions separated by an orifice. Each portion is surrounded by a thermal screen. The orifice is movable so as to be located at a smaller distance from the end of the chamber at the lower temperature.

3,447,435
CAMERA WITH FLASH UNIT

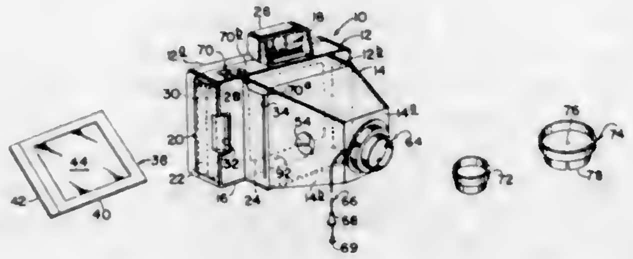
Alfred Winkler, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Sept. 12, 1966, Ser. No. 578,679
Claims priority, application Germany, Sept. 18, 1965, A 24,402
Int. Cl. C03b *9/70, 15/02;* **F21v** *19/04*
U.S. Cl. 95—11.5 **15 Claims**



The casing of a flash unit has a foot which is insertable into the accessory shoe on the housing of a photographic camera. The casing accommodates an indexible socket for multiple flash bulb holders and an indexing mechanism for the socket. The camera has a motion transmitting member which is moved in response to operation of the camera actuating means into operative engagement with a second motion transmitting member mounted in the casing. The second motion transmitting member, when engaged by the first transmitting member, releases a catch to operate the indexing mechanism.

3,447,436
INSTRUCTIONAL CAMERA

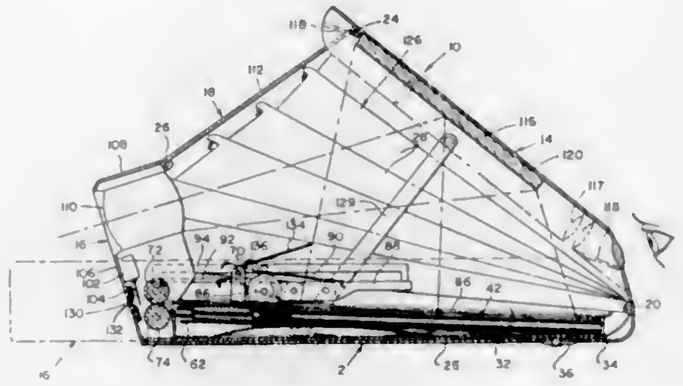
Philip D. Bartlett, Medfield, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,670
Int. Cl. G03b *17/52*
U.S. Cl. 95—13 **6 Claims**



A self-developing type of camera for instructional use which is composed of several knockdown sections adapted to separation and differential reassemblage for the purpose of demonstrating, through various methods of photography, a plurality of laboratory experiments.

3,447,437
PHOTOGRAPHIC PROCESSING APPARATUS

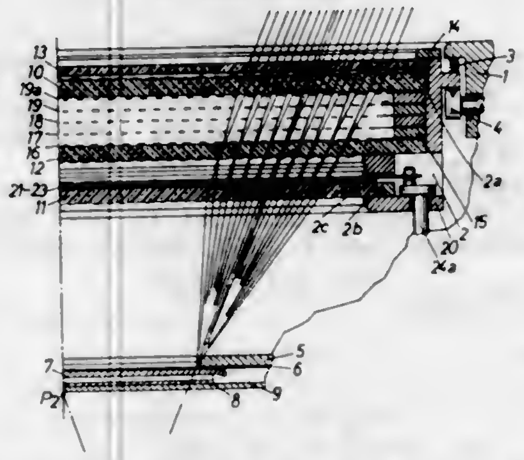
Douglas B. Tiffany, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 25, 1967, Ser. No. 655,808
Int. Cl. G03b *17/52*
U.S. Cl. 95—13 **8 Claims**



A self-developing camera including a pair of processing rollers for advancing a film unit between the rollers to process the film unit and a feed roller driven simultaneously with the processing rollers for frictionally engaging and feeding the film units, one at a time, from a film pack container into the bite of the processing rollers. The mounting for the feed roller is coupled with one of the processing rollers so as to disenable the feed roller to feed a film unit into the bite of the processing rollers as long as a film unit is engaged therebetween.

3,447,438
OPTICAL SYSTEM HAVING AT LEAST TWO LENTICULAR SCREENS

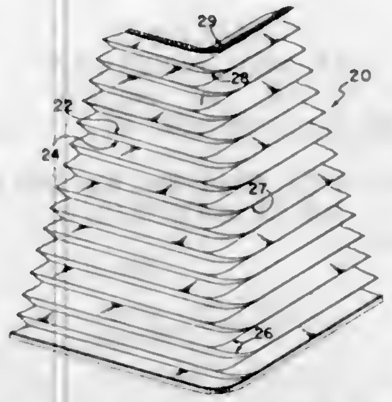
Helmut Kaüfer, Metzkausen uber Mettmann, Erich Burger, Unterhaching, Munich, and Hans-Peter Huber, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Nov. 17, 1965, Ser. No. 508,244
Claims priority, application Germany, Nov. 20, 1964, A 47,648
Int. Cl. G03b *37/00;* **G02b** *27/00, 3/00*
U.S. Cl. 95—15 **31 Claims**



An optical system which has first and second lenticular plates consisting of first and second lenticular lens elements, pairs of which are aligned along axes intersecting in a projection center, and form of each object point coinciding image points in an image plane spaced from the projection center the total focal distance of the optical system.

3,447,439
CONFIGURATION ON MOLDED BELLOWS

Christopher R. Rice, Wakefield, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 23, 1966, Ser. No. 574,461
Int. Cl. G03b *17/04*
U.S. Cl. 95—39 **9 Claims**

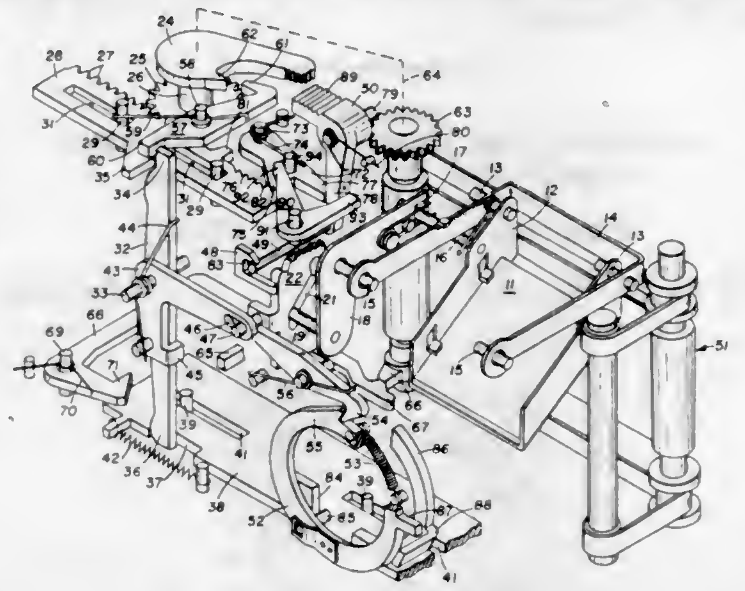


A bellows for a camera is formed of a sheet of flexible material, the walls of the bellows being folded alternately toward and away from the major axis, an outside fold being in alignment with inside folds on adjacent walls. A plurality of edge folds are provided at the corners, and the corners at the junction points of the edge folds and the outside folds are rounded to reduce stress when the bellows is flexed.

3,447,440
FILM ADVANCEMENT CONTROL MEANS

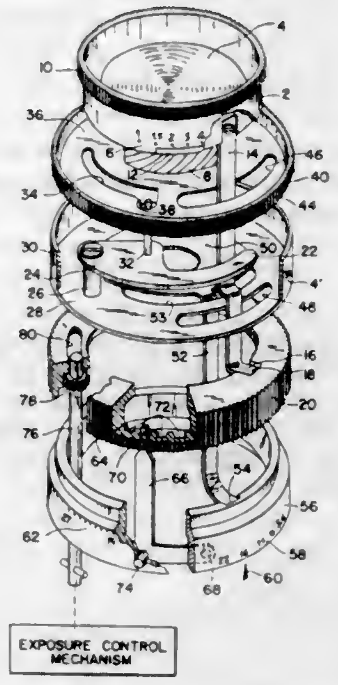
Helmut Ettischer, Ruit, Kreis Esslingen, Germany, assignor to Eastman Kodak Company, Rochester, N.Y.
Filed May 25, 1967, Ser. No. 641,189
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 **7 Claims**

A film advancement control mechanism, particularly suitable for single lens reflex cameras, including an automatic control system for coordinating the operation of a film advancing device with the performance of the camera mechanisms associated with film exposure, and also including manually operable means for selectively disabling the automatic control system.



3,447,441
OBJECTIVE FOR A PHOTOGRAPHIC CAMERA

Wolfgang Ort, Stuttgart-Bad Cannstatt, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 28, 1967, Ser. No. 626,512
Claims priority, application Germany, Apr. 6, 1966, K 58,940
Int. Cl. G03b *3/02*
U.S. Cl. 95—44 **6 Claims**

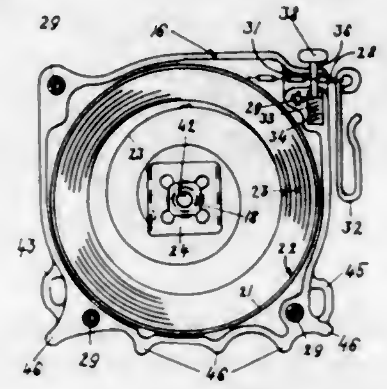


An objective for a photographic camera in which the focus setting member and diaphragm aperture and film speed setting member are interconnected when the exposure time setting member is set for flash exposure. When the film speed value is changed during a flash exposure time setting of the objective, the distance setting changes automatically but the diaphragm aperture remains the same. Thereafter the distance and diaphragm aperture bear a fixed relation to one another for any setting of the two. When the exposure time setting member is set for daylight exposures, the focus setting member and diaphragm aperture and film speed setting member are disconnected, and the film speed setting may be changed without affecting either the diaphragm aperture or the distance setting. Changing the film speed setting adjusts a light responsive exposure control mechanism so that it will thereafter in response to the light select the desired diaphragm aperture. The distance setting must be selected manually.

3,447,442

HANDLING OF CAMERAS OR THE LIKE

Arpad Miklos, 3088 E. 11 Mile Road,
Warren, Mich. 48091
Filed Sept. 6, 1966, Ser. No. 577,435
Int. Cl. G03b *17/56*
U.S. Cl. 95—86 14 Claims

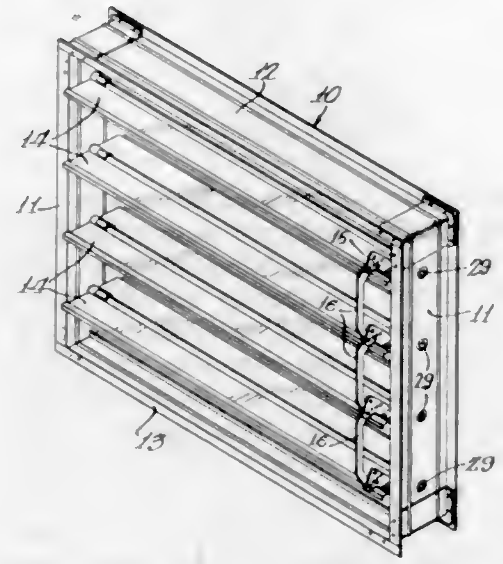


Improvements in the art of handling cameras or the like are disclosed. Said improvements comprise a flexible non-stretchable elongate member, storage means for storing said elongate member, mounting means for a camera or the like on said storage means for supporting said camera or the like in an operative position, said elongate member extractable and retractable in extended positions from its place of storage in said storage means, finger tip manually releasable locking means positively locking said elongate member fast against movement in respect to said storage means in any of said extended positions, and actuating means for moving said elongate member in respect to said storage means between any of its extended positions and its place of storage in said storage means, said storage means slidable bi-directionally lengthwise along said elongate member upon release of said locking means, said storage means including means about which said elongate member is wound in being retracted toward its place of storage in said storage means.

3,447,443

DAMPER ASSEMBLY

Harry J. Silvey, Hudson, Ill., assignor to Modine Manufacturing Company, a corporation of Wisconsin
Filed Oct. 16, 1967, Ser. No. 675,477
Int. Cl. F24f *13/06, 13/08*
U.S. Cl. 98—110 10 Claims

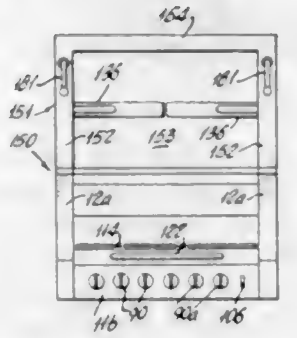


A damper assembly that comprises a plurality of dampers extending between a pair of opposite side frame members for controlling fluid flow between the frame members and including linkages and brackets interconnecting the dampers for movement either parallel to each other or in opposition but with all brackets that are mounted on the dampers being substantially identical in all cases, the assembly also including improved combined blade locking and bearing members for rotatably mounting each of the dampers and improved gasket sealing means for sealing the edges of the dampers when they are moved to closed position whether an adjacent pair of dampers moves in parallel to each other or in opposition.

3,447,444

ELECTRIC COOKING APPARATUS

Victor M. Berger, Bayside, and Sidney A. Scherer, Bronx, N.Y., assignors to Electro-Char Corporation, New York, N.Y., a corporation of New York
Original application Nov. 30, 1964, Ser. No. 414,747, now Patent No. 3,350,543, dated Oct. 31, 1967. Divided and this application Aug. 1, 1967, Ser. No. 664,588
Int. Cl. F24c *7/06*
U.S. Cl. 99—340 4 Claims

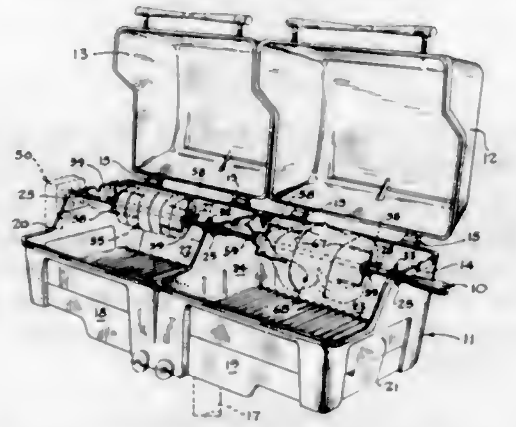


An electrified cooking apparatus which is open at the top and at the front with two electrified cooking grates which are mounted within the apparatus, with one located near the top and the other spaced below the one mounted near the top, with one of the electrified grates being movable toward or away from the other grate so that food placed on the lower grate can selectively be cooked by the upper and lower grates.

3,447,445

SPIT ROD ASSEMBLY

Walter Koziol, Russell, Ill., assignor to Charmglow Manufacturing Co., Antioch, Ill., a corporation of Illinois
Filed Dec. 21, 1966, Ser. No. 603,624
Int. Cl. A47j *37/04*
U.S. Cl. 99—421 6 Claims

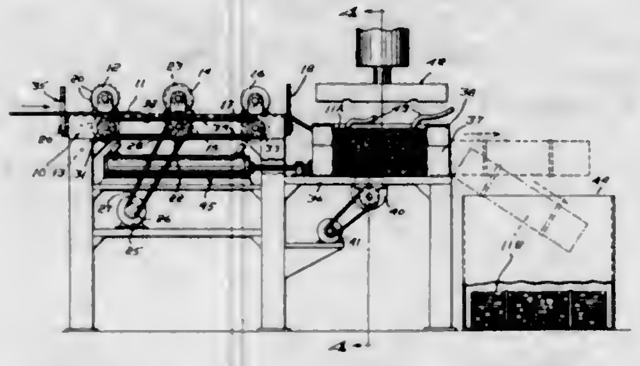


A spit rod assembly with a compartment in one end of one spit rod to receive a projecting member on another spit rod in nonrotatable engagement and the end of the one spit rod opposite the compartment adapted to be driven by a drive means. Bearing members are disposed on both the spit rods to permit rotation thereof on a barbecue unit and external threads are formed on both spit rods to alternately receive handles.

3,447,446

METHOD OF AND APPARATUS FOR USE IN PROCESSING USED CARTONS OF CORRUGATED PAPER STOCK

Grant G. Dwyer, 10 Emerson Place,
Boston, Mass. 02114
Filed Mar. 29, 1967, Ser. No. 626,818
Int. Cl. B65b *13/02, 13/18;* **B30b** *13/00*
U.S. Cl. 100—3 15 Claims

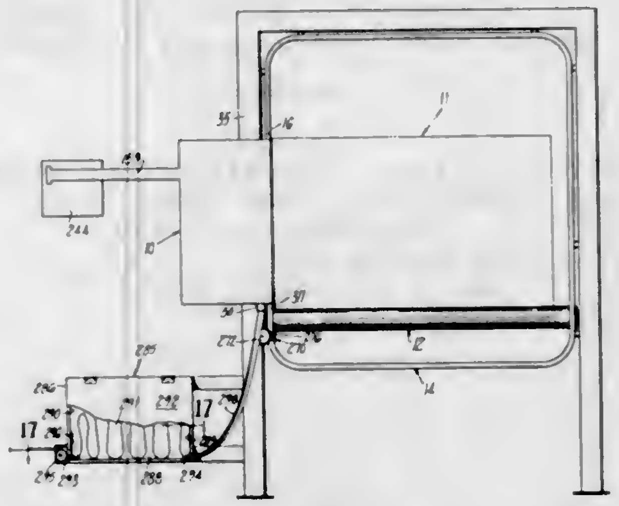


Method of processing used corrugated paper cartons with collapsed cartons cut into sections, baled in piles of dimensions convenient for rehandling and packaged in bulk for transportation, the apparatus comprising conveying means with slicers and cutters to cut the cartons into sections, a baling station, and a station where the bales are grouped for shipment.

3,447,447

STRAPPING MECHANISM

Edward C. Rutty, Portland, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 21, 1967, Ser. No. 617,589
Int. Cl. G05d *15/01;* **B65b** *57/10, 13/04*
U.S. Cl. 100—4 31 Claims

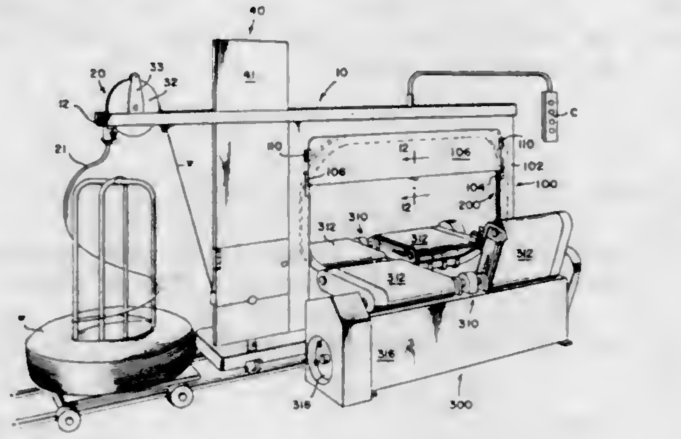


The technical disclosure of the present application is directed to a strapping mechanism installation for applying a tensioned loop of strapping to a package or other article supported on a roller conveyor and includes drawings and descriptions of the operation and construction of the mechanical parts of the mechanism and the circuitry and operation of the pneumatic and electrical systems of the mechanism.

3,447,448

WIRE TYING MACHINES

James A. Pasic, Aberdeen, Wash., assignor to Ovalstrapping, Inc., Hoquiam, Wash., a corporation of Washington
Filed Mar. 13, 1967, Ser. No. 622,802
Int. Cl. G05g *15/00;* **B65b** *13/04;* **B65h** *49/02*
U.S. Cl. 100—4 13 Claims

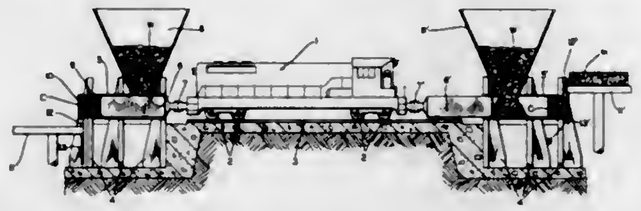


A wire typing machine of the type having an upstanding track through which wire is forced to form a wire loop is provided with an improved upstanding loop-forming track subassembly that functions with little wear resulting from high speed movement of tying wire through the machine, an improved conveyor assembly providing increased accessibility to the operating components of the track sub-assembly, and an improved wire pay-off sub-assembly for receiving tying wire from a wire coil and feeding it through the machine to the loop-forming track sub-assembly.

3,447,449

COMPACTING MACHINE

Marcus S. Kostolich, 3049 Bayer Circle NE.,
Massillon, Ohio 44646
Filed Dec. 7, 1967, Ser. No. 688,908
Int. Cl. B30b *9/04, 1/00, 15/14*
U.S. Cl. 100—95 9 Claims

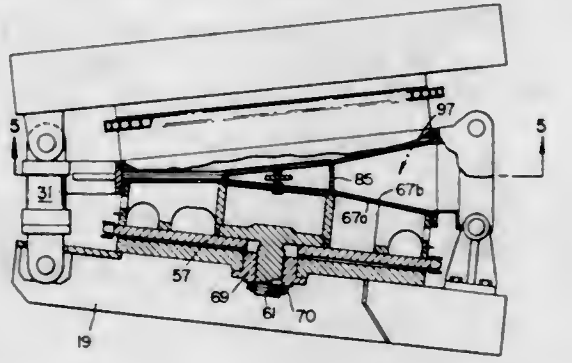


A machine for compacting solid waste, in which a locomotive may provide the work force. A ram coupled to the forward end of the locomotive reciprocates within a compaction chamber communicating with a feed hopper. The discharge end of the compaction chamber may be tapered and provided with a door. The compacted waste is extruded from the compaction chamber onto a lift table or the like.

3,447,450

CONTINUOUS PRESS

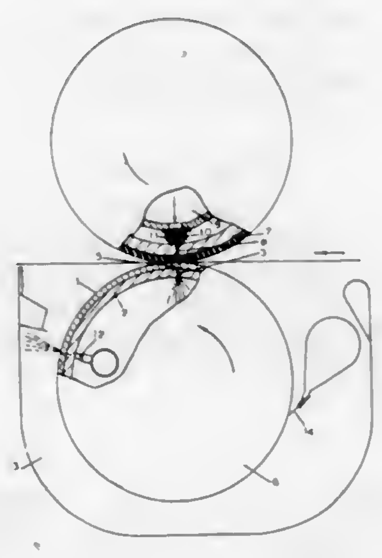
Donald M. Wilhelm, Novato, Calif., assignor to Rietz Manufacturing Co., Santa Rosa, Calif., a corporation of California
Filed Sept. 22, 1966, Ser. No. 581,205
Int. Cl. B30b *9/06, 3/04*
U.S. Cl. 100—116 6 Claims



A continuous filter having conical wheels carried by rigid side structures. The wheels are journalled to the side structures and also have thrust bearings. The side structures have their rear ends pivoted to the machine frame and their forward ends connected by means (e.g., hydraulic cylinder and piston) which yieldably urges them together. The drive means employs chains that engage sprockets on the wheels and which permit relative movements between the wheels.

3,447,451
PRESS CYLINDER FOR PAPER MACHINES AND PULP DRYING MACHINE

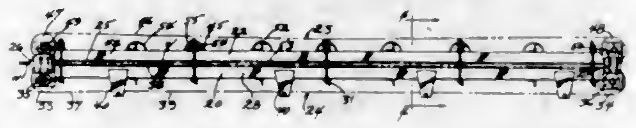
Olavi Herman Meskanen, Jyvaskyla, Finland, assignor to Valmet Oy, Helsinki, Finland, a firm of Finland
Filed June 1, 1966, Ser. No. 554,387
Claims priority, application Finland, June 1, 1965, 1,306
Int. Cl. B30b *9/20, 9/00*
U.S. Cl. 100—121 2 Claims



A press cylinder for paper machines and pulp drying machines has two hollow cylinders located one within the other and firmly engaging each other without play, the inner cylinder having a greater thickness than the outer cylinder, both cylinders having a large number of substantially uniformly distributed perforations, the outer cylinder having a larger number of perforation than the inner cylinder, the perforations of the outer cylinder being smaller than those of the inner cylinder, the perforations of the inner cylinder having enlarged outer portions, substantially all perforations of the outer cylinder registering with the perforations of the inner cylinder and at least two perforations of the outer cylinder partly coinciding with a perforation of the inner cylinder.

3,447,452
WAFER HOLD TIME EXTENSION CONVEYOR

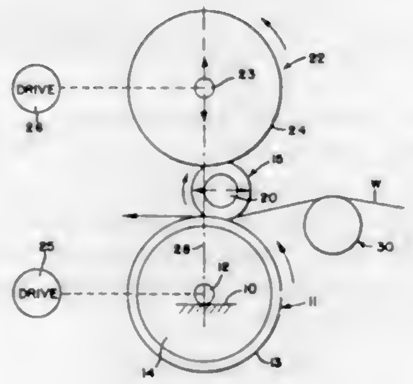
Aaron M. Schaible, Rockford, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,213
Int. Cl. B30b *5/04, 5/00;* **H30b** *1/00*
U.S. Cl. 100—151 3 Claims



A conveyor for use with a hay waferizing machine and having a pair of opposed conveying surfaces prescribing a wafer hold-time zone. The hold-time zone registers with the wafer discharge of the machine for receiving individual wafers discharged therefrom. Biasing means urges the opposing surfaces toward each other thereby imposing a compression force on wafers conducted through the hold-time zone.

3,447,453
PAPER MACHINERY

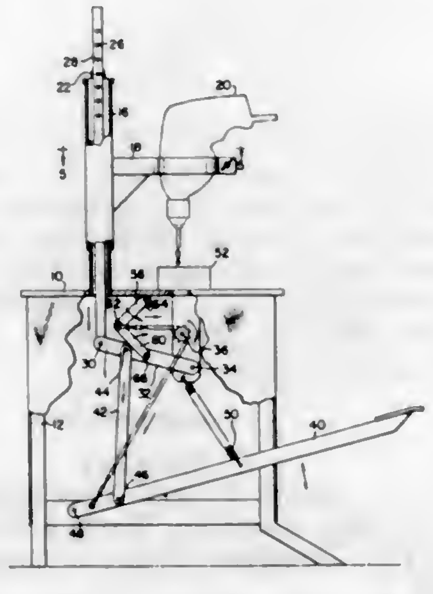
Walter E. Rojecki, Watertown, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed July 11, 1966, Ser. No. 564,246
Int. Cl. B30b *3/04*
U.S. Cl. 100—162 7 Claims



Extensible paper is produced on a press assembly including a driving press roll, an intermediate roll and a backup roll. The intermediate roll has a diameter substantially smaller than the diameter of the press and backup rolls, is offset in the relation to a plane defined by the axes of the press and backup rolls and has a resilient high friction outer surface which cooperates with the press roll for uniformly contracting a paper web directed between the press and intermediate rolls.

3,447,454
MACHINE TOOL OPERATING MECHANISM

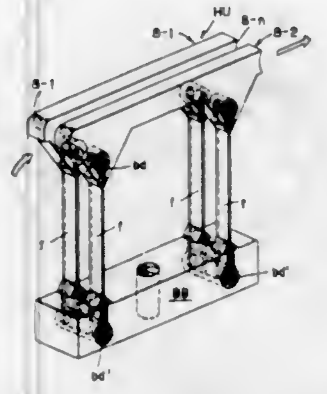
Michael Ratz, 2956 Tyson Ave., Philadelphia, Pa. 19149
Filed Aug. 24, 1967, Ser. No. 667,316
Int. Cl. B23b *45/14;* **B26d** *5/08*
U.S. Cl. 100—266 2 Claims



A compact mechanism for presenting a machine tool to a work piece with controlled pressure, with a linkage system for multiplying the pressure exerted by the operator.

3,447,455
PRINT-HAMMER MOUNT AND FABRICATION METHOD

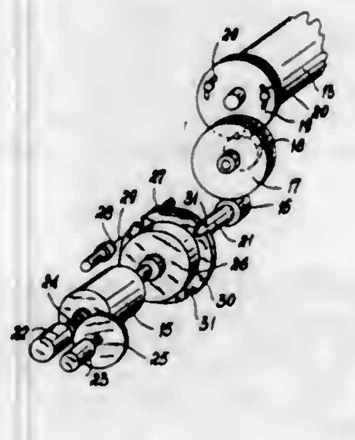
Harold M. Shneider, Weston, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 669,216
Int. Cl. B41j; B23p *19/00*
U.S. Cl. 101—93 6 Claims



A pivot flexure mounting arrangement for a reciprocating hammer, or a set of them, together with methods for fabricating them. An embodiment comprises a continuously-wound coil of parallel fibreglass filaments (as a strong, "high-modulus" material), the coil being potted in a compatible resin (the weak, more elastic "binder-material") thus forming a composite coil-mount for pivotably supporting a hammer (set) to be resiliently reciprocated relative the fixed base on which the coil mount is affixed. In a preferred embodiment an associated set of such mounts may be simultaneously formed as an integral multi-coil unit for supporting an aligned set of print-hammers for individual reciprocation. The set of hammers (impact elements) may likewise be so formed together, being sliced from a single composite fibreglass/resin structure. The hammers are preferably epoxy-bonded to the coil mount, the mount preferably being formed in an endless-web configuration.

3,447,456
MULTI-UNIT PRINTING MACHINE DRIVE CONTROL

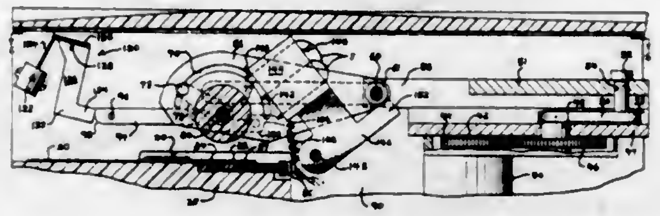
Pietro Giuluzza, Milan, Italy, assignor to O.M.C.S.A. Officine Meccaniche Cigardi S.p.A., Milan, Italy, a corporation of Italy
Filed June 22, 1966, Ser. No. 559,535
Claims priority, application Italy, June 24, 1965, 14,076/65
Int. Cl. B41f *5/16, 5/18, 13/24*
U.S. Cl. 101—183 3 Claims



The motor shaft of each unit of a multi-unit printing machine, is provided with a flywheel to reduce the acceleration occurring upon disturbance of the respective printing means. At the same time, the number of openings in the light barrier cooperating with photoelectric sensing means is increased as compared with the prior art. Since the acceleration of the light barrier is reduced by the flywheel, the number of openings in the light barrier must be selected high enough to produce a control signal indicating the disturbance a sufficiently short time after occurrence of the disturbance.

3,447,457
CARD READER IMPRINTER AND/OR READER MECHANISM

Woodrow Wilson Dechert, Jr., Lebanon, and Richard Le Roy Zimmerman, Reading, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 27, 1967, Ser. No. 618,787
Int. Cl. B41f *3/20, 3/04, 3/58*
U.S. Cl. 101—269 10 Claims

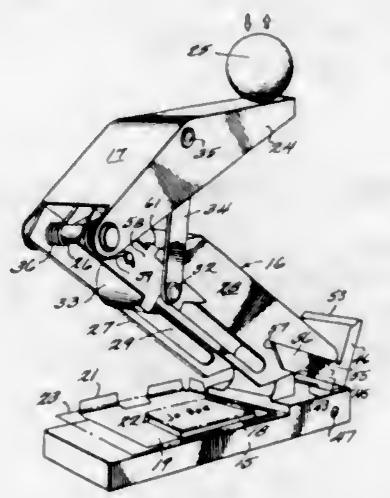


An apparatus is disclosed which may be used to effect a credit transaction by first "reading" holes in a personal credit card to determine if credit should be extended and then either preventing the transaction by preventing a printing of a retail slip or completing a transaction by causing a retail slip to be imprinted by engagement of a roller with the retail slip and an identifying embossment on the credit card. The apparatus includes a housing having a motorized drive operable to drive a roller and reader head into engagement with the credit card and retail slip in a controlled sequence. The roller is supported between rails projecting inwardly of the housing and driven in an out stroke by a linkage in a first path of movement which causes the reader to read the credit card. The drive linkage is pivotally mounted so as to be relatively free in a vertical sense to rest on the rails. A mechanical switch is provided at the end of the rails which is operable to receive and support the roller and prevent printing or to open and permit the roller to travel in a second path biased by the rails down into engagement with the retail slip and an embossment on the credit card. An adjustment feature to control roller pressure is provided by an eccentric incorporated into the roller shaft.

3,447,458
PRINTING MECHANISM WITH TRAVELING CYLINDER

Yow-Jiun Hu, Alexandria, Va., assignor to Farrington Business Machines Corporation, Springfield, Va., a corporation of Massachusetts
Filed May 25, 1966, Ser. No. 552,775
Int. Cl. B41f *3/20*
U.S. Cl. 101—269 12 Claims

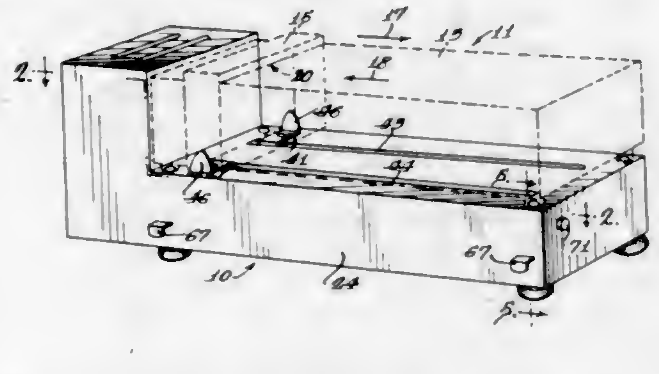
A printing device is disclosed wherein a base is provided for supporting a printing plate or the like. A printing head is pivotally mounted with respect to the base, the head being normally biased upwardly and away from the base. Actuator means are pivotally connected to the printing head. Slots are disposed in the side of the head and a roller platen is mounted within the slots for slideable movement therein. Downward pressure on the actuating means first causes the printing head to be moved into engagement with the base, the roller platen being held in position prior to the head being locked into position by retaining means pivotally connected to the head. After the printing head is locked into position, the retaining means disengage the roller platen and with further



downward pressure asserted on the actuating member, the roller platen is forced to move along the slots and over the printing area to effect an imprint.

3,447,459
IMPRINTER CARRIAGE

Robert J. Maziarka, Niles, Ill., assignor to Alphamatic Corporation, a corporation of Illinois
Filed June 30, 1966, Ser. No. 561,956
Int. Cl. B41f *3/20, 3/04*
U.S. Cl. 101—269 **6 Claims**



An automatic driver and base for an imprinter for credit cards or the like including a reciprocating drive member on a base, a self-locating member extending from the reciprocating drive member upwardly from the base with the base being designed and constructed so that the imprinter may be placed on the base with feet on the imprinter being inserted in the base at the same time the self-locating member is inserted within the slots in the platen of the imprinter.

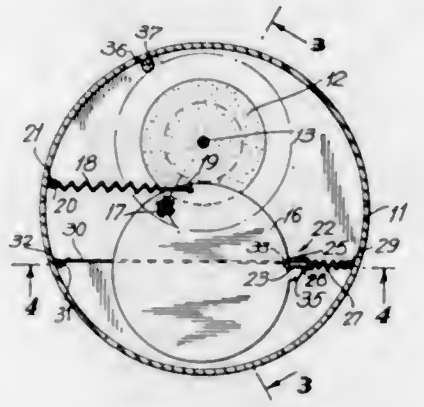
3,447,460
PROCESS FOR MAKING LAMINATED PRINTING PLATES

Gerald G. Vincent and Richard C. Lamos, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,556
Int. Cl. B41c *1/00;* **B41n** *1/22;* **B32b** *15/08*
U.S. Cl. 101—401.1 **1 Claim**

Laminated printing plates comprise a thin metallic printing shell and a metallic backing sheet directly adhered together by means of an interlayer of a self-adhesive thermoplastic copolymer of ethylene and an ethylenically unsaturated acid such as acrylic acid.

3,447,461
ANTIPERSONNEL DEVICE

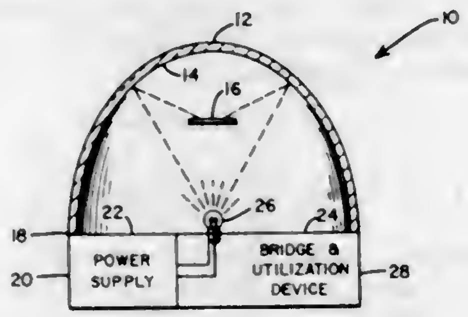
Ray Lapof, 37 W. 12th St., New York, N.Y. 10011
Filed Nov. 16, 1967, Ser. No. 683,617
Int. Cl. F42b *23/00*
U.S. Cl. 102—8 **9 Claims**



A compact, readily disseminated antipersonnel device including a high explosive charge and pressure sensitive trigger therefor, characterized by deactivating means, and particularly moisture deactivating means, for rendering the device harmless after the passage of a predetermined time period or range.

3,447,462
PHOTOELECTRIC ACTUATOR

Clifford A. Mies, 99 Bedford St. SE., Minneapolis, Minn. 55414
Filed Feb. 21, 1968, Ser. No. 707,213
Int. Cl. F42b *23/26*
U.S. Cl. 102—8 **4 Claims**

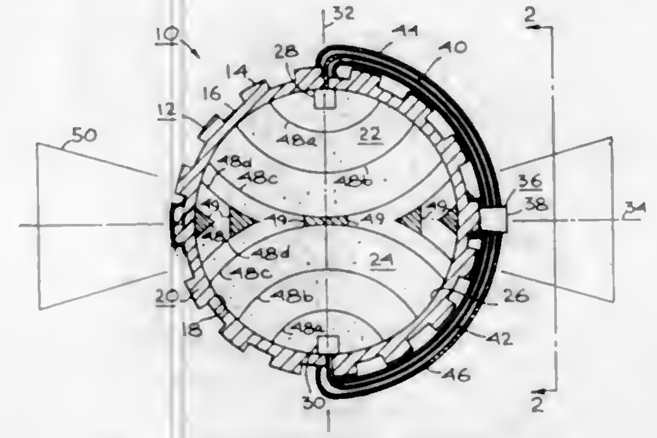


A photocell is located at the focus of a parabolic reflector which is formed from a frangible material. The open end of the reflector is mounted on a base containing a power supply, a bridge network and source of illumination. The bridge, which has the photocell in one arm thereof is normally balanced when the photocell is illuminated. When the reflector is crushed by the weight of a person treading on it, the bridge is not balanced and a signal is produced to operate a suitable utilization device.

3,447,463
DUAL IGNITION EXPLOSIVE ARRANGEMENT

Arthur Alfred Lavine, Los Angeles, Calif. (5322 Waupaca Road, Palos Verdes Peninsula, Calif. 90274)
Filed May 1, 1967, Ser. No. 635,248
Int. Cl. F42b *13/48*
U.S. Cl. 102—67 **8 Claims**

There is disclosed herein an explosive arrangement particularly suited to hand grenades, mortar shells, aerial bombs, artillary shells, armor piercing and anti-personnel weapons and the like in which the particle dispersion distribution is in a predetermined pattern comprising a small angular distribution dispersion pattern about a plane perpendicular to the line joining two detonation means coupled to a high explosive charge means. The two detonation means are detonated orientated simultaneously to generate two converging detonation fronts in the explosive charge means. When the detonation fronts meet, a Mach stem is generated. This Mach stem is generally formed in a plane midway between the two detonation means and perpendicular to the line joining the two detonation means.

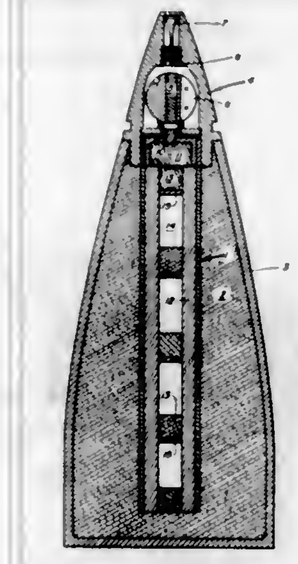


The converging detonation fronts rupture the case means that encloses the explosive charge means and breaks it into a plurality of fragments. The fragments are accelerated by the converging detonation fronts into the narrow dispersion pattern about the plane and the Mach stem accelerates the fragments that are in the region of the plane to a much higher velocity.

Attitude and trajectory control means may also be included to provide a substantially vertical descent towards the ground and maintain the equatorial plane in a substantially horizontal position.

3,447,464
EXPLOSIVE TIME DELAY

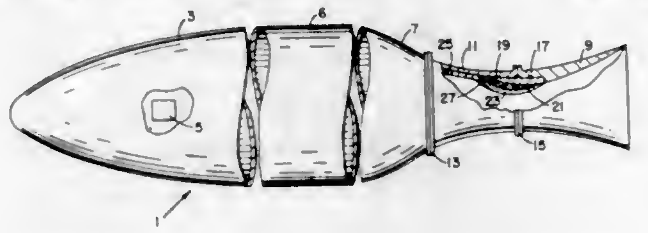
Vincent J. Menichelli and Dante Piacesi, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 28, 1967, Ser. No. 671,494
Int. Cl. F42c *9/02*
U.S. Cl. 102—70 **3 Claims**



An explosive time delay operating in the microsecond range for providing a predetermined time delay for use with missiles, such as projectiles, which will permit the missile to penetrate a target, such as an airplane, before the main explosive charge carried by the missile is detonated. The time delay is housed within the main explosive charge of the warhead and is initiated by a standard fuze. The time delay has a tubular barrel-like housing with an explosive train therein which is made up of a series of secondary high explosive pellets separated by air gaps. On the aft end of each secondary high explosive pellet is a metal disc. Upon initiation of the first explosive pellet, kinetic energy is imparted to the metal disc associated therewith. The metal disc is then accelerated across the air gap and impinges on the explosive pellet of the succeeding stage. Upon impact, the explosive in the second stage is detonated, accelerating the second disc. This process is repeated for as many stages as desired; each stage contributing a delay time. The delay time is obtained because the metal disc velocity is less than the detonation velocity of the secondary explosive.

3,447,465
MISSILE WITH VARIABLE AREA NOZZLE AND CONTROL MEANS THEREFOR

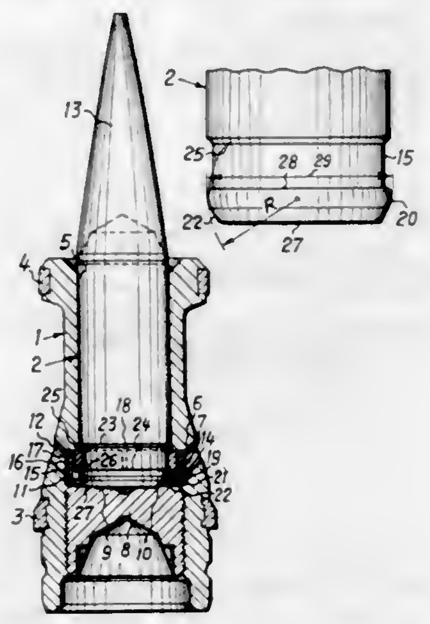
Richard W. White, Madison, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 6, 1964, Ser. No. 402,037
Int. Cl. F02k *1/18*
U.S. Cl. 102—49.5 **10 Claims**



1. A system for transporting a payload between a preselected position and a target comprising: a missile; a motor in said missile; a nozzle secured to said motor; said nozzle having a throat section that includes an inner carbon throat section and an outer carbon throat section with explosive means therebetween; and a control device in said missile and connected to said explosive means to cause explosion thereof and removal of said inner carbon throat section from said nozzle, to thereby provide the missile with a boost phase and sustainer phase of operation.

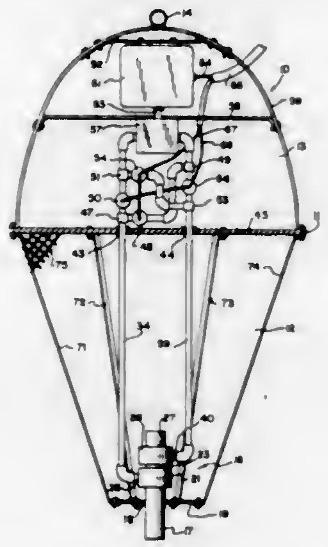
3,447,466
SABOT PROJECTILE WITH CORE GUIDING MEANS

Walter Engel, Dubendorf, Switzerland, assignor to Oerlikon-Buhrie Holding Ltd., Zurich, Switzerland
Filed Sept. 5, 1967, Ser. No. 665,324
Int. Cl. F42b *13/16*
U.S. Cl. 102—93 **2 Claims**



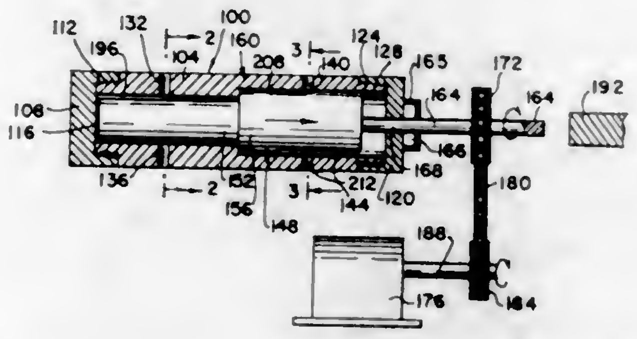
In a sabot projectile the sabot is provided with a drilling in which the subcalibre core is guided during emergence from the sabot. This subcalibre core has a tail portion which is seperated from the centre section of the core by an annular groove, the tail portion being located within a spherical zone the radius of which is equal to the radius of the sabót drilling. The tail portion has at least approximately the same diameter as the centre section of the subcalibre core, as a result of which canting and jamming of the subcalibre core on emerging from the sabot are obviated.

3,447,467
EJECTION PUMP
Jerry Heinige, 3311 S. Halsted St.,
Chicago, Ill. 60608
Filed May 5, 1967, Ser. No. 636,326
Int. Cl. F04b *23/04*
U.S. Cl. 103—5 **4 Claims**



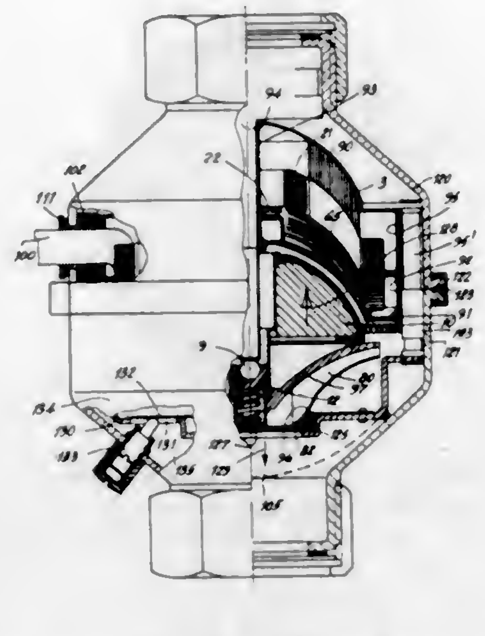
A pump comprising a generally tubular member having two sets of slanted openings therein, which openings are surrounded by hollow fittings connected to a common vacuum pump. The pump pulls a portion of the substance being pumped from the tube through one set of openings and forces the portion back into the tubular member at high velocity through the other set of openings. The openings are slanted in such a way that this action creates a flow of the substance through the tubular member.

3,447,468
METERING PUMP
Walter Earle Kinne, 4071 Jordan Road,
Skaneateles, N.Y. 13152
Filed Jan. 24, 1968, Ser. No. 700,078
Int. Cl. F04b *7/06, 19/22, 49/00*
U.S. Cl. 103—38 **7 Claims**



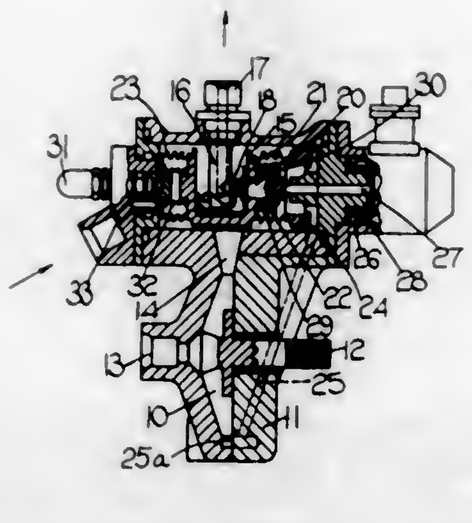
A metering pump for fluids is described which effects positive sealing of inlet and outlet ports. The piston is adapted to simultaneously reciprocate and rotate in the pump cylinder whereby a metered amount of the fluid is delivered at a controlled delivery date.

3,447,469
INDUCTION MOTOR HAVING SPHERICAL AIRGAP
Nikolaus Laing, 35–37 Hofener Weg,
7141 Aldingen, Germany
Continuation-in-part of application Ser. No. 509,714, Nov. 26, 1965. This application Oct. 17, 1967, Ser. No. 675,927
Int. Cl. F04d *13/06;* **H02k** *1/22*
U.S. Cl. 103—87 **24 Claims**



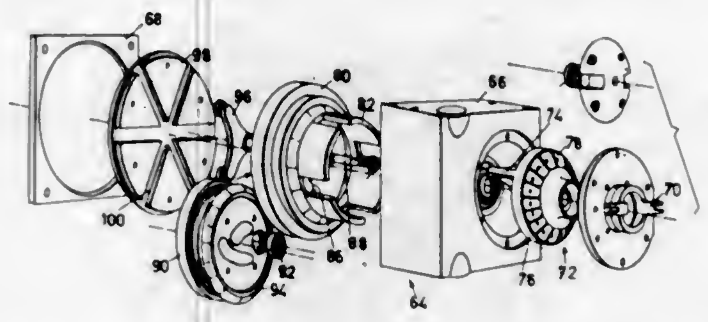
Induction motor having spherical airgap between the armature and stator whereby the armature may have a degree of universal movement with respect to the stator and whereby the stator comprises an endless metal strip formed into a geometrical spiral with one edge of the strip forming in part a spherical surface.

3,447,470
FLUID PUMPS
Harry Simister Bottoms and Geoffrey Arthur Lewis, Solihull, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a company of Great Britain
Filed Mar. 3, 1967, Ser. No. 620,410
Claims priority, application Great Britain, Mar. 4, 1966, 9,514/66
Int. Cl. F04d *15/02;* **F16k** *31/14*
U.S. Cl. 103—97 **2 Claims**



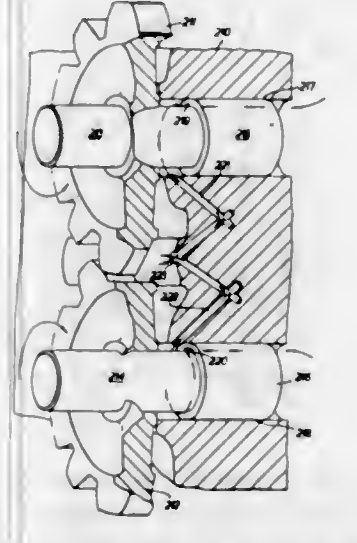
A pump has a pressure rise responsive bellows assembly to which pressures at upstream and downstream of the pump are applied, this assembly controlling escape of liquid through an outlet by means of a valve which in turn is responsive to the position of the bellows assembly.

3,447,471
ROTARY PISTON MACHINE
Ivan Jaroslav Cyphelly, Im Breiteli 1,
8117 Fallanden, Switzerland
Filed June 5, 1967, Ser. No. 643,678
Claims priority, application Switzerland, June 30, 1966, 9,531/66
Int. Cl. F04c *1/00;* **F01c** *1/00;* **F02b** *53/00*
U.S. Cl. 103—125 **7 Claims**



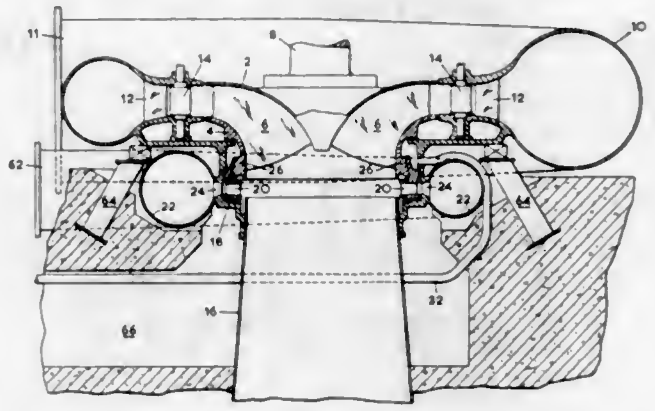
A rotary piston machine provided with a rotatable piston member and a rotatable cutoff member having their axes of rotation spaced in parallel relationship. The piston member contains a pair of piston elements and the cutoff member comprises a number of equiangularly spaced vanes with gaps between adjacent vanes. Both the piston member and the cutoff member are disposed within a casing having a closed working fluid flow passageway. The piston elements on the piston member rotate continuously within the passageway in the casing and the vanes intersects the flow passageways in two spaced locations combining with the piston elements to divide the flow passageway into expanding and contracting chambers. By means of various timing devices the rotation of the piston member and the vanes is coordinated so that elements on the piston member pass through the gaps between adjacent vanes at the locations of the intersection of the vanes with the flow passageway.

3,447,472
GEARING AND LUBRICATING MEANS THEREFOR
John E. Hodges, Purton, near Swindon, Philip G. Joyner, Brockworth, and Graham J. Toogood, Bishop's Cleeve, England, assignors to Dowty Hydraulic Units Limited, Cheltenham, England, a company of Great Britain
Filed June 12, 1967, Ser. No. 645,202
Claims priority, application Great Britain, June 20, 1966, 27,494/66
Int. Cl. F04c *1/04, 29/02*
U.S. Cl. 103—126 **10 Claims**



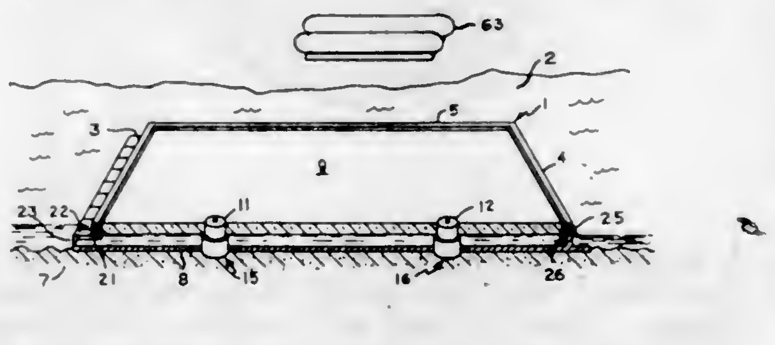
Gearing, for example the intermeshing gears of a gear pump, whose shafts are mounted in bushes there requiring lubrication, wherein grooving is formed in each bush bore. This grooving is in communication with a side face of its respective gear in a zone located at a position where, as the gear teeth thereof successively pass it, the spaces between the meshing teeth are momentarily increasing in volume, the consequent suction created by the increase in volume inducing liquid to flow through said grooving, thus to lubricate the shafts as they run in the bushes.

3,447,473
PUMPS AND REVERSIBLE PUMP TURBINES
Derek Hartland and Walter Frederic Hartles, Rugby, England, assginors to The English Electric Company Limited, Strand, London, England, a company of Great Britain
Filed June 19, 1967, Ser. No. 646,849
Claims priority, application Great Britain, June 17, 1966, 27,294/66
Int. Cl. F04d *13/04;* **F04b** *13/02*
U.S. Cl. 103—87 **11 Claims**



This invention is concerned with a starter motor arrangement for a pump or reversible pump turbine. A starter motor is needed in order to run the main machine up to synchronous speed in pumping direction at which it can be driven by an electric motor. According to this invention the starter motor is in the form of an hydraulic turbine having a runner surrounding the draft tube of the main machine and discharging into the draft tube. The runner is movable axially so that it can be disengaged from the runner of the main machine after the main machine has reached synchronous speed, so that the starter motor can remain stationary during normal operation and does not absorb power so as to reduce the efficiency of pumping.

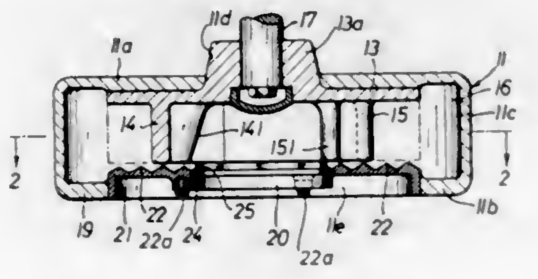
3,447,474
HYDRO-MECHANICAL POWER GENERATOR
Solon P. Lellos, Nashua, N.H., assignor to Stored Energy Systems Corporation, Nashua, N.H., a corporation of New Hampshire
Filed Dec. 12, 1967, Ser. No. 689,907
Int. Cl. F04b *17/00;* **F03b** *17/00*
U.S. Cl. 103—68 **10 Claims**



A hydro-mechanical power generator is provided for converting water flowing down a gentle incline into useful power and consists of a large shallow reservoir located alongside or in the flowing stream of water and containing one or more buoys which fill most of the area of the reservoir. Water from an upstream point along said stream is directed into the reservoir to fill it raising the buoys and, subsequently, the reservoir is emptied into the stream at a downstream point lowering the buoys and so the buoys rise and descend cyclically doing work while descending on, for example, pumps which compel fluid under pressure into pressure storage vessels. The generator can operate on as little as five foot head of water and so a reservoir measuring one thousand feet square located in a river flowing on less than a one percent incline will produce energy at the rate of about twenty-five thousand kilowatts.

3,447,475
CENTRIFUGAL PUMP

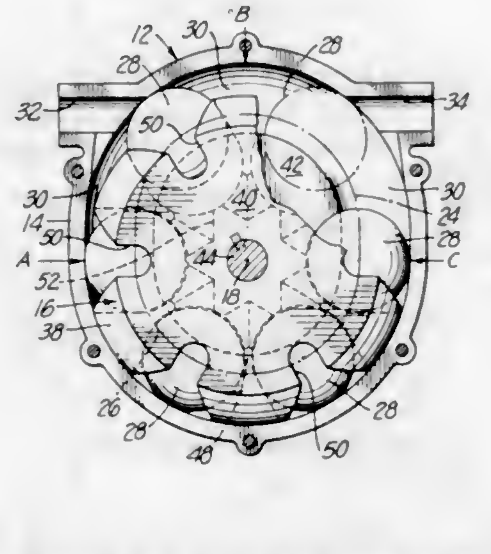
Albert Blum, Scheiderhohe, Siegkreis,
Bezirk Cologne, Germany
Filed Jan. 9, 1967, Ser. No. 607,927
Int. Cl. F04d *29/00, 1/04*
U.S. Cl. 103—111 **1 Claim**



This invention relates generally to centrifugal pumps, and is especially concerned with centrifugal pumps for pumping dirty liquids.

3,447,476
ROTARY FLUID DEVICE

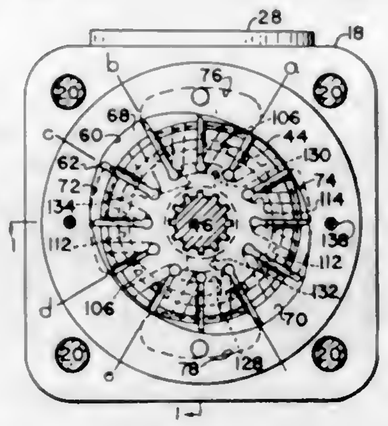
Edward L. Farris, Baldwin Park, Calif.
(12251 Bluebell Ave., Garden Grove, Calif. 92640)
Filed May 25, 1967, Ser. No. 641,246
Int. Cl. F04c *1/04, 21/08*
U.S. Cl. 103—136 **8 Claims**



A rotary fluid pump and fluid motor device of the radial vane type, wherein the vanes are furnished by spherical rollers or balls which undergo a rolling motion during relative rotation of the rotor and stator in such a way as to minimize the frictional forces active between the rotor and stator in operation.

3,447,477
POWER TRANSMISSION

Raymond B. Pettibone, Detroit, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,161
Int. Cl. F04c *1/16;* **F02b** *53/00*
U.S. Cl. 103—136 **11 Claims**

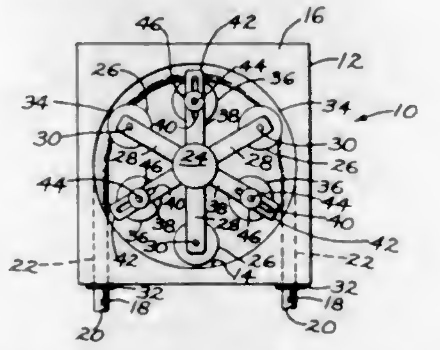


A fluid energy translating device of the sliding vane type having a stator with high pressure and low pressure passages and a vane track with a rotor rotatably mounted within the track and encased between two cheek plates; the rotor having a plurality of radial stepped slots with a vane and pivotal thrust member assembly slidably mounted therein and which form separate expansible pressure chambers in each slot which, when filled with a pressure fluid, will provide an outward force for maintaining the vanes in contact with the vane track.

A pressure porting arrangement in each cheek plate which permits high pressure fluid to enter, from both sides of the rotor, the expansible pressure chambers in those slots associated with the vanes which are traversing the low pressure passages of the device; the same expansible chambers exhausting fluid into a blind port in each cheek plate forcing fluid to flow into the running clearance between the rotor and cheek plate faces when the vanes are traversing the high pressure passages of the device for creating a pressure in the same chambers greater than that existent in the high pressure passages resulting in a favorable unbalanced outward force for maintaining the vanes in contact with the vane track and for minimizing rotor-cheek plate contact by equalizing the pressure in the running clearance between the rotor and cheek plate faces.

3,447,478
PERISTALTIC PUMP

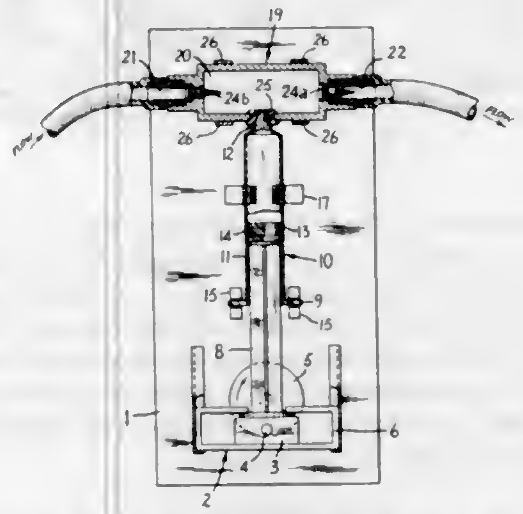
Anton Hubert Clemens, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
Filed Mar. 3, 1967, Ser. No. 620,448
Int. Cl. F04b *43/08*
U.S. Cl. 103—149 **7 Claims**



A peristaltic-type pump having non-adjustable primary pumping rollers and adjustable secondary pumping rollers whereby the pump can have adjustable pumping capacity. In one form of apparatus the pump base member against which the pump tube is pressed by the pumping rollers is in the form of an arm which can be moved away from the rollers to reduce the compression on the pump tube when the pump is not being operated. The pump base member can also have a rippled surface which reduces sliding wear on the pump tube.

3,447,479
SYRINGE PUMP

David Rosenberg, Glen Cove, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed June 2, 1967, Ser. No. 643,083
Int. Cl. A61m *1/00;* **F04b** *1/04, 21/02*
U.S. Cl. 103—153 **12 Claims**

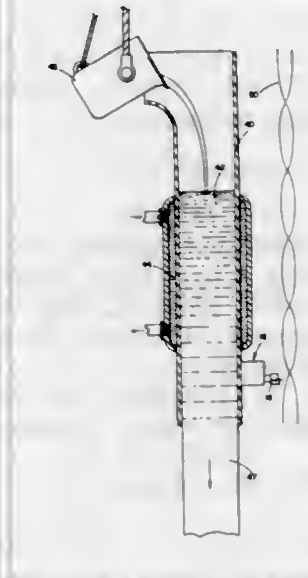


A syringe pump is provided in which the syringe is easily detachable from the assembly and replaceable with a syringe of the same or of a different size.

The syringe pump has a drive mechanism, a coupling means to hold the plunger of the syringe and the drive means in operative engagement, engaging the end of the plunger in an easily detachable manner, and adapted to accommodate syringe plungers of different sizes, and a mounting means holding the syringe body in a fixed position relative to the drive means, engaging the syringe body in an easily detachable manner, and adapted to accommodate syringe bodies of different sizes.

3,447,480
METHOD AND APPARATUS FOR GRAVITY FLOW CASTING UTILIZING SONIC ENERGIZATION

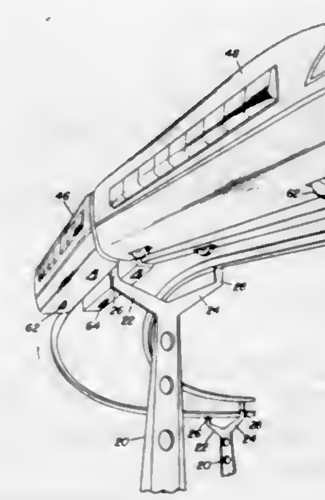
Albert G. Bodine, Jr., 7877 Woodley Ave.,
Van Nuys, Calif. 91406
Original application May 10, 1965, Ser. No. 454,335. Divided and this application July 24, 1967, Ser. No. 655,482
Int. Cl. B22d *27/08*
U.S. Cl. 164—49 **5 Claims**



Molten material to be cast is poured into a mold having opposite open ends and a cooling jacket therearound to cause such material to solidify as it passes through the mold. The mold is sonically energized by means of an orbiting-mass oscillator which is operated at a frequency such as to cause resonant elastic vibration of such mold. The orbiting-mass oscillator adjusts its frequency and phase to maintain optimum resonant vibration of the mold with changes in the impedance of the material being cast as it solidifies, such high-level sonic energization freeing the sides of the casting from the mold and in addition stress-relieving the cast material to give it improved structural characteristics.

3,447,481
LOCOMOTOR AND RAIL APPARATUS THEREFOR

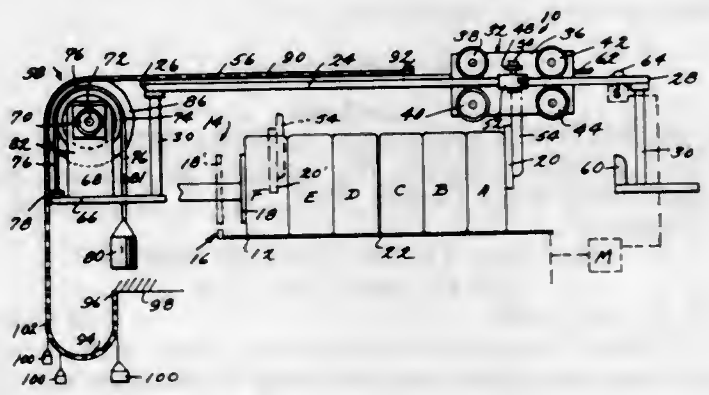
Harold F. Gorham, National City, Calif., assignor to Gorham Universal Manufacturing Company, Inc., National City, Calif., a corporation of California
Filed Mar. 14, 1966, Ser. No. 534,016
Int. Cl. B61b *13/04;* **E01b** *25/10*
U.S. Cl. 104—120 **6 Claims**



A locomotor and rail therefor in which the locomotor includes a car having an upper compartment and two depending compartments. The compartments are for passengers, freight and equipment for driving the locomotor. The side compartments are spaced from one another for receiving the rail which carries the locomotor. The center of gravity of the locomotor is above the rail.

3,447,482
PACKAGE STABILIZER

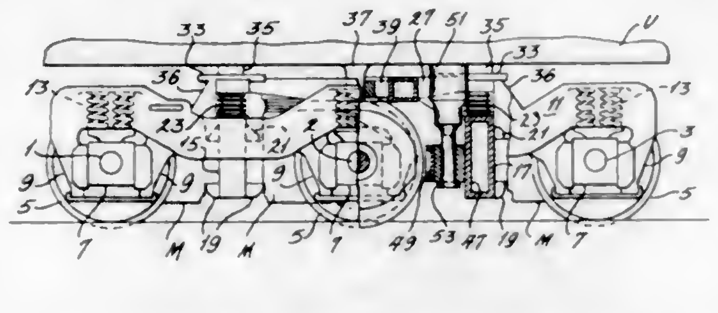
Benjamin B. Jones, Savannah, Ga., assignor to Savannah Sugar Refining Corporation, Savannah, Ga., a corporation of New York
Filed Mar. 21, 1967, Ser. No. 624,878
Int. Cl. B61b *9/00;* **B61j** *3/04;* **B61k** *1/00*
U.S. Cl. 104—172 **7 Claims**



A track mounted stabilizer plate counterweighted toward a package guiding datum position and adapted to intercept and be moved along the track by packages conveyed toward the plate, presenting an increasing resistance to further movement until a predetermined point has been reached, whereupon a signal is automatically given for lateral or vertical transfer of the packages out of the ambit of the stabilizer plate so that the plate can automatically return along the track to the datum position where it guides and orients subsequent packages. The motive devices for changing the motion of the packages may be such as a belt conveyor or fluid pressure actuated ram pusher. The package stabilizer is particularly suited for the right angle transfer of side-by-side serially accumulated single files of packages such as five pound bags of sugar into an accumulator for transfer into a shipping carton.

3,447,483
RESILIENTLY CENTERED RAILWAY LOCOMOTIVE TRUCK

Richard L. Lich, St. Louis County, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Aug. 10, 1967, Ser. No. 659,723
Int. Cl. B61f *5/06, 5/16*
U.S. Cl. 105—136 **13 Claims**

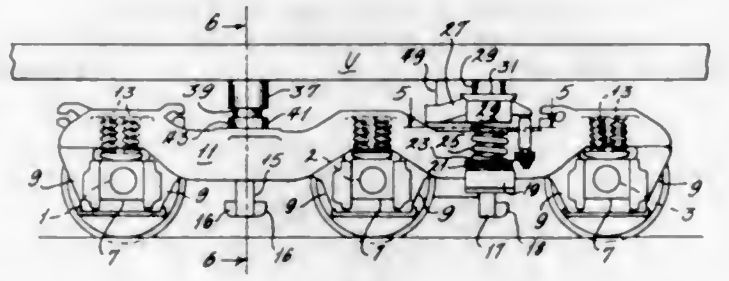


A railway truck having three axles, a rigid frame mounted thereon, rubber pads seated on said frame at opposite sides thereof and intermediate the middle axle and the end axles, a bolster seated on said pads for vertical movement and limited movement solely in a direction transverse of the frame, upwardly facing bearing surfaces on said bolster and spaced apart longitudinally and transversely thereof, said bearing surfaces adapted to slidably engage bearings rigidly depending from a supported underframe, said bolster having at its center an aperture elongated lengthwise of the truck to receive a cylindrical element depending from the underframe for pivotal movement and for sliding movement lengthwise of the truck, said bolster aperture being of sufficient height to clear a middle axle motor, said frame having an aperture at axle level elongated transversely of the truck and disposed between the middle axle and an end axle, said frame aperture being adapted to receive a second cylindrical element rigidly depending from the underframe for pivotal movement and for sliding movement transversely of the truck only whereby to transmit longitudinal forces from said truck frame to the underframe at a level substantially lower than the bolster at axle level and thus reduce load transference between the axles.

3,447,484
RESILIENTLY CENTERED LOCOMOTIVE TRUCK

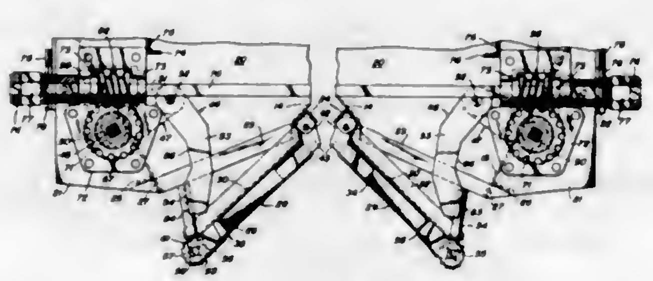
Robert E. Stein, Dorsey, Ill., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,445
Int. Cl. B61f *5/06, 5/18*
U.S. Cl. 105—136 **16 Claims**

A railway locomotive truck having three axles, a rigid frame carried thereby and including a transverse transom between the middle axle and one end axle, transversely spaced upwardly facing bearings on the frame between the middle axle and the other end axle, a transverse bolster resiliently supported on said frame above said transom for lateral and vertical movement thereon, a vertical cylindrical bearing at the center of said bolster, a block transversely slidably mounted in said transom at a level substantially lower than the bolster, said block containing another vertical cylindrical bearing in vertical alignment with said bolster bearing, a cylindrical element depending from the vehicle underframe and pivotally received in both said cylindrical bearings, said bolster having transversely speced upwardly-facing horizontal bearing surfaces, said underframe being supported by vertically sprung sliding shoes on said frame-mounted bearing surfaces and slidably supported on said bolster-mounted bearing surfaces. By means of the transversely sliding block, longitudinal traction forces are transmitted from the truck to the underframe at a much lower level than the bolster, thus reducing load transference which would occur if the longitudinal forces were transmitted from truck to underframe at bolster level.



3,447,485
HOPPER CAR DOOR ACTUATING MECHANISM

George B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Jan. 9, 1967, Ser. No. 608,146
Int. Cl. B61d *7/02*
U.S. Cl. 105—251 **4 Claims**

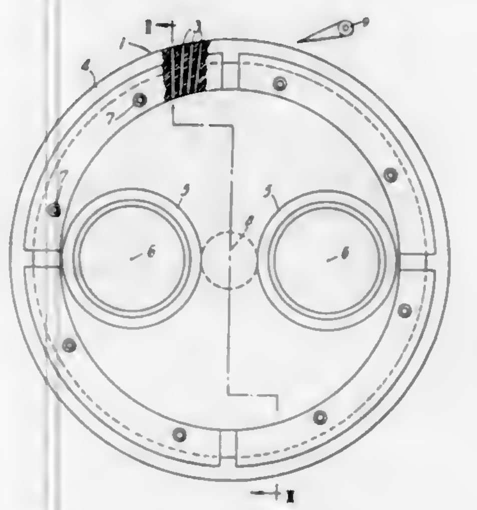


An ore carrying hopper car having longitudinally mounted hopper doors which swing transversely of the car to cause lading to be discharged outwardly of the sides of the car. The doors are operated from either side of the car by means of operating heads and transversely arranged worm and gear assemblies which are floatingly carried by the shafts they operate. Abutments are provided to prevent radial movement of the assemblies.

3,447,486
PELLET MACHINE DIE

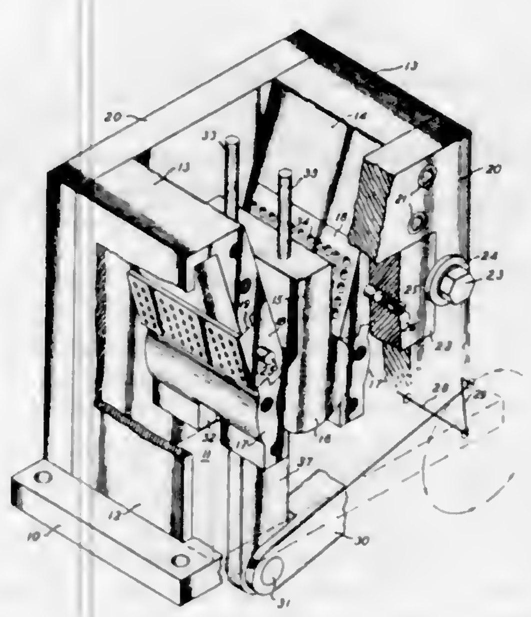
Maurice Wooding and Albert Erich Dreibholz, Jr., Crescent, Eaton, Norwich, Norfolk, England, assignors to Dreibholz & Company Limited, Dereham, Norfolk, England, a British company
Filed Dec. 7, 1966, Ser. No. 599,930
Claims priority, application Great Britain, Dec. 14, 1965, 53,028/65
Int. Cl. A21c *11/16*
U.S. Cl. 107—14 **3 Claims**

A die for use in a process of manufacturing pellets of material includes a cylindrical die ring formed from loaded polytetrafluoroethylene so that, as the material is being made into pellets in apertures in the die ring, the material is in contact with surfaces to the aperture which are essentially polytetrafluoroethylene surfaces and which have a very low co-efficient of friction. Consequently the pellets which are formed have a smooth and shiny surface which is known to be a desirable feature, and also the power necessary to drive the die is considerably reduced as compared with conventional dies.



3,447,487
OSCILLATING PELLET FORMING MACHINE

Harvey Smith Landers and Charles Richard Landers, both of 3601 N. Sylvania, Fort Worth, Tex. 76111
Filed Nov. 14, 1967, Ser. No. 682,783
Int. Cl. A21c *11/16;* **B30b** *7/04, 15/06*
U.S. Cl. 107—14 **2 Claims**

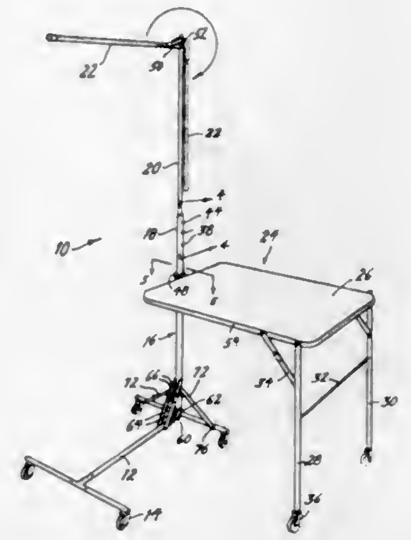


An oscillating pellet forming machine including a hopper, two angularly disposed flat extrusion dies therebeneath and a hinged compressor plate between the dies making substantially flat contact therewith.

3,447,488
COLLAPSIBLE CLOTHES SUPPORT AND TABLE

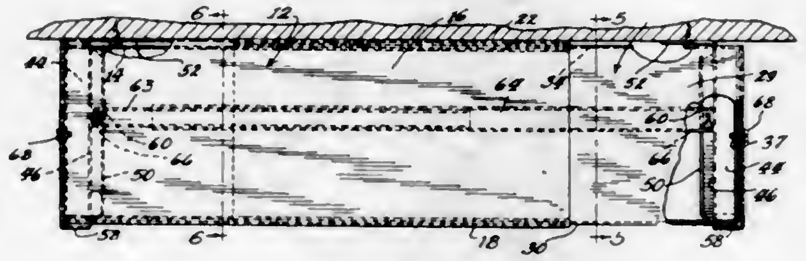
David Lehrman, Cheltenham, Pa., assignor to The Ironees Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 5, 1967, Ser. No. 651,177
Int. Cl. A47b *41/04, 35/00, 37/04*
U.S. Cl. 108—28 **8 Claims**

A collapsible apparatus providing both a clothes support and work table, including an upstanding member and a geenrally horizontally disposed arm for hanging garments, and a table member pivotable to selected horizontal positions about the upstanding member. The arm, table, and support for the upstanding member are all foldable to positions generally parallel to the upstanding member to provide a flat, easily stored collapsible unit.



3,447,489
SHELF AND/OR TRAY

Harry Kagan, 917 S. Western Ave., Chicago, Ill. 60612
Filed May 15, 1967, Ser. No. 638,384
Int. Cl. A47b *45/00*
U.S. Cl. 108—30 **5 Claims**

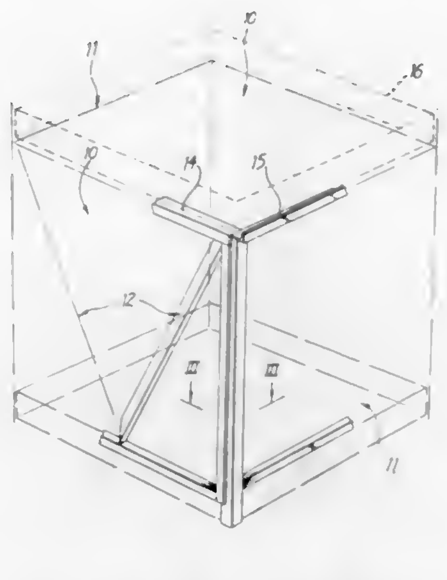


This invention relates to an improvement in a shelf and/or tray which is adjustable in its length. The invention comprises a pair of sections, one telescoping within the other, to permit the length of the shelf to be adjusted, with a supporting bracket on each end thereof for securement to a wall or supporting surface to support the shelf in any adjusted length. The two sections may be inverted so that a shelf tray is formed having the same adjustability aforementioned. The following structure may be included with the foregoing. A pair of tubular members each secured to one of the support brackets are adjustable with the adjustability of the shelf for supporting or hanging towels, clothes hangers, and the like.

3,447,490
FRAMES FOR STACKING PALLETS

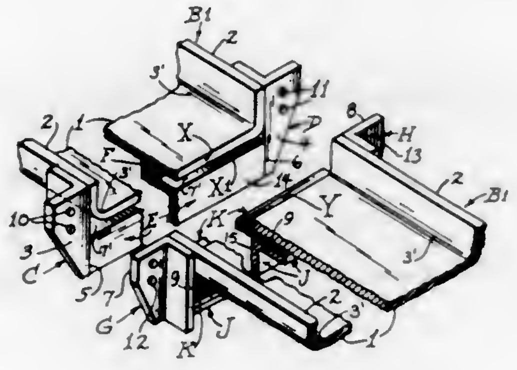
Harold W. Eagland, St. Annes, England, assignor to Palletower Limited, St. Annes, England
Filed Dec. 26, 1967, Ser. No. 693,466
Int. Cl. B65d *19/38*
U.S. Cl. 108—53 **3 Claims**

A frame for stacking pallets vertically, which is formed of 4 adjoining sections slidably interlocked at each corner. The frames are formed to rest on the peripheral upper surface of each pallet and include flange sections to restrain horizontal motion relative to the pallets.



3,447,491
SECTIONAL OVAL-SHAPED TABLE FOR ENDLESS CONVEYOR FOR DISHWASHER

Tore H. Noren, 1350 Donner Ave.,
San Francisco, Calif. 94124
Filed Apr. 19, 1967, Ser. No. 632,093
Int. Cl. A47b *33/00*
U.S. Cl. 108—64 7 Claims

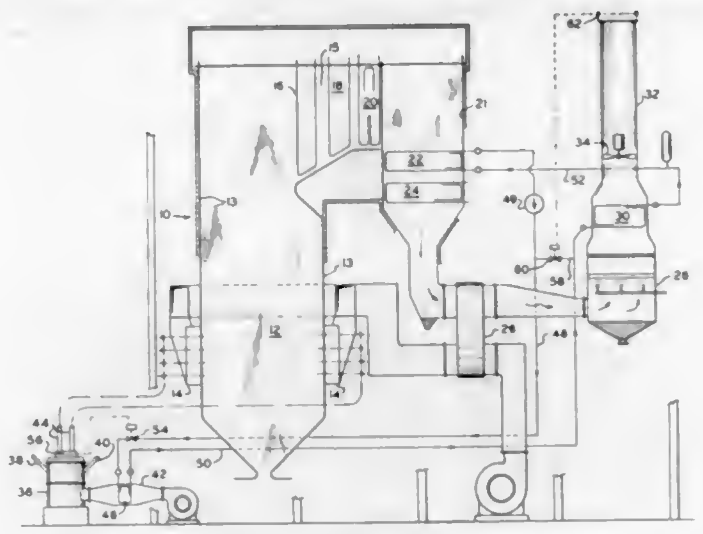


Some commercial dishwashers are used in conjunction with oval-shaped tables for guiding dishwashing trays into and out from the dishwasher. The oval-shaped table supports an endless conveyor composed of a plurality of dollies interconnected together and traveling over and guided by the table. The table is large and is formed in sections. The inventive feature is the forming of the table sections with interconnecting joints that can be made watertight without the necessity of welding.

3,447,492
HEAT EXCHANGE SYSTEM FOR HEATING MILL AIR AND FOR REHEATING STACK GAS SUBSEQUENT TO WET SCRUBBING

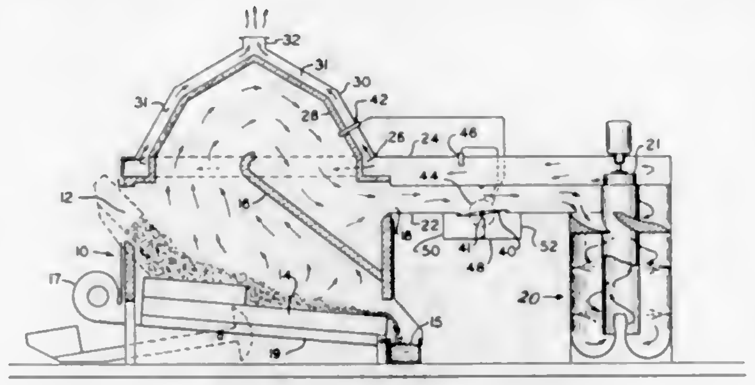
Herbert H. Kreimann, Rockville, and Earl K. Rickard, East Granby, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 27, 1967, Ser. No. 693,939
Int. Cl. F23c *11/00;* **F23l** *15/00, 17/16*
U.S. Cl. 110—1 7 Claims

The combination of a steam generator and a wet scrubber positioned downstream thereof. Heat is extracted from the rear pass of the steam generator and used for heating the air going to the fuel pulverizing mill and also to heat the cleaned, cooled, moisture-laden gases leaving the wet scrubber and being exhausted to the atmosphere.



3,447,493
INCINERATOR DRAFT CONTROL AND VENT VALVE

Herbert E. Taylor, Longmeadow, Mass., and David R. Pearl, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,209
Int. Cl. F23g *5/00;* **F23l** *11/00, 13/04*
U.S. Cl. 110—7 2 Claims

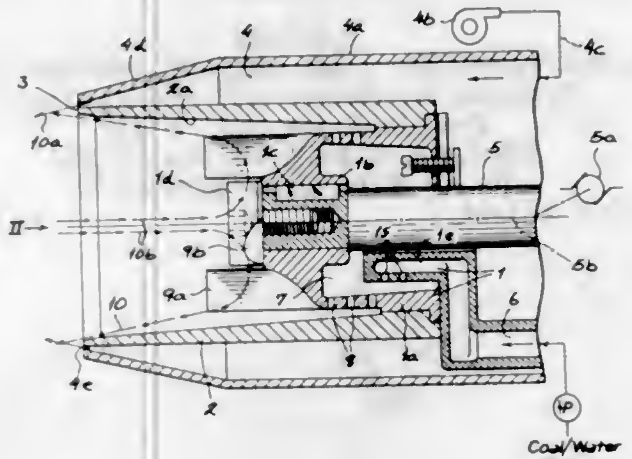


A combined incinerator and wet scrubber, wherein the hot, dust-laden gases exiting from the incinerator are scrubbed and cleaned, and then flow through the space enclosed by a double wall arrangement of the incinerator. A damper valve position in the duct intermediate the incinerator and the wet scrubber maintains the incinerator at a predetermined partial vacuum during normal operation, and closes the duct when a predetermined maximum temperature is sensed downstream of the web scrubber.

3,447,494
METHOD OF OPERATING A STEAM GENERATOR AND IMPROVED BURNER SYSTEM THEREFOR

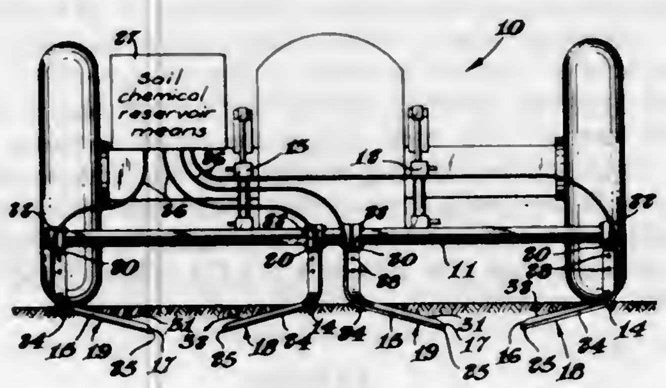
Ottmar Schwarz, Ratingen, and Heinrich Merten, Essen, Germany, assignors to Bergwerksverband GmbH, Essen-Kray, Germany, a corporation of Germany
Filed Oct. 4, 1966, Ser. No. 584,217
Claims priority, application Germany, Oct. 7, 1965, B 84,025; June 10, 1966, B 87,503
Int. Cl. F23b *1/02;* **F23c** *1/12;* **F23d** *17/00*
U.S. Cl. 110—7 13 Claims

A steam generator burner system and method of operating same in which a rotary atomizing cup receives a coal/water slurry containing 50 to 60% solids and disperses the fuel while combustion air is mixed with the dispersed fuel and, preferably pulverized coal is added to the combustion air.



3,447,495
APPARATUS FOR INJECTION OF SOIL CHEMICALS

Walter O. Miller, Leland, Miss., and John W. Weseloh, Jr., Richardson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,913
Int. Cl. A01c *23/02;* **A01b** *49/00, 39/18*
U.S. Cl. 111—7 7 Claims

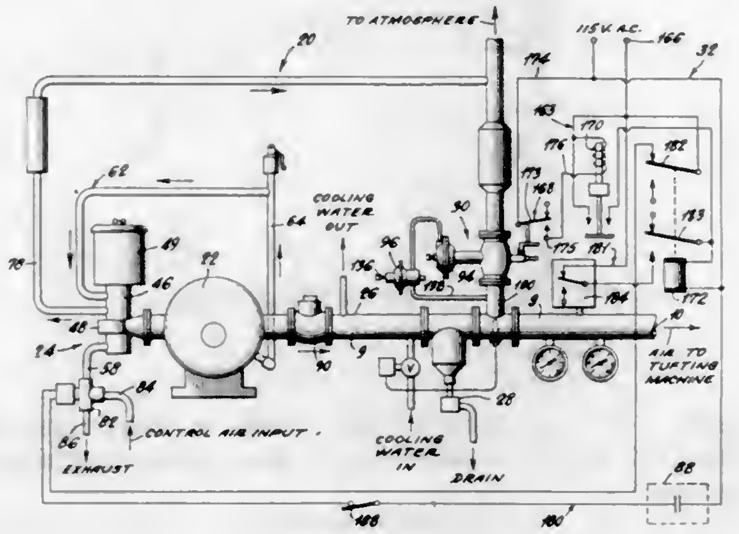


Apparatus for the injection of a soil chemical into tillable soil in which a generally L-shaped blade is mounted from a controllably raisable and lowerable tool bar so as to extend slightly downwardly and away from the direction of travel. The blade has metal tubing attached to the trailing edge and aligned therewith, and one or more openings in the tubing for the release of soil chemical supplied to the tubing by supply means. The generally L-shaped blade is formed of flat metal stock bent transversely to form the L. Generally the blades are employed in pairs.

3,447,496
METHOD AND APPARATUS FOR SUPPLYING FLUID PRESSURE

Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia
Filed Dec. 20, 1966, Ser. No. 603,301
Int. Cl. D05c *15/10*
U.S. Cl. 112—79 46 Claims

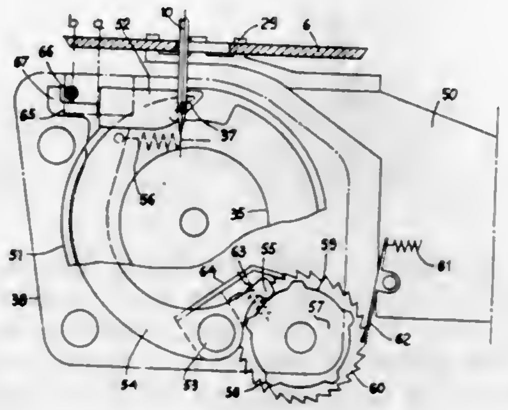
A method and apparatus for the supply of a fluid pressure medium through a fluid delivery line to a point of use including compressor means, venting valve means for venting said fluid delivery line, and unloading valve means for unloading said compressor means. In addition, control means are provided for actuating said venting valve means when an excessive pressure is attained in said fluid delivery line and subsequently, when a predetermined condition is attained, said condition including the continuation of said excessive pressure, actuating said unloading valve means to unload said compressor means.



In this manner a fluid pressure medium supply system is provided which is responsive to varying demands, at the point of use, in a most effective and efficient manner.

3,447,497
DEVICE FOR BASTING IN LOCK-STITCH SEWING MACHINES

Ingvar Rendahl, Huskvarna, Sweden, assignor to Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden
Filed May 26, 1966, Ser. No. 553,070
Int. Cl. D05b *3/02*
U.S. Cl. 112—158 4 Claims

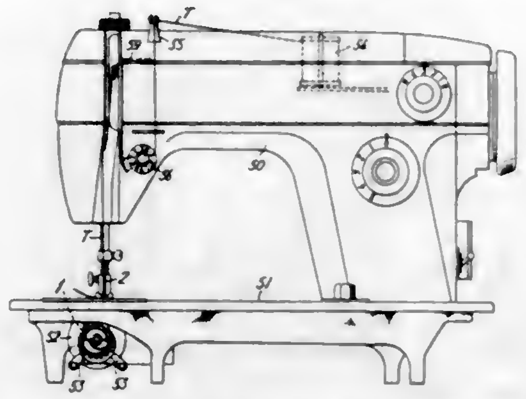


In a lock-stitch sewing machine having a longitudinally reciprocating sewing needle, a work-support and a loop-taker thereunder the provision of a separating member under the work-support between the needle and the loop-taker and an automatic system for moving the needle or the separating member mutually into and out of operative and inoperative position, respectively, in order to form a seam constituted of alternatively missed and formed stitches.

3,447,498
LOOP STITCH SHUTTLE FOR SEWING MACHINES

Yasukata Eguchi, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan
Filed June 8, 1967, Ser. No. 644,696
Claims priority, application Japan, June 9, 1966, 41/36,801; July 11, 1966, 41/44,791
Int. Cl. D05b *1/06, 1/10*
U.S. Cl. 112—197 13 Claims

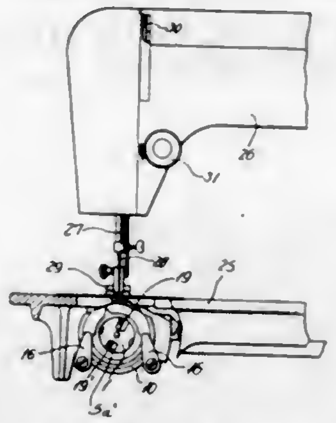
A loop stitch shuttle secured to a rotary hook shuttle has a pair of spiral shaped guide members with anchoring projections for anchoring a loop formed by the rotary hook shuttle and for holding the same in spread condition until the thread is caught again by the rotary hook



shuttle and a new loop is being formed at which time the anchored loop is released by the loop stitch shuttle and tightened.

3,447,499
ROTARY LOOP FORMING DEVICE FOR SEWING MACHINES

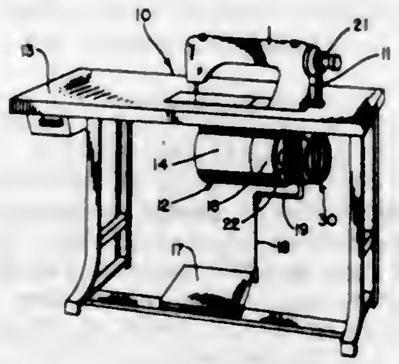
Yoshihiko Nakajima and Kazumasa Hara, Tokyo, Japan, assignors to Janome Sewing Machine Co. Ltd., Tokyo, Japan
Filed Mar. 22, 1966, Ser. No. 536,364
The portion of the term of the patent subsequent to Aug. 13, 1985, has been disclaimed
Int. Cl. D05b *57/14*
U.S. Cl. 112—228 **14 Claims**



A rotary looper or hook member is fully supported in a stationary race and driven by a drive shaft which is connected with the rotary hook member by coupling means which permit the passage of a newly formed thread loop between the drive shaft and the hook member.

3,447,500
SEWING MACHINE

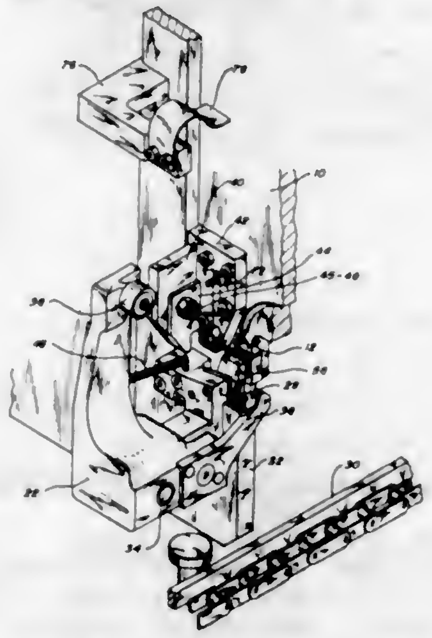
Malcom Spinrad, Reading, Pa., assignor to American Safety Table, a Teledyne company, a corporation of Pennsylvania
Filed June 22, 1967, Ser. No. 648,106
Int. Cl. D05b *83/00;* **D05g** *25/00;* **F04d** *29/70*
U.S. Cl. 112—261 **1 Claim**



Drive mechanisms of sewing machines are partially enclosed within a protective pulley guard in the form of a rigid wire basket that permits the passage of air and prevents the accumulation of lint and other pieces of cloth debris.

3,447,501
EAR-ENGAGING AND LIFTING MECHANISM

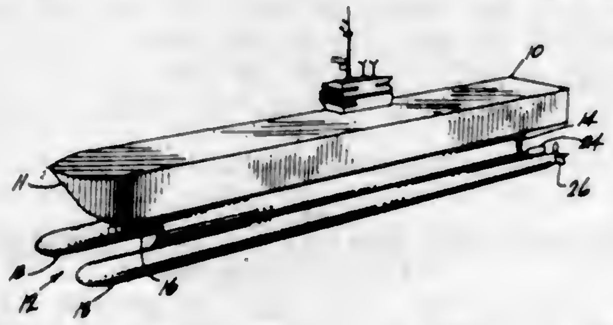
Raymond A. Heisler, 657 Dakota Trail, Franklin Lakes, N.J. 07417
Filed Nov. 8, 1967, Ser. No. 681,504
Int. Cl. B21d *43/00;* **B21f** *45/00*
U.S. Cl. 113—1 **12 Claims**



In an apparatus for forming and attaching wire bails to eared containers, an ear-engaging and can-lifting mechanism is adapted to engage and lift the ears of a container to a predetermined position. The engaged and lifted ears are held in engaged position during the actuation of the bail-applying apparatus during which a wire bail is formed and inserted into each ear of the eared container. The ear-engaging and lifting mechanism includes a pair of movable ear-lifting arms which are cycled by the movement of the bail-forming and applying apparatus generally disclosed in my U.S. Patent 3,241,578 issued on Mar. 22, 1966.

3,447,502
MARINE VESSEL

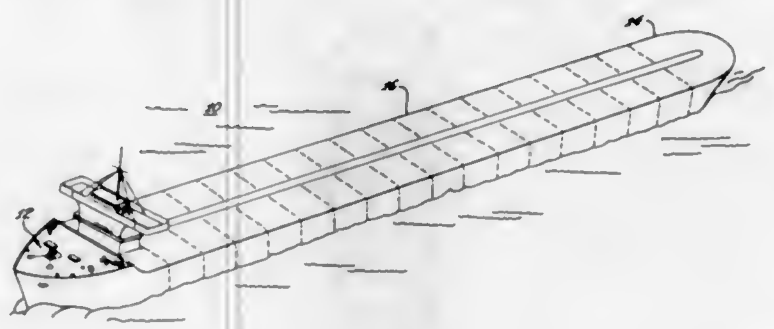
Reuven Leopold, Beverly Hills, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed July 14, 1967, Ser. No. 653,429
Int. Cl. B63b *1/40*
U.S. Cl. 114—61 **13 Claims**



A marine vessel which consists of three major portions: an underwater hull portion, an above water hull portion and a connecting hull portion. The underwater portion is a buoyant member which supports the above water portion in the form of a deck platform on a pair of streamlined connecting hulls, which render in part a fraction of the total buoyancy. This configuration greatly reduces the wave-making resistance of the ship because the member which renders the major portion of buoyancy is submerged and the waterplane area of the hull is reduced to a minimum.

3,447,503
METHOD AND APPARATUS FOR MODULAR CONSTRUCTION OF A SHIP

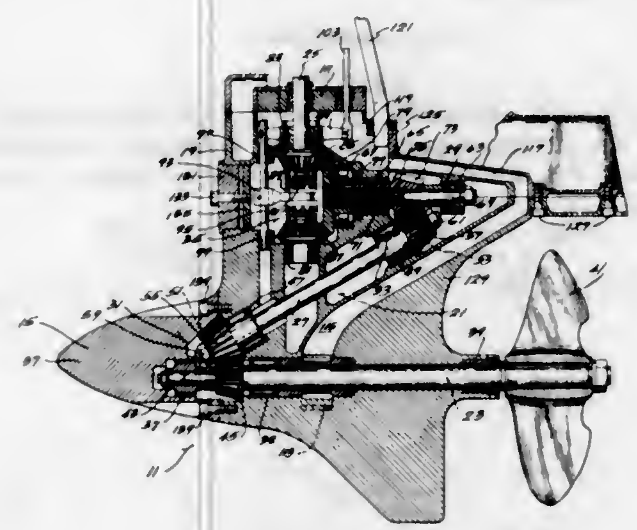
Richard A. Myers, Rolling Hills Estates, Calif., assignor to Litton Great Lakes Corporation, Beverly Hills, Calif., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,210
Int. Cl. B63b *3/02, 3/00*
U.S. Cl. 114—77 **17 Claims**



A method of assembling a ship is disclosed in which the ship is constructed in a plurality of longitudinal modules. The modules are sequentially constructed, with each module being constructed with its longitudinal axis being substantially vertical. After a module is so constructed, it is rotated 90 degrees, the previously constructed portion of the ship is aligned with the rotated module, and the module is attached to the previously constructed portion of the ship. This portion is then moved forward to provide space for the construction and attachment of the next module. The sequence is repeated until a ship having the desired length is constructed.

3,477,504
MARINE PROPULSION LOWER UNIT

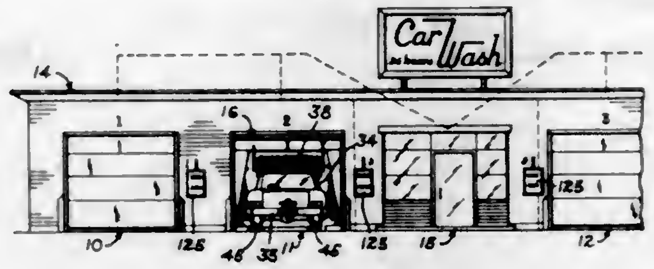
William J. Shimanckas, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 545,934
Int. Cl. B63h *23/04, 23/08, 21/26*
U.S. Cl. 115—34 **14 Claims**



Disclosed herein is a marine propulsion device comprising a lower unit including therein a rotatably mounted propeller shaft extending only at one end from said lower unit, and a second shaft rotatably mounted in said lower unit and extending in acute angular relation to said propeller shaft, a third shaft rotatably mounted in the lower unit, and bevel gearing connections between the propeller shaft and between the second and third shafts.

3,447,505
APPARATUS FOR WASHING AND WAXING CARS

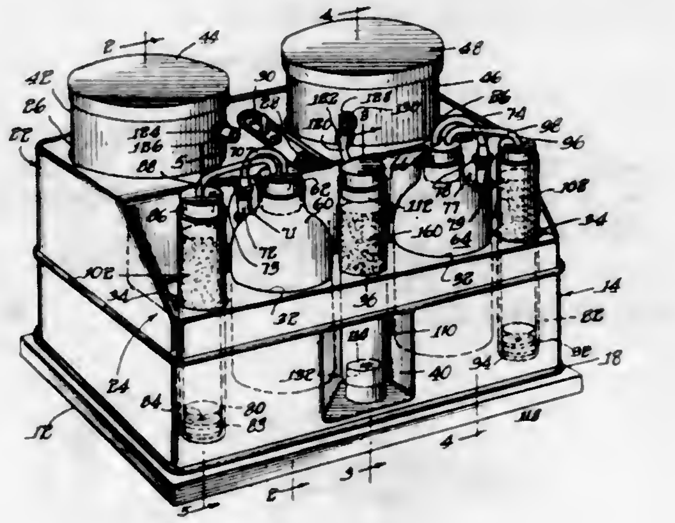
Harry R. Wagner, 3955 Klepinger Road, Dayton, Ohio 45416
Filed Feb. 18, 1966, Ser. No. 528,571
Int. Cl. B60s *3/06;* **B05c** *11/10;* **B60b** *7/36*
U.S. Cl. 118—7 **12 Claims**



An automatic car washing system wherein the side and top brushes move back and forth over a stationary car while a soap solution is sprayed thereon and subsequently rinsed therefrom. The soap supply system is completely automatic, and liquid wax can be sprayed on to the car subsequent to the soap operation. The soap and wax supply systems incorporate a pressure vessel divided into two chambers by a resilient diaphragm.

3,477,506
VAPOR-COATING APPARATUS

Donald A. Daus and Robert D. Misch, Chicago, Ill., assignors to MBT Corporation, Chicago, Ill., a corporation of Illinois
Filed July 19, 1965, Ser. No. 472,809
Int. Cl. C23c *13/00*
U.S. Cl. 118—49 **12 Claims**



Apparatus for vapor coating synthetic plastic articles such as dentures essentially comprising four containers which include an initial coating substance container for holding an agent which is vaporizable at ambient temperatures, an initial coating container connected to the first mentioned container for holding a synthetic plastic article to be exposed to the vapors of said agent, a final coating substance container for holding an agent which is vaporizable at ambient temperatures, a final coating container connected to the last-mentioned container for holding the synthetic plastic article during exposure thereof to the last-mentioned vaporizable agent, and vapor circulating means including a common conduit and common vapor-generating means for alternately causing vapors from the initial and final coating substance containers to pass into their respective associated containers.

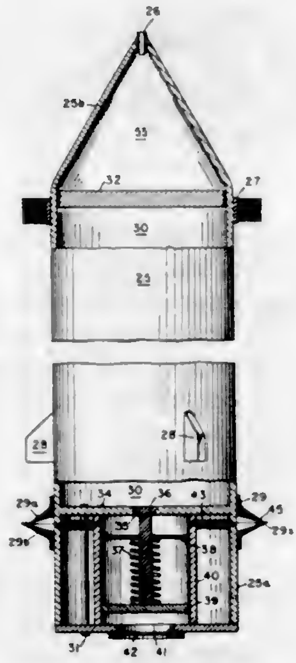
3,447,507
APPARATUS FOR LUBRICATING FLUID FLOW IN PIPELINES

Fred H. Poettmann, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Application Oct. 12, 1964, Ser. No. 405,885, now Patent No. 3,216,435, dated Nov. 9, 1965, which is a continuation-in-part of Ser. No. 253,576, Jan. 24, 1963. Divided and this application Mar. 19, 1965, Ser. No. 449,912

Int. Cl. B05c *11/02, 3/02*

U.S. Cl. 118—72 **3 Claims**



Pipeline pigs being propelled through a pipeline by the pressure of the liquid flowing within the pipeline can expel a relatively low viscosity liquid layer between a relatively high voscosity liquid flowing in the pipeline and the internal surface of the pipeline.

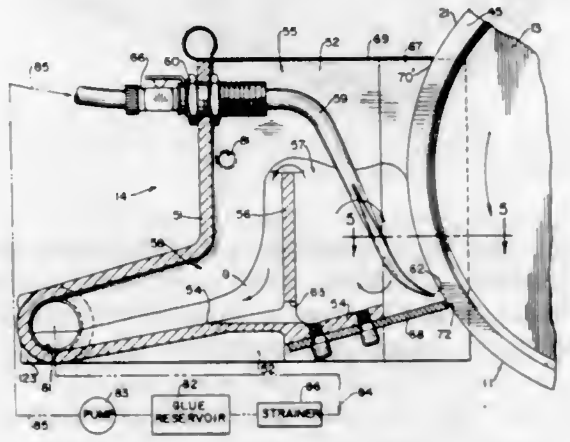
3,447,508
CARTON BLANK GLUING APPARATUS

Everett W. Clem, Shrewsbury, Mass. (% Specialty Equipment Corporation, 25 Brigham St., Westboro, Mass. 01581)

Filed July 13, 1967, Ser. No. 653,232

Int. Cl. B05c *1/00, 1/16, 1/02*

U.S. Cl. 118—221 **20 Claims**



A gluing apparatus for selectively applying glue to either or both sides of a carton blank is disclosed. The gluing apparatus includes a glue pot having dual chambers; one chamber functioning as a glue trough for dispensing glue to one or both processing wheels that form a nip through which the carton blank passes; the other chamber forming an overflow trough to remove excess glue from the applicator for recirculation.

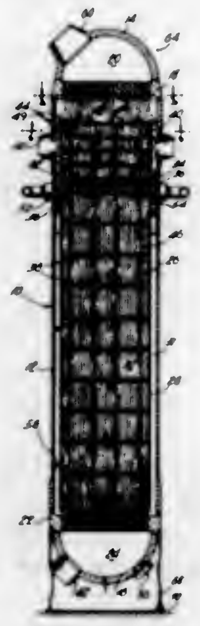
3,447,509
ONCE-THROUGH VAPOR GENERATOR

Theodore S. Sprague, Hudson, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Original application Jan. 18, 1965, Ser. No. 426,035, now Patent No. 3,385,268, dated May 28, 1968. Divided and this application Oct. 16, 1967, Ser. No. 675,538

Int. Cl. F22b *1/02, 9/02*

U.S. Cl. 122—32 **6 Claims**



A heat exchanger comprising an upright cylindrical pressure shell divided by upper and lower horizontal tube sheets into primary fluid inflow and outflow chambers and a vapor generating and superheating chamber therebetween, with the latter chamber being occupied by an upright cylindrical shroud. The shroud encloses a bundle of tubes extending between and connected to the tube sheets, cooperates with the shell to form an annular fluid passage, and has its upper and lower ends respectively terminating adjacent the upper and lower tube sheets. Provisions are made for supplying heating fluid to the primary fluid inflow compartment for flow through the tubes to the primary outflow compartment; while vaporizable fluid is directed through the annular passage, then through the shroud and over the tubes in indirect heat absorbing relation with the primary fluid for conversion to vapor, and then to a point of use.

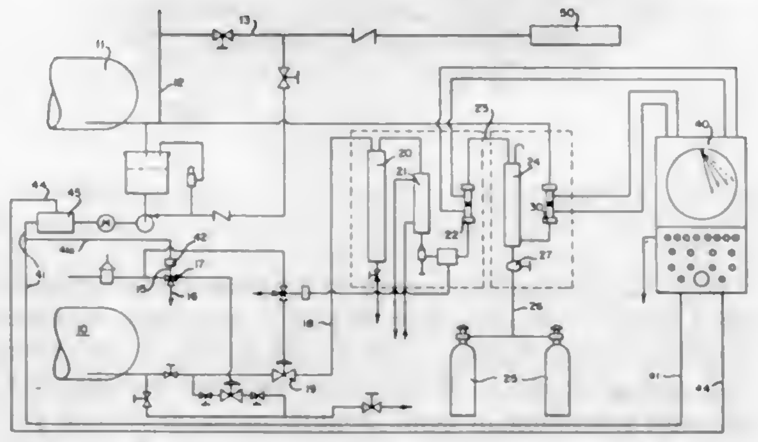
3,447,510
AUTOMATIC BOILER WATER CONDITIONING

Hubert M. Rivers, Upper St. Clair Township, Allegheny County, Pa., assignor to Calgon Corporation, a corporation of Pennsylvania

Filed May 31, 1967, Ser. No. 642,543

Int. Cl. F22b *37/48;* **F28g** *9/00*

U.S. Cl. 122—382 **5 Claims**



A method of controlling chemical feed and blow-down for a boiler by the steps of measuring each of the conductivity and the neutralized conductivity and controlling the blow-down by the measured conductivity and the chemical feed by the combined measured conductivity and the difference between measured and neutralized conductivity.

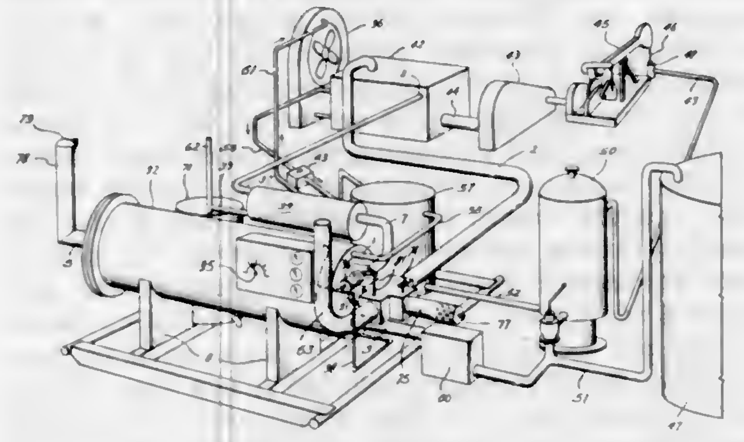
3,447,511
FUEL GENERATOR

Franklin Beard, Houston, Tex., and William G. Green, 4925 Camellia Way S., St. Petersburg, Fla. 33705

Filed Aug. 31, 1967, Ser. No. 664,723

Int. Cl. F02b *43/00;* **F02m** *21/00*

U.S. Cl. 123—3 **8 Claims**



A method of generating fuel from raw crude oils, and the like, and the apparatus to accomplish this method comprising a fuel generator for the supply of fuel to an engine as a source of power, wherein the fuel is extracted from a supply of petroleum, utilizing the heat generated by the engine as a medium of extraction, and a novel means for starting the fuel generation.

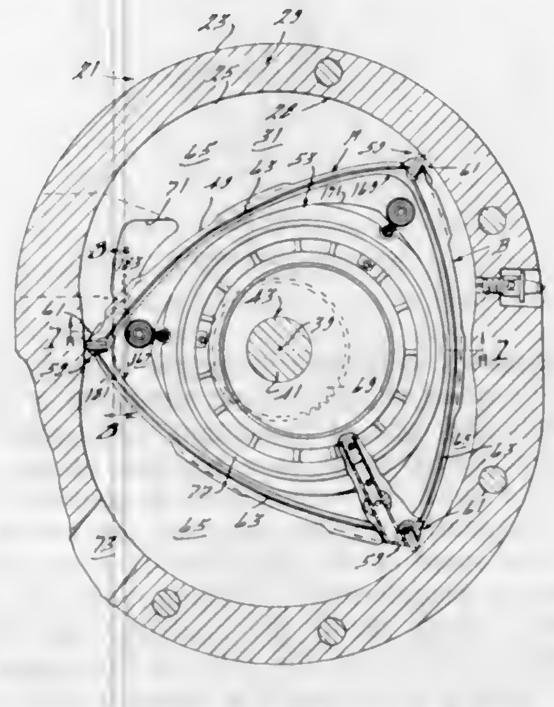
3,447,512
ROTARY MECHANISM

Otto J. Winkelmann, Birmingham, and Jorma O. Sarto, Orchard Lake, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Feb. 16, 1967, Ser. No. 616,590

Int. Cl. F01c *19/02;* **F02b** *53/00*

U.S. Cl. 123—8 **16 Claims**



Rotary combustion engine having dual seals on each apex of a rotor, the seals being vented through the rotor to the intake ports for returning a portion of the unburned fuel which is tending to be forced passed the seals to the intake ports, thereby reducing the emission of unburned fuel from the engine.

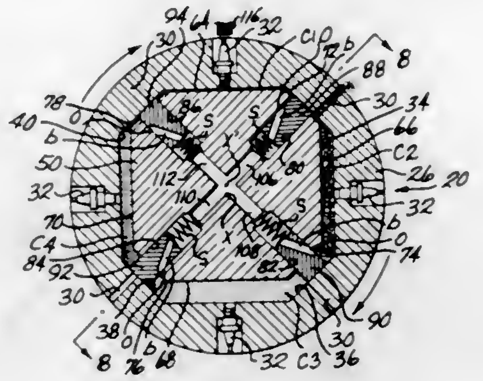
3,447,513
ROTARY INTERNAL COMBUSTION ENGINE

Franklin R. Schneider, 6546 15th Ave. NW.,
Seattle, Wash. 98107

Filed Apr. 14, 1967, Ser. No. 630,851

Int. Cl. F02b *57/02*

U.S. Cl. 123—16 **10 Claims**



A rotary two cycle internal combustion engine comprising plural variable volume combustion chambers defined by and between inner and outer rotors, and by reciprocating radial abutments, with said rotors each revolving about their true centers but about separate, offset axes. Carbureted fuel-air delivery means leading first axially into the inner rotor, then radially outwardly to abutment pockets, and then through diagonal bores in the abutments, with the abutments and contiguous side wall portions of the abutment pockets defining slide type inlet valves and with the abutments make sliding contact at their outer ends with flat surface portions of the rotor cavity, and serving as seals and slide valve closure means for generally radial outlets. Gear train means coupling the two rotors together for synchronous rotation in the same direction and at the same angular velocity.

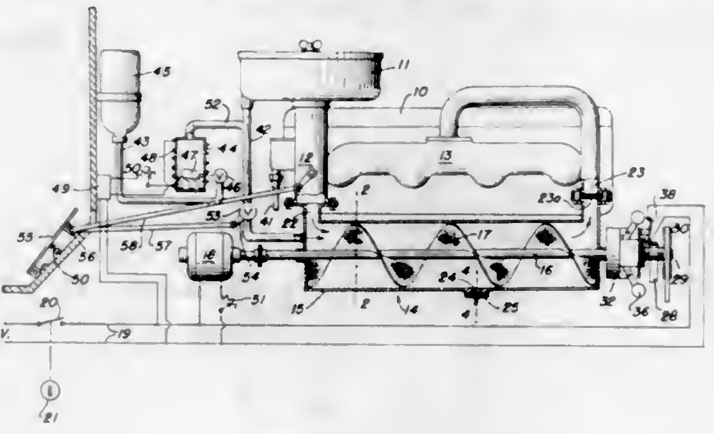
3,447,514
FUEL CONDITIONING SYSTEM FOR INTERNAL COMBUSTION ENGINES

James E. Trafford, 1272 Market St.,
San Francisco, Calif. 94102

Filed Jan. 30, 1967, Ser. No. 612,617

Int. Cl. F02b *47/02;* **F02m** *29/02*

U.S. Cl. 123—34 **7 Claims**



A fuel conditioning system including a vaporizer for receiving a fuel and air mixture from the carburetor and thoroughly diffusing such mixture for introduction into the intake manifold. The vaporizer includes a wire mesh auger normally coupled with an electric motor and means for automatically rendering said motor inoperative at a predetermined speed and operatively connecting the auger with the engine for rotating said auger at speeds corresponding to the speed of said engine.

3,447,515

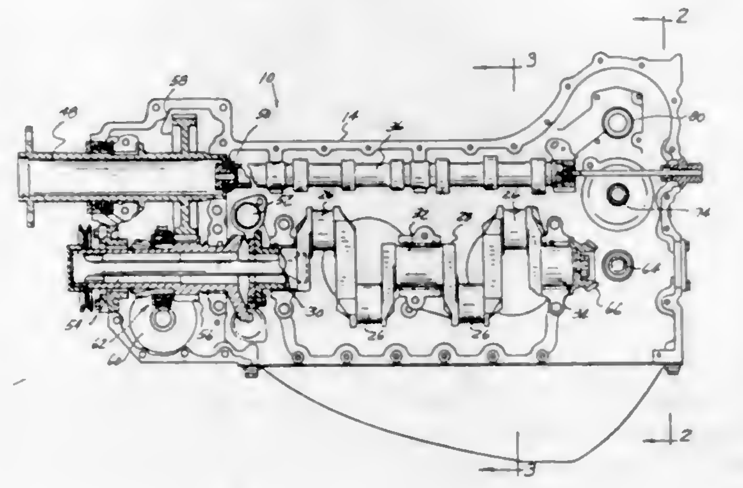
ENGINE GEARING ARRANGEMENT

William A. Wiseman, Muskegon, and John L. Walker, North Muskegon, Mich., assignors to Continental Motors Corporation, Detroit, Mich., a corporation of Virginia

Filed July 3, 1967, Ser. No. 651,351

Int. Cl. F01b *1/08, 23/00*

U.S. Cl. 123—90 **5 Claims**



A crankshaft gearing arrangement for an internal combustion engine having a first gear means coupling the forward end of the crankshaft to a coaxially mounted propeller shaft and camshaft and a second gear means drivingly coupling the rearward end of the crankshaft to a transversely mounted accessory driveshaft.

3,447,516

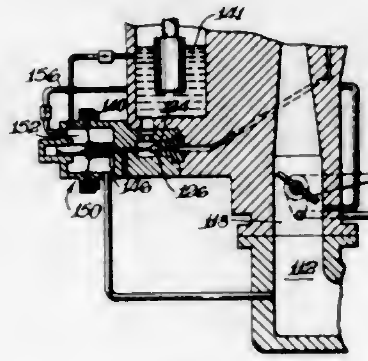
ENGINE IMPROVEMENTS

Earl Bartholomew, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

Continuation-in-part of applications Ser. No. 408,135, Nov. 2, 1964, now Patent No. 3,282,261, Nov. 1, 1966, and Ser. No. 443,956, Mar. 30, 1965, now Patent No. 3,310,045, Mar. 21, 1967, the first of which is a continuation-in-part of applications Ser. No. 301,249, Aug. 12, 1963, and Ser. No. 314,814, Oct. 12, 1963, now Patent No. 3,198,187 Aug. 3, 1965, and the second of which is a continuation-in-part of said application Ser. No. 314,814, and of application Ser. No. 445,856, Mar. 29, 1965, now Patent No. 3,250,264, May 10, 1966. This application July 21, 1966, Ser. No. 572,635

Int. Cl. F02m *3/04*

U.S. Cl. 123—97 **7 Claims**



Gasoline engine induction system for automobile and the like provides less emission of undesirable exhaust products by having fuel cut-off valve connected to cut off fuel flow from carburetor when vehicle is decelerating from speeds of at least about 30 m.p.h. and to restore fuel flow when speed reaches about 22 m.p.h. Cut-off can be controlled by centrifugally operated valve in series with valve responsive to increases in intake manifold vacuum, or by vacuum-responsive valve alone when it has sufficient hysteresis to cause cut-off at about 23 inches and not to restore fuel flow until vacuum drops to about 21.5 inches. Hysteresis can be provided by having cut-off control of snap type or by having auxiliary vacuum-operated valve energized by principal vacuum-operated valve and increasing the action of the vacuum. Cut-off valve operator can also act as pump to pump a little extra fuel to engine whenever the cut-off is terminated, in which case operator is arranged not to respond to intake manifold pressure changes smaller than mentioned above. Carburetor can have no idle jet so that engine idles on the main jet and fuel mixture is then more closely controlled over the entire range of operation. Mixture enrichment is preferably arranged for idle as against off-idle operation, as by having the closing of the throttle open an external vent in the carburetor bowl or having a supplemental fuel jet opening in throttle barrel alongside idle position of downstream tip of throttle blade. Better mixture control over operating range is also obtained by having automatic choke operated by mixture taken downstream from carburetor venturi, heated, and delivered to thermally responsive choke actuator. Above features can be incorporated in a single small primary carburetor that is combined with one or two large secondary carburetors used for high power operation. Supplemental heating can be provided for mixture delivered by primary carburetor.

3,447,517

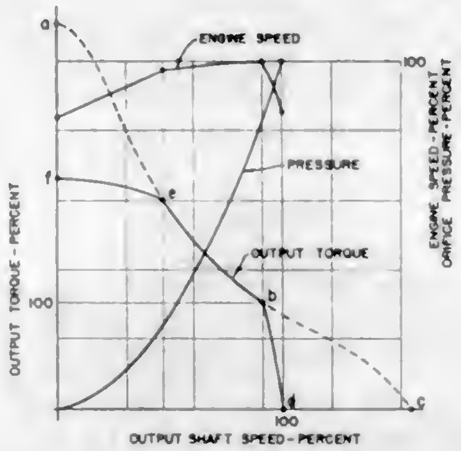
TORQUE CONTROL SYSTEM FOR PRIME MOVERS

Robert Cramer, Jr., Hales Corners, Wis., assignor to Murphy Diesel Company, Milwaukee, Wis., a corporation of Delaware

Filed May 8, 1967, Ser. No. 636,958

Int. Cl. F02d *31/00, 9/02*

U.S. Cl. 123—97 **8 Claims**



A prime mover, delivering its output through a torque converter or other slip type transmission to a variable load wherein the ratio of the output shaft speed to the prime mover speed varies as a function of the torque load imposed upon the output shaft, is provided with a controller responsive to the speed of the output shaft to reduce the speed of the prime mover at output shaft speeds above a predetermined working range and also at output shaft speeds below the predetermined working range, thereby controlling the ratio of the output shaft speed to the prime mover speed in ranges both above and below the desired working torque range for the output shaft.

The speed sensor provides a hydraulic pressure varying substantially as a factor of the output shaft speed and which is converted by cam or over-center lever-linkage means to actuate a control lever for the prime mover.

3,447,518

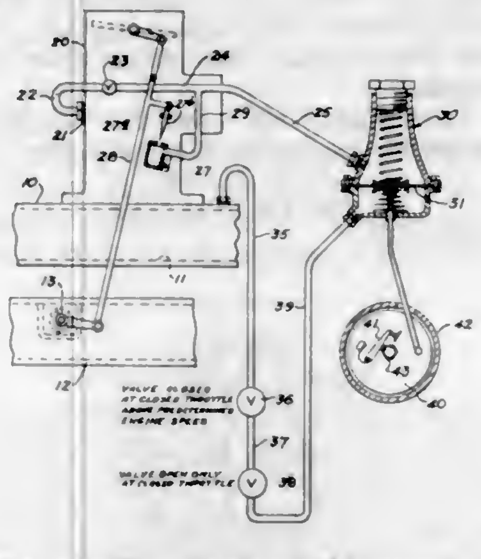
THERMAL SPARK RETARD

Brooks Walker, 1280 Columbus Ave., San Francisco, Calif. 94133

Continuation of application Ser. No. 503,035, Oct. 23, 1965. This application Oct. 5, 1967, Ser. No. 673,234

Int. Cl. F02p *5/10;* **F02m** *7/00*

U.S. Cl. 123—117 **6 Claims**


VALVE CLOSED AT CLOSED THROTTLE ABOVE PREDETERMINED ENGINE SPEED
VALVE OPEN ONLY AT CLOSED THROTTLE

A device for retarding the spark of internal combustion engines by a thermostatic operated valve to vary the vacuum operated advance until the engine is warmed.

3,447,519

LUBRICATING ARRANGEMENT FOR A TWO-STROKE-CYCLE INTERNAL COMBUSTION ENGINE

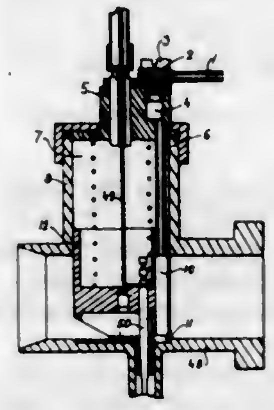
Milos Marcik, Rudolf Jokl, Jiri Kubinek, and Evzen Ritschl, Prague, Czechoslovakia, assignors to JAWA, narodni podnik, Tynec nad Sazavou, Czechoslovakia

Filed Dec. 1, 1967, Ser. No. 687,323

Claims priority, application Czechoslovakia, Dec. 3, 1966, 7,700/66

Int. Cl. F02m *25/00;* **F02b** *47/04*

U.S. Cl. 123—127 **8 Claims**



A carburetor for a two-stroke-cycle internal combustion engine is provided with a conduit leading to an opening in an edge portion of the throttle valve which laterally bounds the stream of combustion air through the carburetor housing. Lubricating oil is fed to the opening separately from the liquid fuel, and is dispersed in the passing stream. The arrangement is applicable to slide valves and to butterfly valves.

3,447,520

LIQUID FUEL PUMPING APPARATUS

Moshe Drori, East Twickenham, England, assignor to C.A.V. Limited, Warple Way, Acton, London, England

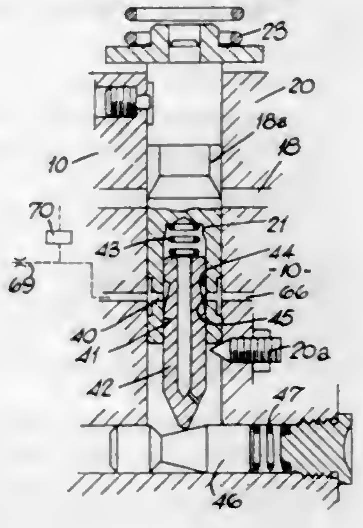
Filed June 2, 1967, Ser. No. 643,175

Claims priority, application Great Britain, June 6, 1966, 25,080/66

Int. Cl. F02m *59/08, 59/20;* **F04b** *1/20*

U.S. Cl. 123—139 **7 Claims**

A fuel injection apparatus has an axially adjustable throttle member for controlling the flow of fuel through a passage to an injection pump. A bore formed in the throttle member contains a relatively movable member. The throttle member defines passage means through which pressure from a constant pressure source can be applied to a fluid pressure operated device which determines the timing of injection of fuel to an engine. The relative position of the throttle member and the movable member determines the effective area of said passage means, thereby enabling the pressure which is applied to the fluid pressure operated device to be varied in accordance with the setting of the throttle member.



3,447,521

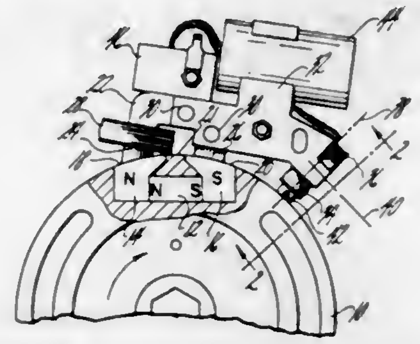
BREAKERLESS IGNITION SYSTEM WITH AUTOMATIC SPARK ADVANCE USING TRIGGERING COIL

Michael J. Piteo, Enfield, Conn., assignor to R. E. Phelon Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts

Filed June 22, 1967, Ser. No. 648,023

Int. Cl. F02p *1/08*

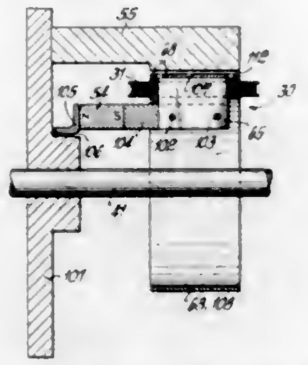
U.S. Cl. 123—148 **9 Claims**



An ignition system for use with an engine having a spark gap ignition device includes a first triggering coil having its axis arranged generally tangentially to the circular path of a magnet assembly fixed to a rotor rotated in synchronism with the operation of the engine. A ramp voltage is induced in the first coil and triggers an associated switching device to cause a spark when the induced voltage reaches a given triggering voltage, the steepness of the ramp being dependent on the rotor speed so that at different speeds the triggering voltage is reached at different rotor positions. A second triggering coil connected in parallel with the first coil and having its axis arranged generally radially of the circular magnet path produces a triggering voltage for causing a spark at a definite rotor position during low speed operation. The magnet assembly is also used in conjunction with another coil forming part of a condenser discharge system for generating the electrical power used to produce the spark.

3,447,522
IGNITION ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES

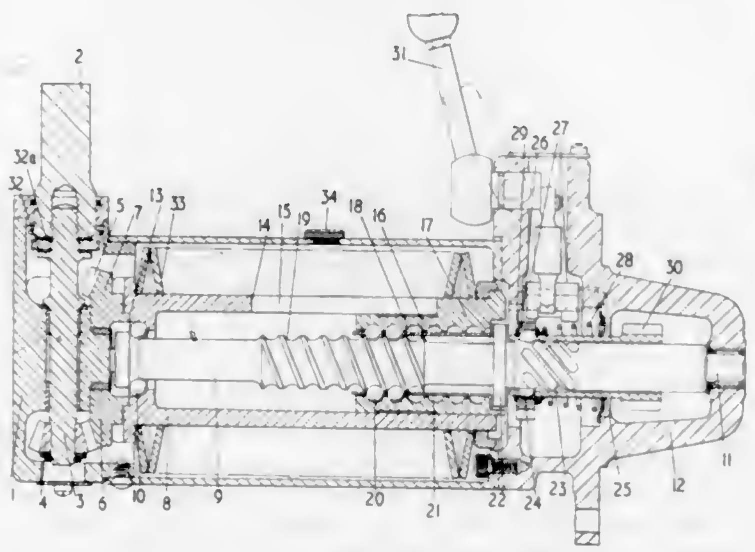
Gerd Höhne, Ludwigsburg, Germany, assignor to Robert Bosch, GmbH, Stuttgart, Germany
Filed July 17, 1967, Ser. No. 653,848
Claims priority, application Germany, July 20, 1966, B 88,075
Int. Cl. F02p *1/00;* **H05b** *41/36*
U.S. Cl. 123—149 **10 Claims**



An ignition arrangement for internal combustion engines in which the timing of the ignition pulse is varied as a function of speed of the crankshaft. A magnetic circuit path is established between a rotary member and two separate stationary pole piece members. One of the stationary pole piece members is also magnetically linked with the core of an induction coil. The magnetic path of the other stationary pole piece member bypasses the core of the induction coil. The pole piece member magnetically linked with the induction coil is further shaped so that when the rotary member passes by, a magnetic flux pattern is generated whereby a voltage pulse is induced in the induction coil and the ignition level of the pulse is attained at the desired instant of time.

3,447,523
STARTERS FOR INTERNAL COMBUSTION ENGINES

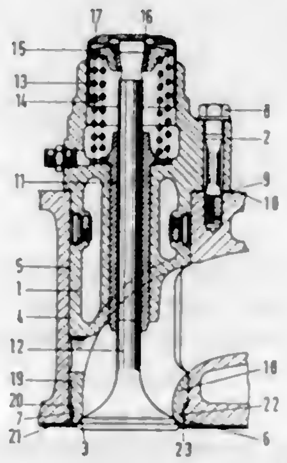
Cyril Henry Bradbury, East Finchley, London, and William Freeland, Esher, England, assignors to Simms Motor Units Limited, London, England, a British company
Filed May 12, 1967, Ser. No. 637,992
Int. Cl. F02n *17/08;* **F03g** *1/08*
U.S. Cl. 123—179 **2 Claims**



In a spring starter providing for moving the starter pinion into engagement in the first stage of winding the spring up, the need for a differential gear is avoided by rotatably mounting the spring assembly on the starter shaft for rotation relative to the starter as a whole.

3,447,524
INTERNAL COMBUSTION ENGINE CYLINDER HEAD

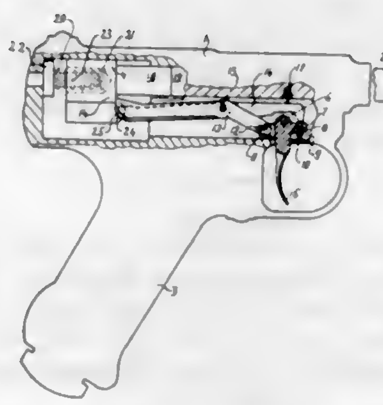
Anton Pfleghaar, Mannheim-Feudenheim, Germany, assignor to Motoren-Werke Mannheim A.G., Vorm. Benz Abt. Stat. Motorenbau, Mannheim, Germany, a German company
Filed May 9, 1967, Ser. No. 637,161
Claims priority, application Germany, Sept. 22, 1966, M 71,018
Int. Cl. F01l *3/08*
U.S. Cl. 123—189 **6 Claims**



An internal combustion engine cylinder head has a through bore extending from a top surface to a bottom surface thereof, this bore receiving with a sliding fit a poppet valve housing. An abutment portion of the housing abuts the top surface of the head under the action of bolts attaching the housing to the head. The housing has a guide bore guiding the valve stem. An annular recess is formed coaxially in the lower end of the external periphery of the housing and receives a sealing member which slides on the internal periphery of the first bore during thermal expansion and contraction of the housing relatively to the internal periphery of the bore.

3,447,525
TRIGGER MECHANISM FOR AUTOMATIC WEAPONS

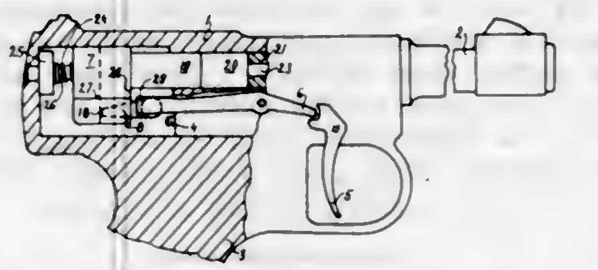
Jiří Čermák, Karel Vystrčil, and Bohuslav Novotný, Brno, Czechoslovakia, assignors to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation of Czechoslovakia
Filed Apr. 21, 1966, Ser. No. 544,212
Claims priority, application Czechoslovakia, Apr. 26, 1965, 2,692/65
Int. Cl. F41b *11/02*
U.S. Cl. 124—11 **5 Claims**



In a fire-arm wherein missiles or bullets are propelled out of the barrel of the fire-arm by means of a compressed gaseous medium, an improved trigger mechanism, which includes a biased trigger that is pivotally mounted in the body of the fire-arm. The trigger is T-shaped and has a pair of oppositely extending arms. A pair of levers respectively having oppositely extending arms are pivotally mounted in the body of the fire-arm on a common pivot support. A second lever of the pair of levers and the T-shaped trigger are biased in opposite directions. One arm of the first lever of the pair of levers is operatively connected to one arm of the T-shaped trigger so that when said trigger is manually pivoted in one direction, said first lever is pivoted in the opposite direction. One arm of the second lever and the other arm of the first lever are adapted to be selectively moved into and out of the path of a hammer which is reciprocally slidably mounted in the fire-arm thereby selectively releasing the hammer and retaining it in the firing position in the fire-arm.

3,447,526
COCKING DEVICE

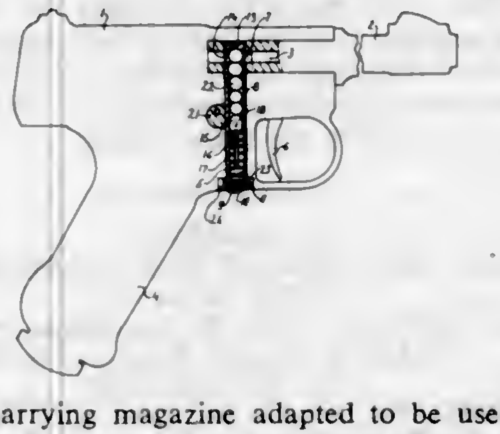
Jiří Čermák, Karel Vystrčil, and Bohuslav Novotný, Brno, Czechoslovakia, assignors to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation
Filed May 2, 1966, Ser. No. 547,132
Claims priority, application Czechoslovakia, May 3, 1965, 2,865/65
Int. Cl. F41b *17/02*
U.S. Cl. 124—40 **5 Claims**



A safety lock for weapons of the type which have opposite lateral walls and in which a hammer is slidably mounted. The safety lock comprises a handle portion fixedly secured to the outer portion of a bolt which is rotatably mounted in one of the lateral walls of the weapon. A cocking lever is fixedly secured to the inner portion of the bolt and is adapted to slidably engage a working surface of the hammer when being rotated by the handle, thereby cocking the hammer and selectively locking it in the cocked position.

3,447,527
CARTRIDGE FOR MISSILES OF WEAPONS

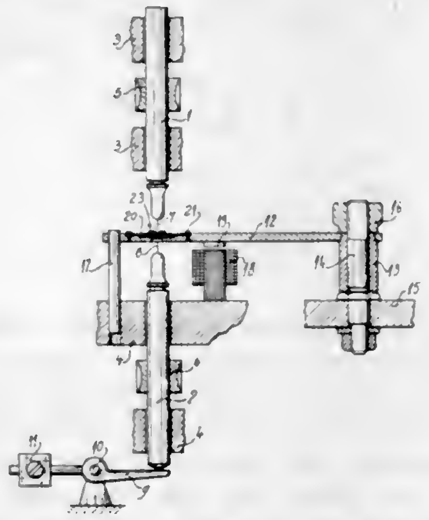
Jiří Čermák, Karel Vystrčil, and Bohuslav Novotný, Brno, Czechoslovakia, assignors to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation of Czechoslovakia
Filed Apr. 26, 1966, Ser. No. 544,290
Claims priority, application Czechoslovakia, Apr. 26, 1965, 2,693/65
Int. Cl. F41c *25/08*
U.S. Cl. 124—52 **10 Claims**



A pellet carrying magazine adapted to be used in an air gun or similar weapon using compressed gas as a propellant, which is formed by a tubular member adapted to hold a column of pellets. The tubular member is closed at the top and bottom and has a pair of oppositely arranged openings adjacent to the top wall. The opening spaced farthest from the barrel includes a conically shaped passage and has a minimum diameter which is larger than the corresponding diameter of one of said pellets. A rubber ring is mounted on the tubular member and serves to hermetically seal the opening in the body of the air gun through which the magazine is inserted into the weapon. Spring biased retention means are operatively mounted in the body of the air gun for maintaining the magazine in operative position therein.

3,447,528
METHOD OF DRILLING HARD MATERIALS

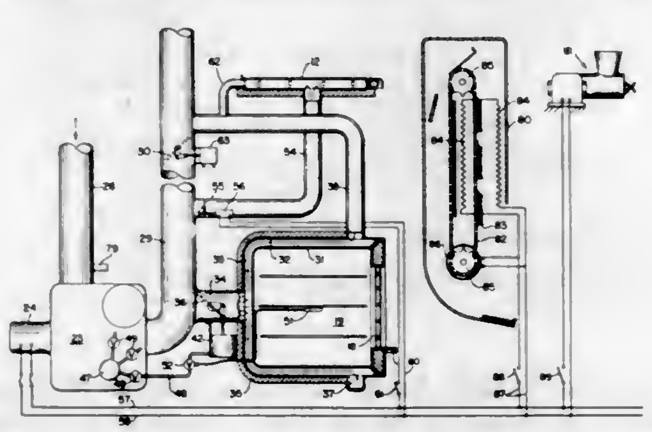
Robert Annen, Bienne, Switzerland, assignor to Parechoc S.A. Le Sentier, Vaud, Switzerland and Rochat Freres S.A. Les Charbonnieres Vaud, Switzerland, firms of Switzerland
Continuation-in-part of application Ser. No. 404,292, Oct. 16, 1964. This application May 25, 1967, Ser. No. 641,308
Int. Cl. B28d *5/02;* **B23b** *39/22*
U.S. Cl. 125—30 **1 Claim**



A method used in the drilling of hard materials, e.g. watch and clock maker's jewels, including the steps of, disposing a pair of drill-carrying spindles in coaxial oppositely-moving directions and on opposite sides of a flexible vibratable jewel-carrying blade, and drilling the jewel from its opposite sides while simultaneously vibrating the blade and jewel carried thereby.

3,447,529
GAS TURBINE GALLEY

Edward T. Kump, deceased, late of Phoenix, Ariz., by Dorothy M. Kump, executrix, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed May 11, 1967, Ser. No. 637,852
Int. Cl. F24b *1/00;* **F24c** *3/00*
U.S. Cl. 126—19.5 **9 Claims**

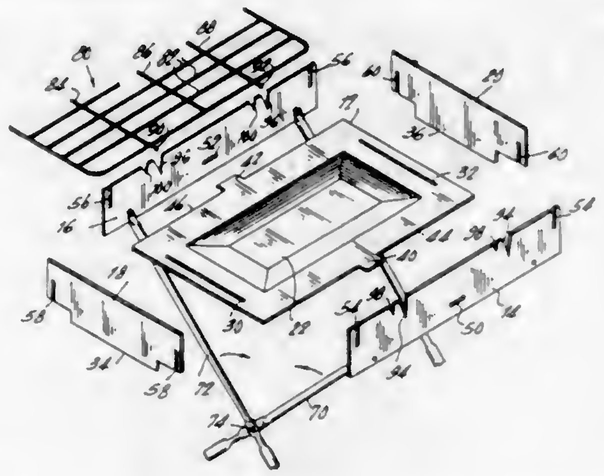


A self-contained kitchen range structure having a gas turbine engine for supplying energy to heat foods, control cooking functions and operate appliances. The structure includes an electric generator driven by the engine; ducts leading from the engine exhaust to supply hot gases to heating regions such as ovens, griddles, serving trays, deep fry units, toaster, and coffee urn; electrically or pneumatically actuated gas control elements in such ducts; and a vent hood for collecting vapors from cooking foods, such vapors being ducted to the air inlet of the engine.

3,447,530

READILY COLLAPSIBLE AND ASSEMBLABLE BARBECUE

Benedict Santeramo, 6032 75th St.,
Elmhurst, N.Y. 11373
Filed Nov. 1, 1967, Ser. No. 679,808
Int. Cl. F24b *3/00;* **A47j** *37/07;* **F24c** *1/16*
U.S. Cl. 126—25 **8 Claims**

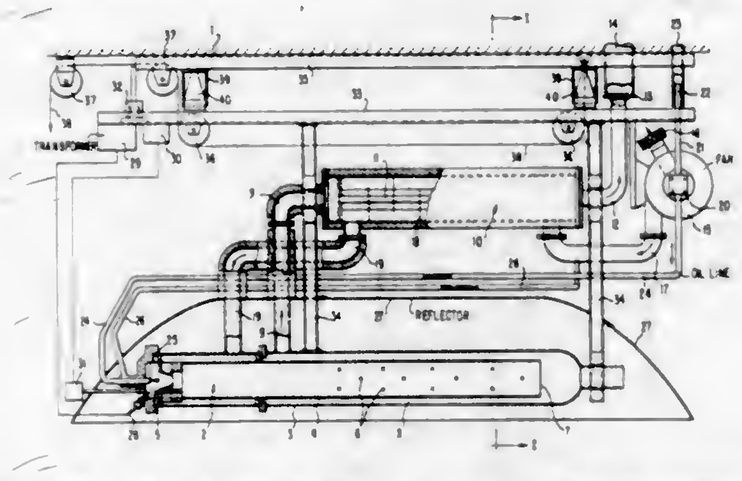


The invention is directed to a readily collapsible and assemblable barbecue comprising a charcoal retaining member having detachably engageable side and end walls, legs being mounted on the side walls which are pivotally adapted to collapse said side walls towards each other, or conversely, to spread said side walls apart when they are in the engaged position with said charcoal retaining member. A grill is also provided which is associatingly adapted, with said side walls, to be raised or lowered with relation to said charcoal retaining member.

3,447,531

RADIATION HEATING APPARATUS

Robert von Linde, 56 Akilindastrasse,
Grafelfing, near Munich, Germany
Filed Mar. 14, 1966, Ser. No. 534,000
Claims priority, application Germany, Mar. 16, 1965,
L 50,217; May 26, 1965, L 50,798
Int. Cl. F24c *3/04, 5/00*
U.S. Cl. 126—94 **5 Claims**

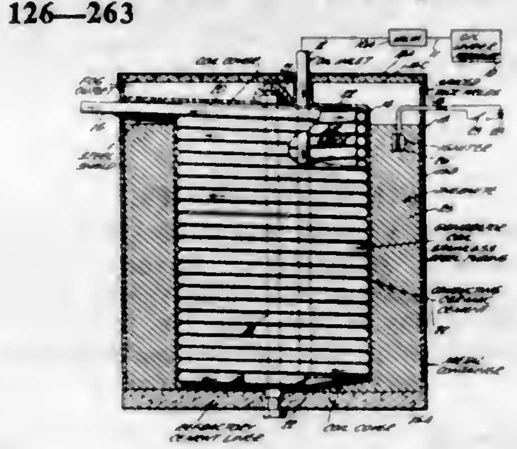


A fluid fuel radiant heater having a reflector between the radiant surface and the auxiliary combustion control devices such as valves, blowers, transformer, flame failure control and combustion air preheater heat exchange device. These devices are further protected by insulation of the heat exchanger, heated combustion air line, and exhaust conduits. The components are arranged within a balanced device for easy lowering from the ceiling and provided with automatically engageable and disengageable couplings for the fuel, exhaust gas, and electric current.

3,447,532

FOG GENERATING MEANS AND TECHNIQUES

Heinz F. Poppendiek, La Jolla, Calif., assignor to
Geoscience Ltd., a corporation of California
Filed July 21, 1966, Ser. No. 567,009
Int. Cl. F24j *1/00, 3/00;* **A01g** *13/06*
U.S. Cl. 126—263 **7 Claims**

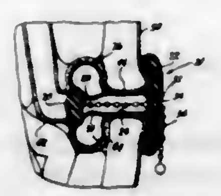


A fog generator uses oil applied under pressure directly in the form of a solid liquid column to the entrance of a spiral conduit (heat exchanger). Heat flows radially inwardly to the spiral conduit such that the heat flow is directly to the liquid being urged by centrifugal forces in its rapid passage through such special conduit wherein the oil is vaporized to produce a mist at its outlet.

3,447,533

CLOSURE MEANS FOR ARTIFICIAL BODY OPENINGS

Richard J. Spicer, 306 Ashton St.,
Alexandria, Va. 22309
Filed Sept. 14, 1964, Ser. No. 396,241
Int. Cl. A61b *19/00;* **A61f** *5/44;* **B65d** *39/12*
U.S. Cl. 128—1 **10 Claims**



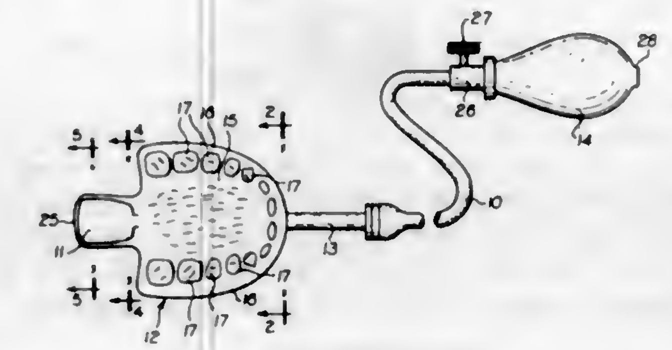
A closure for body openings comprising an apertured support portion, an elastic contractable and expandable bladder portion circumferentially secured to one end of said support portion, an external plate portion secured to the other end of said support portion, said external plate portion conforming to the external anus of the body of the wearer and means for extending said bladder portion for sealable insertion into a body opening. In use, the device is contracted for insertion in the body opening and thereafter expanded to maintain the closure in sealing engagement with the body opening.

3,447,534

METHOD AND DEVICE FOR MASSAGING THE SOFT PALATE

Erwin C. Lubit, 60 Vernon St., Patchogue, N.Y. 11772
Filed Aug. 10, 1966, Ser. No. 571,598
Int. Cl. A61h *7/00*
U.S. Cl. 128—64 **10 Claims**

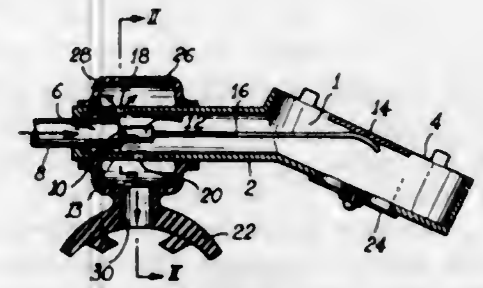
Apparatus for exercising and muscularly stretching tissue of the soft palate and posterior pharyngeal wall comprising an exerciser moveable between an expanded condition and a collapsed condition to be positioned in the mouth adjacent the soft palate tissue, a support for the exerciser to be positioned in the mouth for maintaining the exerciser in this position and means for alternately expanding and contracting the exerciser whereby the exerciser in expanded condition presses against the tissues and is relieved from pressing said tissues when in collapsed condition. The functioning of the soft palate tissue particularly in preventing escape of air through the nose during speaking is improved by a method involving positioning an expansible contractible element preferably of the type described and claimed and alternately expanding and contracting the same so as to press the element in expanded condition against the tissues and to thereby stretch and exercise the same.



3,447,535

MOUTHPIECE REGULATOR

Raymond Deloire, Vaucresson, France, assignor to
La Spirotechnique
Filed Oct. 11, 1965, Ser. No. 494,503
Claims priority, application France, Nov. 10, 1964,
994,502
Int. Cl. A61h *31/00*
U.S. Cl. 128—147 **6 Claims**



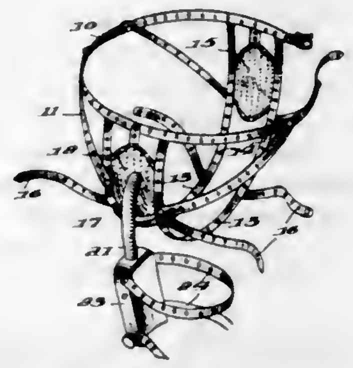
A mouthpiece regulator for breathing apparatus, in which air issuing from an expansion valve flows through a diaphragm-closed expansion chamber toward an aperture in the chamber in order to produce an injector action, then through an intermediate space in which it is damped and finally to the mouthpiece.

3,447,536

EXTERNAL WEARABLE URINAL AND RECTAL POUCH DEVICE

Anna D. E. Snyder, 2430 Pennsylvania Ave. NW.,
Washington, D.C. 20037
Filed Feb. 25, 1966, Ser. No. 530,228
Int. Cl. A61f *5/44;* **A61l** *15/00*
U.S. Cl. 128—283 **5 Claims**

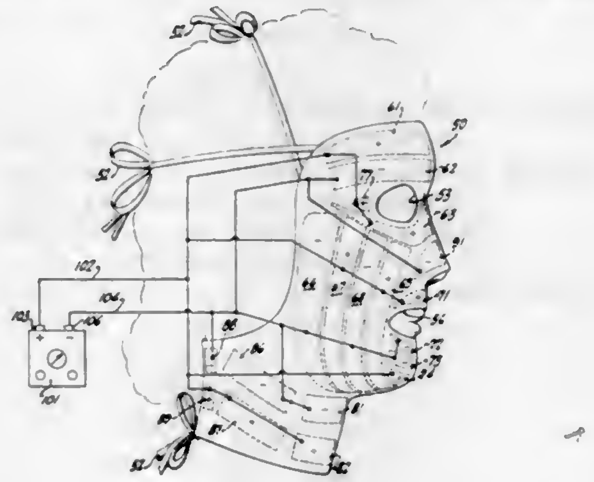
This device is an external repository for any discharges of the genito-urinary, anorectal or other lower trunk areas of the human body. It comprises a male urinal, or alternatively a perineal boat urinal for females or males and an attachable rectal pouch. This device is so constructed that all parts are attachable to and detachable from body conforming pubic and back pads, straps and belts, and each component part is provided with eyelets for joining one to another with hooks or snaps so that it can be made to fit tightly and securely on any body shape. This device will be of great help in overcoming physical, medical and psychological adversities due to abnormalities, operations or disease.



3,447,537

FACIAL MASK

Faye H. King, Glen Ellen, Calif., assignor to Società Internazionale Fonovisione S.p.A., Milan, Italy, a corporation of Italy
Continuation-in-part of application Ser. No. 385,257, July 27, 1964. This application Oct. 31, 1967, Ser. No. 679,439
Int. Cl. A61n *1/22*
U.S. Cl. 128—410 **4 Claims**

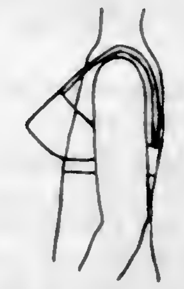


The disclosure hereof comprises a mask adapted to be fitted upon the face and about the neck of a person and having flexible electrodes permanently disposed on the inner-mask surface in predetermined location. The electrodes of the mask hereof are so located that upon energization they serve to pass an electric current, preferably of a low frequency, longitudinally of facial muscles between points of origin and insertion thereof for the exercise and strengthening of such muscles to the end of improving physical appearance of the face.

3,447,538

MASTECTOMY BRASSIERES AND GARMENTS FOR SAME

Elsie S. Keown, 32 Rose Lane, Villas, N.J. 08251
Filed Oct. 7, 1966, Ser. No. 585,082
Int. Cl. A41c *3/10;* **A61f** *1/00*
U.S. Cl. 128—478 **8 Claims**



A garment formed of soft material for the use of patients who have experienced a single mastectomy or a second or a complete mastectomy. The innermost element is in the nature of an undershirt to the front face of which brassiere elements are secured. The rear face fits the patient's back snugly as an undershirt. Secured to the front of this first element is a layer of goods in the nature of a swing on which is mounted the false breastforms attached only at the shoulder, side and arm seams. The outer element or false front concealing the breastforms and brassiere elements is sewed to the above named first element on all sides except the bottom.

3,447,539

OXIDIZED CELLULOSE SMOKABLE PRODUCT INCLUDING ASHING INGREDIENT

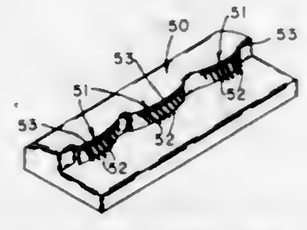
Theodore S. Briskin, Beverly Hills, and Geoffrey R. Ward, Downey, Calif., assignors to Sutton Research Corporation, Santa Monica, Calif., a corporation of Delaware
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,622
Int. Cl. A24b *15/02, 15/06, 3/14*
U.S. Cl. 131—2 **5 Claims**

A process for the manufacture of a smoking product in which cellulose is oxidized and in which the oxidized cellulosic material is formulated to contain a mineralizing agent in the form of a calcium and/or magnesium oxalate in an amount within the range of 5 to 40 percent by weight of the smoking product and which may further have added thereto a minor amount of oxalic acid sufficient to take up residual metal ions.

3,447,540

METHOD OF MAKING ARTIFICIAL EYELASHES USING ULTRASONIC MEANS

Benjamin B. Osher, Lawrence, N.Y., assignor to Kleer-Vu Industries, Inc., New York, N.Y.
Filed Feb. 14, 1966, Ser. No. 526,981
Int. Cl. A41g *5/02*
U.S. Cl. 132—5 **6 Claims**

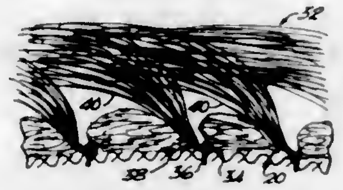


A method and means for making false eyelashes to be used as beauty aids, and wherein ultrasonic energy is used for sealing or fusing the filaments and root strips together.

3,447,541

HEAD COVER

Daniel L. Golden, Bal Harbour, Fla.
(1701 S. Ocean Drive, Hollywood, Fla. 33020)
Filed July 21, 1966, Ser. No. 566,992
Int. Cl. A41g *3/00, 5/00*
U.S. Cl. 132—5 **9 Claims**

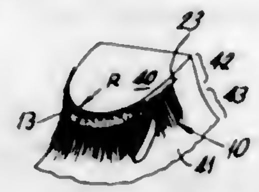


An improved head cover having a foundation with a cover panel to rest on the wearer's head; having also extending hair material in a simulated growth pattern, an intermediate layer of pigmented filaments in random array on the cover panel of the foundation so that each piece of hair of the simulated growth pattern is connected to the foundation so as to be supported by the layer in a manner similar to that of which normal growth hair is supported by the scalp and short underlying growing hairs.

3,447,542

COMBINATION EYELINER AND FALSE EYELASH

Ishmael McCullough, 235 E. 57th St., New York, N.Y. 10022
Filed May 3, 1968, Ser. No. 726,313
Int. Cl. A41g *5/02*
U.S. Cl. 132—53 **3 Claims**

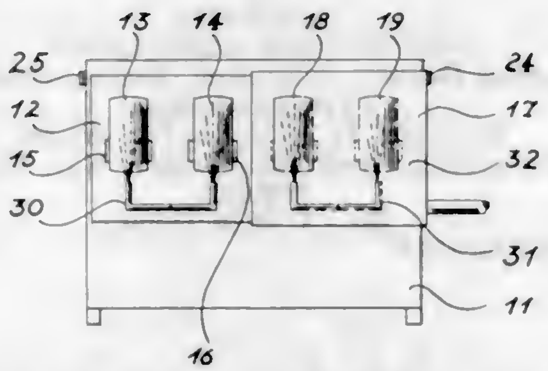


Strips of paper-thin leather of the order of 5 to 40 thousandths of an inch thickness are die-cut into arcuate-shaped liners. The false eyelashes are then permanently bonded to the liners, using a flexible nontoxic glue and employing a semicircular cone frustum as a mold.

3,447,543

CLEANING MACHINES FOR CONTAINERS OR CANS, ESPECIALLY FOR PREMIX CONTAINERS

Arthur Till, Sindlinger Bahnstrasse 159, 6230 Frankfurt am Main, Sindlingen, Germany
Filed Nov. 9, 1966, Ser. No. 593,105
Claims priority, application Germany, Nov. 17, 1965, T 29,802
Int. Cl. B08b *3/04, 9/12*
U.S. Cl. 134—58 **2 Claims**

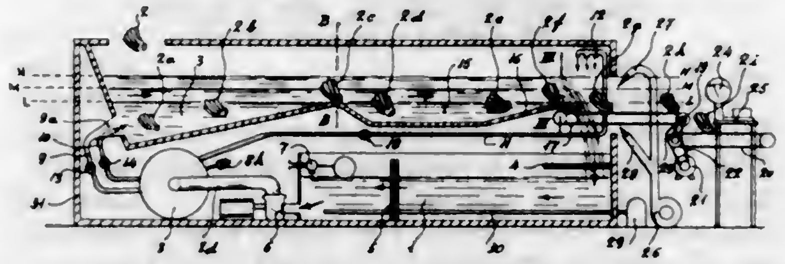


A container washing machine having two sections, one of which is provided for washing and the other of which is provided for removing containers from the machine and adding containers to the machine, having means to expose the containers in one section of the machine for removing and adding containers while enclosing the containers in the other section of the machine for washing the containers, is disclosed herein.

3,447,544

PLANTS FOR THE WASHING AND DRYING OF FRUIT

Esteban Arriaga Lopez De Vergara, Albendiego 6, Madrid 20, Spain
Filed Dec. 19, 1967, Ser. No. 691,731
Claims priority, application Spain, Dec. 20, 1966, 334,710
Int. Cl. B08b *3/04;* **A23n** *13/00*
U.S. Cl. 134—60 **9 Claims**



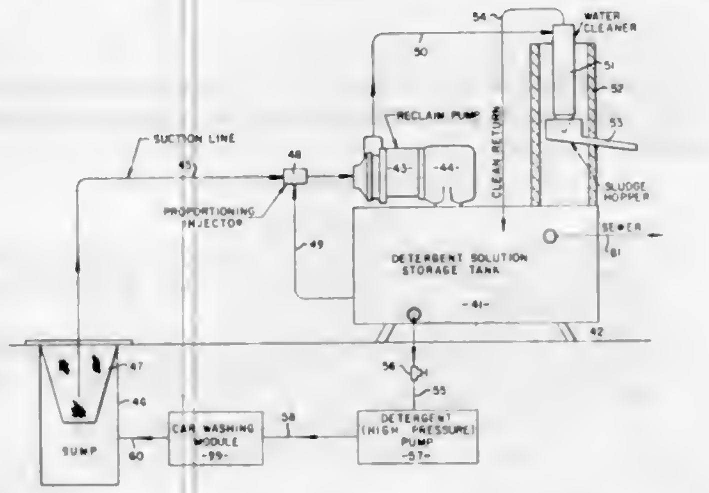
Apparatus for washing and drying fruit wherein the fruit is caused to pass through a series of water baths under the influence of water pressure, then under a

rinsing spray, and finally between jets of drying air. The wash water is recirculated through a horizontal and vertical filter in that order and then pumped through a final filter back to the entrance of the first water bath and admitted thereto near the bottom thereof through either or both of two separate return ducts. A third return duct carries a portion of the water to the rinsing spray.

3,447,545

RECLAMATION OF LIQUIDS USED IN VEHICLE WASHING

Raymond L. Lawter, Zanesville, Ohio, assignor, by mesne assignments, to Dura Corporation, Oak Park, Mich., a corporation of New York
Original application Sept. 27, 1966, Ser. No. 490,436, now Patent No. 3,378,018, dated Apr. 16, 1968. Divided and this application Aug. 30, 1967, Ser. No. 664,374
Int. Cl. B08b *3/00*
U.S. Cl. 134—101 **3 Claims**

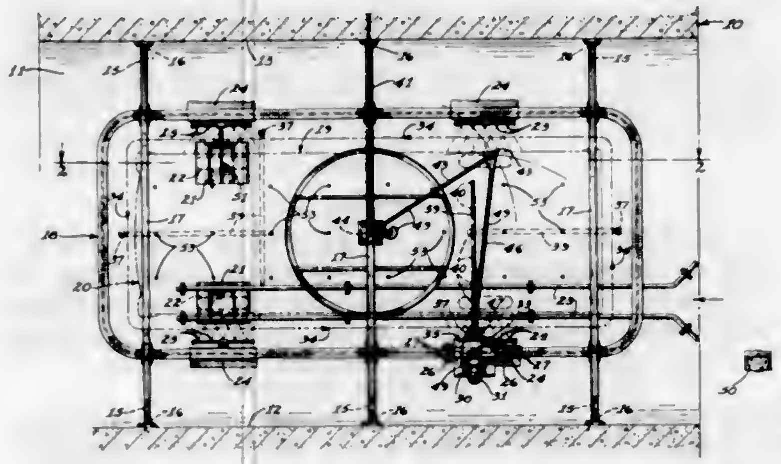


The reclamation of liquids used in car washing in which the slurry of water and grit drained from such washing operation is forced to a cyclone separator from which the clean water is delivered to a tank. The water is forced from the tank to the car washing module. The cyclone separator as well as the pump which forces the slurry thereto may be mounted on the tank to provide a self-contained assembly. A proportioning injector may be used to mix a quantity of liquid from the tank with the slurry which is forced to the cyclone separator.

3,447,546

AUTOMATIC SELF-SERVICE CAR WASHING APPARATUS

Melvin Burrup, Scottsdale, Ariz., assignor, by mesne assignments, to Monorail Car Wash, Inc., a corporation of New York
Filed July 22, 1966, Ser. No. 567,153
Int. Cl. B60s *3/04*
U.S. Cl. 134—123 **3 Claims**

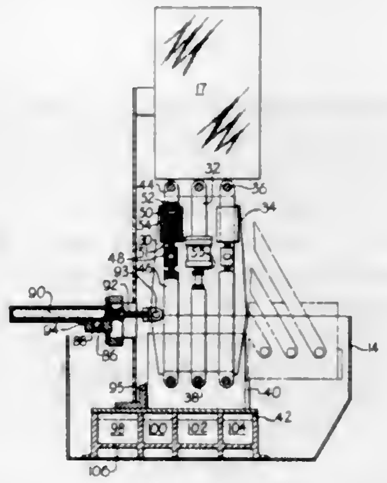


An automatic vehicle washing apparatus in which a carriage is propelled around a generally rectangular overhead track to convey a spray manifold around a vehicle. The spray manifold is in the general shape of an inverted L so that the top and sides of the vehicle are washed simultaneously. Additional spray washers are provided at the wheels to provide fortified washing in the area of wheels.

3,447,547

DIE QUENCHING MACHINE

Jack E. Sansom, Eureka, Lawrence W. Finton, Peoria, and Byron Paddock, Jr., Normal, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 15, 1967, Ser. No. 683,224
Int. Cl. B08b *3/00;* **B30b** *15/34*
U.S. Cl. 134—141 **9 Claims**

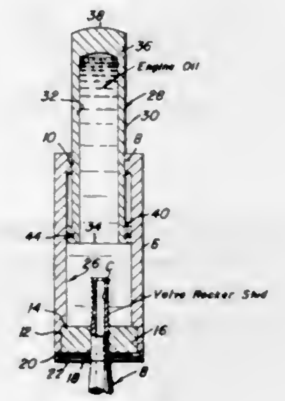


Die quenching apparatus having means operable to move a workpiece receiving portion of the machine to an unhindered position outside the machine frame to permit a hot heat-treated workpiece to be easily and quickly loaded into the machine; the machine further having means for rapidly flooding a quenching chamber with highly agitated quenching fluid.

3,447,548

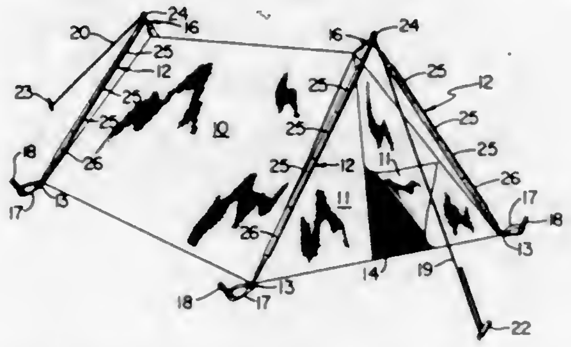
PUMP FOR CLEARING AN OIL PASSAGE

Alfred R. Perkins, 486 W. Union St., East Bridgewater, Mass. 02324
Filed Feb. 28, 1967, Ser. No. 619,383
Int. Cl. B08b *9/02;* **F16n** *13/08*
U.S. Cl. 134—169 **3 Claims**



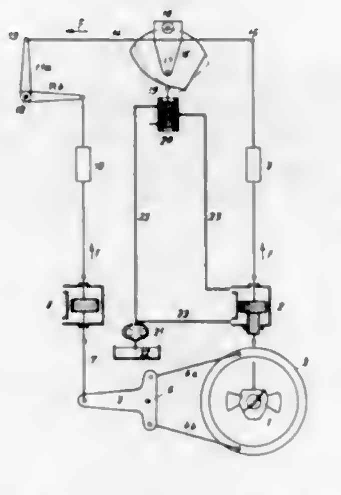
An implement which functions to unclog and clear the oil passage in valve rocker studs used on certain makes of automobiles. It comprises a handtool, a small pump for example, embodying an oil charged cylinder having (1) a stud connecting adapter at its forward end and (2) oil column plunger or piston means at its other end operable by hand or, if necessary, a mallet.

3,447,549
TENT POLE ASSEMBLY OR THE LIKE
Gerald A. Cunningham, Boulder, Colo., assignor to Colorado Outdoor Sports Corporation, Boulder, Colo., a corporation of Colorado
Filed Apr. 10, 1967, Ser. No. 629,552
Int. Cl. A45f *1/16, 1/18*
U.S. Cl. 135—15 **7 Claims**



A readily portable tent pole or similar supporting member is constructed of a plurality of interfitting tubular sections. Each section has an end portion of reduced diameter which fits closely in the adjacent tube and has a further reduced portion which affords the securing of grommets or fittings to the pole; the bottom section has both its ends of this construction. Various fittings are employed with the pole assemblies without drilling or other modification of the tube sections.

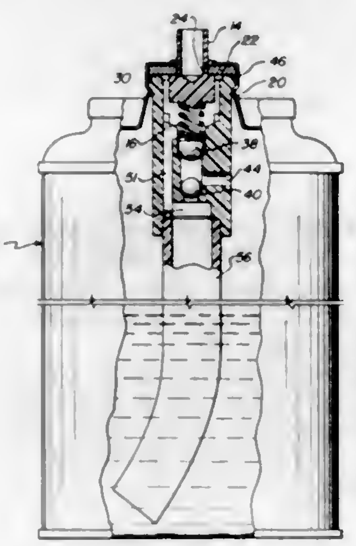
3,447,550
METHOD AND MEANS FOR CONTROLLING THE DOUBLE ADJUSTMENT OF A HYDRAULIC MACHINE
Victor Raeber, Vevey, Switzerland, assignor to Ateliers de Constructions Mecaniques de Vevey S.A., Vevey, Vaud, Switzerland, a company of Switzerland
Filed May 12, 1966, Ser. No. 549,570
Claims priority, application Switzerland, May 24, 1965, 7,263/65
Int. Cl. F02c *9/00*
U.S. Cl. 137—37 **5 Claims**



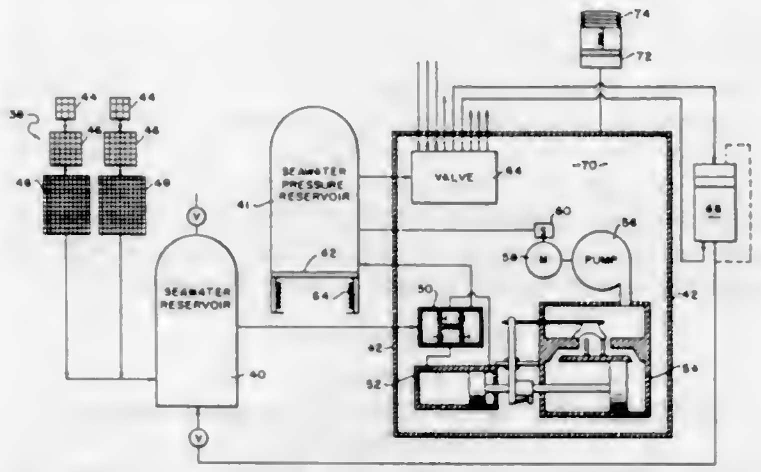
A Kaplan turbine wherein means are provided so that the gate opening means and the means for adjusting the pitch of the blades of the wheel are coordinated to provide maximum performance by automatically controlling a simplified cam system utilizing electrical and hydraulic means.

3,447,551
UPSIDE-DOWNSIDE AEROSOL DISPENSING VALVE
Arthur R. Braun, 209 E. Mildred St., Cary, Ill. 60013
Filed June 14, 1967, Ser. No. 646,003
Int. Cl. F16k *15/18, 31/14;* **B65d** *83/14*
U.S. Cl. 137—43 **9 Claims**

An aerosol valve which can be used upside or downside so that the aerosol can to which it is affixed can be used upside down or downside up. The valve has a ball which is movable, by gravity, within a valve stem cavity to control the flow of product out of the two dispensing ports, one on the side and one on the bottom of the valve body.



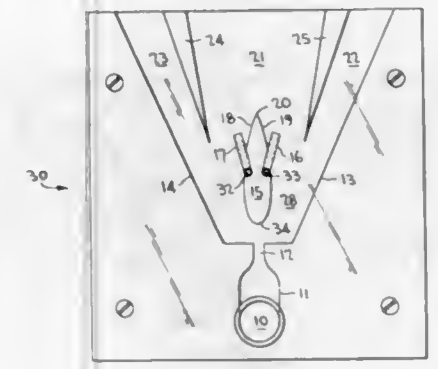
3,447,552
SEAWATER HYDRAULIC SYSTEM FOR DEEP SUBMERGENCE SALVAGE AND EXPLORATION VEHICLES
Joseph F. Grosson, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 17, 1967, Ser. No. 624,674
Int. Cl. F16k *21/16;* **B63g** *8/22*
U.S. Cl. 137—81 **8 Claims**



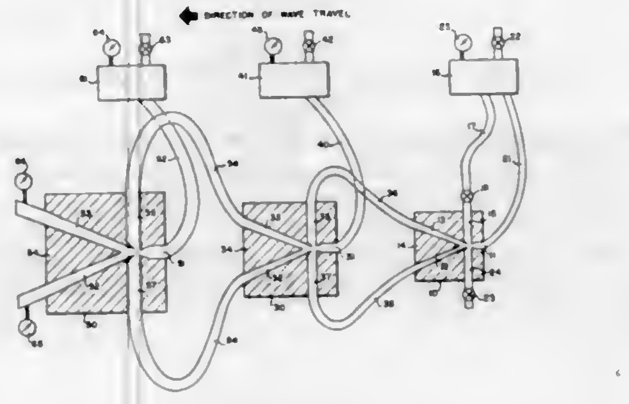
A hydraulic power system using seawater as the fluid medium for use with deep submergence vehicles to power tools and manipulators wherein the environmental seawater is drawn into the system through a succession of filter stages, stored in a reservoir, and then pressurized by a reciprocating hydraulic motor pump powered by an electrically driven rotating pump. All electrical and moving mechanisms are contained within a pressure compensated chamber filled with a dielectric fluid.

3,447,553
PNEUMATIC AIRFOIL ACTUATED AMPLIFIER
Carl J. Campagnuolo, Chevy Chase, and Leonard M. Sieracki, Beltsville, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 3, 1966, Ser. No. 584,024
Int. Cl. F15c *1/08;* **F15d** *1/14*
U.S. Cl. 137—81.5 **11 Claims**

A fluid amplifier having a left, right, and a single or plurality of centrally located output channels and wherein the power stream through the amplifier may be proportionally deflected to the central channels from either the left or right output channels independent of the deflection of the other output stream. Proportional control in the fluid amplifier is accomplished by placing an elongated airfoil symmetrically within the interaction chamber of the fluid amplifier with either its rounded or sharp edge adjacent to the power nozzle. Deflection is achieved by means of control streams flowing from either side of the symmetrically placed airfoil which emit fluid in a downstream direction of the power nozzle.



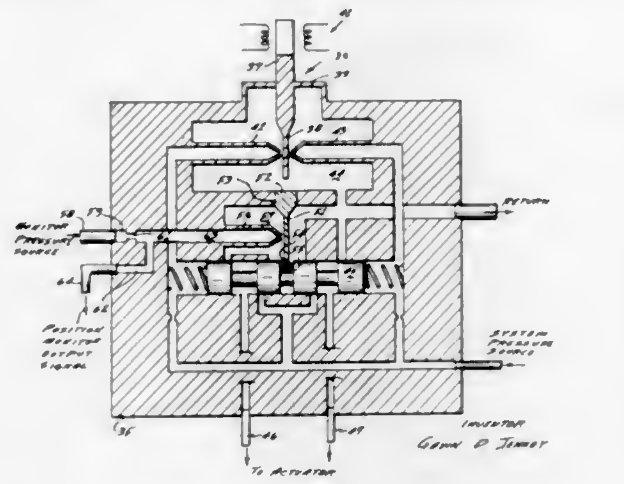
3,447,554
BUOY STABILIZATION SYSTEM
Julian Josephson, 4814 Eastern Lane, Apt. 103, Suitland, Md. 20023
Filed Aug. 18, 1966, Ser. No. 573,768
Int. Cl. F16c *1/12, 1/14*
U.S. Cl. 137—81.5 **2 Claims**



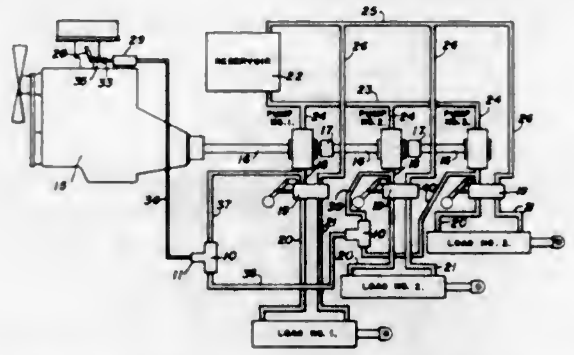
This invention is designed to counteract buoy displacement by waves. It is based on the principle of pure-fluid amplifiers which produces a pressure pulse equal and opposite to that of the wave thereby inhibiting horizontal displacement of the buoy. The fluid amplifiers are arranged in three separate stages wherein the outlet pressure of the first stage operates as a control element to the second stage and the pressure from the second stage is directed to the next stage, etc. The output of the last stage counteracts the pressure of the oncoming wave. Separate units may be secured to opposite sides of a buoy for better stabilization.

3,447,555
HYDRAERIC POSITION MONITORING APPARATUS
Gavin D. Jenney, Sepulveda, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware
Filed May 24, 1965, Ser. No. 458,224
Int. Cl. F15b *5/00*
U.S. Cl. 137—82 **5 Claims**

A device for monitoring the position of a pilot operated hydraeric control valve which includes a nozzle supplied with fluid pressure and a bendable flapper having one end anchored and the other end rigidly connected to move with the control valve. An intermediate portion of the flapper cooperates with the nozzle so that the pressure in the nozzle is indicative of the position of the main control valve.



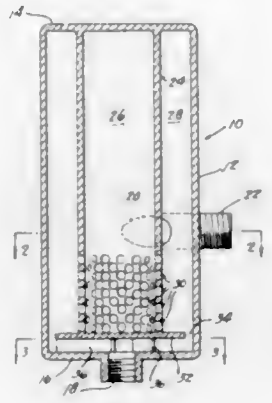
3,447,556
COLLECTOR VALVE
David Franklin Howeth, 2935 St. Louis, Fort Worth, Tex. 76110
Filed Feb. 13, 1967, Ser. No. 615,431
Int. Cl. F16k *19/00;* **F15b** *13/06, 13/09*
U.S. Cl. 137—112 **1 Claim**



A collector valve comprised of a hollow cylindrical body having opposing valve seats in the ends thereof, a port in the body intermediate said seats, and a ball valve element within said body, the diameter of the ball valve element being large enough to seat in said valve seats, yet small enough to permit the passage of fluid therearound when not seated. The invention is also directed to an arrangement wherein a collector valve or a multiple of collector valves are interposed in two or more hydraulic systems wherein the pumps thereof are driven by a single internal combustion engine, which arrangement controls the speed of the engine in accordance with load demand.

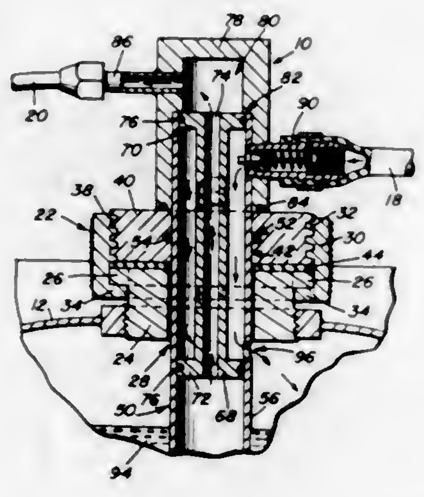
3,447,557
SURGE CHAMBER
Morton E. Phelps, % Phelps Fan Mfg. Co. Inc., 9417 New Benton Highway, Little Rock, Ark. 72204, and Tommy O. Bell, P.O. Box 203, Hallsville, Tex. 75650
Filed Feb. 10, 1967, Ser. No. 615,195
Int. Cl. E03b *5/00*
U.S. Cl. 137—207 **6 Claims**

A surge tank, for smoothing pressure changes in a pumped liquid, having a continuous curved wall with a liquid inlet therein and a tengential feed conduit connected to the inlet causing the entering liquid to rotate about the curved wall trapping air in the top of and centrally of the tank. A tank outlet is arranged to exhaust liquid from the peripheral area near the bottom of the curved wall so as to prevent loss of trapped air from the center of the tank. Desirably an inner chamber is disposed within the tank, and is also closed at the top but has communicating openings near its bottom to permit entry of both air and liquid from the tank to the inner chamber,



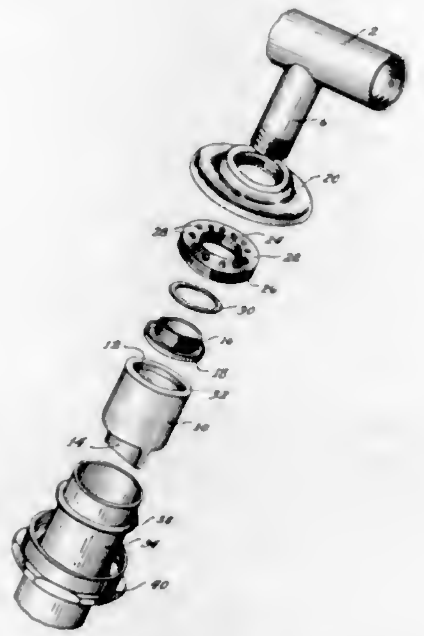
Thus, dual air trapping, compression chambers are provided to assist the swirling liquid in eliminating pressure variations at the liquid outlet.

3,447,558
TAP ASSEMBLY FOR BEER KEGS
Fred P. Cserny, 927 N. 7th St.,
Allentown, Pa. 18101
Filed Aug. 4, 1967, Ser. No. 658,523
Int. Cl. B67d *5/54;* **F04f** *1/00;* **B65d** *83/00*
U.S. Cl. 137—212 **7 Claims**



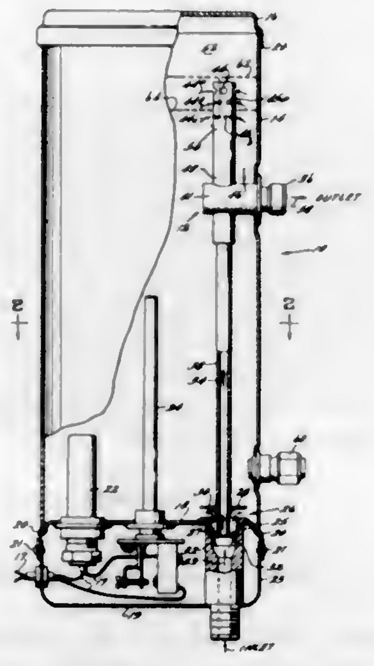
A tap assembly for beer kegs to facilitate the gas pressurized dispensing of beer by providing a simplified means of coaxially introducing pressurized gas into and withdrawing pressurized beer from kegs. The tap assembly comprises a unitary tap tube having an axially bored spool bushing of sufficient length to normally have its top flange outside of the wall of the keg and its bottom flange within the keg whereby pressurizing gas introduced into the annular chamber between the flanges through a suitable fitting, passes outwardly from the annular spool chamber through a suitable aperture in the tap tube into the head space in the keg. The beer so pressurized is forced upwardly through the tap tube, axial bore in the spool bushing and outwardly through a suitable discharge outlet fitting to a conventional bar spigot. The lower end of the tap tube is provided with a radially perforated, removably secured, end plug adapted to axially displace a bung plug as the tap tube is urged downwardly through a tap nut assembly removably secured to the keg. The beer outlet fitting is provided with lock ears which cooperate with complementary slots on the tap nut assembly to secure the tap tube against displacement from its normal position within the keg by virtue of the pressure within the keg.

3,447,559
ANTI-SIPHON BREAKER
Robert R. McCornack, Galesburg, Ill., assignor to Kewanee Valve Company, a corporation of Illinois
Filed Apr. 28, 1966, Ser. No. 546,050
Int. Cl. E03c *1/10*
U.S. Cl. 137—218 **10 Claims**



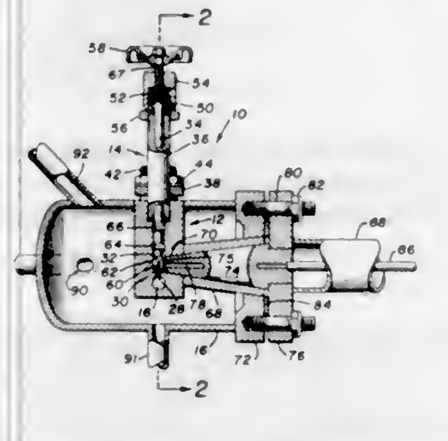
An anti-siphon valve member and assemblage utilizing a rubber element having depending lips forming a valve closure, which element uses an internal shoulder for snap-fitting engagement with a rigid, flanged and threaded member for arrangement and use in an outlet pipe construction for conventional or modified design.

3,447,560
LIQUID HANDLING AND DISPENSING APPARATUS
Bruce Douglas Dodson, Bellevue, and Lambert Perry Stoops, Seattle, Wash., assignors to General Electric Company, a corporation of New York
Continuation of application Ser. No. 524,194, Feb. 1, 1966. This application Nov. 6, 1967, Ser. No. 681,031
Int. Cl. F16k *49/00;* **F16l** *53/00;* **F24k** *1/00*
U.S. Cl. 137—337 **3 Claims**



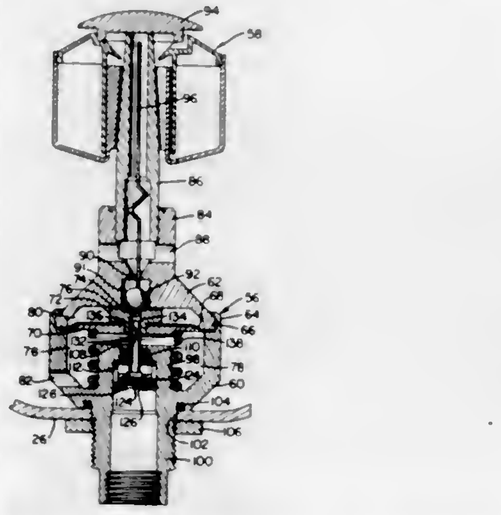
The metering and blending of liquids of different temperatures at the discharge of a heated liquid container, such as a water heating and dispensing tank, employs coordinated hot liquid and cool liquid metering portions. The hot liquid metering portion is designed to draw hot liquid at progressively smaller amounts vertically downward along that portion to preferentially draw in greater quantities the hot liquid which rises toward the top of the container. Also provided in the container is a means to introduce cooler liquid along walls of the lower portion of the tank in the manner which avoids turbulence.

3,447,561
ADDITIVE INJECTION VALVE WITH DETACHABLE INLET NOZZLE
Ronald C. Nelson, Bridgeton, and Richard R. Cook, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,451
Int. Cl. F16c *51/00;* **F16l** *29/00, 35/00*
U.S. Cl. 137—240 **2 Claims**



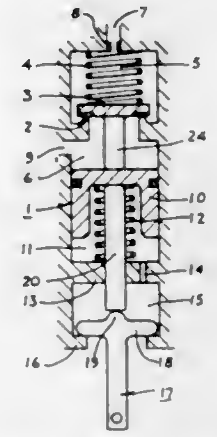
A novel additive valve which eliminates interruption of process flow accompanying cessation of additive injection. Stagnant additive is readily removed from that portion of the valve body susceptible to clogging; cleaning is easily accomplished without disruption of the primary flow passageway.

3,447,562
AUTOMATIC LIQUID SUPPLY APPARATUS
Robert K. Hoffman, Littleton, Colo., assignor to C. A. Norgren Co., Littleton, Colo., a corporation of Colorado
Filed Nov. 25, 1966, Ser. No. 597,125
Int. Cl. F16k *31/18;* **F01m** *1/00;* **F16n** *17/06*
U.S. Cl. 137—414 **20 Claims**



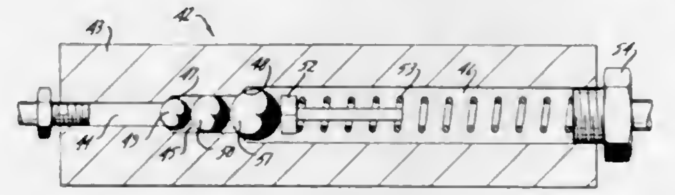
This invention lies in the general field of apparatus for providing a supply of liquid for use by a liquid using system. While not so limited, it relates more particularly to apparatus for supplying lubricant to a compressed air power system to internally lubricate various air tools and devices. It is directed primarily to automatic liquid filling control apparatus for transmitting liquid lubricant from a source of supply to an individual lubricator or station or a plurality of remote lubricators or stations.

3,447,563
AUTOMATIC RELEASE VALVES
Arthur W. Simmons and Jack Washbourn, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England
Filed Nov. 2, 1965, Ser. No. 506,090
Int. Cl. F16k *31/14*
U.S. Cl. 137—495 **9 Claims**



An automatic release valve for controlling communication between control reservoir and brake pipe in a brake distributor including a valve element and a valve seat. Spring means cause the valve to open and normal brake pipe pressure causes the valve to close. When control reservoir pressure exceeds brake pipe pressure by a sufficient amount, it will act to keep the valve closed notwithstanding the force of the spring means. A manually operable element is included to open the valve irrespective of the other elements acting on the valve.

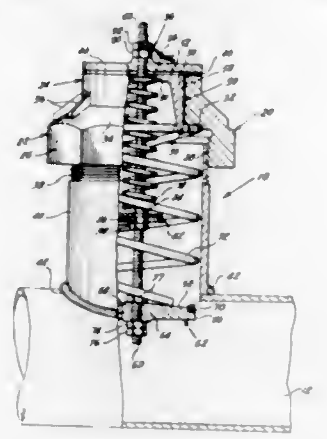
3,447,564
LEAKPROOF VALVE
Irving W. North, Neenah, and William L. Woodfill, Oshkosh, Wis., assignors to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed May 31, 1967, Ser. No. 642,531
Int. Cl. F16k *15/04, 15/14*
U.S. Cl. 137—512 **8 Claims**



A slightly oversize, relatively hard resilient ball is disposed in the valve bore ahead of the valve closure member. At pressures of lesser magnitude than the blow-off pressure, the resilient ball is forced against the closure member and deformed to exert a sealing force radially on the bore wall generally commensurate with the inlet pressure to provide a leakproof valve. With a flow through barrier disposed ahead of the resilient ball reverse flow through the valve is checked as the resilient ball is forced against the barrier by the back pressure and deformed to exert a sealing force radially on the bore wall.

3,447,565
HIGH PRESSURE RELIEF VALVE
Roy Forrest Davis, Jr., Des Moines, Iowa, assignor to Western Irrigation Valve Corporation, Des Moines, Iowa, a corporation of Iowa
Filed May 15, 1967, Ser. No. 638,337
Int. Cl. F16k *17/06, 17/08*
U.S. Cl. 137—541 **7 Claims**

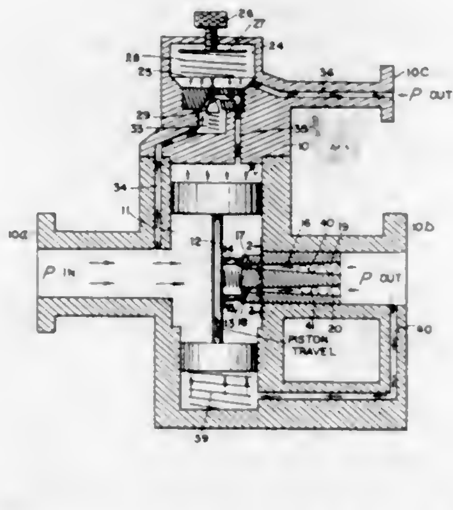
A high pressure relief valve to relieve pressure build-ups and overload surges in fluid flow lines. Has a spring-loaded valve cap with an auxiliary spring-loaded stem that can be adjusted to selectively increase and decrease the tension on the cap spring to vary the pressure desired or necessary at which the cap will unseat. Pressure adjustments are easily made in the field by adjusting the stem to prescribed measurements. Is adapted for a threaded or flange mounting to a flow pipe.



3,447,566

LOW NOISE REDUCING VALVE FOR STEAM SYSTEMS

Paul F. Hayner, Lexington, Mass., and Lawrence W. Sharpe, Glencliff, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,663
Int. Cl. F16k *31/12, 47/02;* **F16l** *55/02*
U.S. Cl. 137—489.5 17 Claims



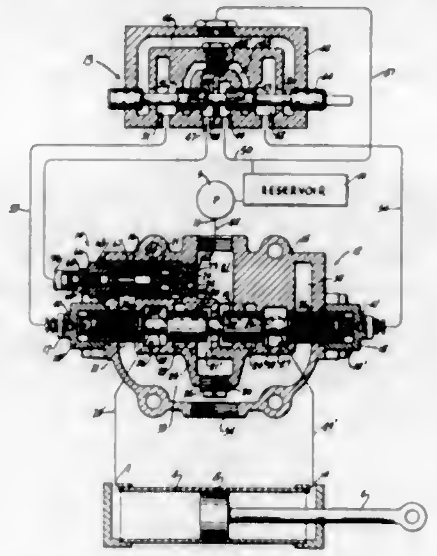
The present invention pertains to a low noise pressure reducing valve, particularly intended for use in steam systems, having a plurality of restrictors which are constructed so as to limit the velocity of fluid passing therethrough to a value which is less than sonic speed.

3,447,567

PILOT GOVERNED CONTROL VALVE MECHANISM

Francis H. Tennis, Oconomowoc, Wis., assignor, by mesne assignments, to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 468,526, June 30, 1965. This application Feb. 7, 1968, Ser. No. 707,367
Int. Cl. F16k *31/12, 31/36, 31/14*
U.S. Cl. 137—596.13 8 Claims

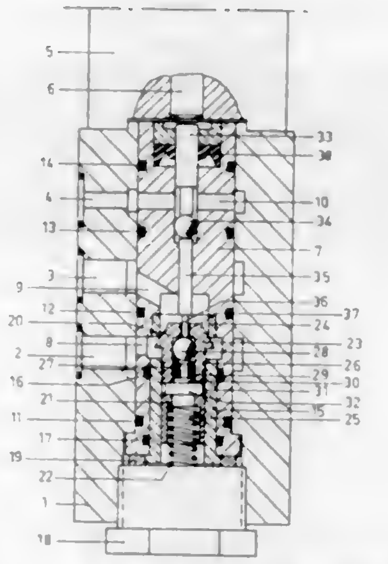
A manually actuatable pilot valve effects shifting of the spool of a main valve to and from its working positions. Control fluid flows to the inlet of the pilot valve from the inlet of the main valve through the interior of a bypass valve mechanism incorporated in the body of the main valve. The bypass valve mechanism responds to back pressure at the pilot inlet and adjustably controls fluid flow from the main valve inlet to its exhaust passage so as to regulate the speed of the motor governed by the main valve in any working position of its spool.



3,447,568

ELECTROMAGNETICALLY OPERATED SEQUENTIAL VALVES

Hermann Burkart, Adalbert-Stifter-Str. 8, and Harro Dorner, Balthasar-Neumann-Str. 1, both of 8603 Ebern, Germany, and Werner Bayersdorfer, Nr. 46, Pfaffendorf 8601, Kreis Ebern, Germany
Filed July 18, 1966, Ser. No. 565,773
Claims priority, application Germany, July 20, 1965, K 56,665
Int. Cl. F16k *11/02*
U.S. Cl. 137—630.13 4 Claims



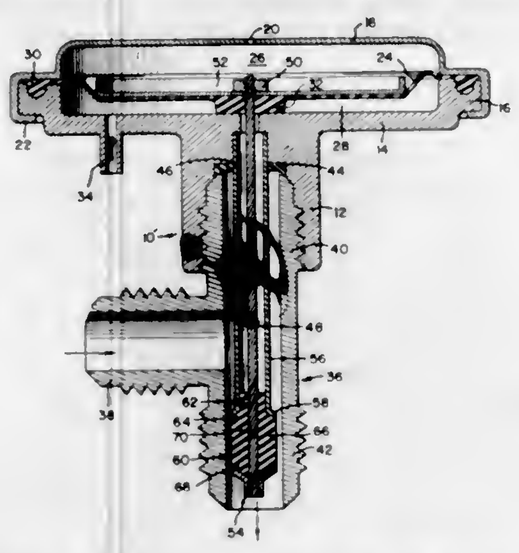
A solenoid shutoff valve capable of passing a large fluid volume therethrough, and which is particularly useful in automotive hydraulic systems, characterized by having a movable main valve body with a solenoid actuated relief valve mounted in the valve body. The solenoid sequentially actuates the relief and main valves to equalize pressures before fully opening the latter valve.

3,447,569

PRESSURE RESPONSIVE CONTROL DEVICE

Kenneth G. Kreuter, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 27, 1967, Ser. No. 618,889
Int. Cl. F15d *1/08;* **F16k** *31/145*
U.S. Cl. 138—46 6 Claims

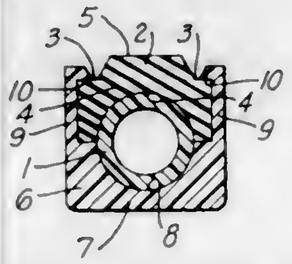
A control device having a pneumatically operated pressure regulator assembly, a valve assembly including a deformable resilient plug for controlling fluid flow through a valve body, and a force transmitting mechanism including a rigid stem interconnecting the two assemblies so that the plug is deformed within the valve body to vary the fluid flow through the valve body in accordance with a pressure signal applied to the regulator assembly.



3,447,570

PUNCTURE PAD AND HOLDER

Robert M. Collins, 14225 Foothill Road, Golden, Colo. 80401
Filed Nov. 1, 1967, Ser. No. 679,799
Int. Cl. F16l *55/00, 9/14;* **B67b** *7/24*
U.S. Cl. 138—103 5 Claims

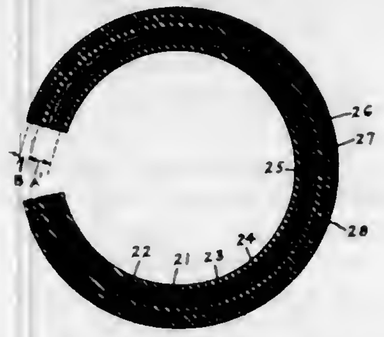


A means for connecting a hollow needle with the interior of a penetrable tube. The means comprises a penetrable, self-sealing member or puncture pad located on the outer top surface of the tube to form a fluid tight seal therewith. The means also comprises an impenetrable element or holder located adjacent to the opposite outer bottom surface of the tube.

3,447,571

HOSE FOR PUMPING SLURRIES

Daniel Lejeune, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, France
Filed May 31, 1967, Ser. No. 642,446
Claims priority, application France, June 6, 1966, 64,754; Oct. 28, 1966, 82,100
Int. Cl. F16l *11/12, 11/04*
U.S. Cl. 138—138 8 Claims

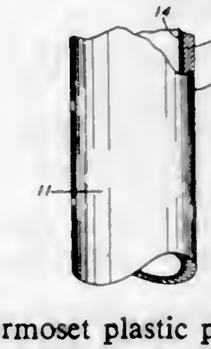


This product is a tube or hose for pumping abrasive materials such as concrete slurries by progressive squeezing of the tube or hose along its length and is characterized by two or more reinforcing layers of bias-laid elastic metallic cables, an outer covering layer of an elastomer such as abrasion resistant rubber and an inner liner of abrasion resistant elastomer, such as rubber, with or without a filling of metallic filaments extending lengthwise of the hose or tubing, the thickness of the inner liner being as great as possible commensurate with the internal and external dimensions required in the tubing or hose and optimally twice or more as thick as the thickness of the layers of metallic cables.

3,447,572

REINFORCED THERMOSET PLASTIC PIPE

Byron M. Vanderbilt, Westfield, and Charles F. Marsden, Jr., Bedminster, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Continuation of application Ser. No. 227,719, Oct. 2, 1962, which is a continuation-in-part of application Ser. No. 780,941, Dec. 17, 1958. This application Nov. 8, 1966, Ser. No. 592,949
Int. Cl. B32b *1/08*
US. Cl. 138—141 11 Claims

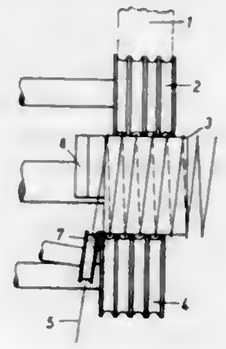


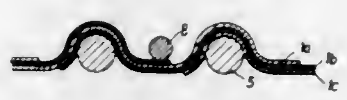
Reinforced thermoset plastic pipe is prepared in which at least one layer of the pipe (such as the inner liner, outer cover, or both) comprises a cured admixture of a peroxide-curable rubber polymer, an unsaturated polyester and a peroxide having a half-life of at least 15 minutes at 275° C.

3,447,573

MULTILAYER PAPER HOSE

Heinz Beck, Langen, near Frankfurt am Main, Germany, assignor to Techno-Chemie Kessler & Co. G.m.b.H., Frankfurt am Main, Germany, a company of Germany
Filed Mar. 29, 1966, Ser. No. 538,372
Claims priority, application Germany, Apr. 17, 1965, T 19,004
Int. Cl. F16l *11/10, 11/02, 11/12*
U.S. Cl. 138—122 5 Claims

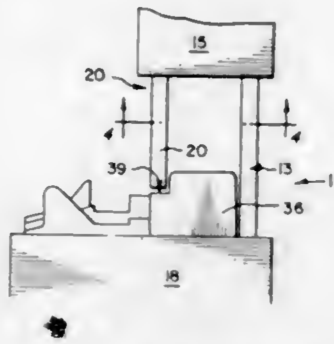




There is disclosed a multilayer paper hose in which a wire coil is encompassed by several overlapping layers of a lengthwise corrugated spirally wound web of stretchable paper. The pitch of the wire and the web are substantially the same and the turns of the coil engage the valleys of the corrugations on the inside of the paper layers whereby the web from which the layers are wound is such that it extends across several turns of the coil. The overlapping margins of the paper web are bonded to each other and a string spirally encompasses the outside of the paper layers and engages the valleys of the corrugations on the outside of the paper layers.

3,447,574
WEFT-GRIPPER FOR SHUTTLELESS LOOM

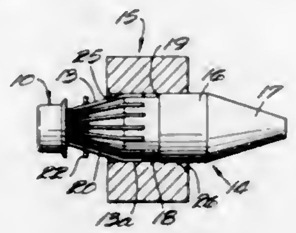
Marcel Claeys, 86 Cours Vittan, Lyon 6, France
Filed June 22, 1966, Ser. No. 559,594
Claims priority, application France, Apr. 22, 1966, 46,159
Int. Cl. D03d *47/34, 49/62*
Int. Cl. 139—125 **7 Claims**



The top surface of the weft-gripper contains a vertically movable jaw to grasp the yarn and a deep depression for the yarn supply. A shoulder on the weft-gripper cooperates with a false reed on the batten for guidance of the weft-gripper in flight.

3,447,575
TOOL FOR ARRANGING A GROUP OF LEADS OF AN INTEGRATED CIRCUIT ELEMENT TO FACILITATE MOUNTING

Frederic R. Johanson, Columbus, Ohio, assignor to The Jaeger Machine Company, Columbus, Ohio, a corporation of Ohio
Filed May 3, 1967, Ser. No. 635,761
Int. Cl. B21f *1/00;* **B21d** *9/05*
U.S. Cl. 140—106 **6 Claims**

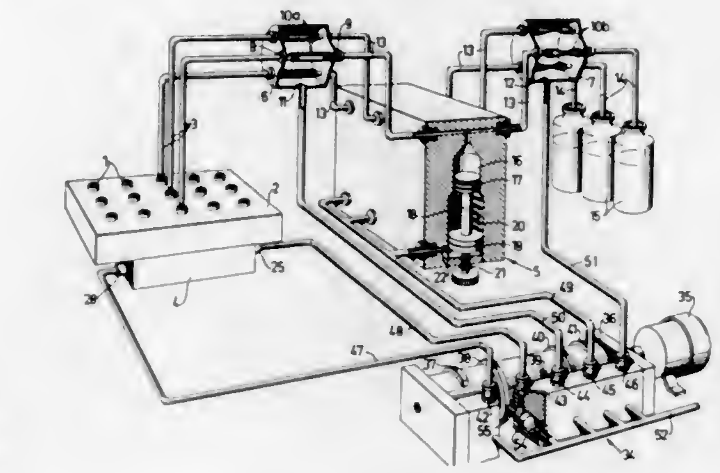


The present invention relates to a tool which is used for arranging the group of leads projecting from a circuit element, such as a transistor package, in a predetermined pattern of spaced leads corresponding to a pattern of spaced, lead-receiving holes in a support, such as a printed circuit board, in which the ends of the group of leads are to be inserted. In its specific form, the tool comprises a mandrel of frusto-conical form which is adapted to receive the group of leads, disposed in a substantially circular pattern, in radially opening notches disposed in a corresponding circular pattern at its smaller end, together with a forming collar which is to slip over these leads and bend them to the shape of the mandrel to arrange their extremities in a larger circle and which are spaced apart uniformly at increased spaced intervals.

3,447,576
FLUID DISTRIBUTING APPARATUS

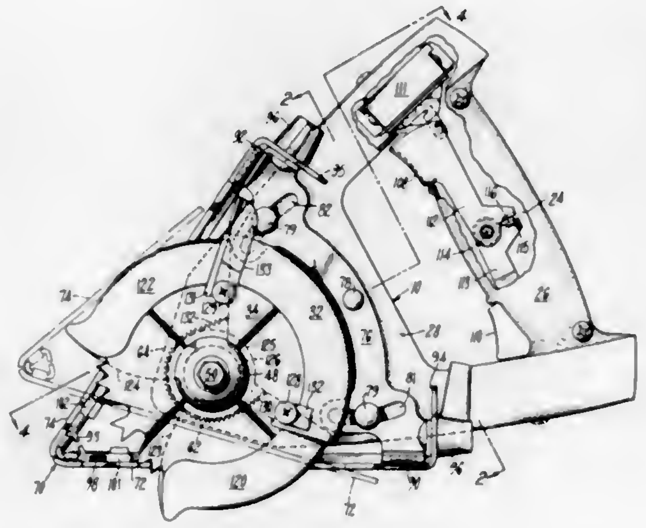
Kaj Anders Grönlund, Nykoping, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden, a Swiss company
Filed Nov. 1, 1965, Ser. No. 505,892
Claims priority, application Sweden, Nov. 6, 1964, 13,449/64
Int. Cl. B65b *43/56*
U.S. Cl. 141—167 **1 Claim**

A fluid distributing apparatus for delivering predetermined quantities of fluids from streams of fluids from separate sources of the latter—which distributing apparatus includes for each stream inlet and outlet valve assemblies and a cylinder between said valve assemblies, the cylinders being provided with plungers operatively associated with means for imparting reciprocatory motion to them and means for opening and closing said valve assemblies synchronously with the motion of the plungers. The apparatus further includes means for imparting stepwise motion to a table carrying receptacles for distributed fluid.



3,447,577
CIRCULAR TRIM SAW

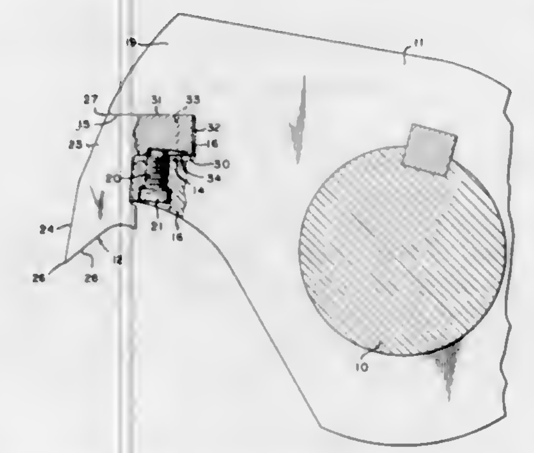
Milford D. Burrows, Avon, and Phillipp J. Quedens, Newington, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed June 13, 1966, Ser. No. 557,205
Int. Cl. B27b *9/00*
U.S. Cl. 143—43 **17 Claims**



A portable circular hand saw having a reversible electric motor, a spade handle at one side of the circular saw blade having trigger switches at opposite ends thereof for respectively operating the reversible motor for rotating the saw blade in opposite rotational directions, and a V-shaped base with independently pivotal base portions which cooperate with the saw blade for supporting the saw blade in each of two operational positions. The V-shaped base is symmetrically located with respect to the spade handle such that the saw may be used as either a left-sided hand saw or a right-sided hand saw and the trigger switches may be operated by the index finger in each operational position of the saw to operate the reversible motor in accordance with the left-sided or right-sided use of the saw.

3,447,578
CUTTER HEAD STRUCTURE

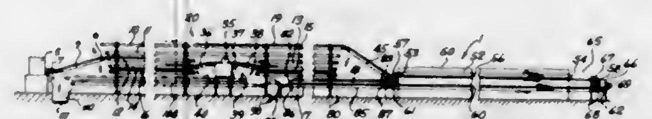
Leonard A. Mitten, Vancouver, British Columbia, Canada, assignor to Ernest E. Runnion, Shelton, Wash.
Filed Oct. 11, 1965, Ser. No. 494,633
Int. Cl. B27g *13/10, 13/00*
U.S. Cl. 144—218 **5 Claims**



A cutter head and knife assembly having the knife shimmed as an accommodation to re-sharpening operations, and apparatus permitting the shim to be poured in such a manner that the cutting edge of the knife is always precisely located regardless of the cumulative amount of metal which may be ground from the knife by a succession of re-sharpening operations.

3,447,579
REVERSE PASS IN-LINE VENEER PRODUCTION SYSTEM

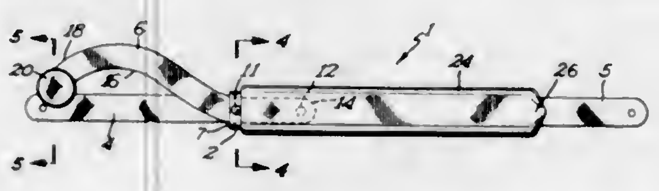
Conant Dodge, Tacoma, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Mar. 27, 1967, Ser. No. 626,154
Int. Cl. B27h *1/00;* **B27c** *9/100*
U.S. Cl. 144—324 **6 Claims**



A wood veneer production line including a turn-around dryer. The dryer includes two levels of conveyors which transport the veneer through one level and then turn it around and transport it back through the dryer at the next level. The turn-around mechanism for the dryer is installed external to the dryer housing to permit easy access to this critical portion of the path of the veneer for making adjustments. The wood scraps from the lathe, waste removal clipper, and the veneer sizing clipper are all gathered at one end of the dryer.

3,447,580
HAND CUTTING TOOL AND HOLDER

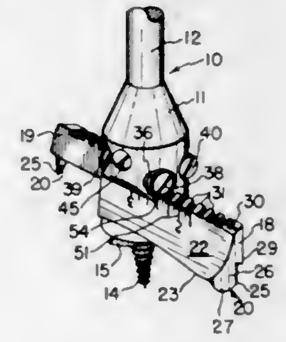
Mark W. Keymer, Hopkins, Minn., assignor to Malco Products, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 16, 1967, Ser. No. 675,648
Int. Cl. B27b *21/08;* **B26b** *1/00;* **B25g** *1/00*
U.S. Cl. 145—108 **5 Claims**



A hollow, elongate handle and holder for a tool such as a hacksaw blade has two blade retention arms extending forwardly from the open, front end thereof, one of said retention arms being a stationary member fixed at its inner end to the handle and the other retention arm being removably inserted in the forward end of the handle. The retention arms are closely spaced at their inner ends and are fastened together at their outer ends by a removable fastener so as to provide for the adjustment and proper support of a saw blade extending therebetween. The elongate handle is enclosed throughout its length by a plastic covering sheath which is provided with a slot at its outer end, the side walls of which serve to grip and support the rear segment of a saw blade extending therethrough.

3,447,581
EXTENSION BIT

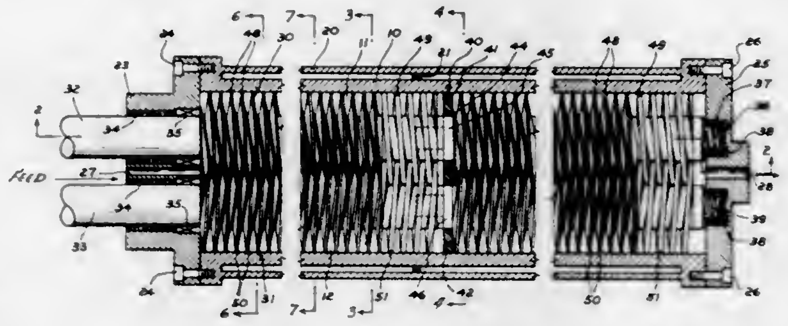
Martin G. Stromquist, 123 S. London Ave., Rockford, Ill. 61108
Filed Oct. 7, 1966, Ser. No. 585,000
Int. Cl. B27g *15/00*
U.S. Cl. 145—127 **1 Claim**



This extension bit has two spaced cutters in symmetrical relation to the body on opposite sides of which they are mounted, each cutter having a rack formed on one longitudinal edge portion cooperating with an adjusting screw disposed parallel thereto, each adjusting screw being independently adjustable and arranged to be independently locked by its own set screw, so that, while a balanced cutting action is obtained, one does not necessarily have to set both cutters to the same exact radius of operation.

3,447,582
APPARATUS FOR TREATING POLYMERS AND THE LIKE

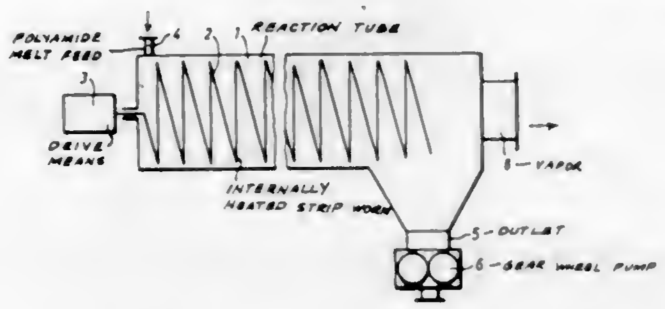
Louis F. Street, Hampton, N.J., assignor to Frank W. Egan & Co., Somerville, N.J., a corporation of New Jersey
Filed Aug. 1, 1967, Ser. No. 657,579
Int. Cl. B01d *1/22, 1/28*
U.S. Cl. 159—7 **17 Claims**



Liquid treating apparatus adapted, among other things in use, to promote the polymerization of thermoplastic materials by means of a twin screw reactor including a barrel having a pair of intersecting parallel, horizontal bores and a pair of screws of opposite hand having intermeshing generally V-shaped helical threads, the screws being positioned in corresponding bores and being rotatable in unison in opposite directions. The material to be treated is introduced in liquid state into the bores at one end of the barrel, is uniformly treated and advanced through the barrel by the screws and is discharged from the bores at the other end of the barrel. In the course of treatment, thin films of the material are carried by the threads and exposed to vacuum which effects removal of volatile constituents. In order to attain desirable large total area of exposed thin films relative to the size of the reactor, certain clearance distances and the pitch and depth of the V-shaped threads are maintained within predetermined ranges.

3,447,583
PROCESS FOR THE CONTINUOUS REMOVAL OF MONOMERIC AND OLIGOMERIC FRACTIONS FROM NITROGEN CONTAINING POLYMERS

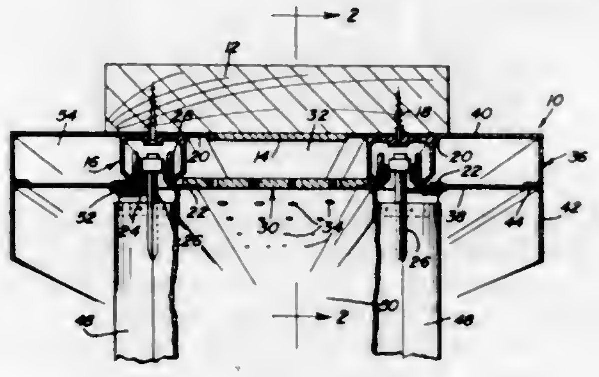
Karl-Heinz Hermann, Krefeld-Bockum, Hermann Schnell, Krefeld-Urdingen, Rudolf Schneider, Krefeld-Bockum, and Georg Spott, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed May 18, 1966, Ser. No. 551,079
Claims priority, application Germany, May 21, 1965, F 46,115
Int. Cl. B01d *1/22*
U.S. Cl. 159—49 4 Claims



A process for the continuous removal of the monomeric and oligomeric fractions contained in high molecular weight nitrogen-containing polymers in which a polymer melt is subjected to vacuum distillation in an apparatus comprising a tube and a rotating heated strip worm whereby the polymer melt is moved along the tube wall while leaving the internal volume of the tube free, the vacuum distillation being conducted at a temperature of 220° to 320° C., the pressure being in the range of 0.1 to 2 mm. Hg, the pitch of said strip worm being from about 20 to 200 mm. and being rotated at the rate of 2 to 150 r.p.m.

3,447,584
AIR RELEASE CONSTRUCTION FOR FOLDING DOOR

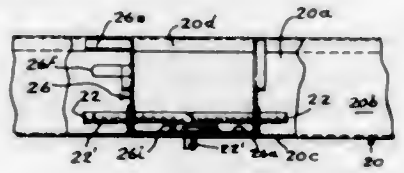
Jay A. Smart, Salt Lake City, Utah, assignor to The Won-Door Corporation, a corporation of Utah
Filed Aug. 21, 1967, Ser. No. 661,863
Int. Cl. E06b *3/46, 5/12, 5/20*
U.S. Cl. 160—84 5 Claims



An overhead support and track unit for double folding doors of the type providing an internal sound barrier space, the unit incorporating laterally spaced parallel tracks with an air release chamber defined therebetween in overlying relation to the internal door air chamber. Air passages are provided between the door chamber and the overhead track unit chamber so as to allow for the free movement of air therebetween whereby an escape of air from the door is easily effected during the opening of the door so as to avoid any movement resisting air cushion and allow for a smooth movement of the door as the internal door air chamber is being collapsed.

3,447,585
VENETIAN-BLIND CRADLE AND ORGANIZATION

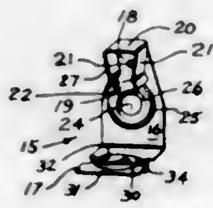
Hans K. Lorentzen, Brick Township, Joseph A. Anderle, Clifton, and Leo Abate, Wayne, N.J., assignors to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 575,632, Aug. 29, 1966. This application June 2, 1967, Ser. No. 643,184
Int. Cl. E06b *9/323*
U.S. Cl. 160—178 9 Claims



For a Venetian blind: A cradle and lift-cord organization in which the lift cords, in their horizontal runs in the head channel, pass through holes in the vertical legs of the cradle and are confined closely adjacent to the base of the cradle, the construction and arrangement providing for sidewise entry of the lift cords into the holes in the legs of the cradle and also providing restraint against accidental movement of the lift cords out of the holes in the legs of the cradle.

3,447,586
VENETIAN-BLIND HOLD-DOWN BRACKET

Joseph A. Anderle, Clifton, N.J., assignor to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Mar. 15, 1968, Ser. No. 713,525
Int. Cl. E06b *9/326;* **A47h** *33/00*
U.S. Cl. 160—178 9 Claims



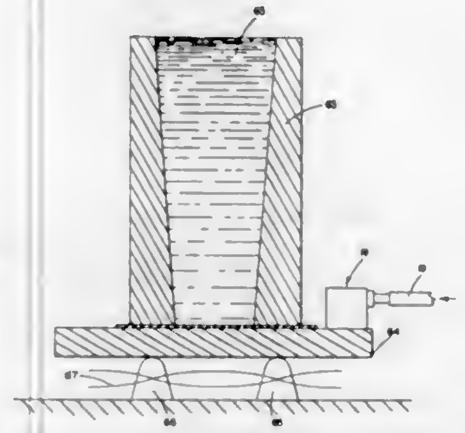
A universal Venetian-blind hold-down bracket has a gudgeon-pin recess which is alongside of the body of the bracket. The bracket is adapted for use as either a "right" or a "left," being usable at either end of the bottom bar of a Venetian blind. The bracket is adapted to be secured against the face of a door or against a vertical building-surface that is parallel to the expanse of the blind. The bracket is also adapted to be attached to either jamb of a window opening by being secured against the jamb-face which confronts the opposite jamb. Further, the bracket is adapted to be secured against the top surface of the sill of a window opening.

ERRATUM

For Class 164—49 see:
Patent No. 3,447,480

3,447,587
METHOD AND DEVICE FOR MOLD CASTING UTILIZING SONIC ENERGIZATION

Albert G. Bodine, Jr. 7877 Woodley Ave., Van Nuys, Calif. 91406
Original application May 10, 1965, Ser. No. 454,335. Divided and this application July 24, 1967, Ser. No. 655,481
Int. Cl. B22d *27/08*
U.S. Cl. 164—49 6 Claims



Fluid material to be cast is poured into a static mold and while it transforms from a fluid to a solid state is subjected to high-level sonic energy as part of a resonant elastic vibration system. This vibration system is excited by means of an orbiting-mass oscillator which automatically adjusts its frequency and phase of operation with changes in impedance characteristics of the material being cast as it goes from a fluid to a solid state, thereby maintaining optimum resonant operation at all times, such as to improve the temperature distribution within the large mass of material while changing from fluid to solid state.

3,447,588
METHOD OF RUNNING IN THE WORKING WALLS OF A MOLD

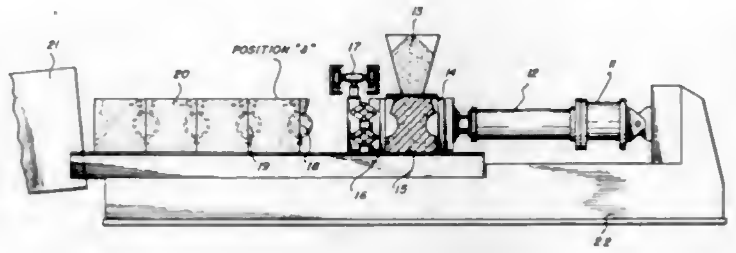
Vitaly Maximovich Niskovskikh, ul. Festivalnaya, 21, kv. 60; Georgy Leonidovich Kurukils, pr. Ordzhonikidze, 11, kv. 32; Evgeny Jukhimovich Gelfenbeln, ul. 40 let Oktyabrya, 28, kv. 51; Isai Vulfovich Tarlinsky, per. Meditsinsky, 3, kv. 79; and Viktor Nikolaevich Khorev, ul. Bazhova, 130, kv. 107, all of Sverdlovsk, U.S.S.R.
No Drawing. Filed Mar. 1, 1967, Ser. No. 619,600
Claims priority, application U.S.S.R., Mar. 15, 1966, 1,059,311
Int. Cl. B22d *11/00;* **B22c** *3/00*
U.S. Cl. 164—73 2 Claims

A method of preparing a mold in a continuous casting plant that includes cleaning the mold of oxides and greases, then spraying the surfaces of the mold with a coating or dressing including a polymer base and molybdenum disulphide. The coating acts as a lubricant and may be applied a second, or other times, after completing several ingots.

3,447,589
SHELL MOLDING METHOD

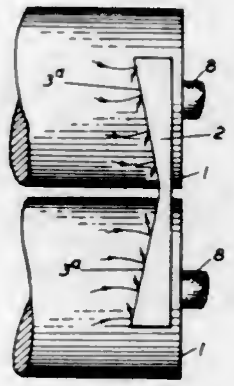
James M. Planten, Deep Brook Road, Wyckoff, N.J. 07481
Filed Sept. 1, 1966, Ser. No. 576,701
Int. Cl. B22d *33/04;* **B22c** *9/20*
U.S. Cl. 164—137 2 Claims

The method of making castings comprising the steps of making two shell mold halves and also preparing two green sand back-up molds each contoured to fit one of the back faces of a shell mold half. Placing the back-up molds and shell mold halves into a mold assembly with the shell mold halves together and a back-up mold engaging the back face of each shell mold half. The assembly is held firmly together and molten metal is poured into the assembled shell mold halves.



3,447,590
ROLL TYPE CONTINUOUS CASTING APPARATUS

Erik Allan Olsson, 88 Oerlikonerstrasse, Zurich, Switzerland
Original application July 23, 1965, Ser. No. 474,407. Divided and this application Dec. 1, 1967, Ser. No. 687,173
Int. Cl. B22d *11/06*
U.S. Cl. 164—277 7 Claims

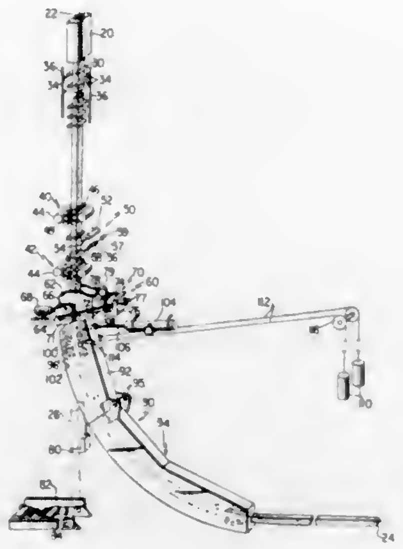


This application relates to apparatus for continuous casting of metal by flowing the molten metal into a reservoir formed between the surfaces of two or more revolving rolls that turn toward each other. The molten metal, congealing on the surface of the rolls, is carried into a space between two rolls and emerges as a formed slab or strip. When the rolls are horizontal, there are end members at opposite ends of the rolls and cooperating with the roll surfaces to confine the molten metal, and when the rolls are vertical there is an end member only at the bottom. This application discloses tapering or sloping the surface of each end wall member that is contacted by the molten metal away from the path of flow of the metal so that the metal congealing on the surface of the rolls is continuously carried away and cannot become wedged under the end wall members.

3,447,591
APPARATUS FOR BENDING A CASTING HAVING A LIQUID CORE

Justin E. Foldessy, Ogden Dunes, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Original application Mar. 6, 1964, Ser. No. 349,944, now Patent No. 3,338,297, dated Aug. 29, 1967. Divided and this application Feb. 10, 1967, Ser. No. 615,196
Int. Cl. B22d *11/12, 27/04*
U.S. Cl. 164—282 2 Claims

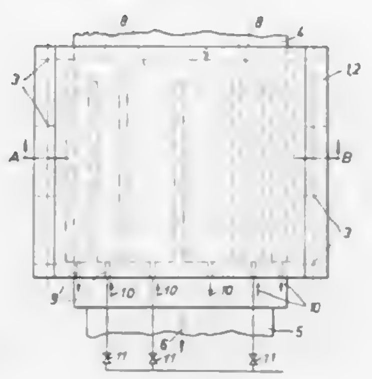
An apparatus for moving a continuopsly formed casting in a continuous metal casting apparatus. A plurality of pinch rollers are arranged in two pairs below the cooling mold and above a guide mechanism for guiding the casting from a vertical path to a lateral path. The idler rolls of the pinch rollers engaging the casting are driven by through backup rolls. Also, the top pinch rolls are driven at a higher speed than the lower pinch rolls to force the casting against the starter bar immediately prior to separation.



3,447,592

COOLING APPARATUS FOR DIFFERENTIALLY COOLING A CONTINUOUS CASTING

Alfred J. Wertli, Poststr 15, EH–8406 Winterthur, Switzerland
Filed Apr. 25, 1966, Ser. No. 544,946
Claims priority, application Switzerland, May 3, 1965, 6,275/65
Int. Cl. B22d *11/12*
U.S. Cl. 164—283 3 Claims



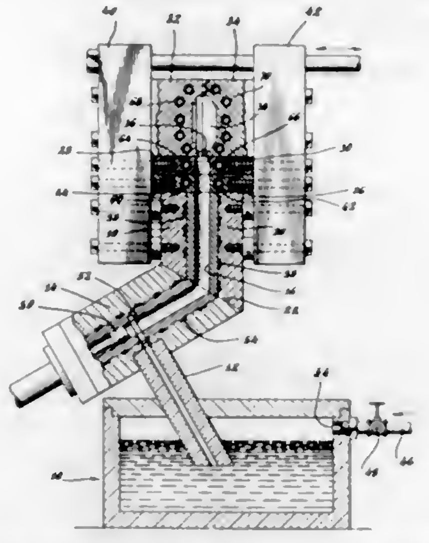
The casting is continuously cooled in a differential manner by passing separate coolant streams through the cooling apparatus in order to obtain different rates of cooling in each coolant passage to effect a homogeneous structure in the casting, the cooling apparatus is formed with U-shaped coolant passages and the temperature or rate of flow of the coolant through each coolant passage is adjustably varied.

3,447,593

APPARATUS FOR DIE CASTING

Gustav Nyselius, Stamford, Conn., assignor to Mt. Vernon Die Casting Corporation, Stamford, Conn., a corporation of New York
Filed May 25, 1967, Ser. No. 641,197
Int. Cl. B22d *17/04*
U.S. Cl. 164—312 8 Claims

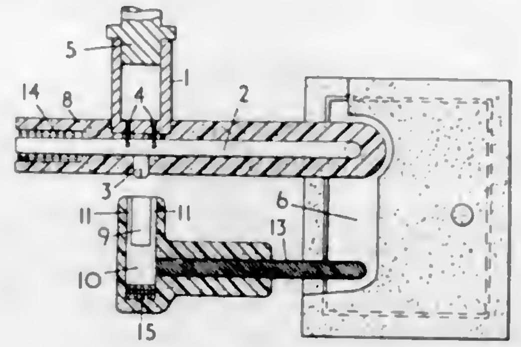
The casting material is supplied from a furnace reservor upwardly through an inclined spout and through an upwardly and oppositely inclined charging sleeve to the lower end of a runner defined between a plurality of pairs of opposed plates, the lower ends of the lower pair of plates meeting the upper end of the charging sleeve at an inclined interface. Means are provided for maintaining the temperature of the sleeve and the pairs of runner defining plates as well as the die plates at different temperatures and the charging sleeve may be made of steel because it is automatically emptied of casting material between casting operations.



3,447,594

TEMPERATURE CONTROL FOR AN ULTRA MICROTOME

Edgar Harold Andrews, 14 Glebe Road, Welwyn, Hertfordshire, England
Filed Apr. 19, 1967, Ser. No. 632,024
Int. Cl. F25b *29/00, 13/00*
U.S. Cl. 165—2 6 Claims



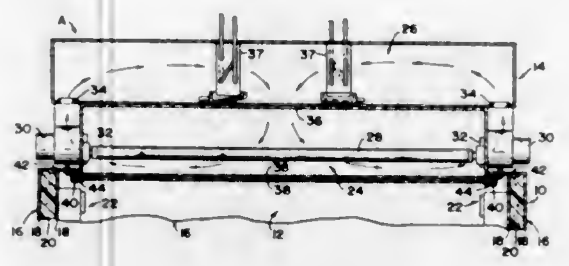
A cooling apparatus for an ultra-microtome comprising a heat sink comprising a receptacle containing a liquid coolant, a metallic conduction bar, a specimen nose piece upon said bar and attachable to the specimen head of an ultra-microtome with one end of the bar immersed in the coolant in the receptacle for conducting heat from a specimen on the nose piece to the heat sink, an electric heating coil upon the end of the bar remote from the heat sink and a source of electric current and current adjusting means connected to the electric heating coil.

3,447,595

ENVIRONMENTAL GROWTH CHAMBER

Noel Davis, Russell Township, Geauga County, Ohio, assignor to Integrated Development and Manufacturing Co., Chagrin Falls, Ohio, a corporation of Ohio
Filed Aug. 14, 1967, Ser. No. 660,344
Int. Cl. F24f *3/14, 7/00, 13/00*
U.S. Cl. 165—21 4 Claims

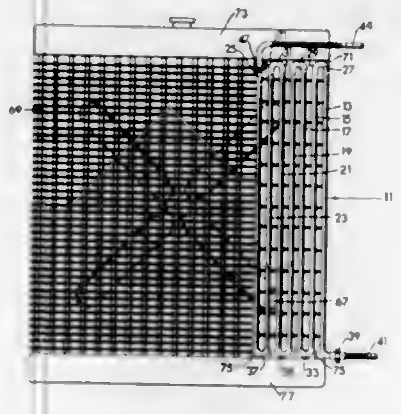
An environmental growth chamber of the type used in conducting biological experiments. The growth chamber comprises a well insulated housing defining a test chamber provided with apparatus for maintaining controlled conditions of temperature and humidity therein. Positioned over the upper end of the test chamber is a light cap formed with highly reflective interior walls defining a downwardly open lamp chamber with a plurality of closely spaced electric lamps mounted therein. A pair of horizontally extending, vertically spaced, light pervious barrier members are positioned between the test chamber and the lamp chamber and arranged to provide an air seal between the respective chambers. Additionally, the barrier members are mounted so as to have a relatively sealed air space between them.



3,447,596

AUTOMOBILE AIR-CONDITIONING SYSTEM

Carl N. Hughes, 1216 Forrest Ave., Memphis, Tenn. 38104
Filed July 10, 1967, Ser. No. 652,047
Int. Cl. B60h *3/00;* **B61d** *27/00*
U.S. Cl. 165—42 1 Claim



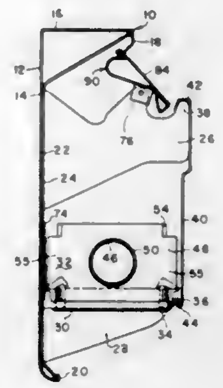
An automobile air-conditioning system in which the heat exchanging coil is disposed in transversely arranged coplanar alinement with the radiator core of the engine cooling system forwardly of the engine-driven fan of the automobile so that external air is drawn into the system and passes over the radiator core and the air conditioning coil simultaneously and independently of each element to effect simultaneous and independent cooling of the engine coolant and heat exchange of the air-conditioning coolant.

3,447,597

HEAT EXCHANGER CONVECTOR

John C. McNabney, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Dec. 4, 1967, Ser. No. 687,846
Int. Cl. F24h *9/08*
U.S. Cl. 165—55 8 Claims

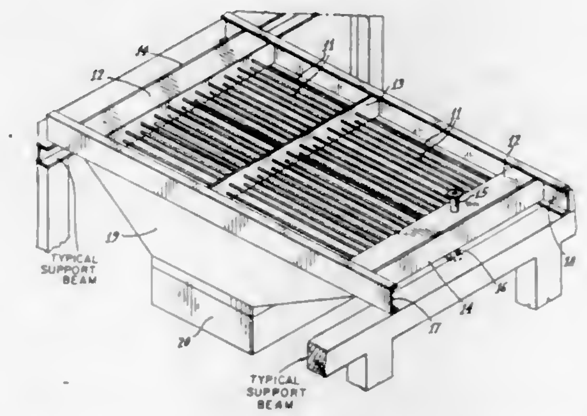
A baseboard convector having tubular heat exchanger element provided with a plurality of parallel spaced rectangular air contacting fins wherein tabs struck from each corner thereof extend between the fins to form columns merely at the corners thereof for supporting the fins with minimum obstruction to air flowing around said tubular element. The heat exchanger element and fins are supported for sliding movement upon a bracket via a plastic cradle which is attached to the fin tabs. An optional damper mounting arrangement permits the use of either an infinitely adjustable or merely a two position damper for controlling the convection air current over the heat exchanger.



3,447,598

AIR COOLED HEAT EXCHANGER

David Kaess, Jr., Valhalla, N.Y., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed May 12, 1967, Ser. No. 637,948
Int. Cl. F28f *9/02, 9/00*
U.S. Cl. 165—67 5 Claims

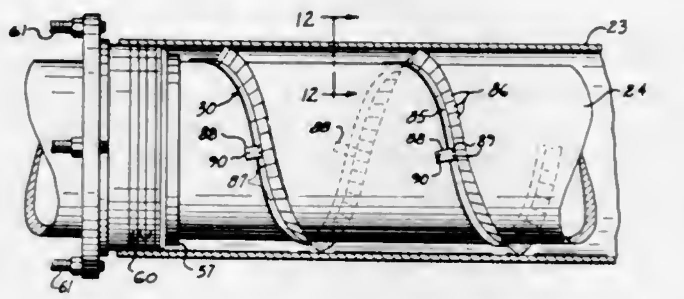


An air cooled heat exchanger consisting of a tube bundle, header boxes and tube supports, the tube bundle being supported by members extending laterally of the bundle and beyond the header boxes.

3,447,599

HEAT EXCHANGE APPARATUS

Robert L. Smith, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Original application Mar. 17, 1966, Ser. No. 535,090, now Patent No. 3,405,760, dated Oct. 15, 1968. Divided and this application Apr. 29, 1968, Ser. No. 738,755
Int. Cl. F28f *5/06, 1/42;* **B21d** *53/02*
U.S. Cl. 165—89 5 Claims



A baffle structure of paired strips having parallel cuts positioned between the shell and tube in a spiral affording a flow path for a heat exchange fluid.

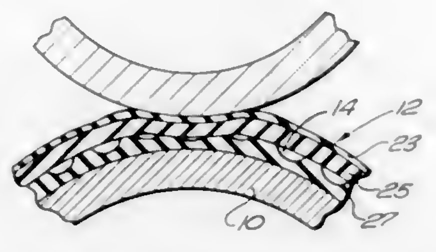
3,447,600
CONSTRUCTION OF ROLL FOR MACHINERY AND THE MANUFACTURE THEREOF

William E. Greene, Bronxville, N.Y., assignor to SW Industries, Inc., Newton, Mass., a corporation of Massachusetts

Filed Sept. 23, 1966, Ser. No. 581,538

Int. Cl. F28d *21/00;* **B21b** *27/00*

U.S. Cl. 165—90 **2 Claims**



A roll has a specially designed elastomeric cover having an inner working region and an outer non-working region. The inner working region is perforated by generally longitudinal spiral channels in order to counteract the inability of its elastomeric mass to compress and in order to flow a cooling liquid for temperature control. The outer non-working region has a higher modulus of elasticity than the inner working region. It has been found that these relationships sufficiently isolate the outer operation of the external surface of the roll from the inner operation of the conduits.

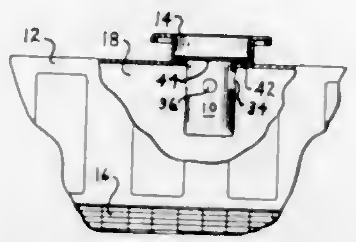
3,447,601
FILTERING DEVICE

Harvey L. Kiff, 704 Lakeside St., La Porte, Ind. 46350

Filed Dec. 12, 1966, Ser. No. 601,164

Int. Cl. F28f *19/00*

U.S. Cl. 165—119 **7 Claims**



A filtering device for an engine radiator in which the lower portion of the filtering device consists of an imperforate cup-shaped part containing a filter element and the upper portion contains holes through which the coolant circulates. The device is suspended in the upper part of the radiator near the liquid level.

3,447,602
HEAT EXCHANGER ESPECIALLY ADAPTED FOR INDIRECT HEAT TRANSFER BY CONVECTION

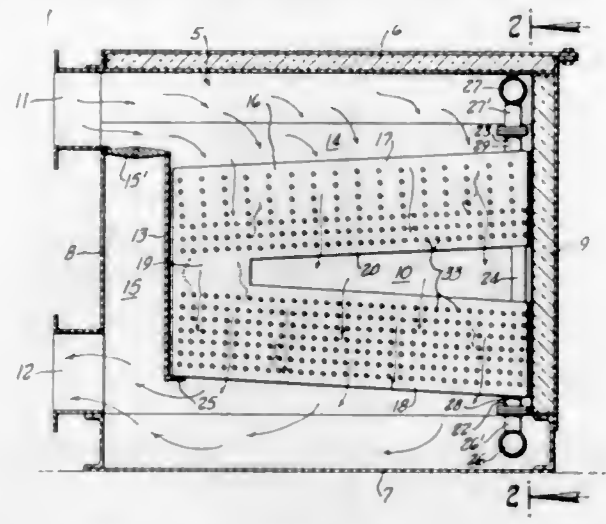
David Dalin, Vensberg, Tosse, Sweden

Filed June 22, 1967, Ser. No. 648,136

Int. Cl. F28f *3/02, 9/22*

U.S. Cl. 165—145 **5 Claims**

A heat exchanger for the indirect transfer of heat by convection between two flowing media, as for instance water and hot combustion or flue gases traveling along a defined path. The water circulates through a plurality of side-by-side U-shaped ducts mounted in and disposed edgewise to the path of the combustion or flue gases, so that the gases first sweep over one leg of the U-shaped duct units and then the other. The inlet of each duct unit is in the outer extremity of the leg thereof which is last swept by the gases and the outlet is in the extremity of the other leg, so that the donor gaseous medium and the liquid recipient medium flow countercurrent; and because of the cross sectional dimensions of the legs of the U-shaped duct units, the hottest water travels in that portion of each leg which is first swept by the hot flue gases. The U-shaped duct units are either box-like in construction or composed of two groups of parallel tubes connected at one end by a common header which forms the bight portion of the U and connected at their outer ends by separate headers, one for each group of tubes.



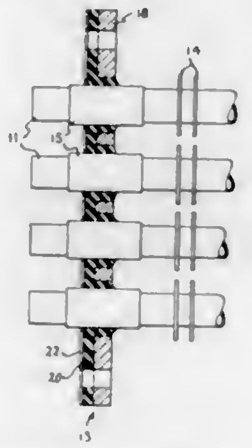
3,447,603
MEANS FOR RESILIENTLY MOUNTING TUBULAR MEMBERS

Samuel P. Jones, Erie, Pa., assignor to General Electric Company, a corporation of New York

Filed July 3, 1967, Ser. No. 651,040

Int. Cl. F28f *9/04;* **F16l** *39/04, 27/00*

U.S. Cl. 165—178 **10 Claims**



A tube sheet for a heat exchange device wherein sleeves are resiliently mounted within a plurality of larger openings provided in a perforated metal sheet with an elastomeric material. The surface of the elastomeric material opposite the perforated member is rendered vapor-impervious by application thereto of a layer of a suitable vapor-impervious material.

3,447,604
SAFETY ASSEMBLY FOR IMPACT-ACTUATED WELL TOOL

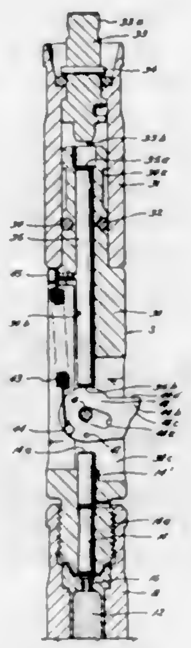
John C. Kinley, 5815 Royalton St., Houston, Tex. 77036, Myron M. Kinley, Clifford E. Anderson and Rossiter R. Potter, Houston, Tex.; said Myron Kinley, said Anderson and said Potter assignors to said John C. Kinley

Continuation-in-part of application Ser. No. 623,866, Mar. 17, 1967. This application July 13, 1967, Ser. No. 656,309

Int. Cl. E21b *43/11, 23/04;* **F42d** *5/00*

U.S. Cl. 166—63 **5 Claims**

A safety assembly for use in an impact-actuated well tool such as an explosive perforator wherein the explosive is detonated by impact and wherein an interference means positively prevents the transmission of impacts on the tool to the explosive or similar portion of the tool until the tool has been set in the firing or active position.



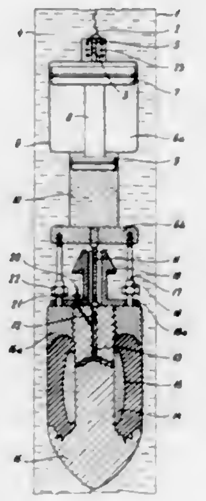
3,447,605
METHOD OF SEALING BOREHOLES AND APPARATUS THEREFOR

Sandor Uliczky and Istvan Zsoka, Budapest, Hungary, assignors to Mineralimpex Magyar Olaj-es Banyatermek Kulkereskedelmi Vallalat, Budapest, Hungary

Filed Sept. 5, 1967, Ser. No. 665,360

Int. Cl. E21b *33/12*

U.S. Cl. 166—187 **4 Claims**



A closing head for deep drill holes is surrounded by an expansible sleeve which is inflated to close the drill hole. A release head has limited movement relative to the closing head and during upward movement breaks a frangible pipe to permit escape of the pressure within the sleeve, thereby to collapse the sleeve to permit removal of the closing head from the drill hole.

3,447,606
ADJUSTABLE TAIL PIPE FOR WELL TOOLS

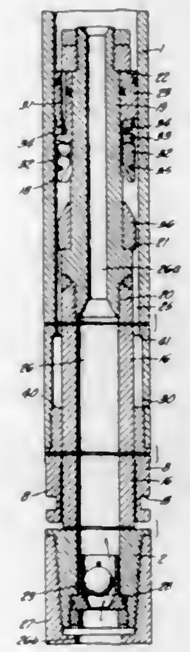
Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Mar. 24, 1967, Ser. No. 625,824

Int. Cl. E21b *23/00*

U.S. Cl. 166—237 **8 Claims**

An adjustable tail pipe for well tools telescopically adjustable from a first position, at which it projects from a tool body to a second position at which it projects further from the tool and is locked in the second position by mechanically engaged lock elements.



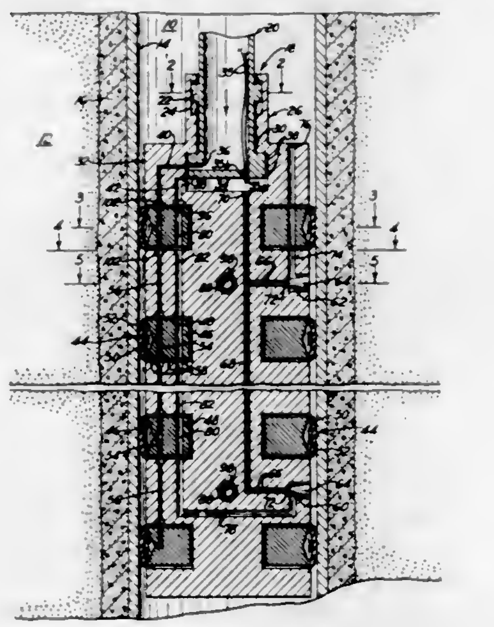
3,447,607
METHOD FOR SAND CONTROL IN WELLS

Martin H. Harris, Pittsburgh, Francis M. Smith, Gibsonia, and James W. Jennings, Verona, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 10, 1967, Ser. No. 622,270

Int. Cl. E21b *43/04*

U.S. Cl. 166—278 **2 Claims**



A special tool is lowered into a well and two vertically spaced perforations are created. A volume of formation outside the casing is washed out between the perforations, the tool is rotated, and filter plugs are hydraulically pushed into the perforations and locked into place. The tool is removed and the well is produced to pack a zone of high permeability sand around the filter plugs.

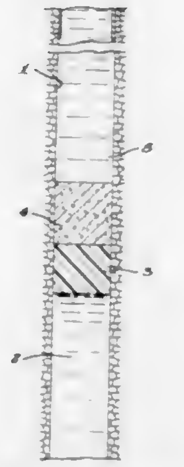
When a well is in contact with a hydrocarbon bearing layer in the earth which is composed in large part of loose sand, there are a number of production problems which must be solved. The usual procedure of producing from such a layer is to set a casing in the well which is secured in place by means of a cement sheath between the outside of the casing and the formation. The casing and the cement sheath are then perforated to provide openings through which the oil and gas flows into the inside of the casing and up to the surface. If no control means are provided, the loose sand will flow through the perforations and either block them up or fill the inside of the casing, or otherwise interfere with or stop production.

Various kinds of filter spikes or plugs may be inserted through the perforations to prevent the entry of sand and the like into the inside of the casing. However, this tends to create a zone of low permeability around the spike due to compaction of the formation, crushed sand and the like immediately around the spike.

3,447,608
OPEN HOLE CEMENT PLUGGING

William Charles David Fry and Patrick Neilan Parker, Tulsa, Okla., and William M. Ross, Jr., Metairie, and Jimmy H. Parry, Morgan City, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 15, 1966, Ser. No. 542,892
Int. Cl. E21b *33/13*
U.S. Cl. 166—293 **7 Claims**

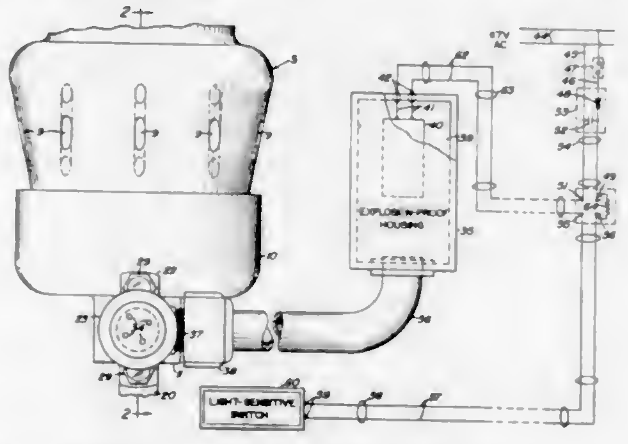


The improved method of emplacing a cement plug in a mud-containing open hole which comprises first positioning a temporary plug in the hole comprising an aqueous liquid and a cohesively cementitiously relatively low-density autonomously solidifying particulate material slurried therein which sets relatively quickly to a solid of relatively low strength but of greater supporting strength than the mud in the hole and, after allowing the emplaced slurry to solidify, emplacing a relatively high density, relatively high strength and relatively slow setting cement slurry on top of the temporary plug to form a more-or-less permanent plug.

3,447,609
FAST-ACTING DELUGE-TYPE FIRE EXTINGUISHER SYSTEM

James Harvey, R.D. 1, Box 1727, Browns Mills, N.J. 08015

Filed Aug. 31, 1967, Ser. No. 665,677
Int. Cl. A62c *35/20, 3/00, 37/04*
U.S. Cl. 169—20 **7 Claims**

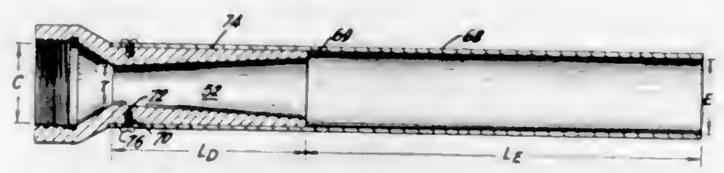


A fire extinguisher deluge-type valve head at one or more places over a fire hazard area involving highly-explosive and incendiary materials is provided with a gas-actuated firing-pin release mechanism in connection generally through a high-pressure tubing line, with an explosion-proof housing containing an electric detonator cartridge as a source of high-pressure gas for instant operation on firing. The firing current from a rectified A-C source or an existing D-C source, is applied through a modern fast-acting light-sensitive switch located near the hazard area and the potential fire source. The firing current is limited in magnitude by series resistance means. The system operates instantly after light activation by the first incendiary flash, and is effective to provide complete extinguishment of such materials in a few milliseconds.

3,447,610
APPARATUS FOR PRODUCING A STREAM OF DRY CHEMICAL PARTICLES

Arthur B. Guise, Marinette, Wis., and Garry O. Hanson, Menominee, Mich., assignors to The Ansul Company, Marinette, Wis., a corporation of Wisconsin

Filed July 19, 1966, Ser. No. 566,383
Int. Cl. A62c *11/00, 1/08*
U.S. Cl. 169—31 **4 Claims**

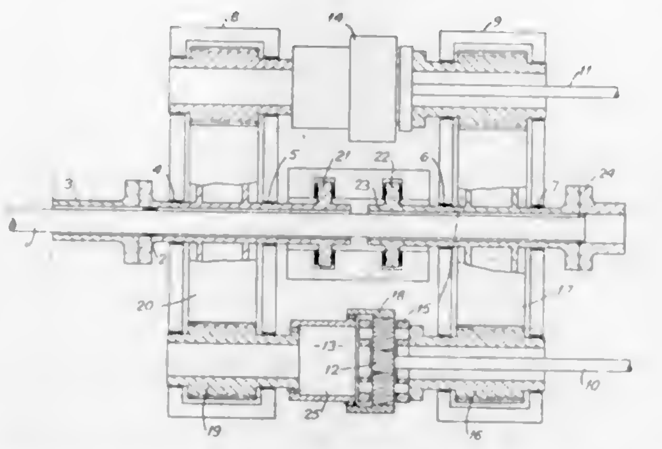


A nozzle for use in a dry powder fire extinguisher of the convergent-divergent type.

3,447,611
TWO-STAGE SPEED REDUCTION MECHANISM FOR DRIVING TWO MARINE PROPELLERS

Per Erik Arne Larsson and Per Gosta Thornblad, Finspong, Sweden, assignors to Stal-Laval Turbin AB, Finspong, Sweden

Filed Nov. 10, 1966, Ser. No. 593,335
Claims priority, application Sweden, Dec. 9, 1965, 16,000/65
Int. Cl. B23h *5/10;* **F16h** *1/22*
U.S. Cl. 170—135.28 **4 Claims**

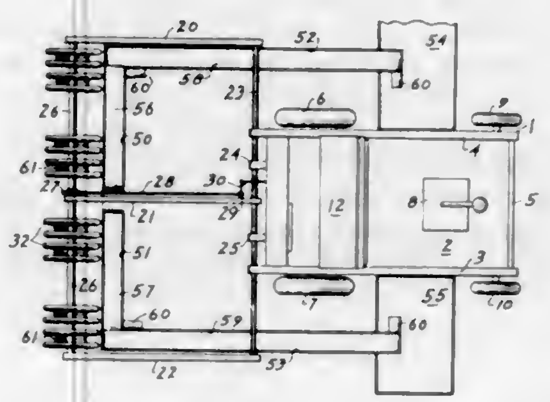


Two-stage speed reduction gear mechanism for propeller-driven craft having two coaxially extending propeller shafts, one being tubular and the other one being rotatable therein, each of the shafts supporting a gear-wheel unit for driving the respective shafts individually, which units are arranged in parallel spaced relationship and a planetary gear unit located between the gear-wheel units, the sun wheel of which is driven by the power source, the planet carrier thereof being connected to a pinion meshing with one of the gear wheels for driving one of the propeller shafts, while the internal gear ring is connected to another pinion for driving the other gear wheel and the corresponding propeller shaft.

3,447,612
VEGETABLE PICKING MACHINE

Ernest H. Lent, 2725 Kellogg Park Drive, Pomona, Calif. 91766

Filed Mar. 28, 1966, Ser. No. 538,086
Int. Cl. A01d *13/00, 21/04, 25/02*
U.S. Cl. 171—58 **4 Claims**

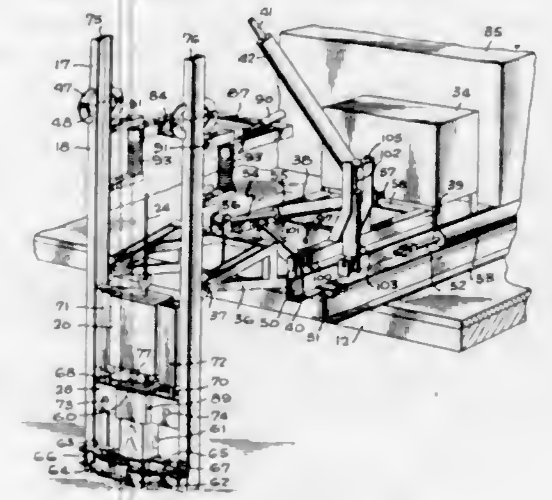


The invention utilizes a row of wobbling disc-like wheels arranged in pairs along a shaft wherein each pair has meeting surfaces at its bottom portion which grip the vegetable and remove it from the ground and then release it to fall upon a carrier means. Plow-like means are also employed to loosen the ground so that vegetable can easily removed.

3,447,613
COMBINED EARTH BORING AND POST DRIVING APPARATUS

Edgar J. Lisenby, 13136½ Saticoy St., North Hollywood, Calif. 91605

Filed July 7, 1967, Ser. No. 651,884
Int. Cl. E21c *11/02, 5/08*
U.S. Cl. 173—28 **10 Claims**

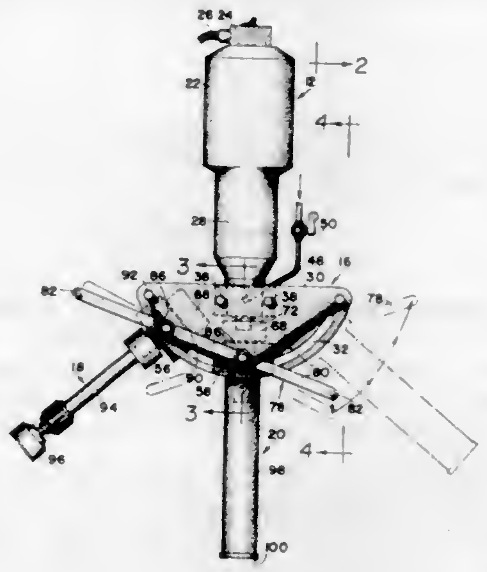


The earth boring and post driving apparatus disclosed herein is carried on a truck bed and includes an upright frame laterally cantilevered therefrom for supporting an earth auger and a post driver in such a manner that either may be employed independent of each other or combined during an earth boring procedure to assist the auger in biting into the earth. Hydraulic cylinder and piston assemblages are employed to move the earth auger and post driving mechanism into and out of operating position and to maneuver the upright frame into various angular orientations so that the apparatus can function on slopes or uneven terrain. The frame is pivotally mounted on the truck bed by a universal mounting arrangement so that maneuvering of the frame can be readily achieved.

3,447,614
MULTI-CHUCK DRILL HOLDER

Paul J. Marin, 94 Lagoon Road, Belvedere, Calif. 94920

Filed Mar. 4, 1966, Ser. No. 531,936
Int. Cl. E21c *5/08*
U.S. Cl. 173—141 **9 Claims**

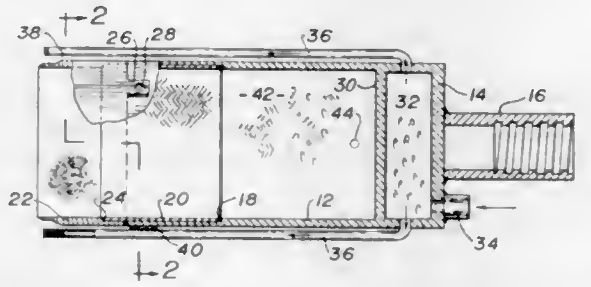


1. In power drive apparatus: a support; a shaft rotatably mounted on the support; a pair of driven members; a journal structure for each member respectively, each journal structure being coupled with and rotatable relative to the corresponding member; means mounting said journal structures on said support for arcuate movement about an axis angularly disposed relative to the shaft and spaced from said journal structures; means interconnecting said driven members whereby the latter may be moved alternately into and out of a position aligned with said shaft; and means carried by each member for operably coupling the same to said shaft when the corresponding journal structure is in said position, whereby the member will rotate with said shaft.

3,447,615
CORE SAMPLE RETRIEVING APPARATUS

Clifford L. Schick, 3442 Homestead Road, Santa Clara, Calif. 95051

Filed Mar. 11, 1966, Ser. No. 533,588
Int. Cl. E21b *49/02*
U.S. Cl. 175—17 **5 Claims**



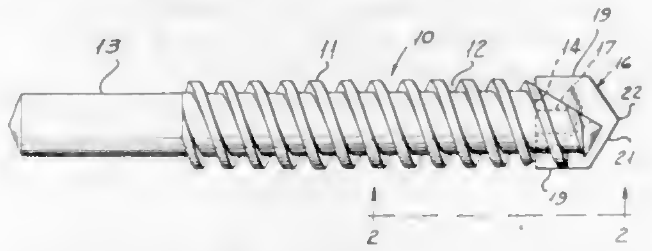
Soil sampling apparatus where a refrigerant fluid is controllably conveyed to the lower end of a tubular casing for retaining the sample as a frozen entity within the tube.

3,447,616
DRILLS

Zigmund E. Granat, 14 Prince Court, Wayne, N.J. 07470

Filed Dec. 29, 1966, Ser. No. 605,719
Int. Cl. E21c *13/02, 13/01*
U.S. Cl. 175—394 **4 Claims**

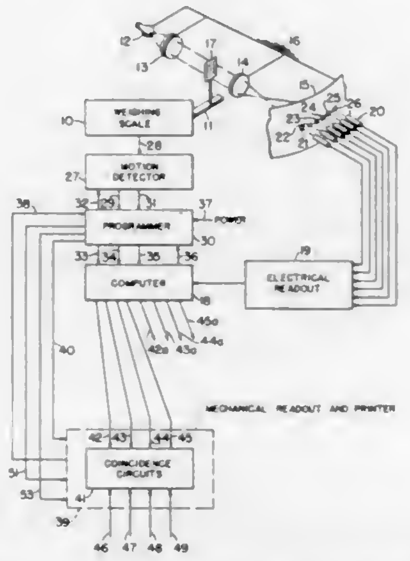
A drill having a detachable blade mounted on the end thereof in a slot extending transversely of the body of the drill and which blade is provided with a hub having portions on opposite faces of the blade constructed to fit into an opening in the end of the drill at opposite sides



of the slot so as to align the blade accurately with respect to the length of the drill.

3,447,617
CONTROL CIRCUITRY FOR DISCRIMINATING PRICE COMPUTATION

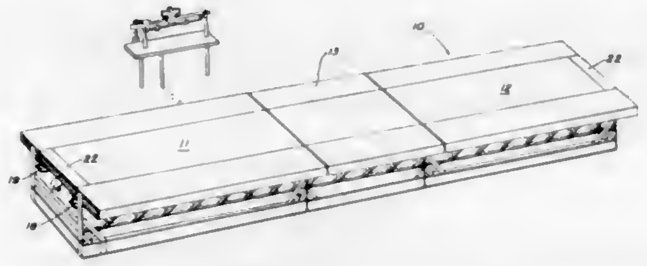
William C. Susor and Orval J. Martin, Toledo, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Toledo, Ohio, a corporation of Ohio
Original application Feb. 1, 1965, Ser. No. 429,230, now Patent No. 3,384,193, dated May 21, 1968. Divided and this application Apr. 7, 1967, Ser. No. 629,292
Int. Cl. G01g *23/38*
U.S. Cl. 177—3 3 Claims



An automatic computing and printing scale having an excess value interlock which is responsive to predetermined combinations of inserted unit price and weight for preventing value computation based on such combinations.

3,447,618
TRANSPORTABLE TANDEM-TYPE SCALE

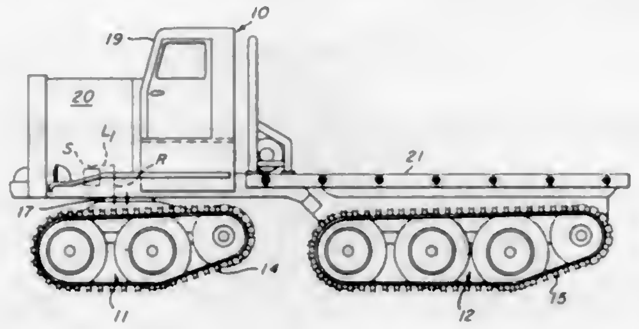
Leslie R. Murphy, Sacramento, Calif., assignor to L. R. Murphy Scale Company, Sacramento, Calif., a corporation of California
Filed July 26, 1967, Ser. No. 656,086
Int. Cl. G01g *21/28*
U.S. Cl. 177—126 6 Claims



This transportable tandem-type scale comprises at least three longitudinally succeeding sections in tandem. Each section has a base frame and a weighbridge having a rigid frame. In at least two of these sections the weighbridge is supported on the base frame by a lever system, each of these sections being able to serve as a complete scale and having on at least one end a removable end beam which is removed for transport thereof on a highway and is installable at certain times in the scale section, this end beam being supported when installed by a pair of pads by being bolted thereto. In a third, intermediate section the weighbridge has at each end a projection including a cross beam of substantially the same size and length as the removable end beam and adapted to rest, when the three sections are put together, on the pads without being bolted thereto, the cross beam resting predominantly on the pads on the opposite side of their center from their end and having means spacing the cross beams from the pad on the side of their center adjacent their end. The two sections on either side of the intermediate sections have their lever system joined in tandem, while the intermediate section has no lever system and its weighbridge transmits its load to the tandem lever system of the other two sections.

3,447,619
TRANSMISSION FOR FOUR-TRACKED VEHICLES

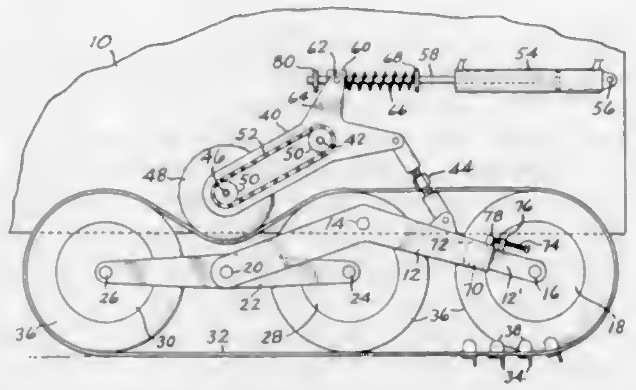
William Bruce Nodwell and John H. Nodwell, Calgary, Alberta, Canada, assignors, by mesne assignments, to Flex-Track Equipment Ltd., Calgary, Alberta, Canada, a company of Alberta
Filed Dec. 5, 1966, Ser. No. 599,304
Int. Cl. B62d *55/08, 11/06*
U.S. Cl. 180—9.46 6 Claims



In a vehicle having relatively angularly displaceable front and rear bogies, a drive train is provided which includes an internal combustion engine, a mechanical drive to the rear bogie, and a hydrostatic drive to the front bogie. Means responsive to angular displacement of the front and rear bogies and operable on the hydrostatic drive are provided to increase the speed of the front bogie during turns.

3,447,620
DOUBLE WALKING BEAM SUSPENSION AND DRIVE ASSEMBLY FOR TRACK LAYING VEHICLES

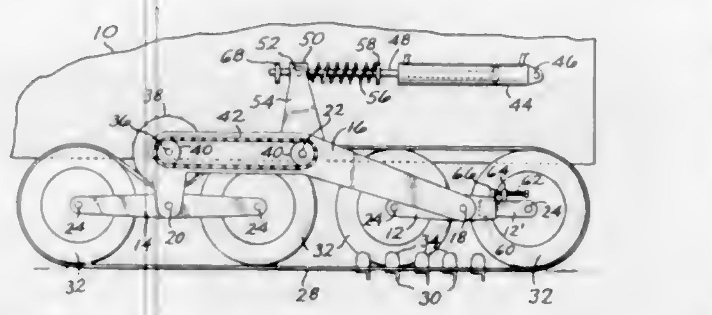
Richard H. A. Schoonover, Albany, Oreg., assignor to Katrak Vehicle Company, Albany, Oreg., a corporation of Oregon
Filed Aug. 15, 1967, Ser. No. 660,828
Int. Cl. B62d *55/12*
U.S. Cl. 180—9.52 8 Claims



A forward walking beam is connected pivotally intermediate its ends to a vehicle frame and supports a front track-mounting wheel at its front end and is connected pivotally at its rear end intermediate the ends of a rearward walking beam which supports rear and intermediate track-mounting wheels at its opposite ends. A lever, pivoted intermediate its ends to the vehicle frame, is connected at its forward end pivotally to the forward portion of the forward walking beam and mounts at its rearward end a rotary driven sprocket arranged to engage an endless track on the wheels. An hydraulic power cylinder on the vehicle frame engages the lever to pivot the latter.

3,447,621
TRIPLE WALKING BEAM SUSPENSION AND DRIVE ASSEMBLY FOR TRACK LAYING VEHICLES

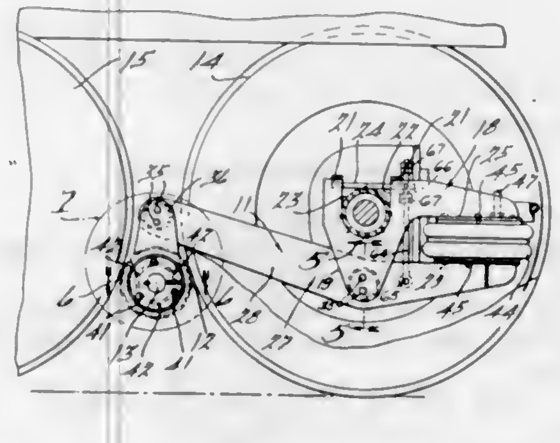
Richard H. A. Schoonover, Albany, Oreg., assignor to Katrak Vehicle Company, Albany, Oreg., a corporation of Oregon
Filed Aug. 15, 1967, Ser. No. 660,826
Int. Cl. B62d *55/12*
U.S. Cl. 180—9.52 7 Claims



Front and rear walking beams are interconnected intermediate their ends pivotally to the front and rear ends of an intermediate main walking beam secured pivotally intermediate its ends to a vehicle frame. An hydraulic power cylinder on the frame engages the main walking beam to pivot the latter. A driven sprocket on the main walking beam engages an endless track mounted on wheels journaled on the opposite ends of the front and rear walking beams.

3,447,622
COUPLING DEVICE FOR VEHICLE DRIVE WHEELS

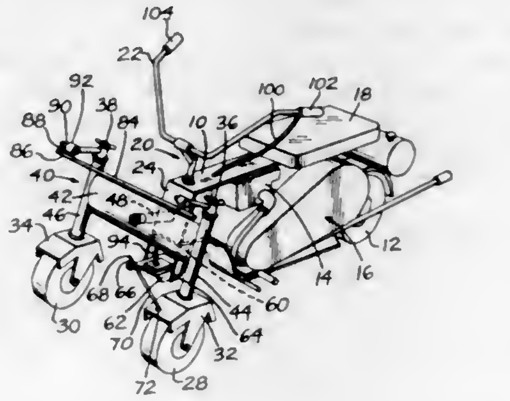
Herbert C Ovshinsky, 15200 Leslie, Oak Park, Mich. 48237, and Frank W. Paul, Rte. 2, Gainesville, Ga. 30501
Filed Feb. 13, 1967, Ser. No. 615,714
Int. Cl. B62d *61/10;* B60k *17/16*
U.S. Cl. 180—22 10 Claims



The device is a locking differential for driving both wheels in unison and can be used for driving the wheels of a static axle when dual wheels are employed.

3,447,623
STEERING ARRANGEMENT FOR THREE-WHEELED SCOOTER TYPE VEHICLE

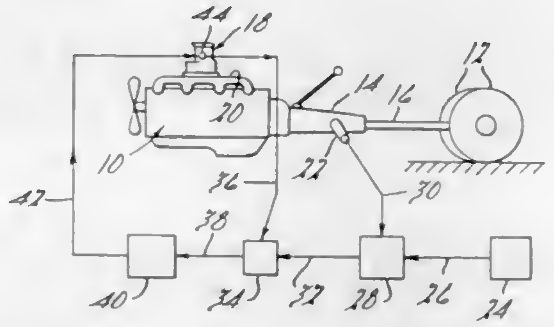
Ion V. K. Hott, Dayton, Ohio, assignor to The Joyce-Cridland Company, Dayton, Ohio
Filed Jan. 31, 1967, Ser. No. 612,960
Int. Cl. B62k *5/08;* B62d *1/12, 7/16*
U.S. Cl. 180—25 11 Claims



This invention concerns a scooter type vehicle having a single rear wheel and two laterally spaced steerable front wheels, with the main frame of the vehicle pivotally connected to a frame for the front wheels with a linkage connecting the steering mechanism with the main frame, so turning of the front wheels will cause the main frame to tilt in the direction of steering.

3,447,624
VEHICLE SPEED REGULATING ARRANGEMENT

Isadore Balan, Oak Park, and Ian J. C. Scott, Madison Heights, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,836
Int. Cl. B60k *27/00, 33/00;* F02d *11/02*
U.S. Cl. 180—105 5 Claims

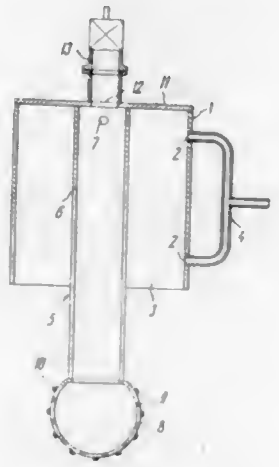


A vehicle having an internal combustion engine with an intake manifold and throttle valve is provided with a vacuum bellows, actuated by intake manifold vacuum, connected to the throttle valve for varying the position of the throttle valve in order to maintain a selected vehicle speed. An operator request signal, generated by a first potentiometer, and a vehicle speed signal, produced by a generator driven in accordance with vehicle speed, are compared and the difference therebetween is directed to a relay which when energized actuates a two-position solenoid-operated valve for directing manifold vacuum to the bellows. When the relay is not energized the valve assumes its other position which vents the bellows to atmosphere. The two position valve keeps moving back-and-forth in order to achieve the required degree of vacuum within the bellows. A feed-back potentiometer operatively connected to the throttle valve serves to produce a feed-back signal which is correlated to the position of the throttle valve. The feed-back signal is directed against the relay in a direction which opposes the difference between the operator request signal and the vehicle speed signal.

3,447,625
DEVICE FOR SEISMIC PROSPECTING

Mikhail Ivanovich Balashkand, Akademicheskaya ulitsa, 98, kv. 13, Monino Moskovskio Oblasti; Georgy Stepanovich Evdokimov, Novoselskoe shosse, 35–a, kv. 48, Ramenskoe Moskovski Oblasti; Berta Lvovna Kaplan, Vorontsovskaya ulitsa, 24/6, kv. 12; and Sergei Alexandrovich Lovlya, ulitsa Sretenka, 24, kv. 24; and Viktor Vasilievich Maiorov, Zvelngorodskoe shosse, 3–a, kv. 197; and Leonid Nikolaevich Solodilov, Studencheskaya ulitsa, 32, kv. 145, Moscow; and Alexandr Ivanovich Teterin, ulitsa 2 Chkalovskaya, 29, kv. 6, Ramenskoe Moskovskoi Oblasti; and Oleg Lanfanovich Chen, 1 Sadovaya ulitsa, 2, Vostrayakovo Moskovskoi Oblasti, all of U.S.S.R.

Filed Mar. 1, 1967, Ser. No. 619,726
Int. Cl. G01v *1/00*
U.S. Cl. 181—.5 3 Claims

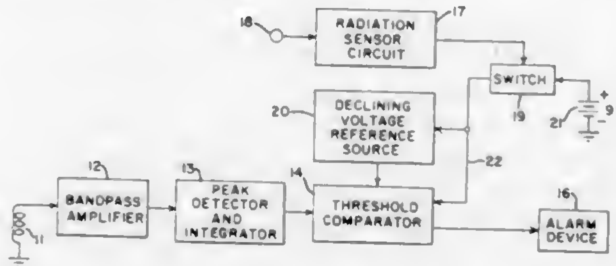


A device for sea seismic prospecting in which elastic waves are generated via an explosion of a gaseous explosive mixture. The device includes two chambers adapted to be sunk to a depth for exploding the mixture supplied thereto for producing a primary pressure pulse, with the first chamber having an outlet for releasing hot explosion gases. A secondary pressure pulse is generated upon the pulsation of the gas bubble formed by such gases. A coaxial second chamber communicating with the first chamber is provided for exploding the mixture supplied thereto for furnishing the supply into a gas bubble of a medium changing the magnitude of the secondary pulse to weaken one of the pulses.

3,447,626
SEISMIC SENSOR FOR EARTH MOVEMENT CAUSED BY A DETONATION

Richard C. Weischedel, Camillus, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 15, 1967, Ser. No. 646,351
Int. Cl. G01v *1/00*
U.S. Cl. 181—.5 8 Claims

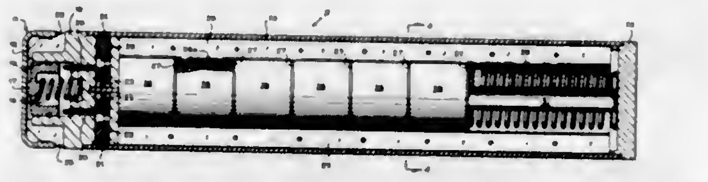


An improved seismic sensor is disclosed, for use in cooperation with one or more radiation types of sensors, for detection of a distant detonation such as a nuclear explosion. The reliability and accuracy of the seismic sensor are improved by providing therein a time-varying operational threshold level, an operative time limit, a signal integrator, and a signal filter having certain frequency bandpass characteristics.

3,447,627
UNDERWATER SOUND REFLECTOR APPARATUS

Francis E. Buck, Warminster, and James R. Bellace, New Hope, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Sept. 29, 1967, Ser. No. 671,891
Int. Cl. F01n *10/00, 11/00*
U.S. Cl. 181—.5 8 Claims

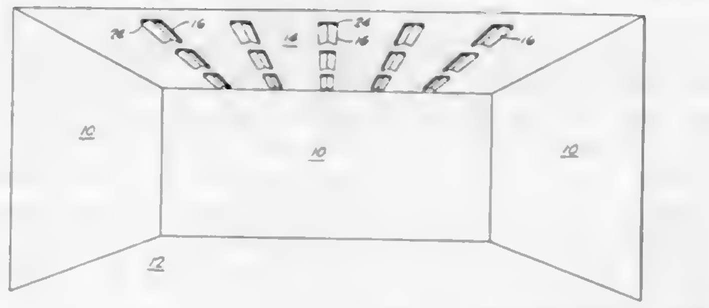


An underwater sound reflector apparatus having a cap at one end which, responsive to a predetermined water depth or pressure, disengages from a container body to permit a spring positioned at the aft end of the container to urge out a plurality of pellets which react with water to produce a water insoluble gas. Further included is a plurality of internal stabilizers which fluid dynamically balance the reflector apparatus.

3,447,628
CONTROL SYSTEM FOR SYNCHRONOUSLY CONTROLLING THE OPPOSED ROTATION OF ACOUSTICAL ELEMENTS ABOUT COINCIDENT OR PARALLEL AXES

Foey M. Shiflet, 1466 Tanglewood St., Abilene, Tex. 79605

Filed Oct. 31, 1966, Ser. No. 590,698
Int. Cl. E04b *1/99*
U.S. Cl. 181—30 14 Claims



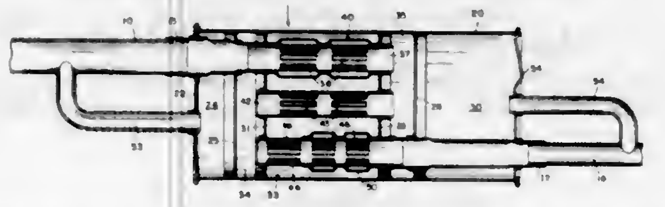
A control system for controlling and synchronizing the rotational movement of a pair of rotatable sound controlling elements, including a substantially instantaneously reversible motor which drives a take-up drum. A main drive cable is connected to the drum for winding up or letting out, and local control flexible lines or elements are connected between the main drive cable and the sound controlling elements to uniformly and simultaneously move these elements in opposite rotational directions from each other about parallel or coincident rotational axes. The system further includes a sound sensing or detecting device which responds to variations in sound caused by movement of the sound controlling elements to de-energize the motor when the sound controlling elements have been moved by the system to an optimum position.

3,447,629
AUTOMOTIVE EXHAUST SYSTEM AND MUFFLER THEREFOR

Raymond L. Placek, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana

Filed Feb. 6, 1967, Ser. No. 614,259
Int. Cl. F01n *1/08*
U.S. Cl. 181—54 4 Claims

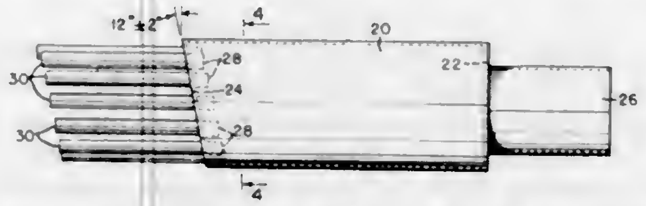
An exhaust system for automotive vehicles having a muffler provided with an inlet connected to an exhaust pipe and an outlet connected to a tailpipe. Said muffler has at least one sound attenuating chamber which is acoustically coupled to said inlet and outlet and which is connected to one of said exhaust and tailpipes adjacent a sound pressure point therein.



3,447,630
EXHAUST GAS MUFFLER WITH MULTIPLE OUTLET TUBES

George L. Davidson, Cincinnati, Ohio, assignor to Tuttle, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 27, 1967, Ser. No. 670,921
Int. Cl. F01n *1/08*
U.S. Cl. 181—60 30 Claims

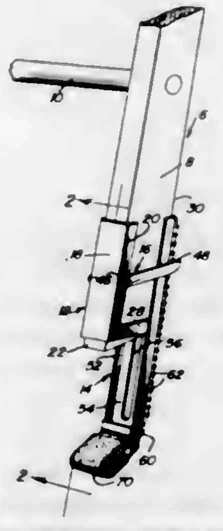


The engine exhaust gas muffler includes a plenum, an inlet pipe receptive of engine exhaust gases, and a peculiar arrangement of small exhaust tubes through which gases from the plenum are finally released; the exhaust tubes having certain critical dimensions and arrangements relative to each other and to an inclined mounting plate associated with the plenum. The exhaust tubes are of two kinds, which working together, apparently create in the plenum a pulsing vortex of exhaust gas presumably moving at a sudden accelerated rate through the small exhaust tubes to produce a negative pressure within the plenum chamber for promptly and noiselessly dispatching the exhaust gases and any other media fed to the muffler. Several dimensional limits as disclosed, as well as critical relationships of constituent parts, are of primary importance to the invention.

3,447,631
LADDER LEVEL

Roy A. Smith, 4540 Joslyn Road, Pontiac, Mich. 48055

Filed Nov. 17, 1967, Ser. No. 684,024
Int. Cl. E06c *7/42;* **E04g** *5/02*
U.S. Cl. 182—108 6 Claims

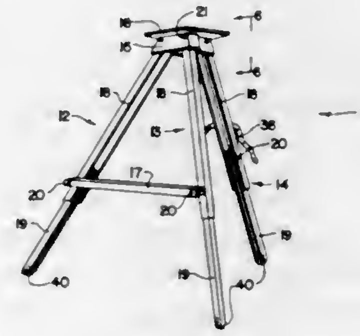


A rung-equipped ladder wherein one or both stiles are provided with surface engaging, levelling and compensating extensions. The adaptation shown is characterized by three component parts, namely, a vertically shiftable stile-length adjusting unit, a companion adapter unit, and a complemental latch-dog unit pivotally connected to the adapter unit. The adapter unit embodies a channel, a rigidifying stile surrounding yoke or bridle and a headed stud keyed slidingly in the slotted web of the vertically shiftable channel member of the length adjusting unit. This latter unit has an anti-slipping foot, and rack teeth with which the latch-dog is incrementally and releasably engageable.

3,447,632
FOLDING LADDER

Zane R. Boyd, 9717 Par Lane, Wichita, Kans. 67212

Filed Feb. 20, 1968, Ser. No. 706,962
Int. Cl. E06c *1/39*
U.S. Cl. 182—116 10 Claims

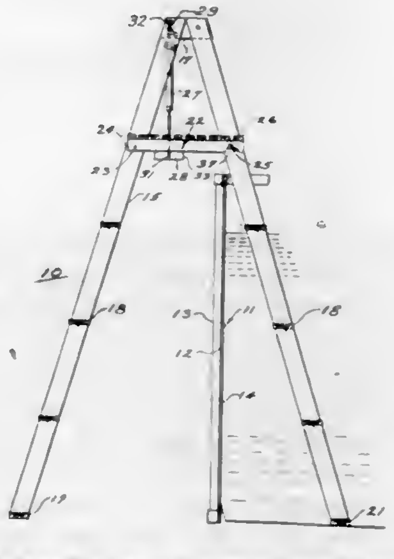


The invention is a three-legged collapsible stepladder which can be stored in a limited space having a releasable cross step connecting two of the legs in a rigid relation. Each of the legs being pivotally mounted to a platform, are made up of upper and lower sections pivoted together by a joint which also allows the sections to move relative to each other in a telescoping manner when fully extended, to a position locking the joint against pivotal movement.

3,447,633
AUTOMATIC SAFETY LADDER

Samuel J. Montalto, 84 Woody Lane, Penfield, N.Y. 14526

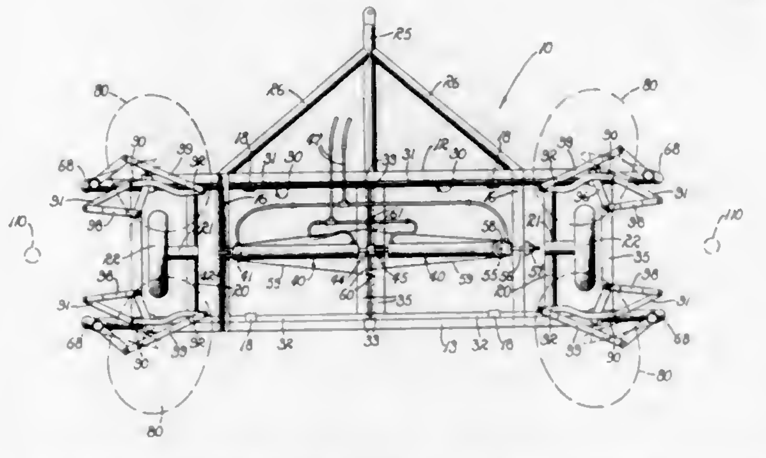
Filed Oct. 19, 1967, Ser. No. 676,420
Int. Cl. E06c *1/393, 1/383, 1/38*
U.S. Cl. 182—118 7 Claims



A safety ladder for an aboveground swimming pool wherein a tilting platform is automatically restored to an inaccessible position after use and automatically latched to prevent access to the pool.

3,447,634
MOBILE SCAFFOLD

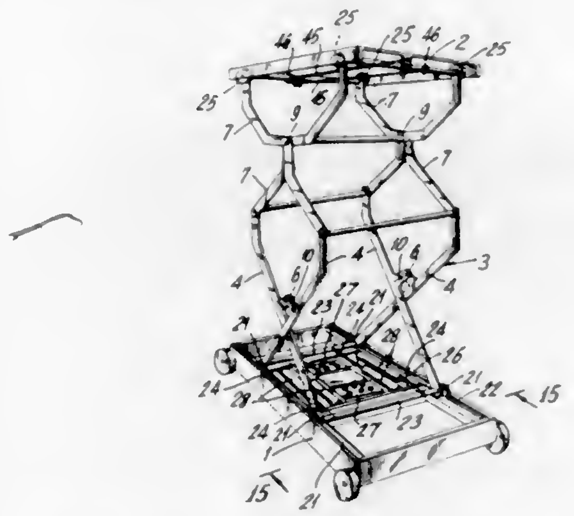
**Aram J. Torosian, 3312 El Monte Way,
Fresno, Calif. 93702
Filed Nov. 25, 1966, Ser. No. 596,951
Int. Cl. E04g** *1/00, 3/00, 5/00*
U.S. Cl. 182—131 17 Claims



A mobile scaffold including an earth traversing frame, a support mounted on the frame for movement between extended and retracted positions, a platform mounted on the support for non-linear movement, and linkage interconnecting the frame and the platform for effecting the non-linear movement of the platform in response to movement of the support on the frame.

3,447,635
ELEVATING PLATFORM

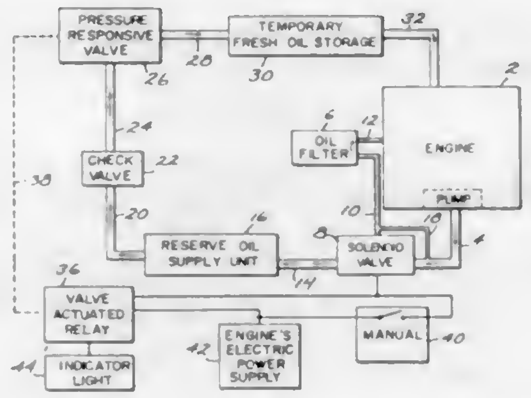
**Marshall B. Carlbom, New York, N.Y., assignor of fifty
percent to Leonard Rapaport, Bronx, N.Y., and Murray
Blumberg, Mount Vernon, N.Y., and fifty percent to
Elescope Corporation, New York, N.Y., a corporation
of New York
Filed Oct. 12, 1967, Ser. No. 674,933
Int. Cl. E04g** *1/18, 1/22;* **B66f** *3/22*
U.S. Cl. 182—141 10 Claims



The present invention provides an elevating platform, extensible and retractable and adapted to lie substantially flat on its base when in collapsed position. The pivotal interconnection between the legs of the structural members is provided at a point offset from the longitudinal axis running from the end connecting points of the structural members wherein a nesting of the structural members results when the platform is in collapsed position. The present invention further provides for the movement of both pairs of base legs of the pivotally interconnected structural members to move towards each other during extension of the platform thereby centralizing the support for the platform both at its base and at the underside of the platform enabling greater balance.

3,447,636
AUTOMATIC OIL EXCHANGING SYSTEM

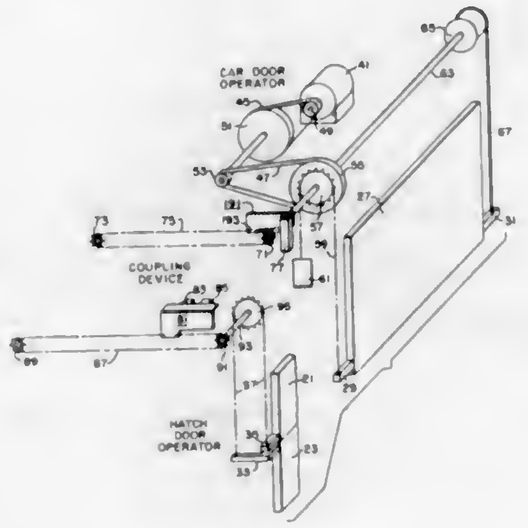
**Ralph J. Bonfilio, 1920 Hyde Park Ave.,
Hyde Park, Mass. 02136
Filed July 24, 1967, Ser. No. 655,453
Int. Cl. F16m** *13/02;* **F01m** *11/00*
U.S. Cl. 184—1.5 8 Claims



Apparatus for automatically exchanging lubricant in an automobile engine. The apparatus includes a reserve supply of lubricant, means for delivering the reserve supply of lubricant to a temporary oil storage unit, means for removing spent oil from the engine, and means for transferring the fresh lubricant from the temporary storage unit to the engine.

3,447,637
ELEVATOR SYSTEM

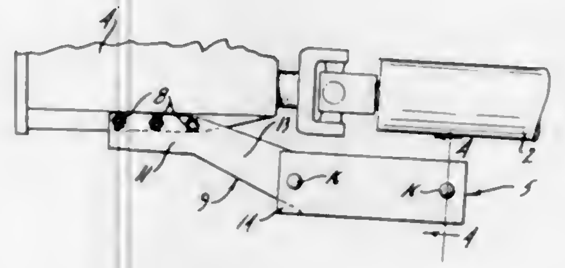
**Harry Berkovitz, Glen Rock, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 596,929, Nov. 25, 1966. This application May 31, 1968, Ser. No. 739,923
Int. Cl. B66b** *13/00*
U.S. Cl. 187—52 9 Claims



A master-door operator for vertically opening elevator hatchway doors in which a vertical vane mounted above and on one side of the car for movement fore and aft in response to operation of the car-door operator, engages hatchway door operating means mounted on the side wall of the hatchway at each landing. The individual hatchway door operating means are connected through pulley and chain systems to the associated bi-parting hatchway doors. The vane on the car is of sufficient length that the hatchway door at the floor adjacent the car is opened in response to operation of the car-door operator even as the car approaches the landing. A locking mechanism connected to each hatchway door operating means locks the associated hatchway door when no car is adjacent the floor but releases it upon initial horizontal movement after engagement of the vane. The upper panel of each hatchway door is mounted in a plane behind the lower panel so that the doors at adjacent closely spaced floors may be operated without interference.

3,447,638
LAMINATED DYNAMIC VIBRATION ABSORBER FOR MOTOR VEHICLE DRIVE SYSTEM

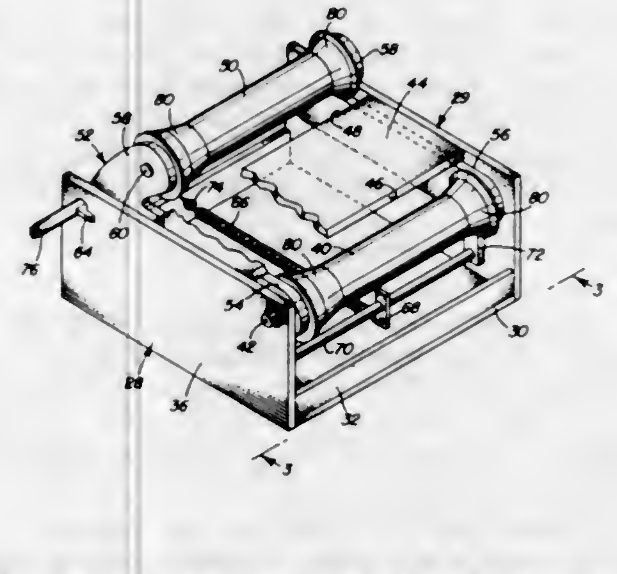
**Robert A. Schilberg, Mequon, Wis., assignor to A. O.
Smith Corporation, Milwaukee, Wis., a corporation of
New York
Filed Jan. 18, 1968, Ser. No. 698,768
Int. Cl. F16d** *63/00*
U.S. Cl. 188—1 5 Claims



A laminated dynamic vibration absorber for a vehicle which includes a pair of laterally spaced flat metal spring arms bolted to a portion of the power-train and drive system of a vehicle and extending outwardly therefrom to provide dynamic vibration absorption. A plurality of flat rectangular metal stampings are interconnected in stacked relationship between and to the outer free ends of the arms with the number of stampings and the configuration thereof selected to establish the desired frequency and mass distribution.

3,447,639
ONE-WAY ROLLER BARRIER FOR PARKING LOT

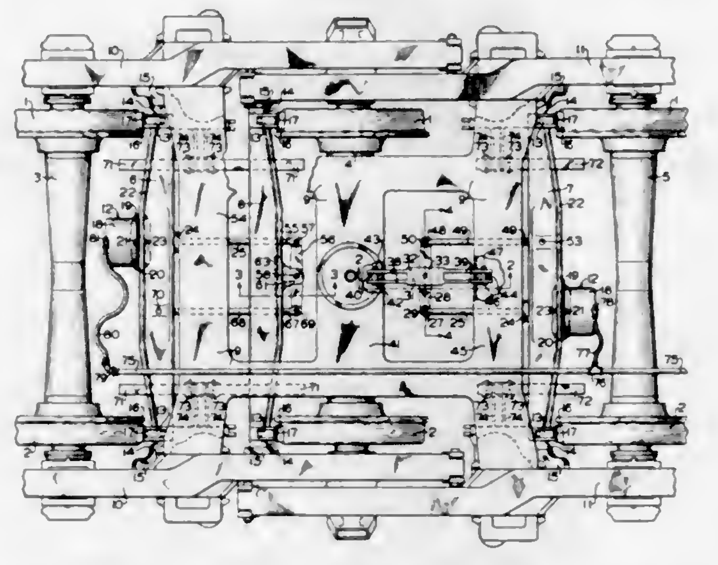
**Edward L. Parr, El Cajon, Calif., assignor to
Wendell L. Thompson, Burbank, Calif.
Filed July 20, 1967, Ser. No. 654,826
Int. Cl. B60t** *3/00*
U.S. Cl. 188—32 6 Claims



A roller barrier apparatus, in which roller mechanism lies in the normal path of movement of a vehicle traction wheel, which roller mechanism can be locked in its upper barrier position, but which when not locked is ineffective as a barrier.

3,447,640
FLUID PRESSURE OPERATED BRAKE APPARATUS FOR RAILWAY CAR TRUCK

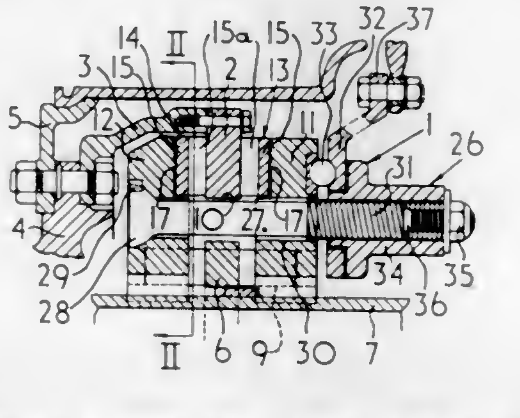
**Andrew G. Haydu, Pittsburgh, and Earl E. Allan,
Monroe Heights, Pa., assignors to Westinghouse
Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Apr. 7, 1967, Ser. No. 629,250
Int. Cl. B61h** *13/00;* **B60t** *11/10;* **F16d** *65/14*
U.S. Cl. 188—47 10 Claims



The present invention comprises a brake rigging for a three-axle six-wheel railway car truck wherein one brake cylinder device is secured to one of two brake beams and operatively moves both of these two brake beams to apply the brakes to the four wheels on two axles of the truck through a linkage including a force equalizing lever pivotally mounted on the other of the two brake beams, and a second brake cylinder device of the same size as the said one brake cylinder device is secured to a third brake beam and operatively moves this third brake beam to simultaneously apply the brakes on the two wheels of the third axle of the truck through a linkage including a second force equalizing lever pivotally carried by the bolster of the car truck, the resultant braking forces on all three brake beams being the same for equivalent operating fluid pressures supplied to the two brake cylinders.

3,447,641
ARCUATE DISC BRAKE

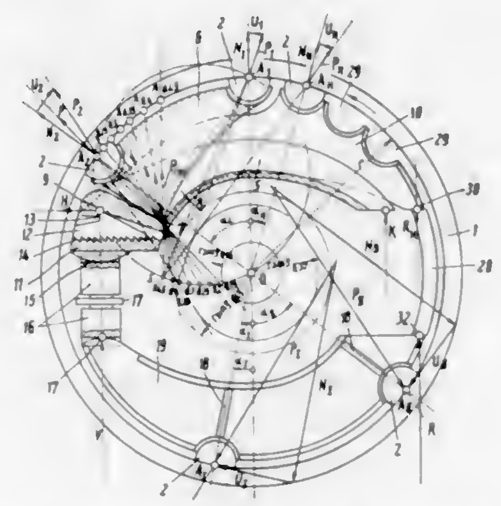
**Frederick Sidney Dowell, Coventry, England, assignor to
Dunlop Rubber Company Limited, London, and Fort
Dunlop Erdington, Birmingham, England, a corporation of Great Britain
Filed Apr. 21, 1966, Ser. No. 544,241
Claims priority, application Great Britain, Apr. 24, 1965,
17,386/65
Int. Cl. F16d** *55/00, 65/04, 69/00*
U.S. Cl. 188—73 12 Claims



This invention is a disc brake in which the friction elements are aligned in an axial direction, one on each side of a relatively rotatable disc, and are guided in their axial movements toward and away from the disc. An actuator effects frictional engagement between the friction elements and the disc and comprises a pressure plate engageable with one of the friction elements and a brake applying mechanism, which is located radially outwardly, adjacent the periphery of the rotor or disc and is adapted for moving the pressure plate and the friction elements into frictional engagement.

3,447,642
FRICTION COUPLING

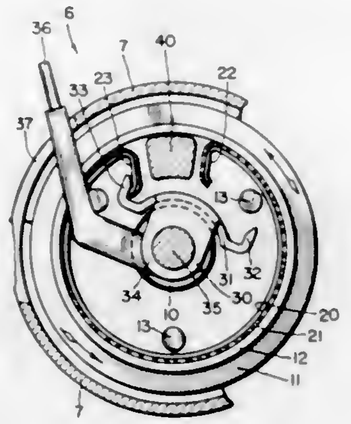
Karl Obermoser, Roggemannstr. 7,
Oldenburg, Germany
Filed Dec. 22, 1966, Ser. No. 603,873
Int. Cl. F16d *51/00, 65/04*
U.S. Cl. 188—78 **7 Claims**



A friction coupling, for example a friction brake, including a rocker member having two arms of mutually different length, each of which arms carries a friction element which co-operates with a drum member, the rocker member being mounted so as to be capable of rocking about a fulcrum on an operating lever which is itself capable of pivoting about a reaction point. The friction coupling operates independently of the coefficient of friction between the friction elements and the drum member, the theory underlying this being set out in the specification.

3,447,643
REVERSIBLE ONE-WAY BRAKE

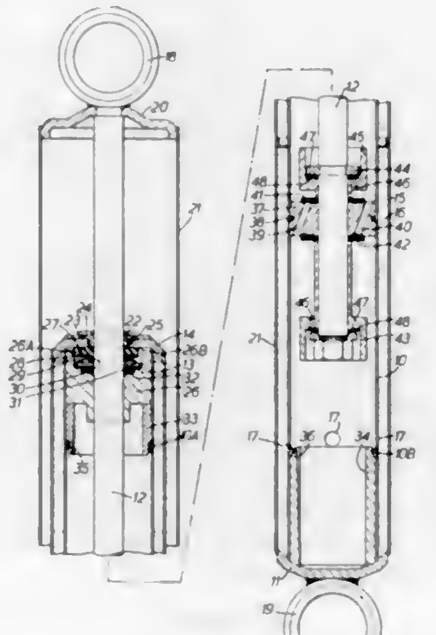
Otmar M. Ulbing, Berkshire, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 21, 1967, Ser. No.. 684,780
Int. Cl. F16d *63/00, 11/06;* **G05g** *5/06*
U.S. Cl. 188—82.2 **10 Claims**



A self-energizing brake including a brake drum and a brake band mounted within the brake drum. The band has a free diameter larger than the inside diameter of the drum so that it normally engages the brake drum to prevent rotation. The brake band has opposite free ends, one of which is moved away from the brake drum to allow the drum to rotate in one direction only. The brake band continues to provide braking action in the other direction of rotation. Altenatively, the other free end of the band may be pulled away from the brake drum to allow the drum to rotate in the opposite direction. A reaction post permits the single brake band to self-energize regardless of the direction of rotation of the brake drum.

3,447,644
TWO STAGE SHOCK ABSORBER

William A. Duckett, Kingsway, England, assignor to Woodhead Manufacturing Company Limited, Kingsway, England, a company of Great Britain
Filed Mar. 9, 1967, Ser. No. 621,987
Claims priority, application Great Britain, Mar. 17, 1966, 11,751/66
Int. Cl. F16d *57/00*
U.S. Cl. 188—88 **8 Claims**

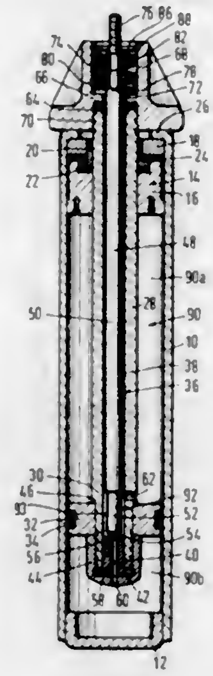


The invention relates to a hydraulic shock absorber of the telescopic hydraulic type having a subsidiary piston mounted on the piston rod arranged to engage a subsidiary cylinder positioned in the end of the cylinder. A leakage path is provided between the subsidiary piston and cylinder which progressively diminishes towards the end of the stroke so as to offer resistance to the subsidiary piston the further it enters the subsidiary cylinder. A non return valve means permits flow of fluid only into the subsidiary cylinder, the non return valve means and the leakage path between them providing controlled movement of the subsidiary piston out of the subsidiary cylinder.

3,447,645
COLUMN OF ADJUSTABLE LENGTH

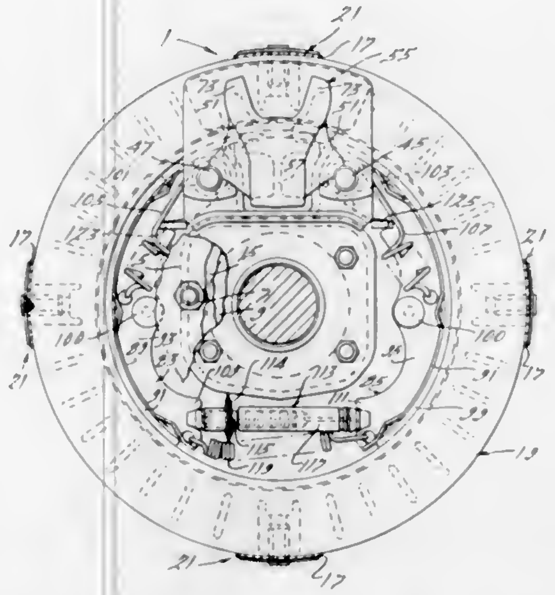
Nikolaus Dörner, Koblenz-Karthause, Herbert Freitag, Koblenz-Lutzel, Hans-Dieter Sautter, Koblenz-Neuendorf, Willi Schäfer, Kesselheim, and Hans-Peter Doetsch, Uber Bayreuth, Germany, assignors to Stabilus, Industrie- und Handelsgesellschaft m.b.H., Koblenz-Neuendorf, Germany
Filed Sept. 19, 1966, Ser. No. 580,328
Claims priority, application Germany, Sept. 22, 1965, St 24,418
Int. Cl. F16d *57/00;* **F16m** *13/00*
U.S. Cl. 188—96 **6 Claims**

A column of adjustable length for use as a furniture leg including a cylinder and a piston whose rod projects axially upward from the cylinder. The cylinder portion under the piston is divided by a floating piston. A duct extending through the piston and a portion of the piston rod to a radial bore in the latter is controlled by a valve whose actuating rod extends out of the cylinder through the piston rod. A liquid fills the compartments on either side of the piston, and a compressed gas is contained under the floating piston.



3,447,646
DISC BRAKE APPARATUS

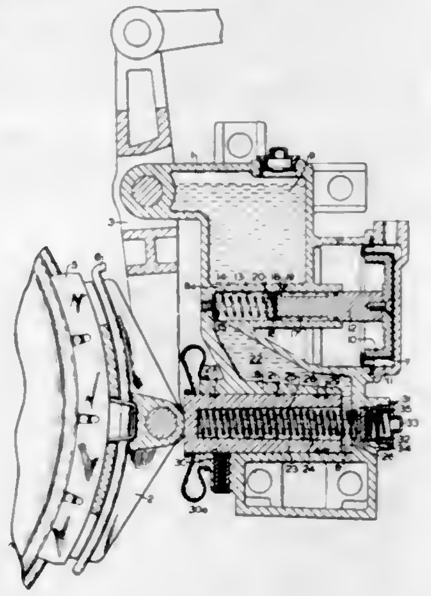
John G. Pace, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,302
Int. Cl. F16d *65/14, 63/00, 55/00*
U.S. Cl. 188—106 **7 Claims**



This disclosure relates to a disc brake for automotive vehicles and disclosures a rotatable annulus, a body internally straddling the annulus and mounted for sliding movement axially relative to the annulus, the body including a hydraulically actuated piston for forcing shoes into clamping engagement with the sides of the disc, and duo-servo arcuate shoes connected for manually actuated engagement with the internal annular peripheral surface of the disc.

3,447,647
HYDRAULIC-PNEUMATIC TREAD BRAKE UNIT FOR RAILWAY CAR TRUCKS

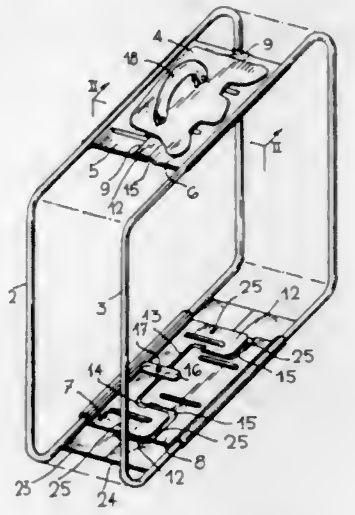
Joseph G. Stipanovic, McKeesport, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 5, 1967, Ser. No. 665,488
Int. Cl. B60t *11/10, 13/04;* **F16d** *51/00*
U.S. Cl. 188—153 **3 Claims**



A pneumatically controlled hydraulically actuated tread brake unit of the "snow brake" type to be utilized on each wheel of a railroad car. The "snow brake" type tread brake unit comprises a brake shoe that remains in light-pressure contact with the tread of the wheel at all times including the time the car is in motion with the brakes released, to produce heat on the tread of the wheel and the brake shoe to keep snow from packing or ice from forming on the tread of the wheel. Compensation for wear of the brake shoe is automatically provided hydraulically by an automatic slack adjuster. Also, compensation for out-of-roundness of the car wheel is constantly provided.

3,447,648
VARIABLE VOLUME SUITCASE

Franz Schwennicke, 71 Ave. des Erables,
Waterloo, Belgium
Filed Nov. 13, 1967, Ser. No. 682,070
Claims priority, application Belgium, Nov. 25, 1966, 36,319
Int. Cl. A45c *7/00, 13/04*
U.S. Cl. 190—44 **6 Claims**



This invention relates to a variable-capacity suitcase comprising, internally, two rigid frames extending along the edges of the two large opposite faces of a supple envelope. These frames serve as pivoting means for two pairs of inner plates which have a width equal to half the distance between said large opposite faces when the suitcase is expanded to its maximum volume. The plates have tongues which are maintained against the other plate of the same pair by latching means in order that the two plates of the same pair are then maintained in the prolongation of each other.

3,447,649

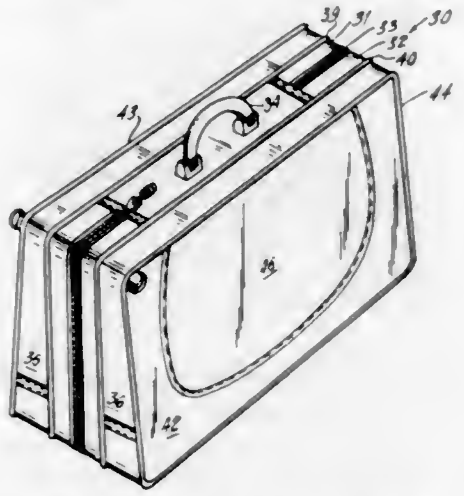
THREE-CHAMBER CARRYING BAG HAVING SPACED REINFORCING WIRES AND THREE-WAY GARMENT FOLD ARRANGEMENT

Michael Kish, Jr., Hightstown, N.J., assignor to Atlantic Products Corporation, Trenton, N.J., a corporation of New Jersey

Filed Oct. 23, 1967, Ser. No. 677,344

Int. Cl. A45c *13/00, 3/00*

U.S. Cl. 190—50 **11 Claims**



A carrying bag having a central zipper opening which forms a central chamber for suits or dresses and two side chambers accessible through U-shaped flaps, closed by zippers, in the side walls of the bags. The bottoms of the two side chambers form the walls of the center enclosure. Four identical spaced wire stays form the main support for the three compartments and the bag. Three garment support straps extend transversely across the center chamber, at its center and its opposite ends. When the bag is opened flat the straps can grip elongated garments, such as dresses, at their center and portions spaced from their opposite ends. The garments are then folded inwardly over the end straps, and the chamber is closed, automatically folding the garments at three folds into four neat layers.

3,447,650

ONE-WAY FRICTION COUPLINGS WITH WEDGES

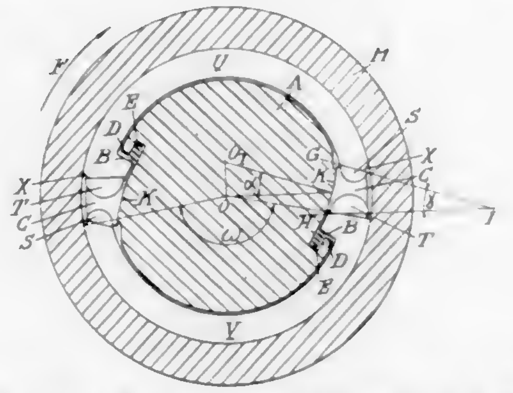
Michel Dossier, Bois Fleuri, 78 Orgeval, France

Filed Feb. 17, 1967, Ser. No. 616,935

Claims priority, application France, Feb. 23, 1966, 50,783

Int. Cl. F16d *11/06, 13/04, 23/00*

U.S. Cl. 192—41 **11 Claims**



The free wheel to be interposed between a shaft and a sleeve comprises shoes applied against the periphery of the sleeve by means of wedges cooperating with cam portions of the shaft, all the parts being kept in contact by means of springs.

3,447,651

MEANS TO PROGRESSIVELY DISENGAGE TWIN PLATE CLUTCHES

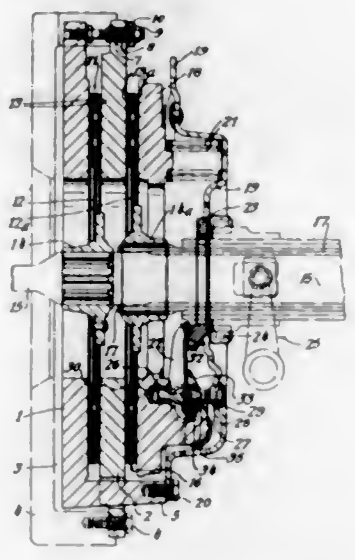
Peter S. Satchwell, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England, a British company

Filed Feb. 24, 1967, Ser. No. 618,387

Claims priority, application Great Britain, Feb. 28, 1966, 8,695/66

Int. Cl. F16d *21/02, 21/08*

U.S. Cl. 192—48.91 **5 Claims**



A double plate friction clutch providing a drive from a single power unit to two driven output shafts, the clutch being operable to disconnect the output shafts one after the other from the power unit.

3,447,652

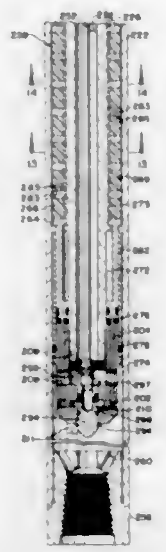
TELESCOPING DRILLING DEVICE

Joe D. Tipton, Garland, Tex., assignor to Gardner-Denver Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 673,066, Oct. 5, 1967. This application Mar. 13, 1968, Ser. No. 716,272

Int. Cl. F16d *25/00, 19/00, 11/06*

U.S. Cl. 192—85 **4 Claims**



A telescoping drill pipe assembly comprising an inner pipe, an outer pipe, and a frictional hydraulically actuated coupling device for holding the two pipe members in any desired position between and including the maximum extended and collapsed positions. The inner pipe member has sleeved about its lower end a stack of alternate resilient rings and rigid rings adapted to be compressed by a hydraulic piston and cylinder assembly. A hydraulic fluid supply tube extends the length of the inner pipe and is connected to the cylinder. Pressurizing the cylinder will cause the piston to compress the ring assembly axially thereby deforming the resilient rings radially outwardly into frictional gripping contact with the inner wall of the outer pipe for holding the inner and outer pipes fixed relative to each other.

3,447,653

CONTROL WHEELS FOR USE WITH ROLLER CONVEYORS

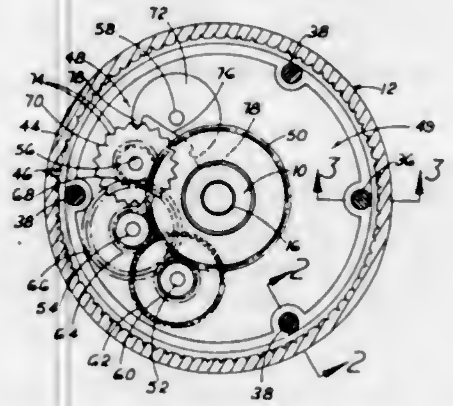
Percy E. Watts, Hagley, and Brian M. Colleran, South Harrow, England, assignors to Link 51 Limited, Birmingham, England, a British company

Filed Sept. 20, 1967, Ser. No. 669,242

Claims priority, application Great Britain, Sept. 24, 1966, 42,739/66

Int. Cl. B65g *13/00*

U.S. Cl. 193—35 **2 Claims**



A control wheel having within it an escapement mechanism between relatively rotatable rim and hub parts to restrain the relative rotation thereof.

3,447,654

AIR-LIQUID PARKING METER

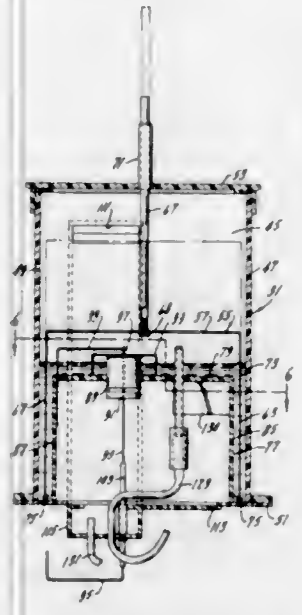
Sergio René Damy, Apartado Postal 2041, Guadalajara, Jalisco, Mexico

Filed Dec. 1, 1967, Ser. No. 687,181

Claims priority, application Mexico, Dec. 5, 1966, 92,732

Int. Cl. G07f *3/02*

U.S. Cl. 194—102 **4 Claims**



A coin operated parking meter including a cup-like piston adapted to be raised a predetermined distance upon insertion of a coin. The coin slot is constructed to prevent undersized coins from actuating the piston. The cup-like piston is located in a closed air system and has a liquid seal between the interior of the piston and the remainder of the system. A conduit is provided to transfer air from the top of the piston to the interior thereof upon upward movement of said piston. A meter valve is provided in the conduit to control the rate of flow of air between the interior of the piston and the remaining part of said system upon movement of said piston downwardly to its original position. Indicators are furnished to show the location of the cup-like piston.

3,447,655

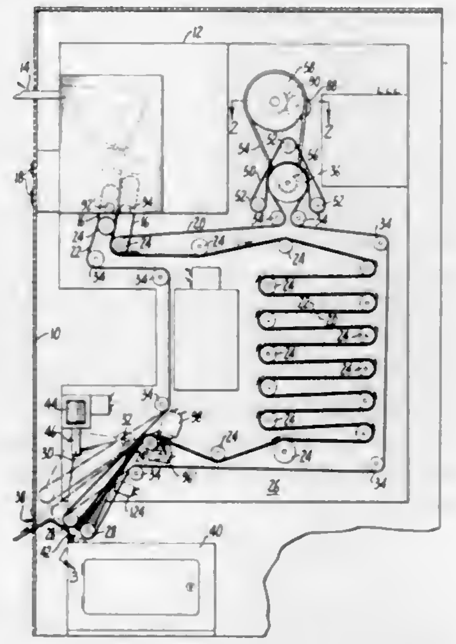
BILL VALIDATOR WITH ESCROW DEVICE

Frederick K. Tanaka, Hayward, Franklin B. Lawrence, Saratoga, and John B. Riddle, Los Altos Hills, Calif., assignors to Micro-Magnetic Industries, Inc., Palo Alto, Calif., a corporation of California

Filed Sept. 22, 1967, Ser. No. 669,741

Int. Cl. G07d *7/00, 9/00;* **G07f** *7/04*

U.S. Cl. 194—4 **10 Claims**



An improved escrow device for currency validators which includes the following features: (a) means for shifting the escrow discharge between a cash box and a bill return chute, (b) drive means for driving escrow belts at slow forward speed while taking in currency and at fast forward speed while discharging currency, (c) an improved drive of the above mentioned type in which slow and fast forward drive are effected by forward and reverse drive of a single motor through one-way clutches, and (d) means for clamping an escrow belt between an auxiliary belt and a drive capstan to prevent belt slippage.

3,447,656

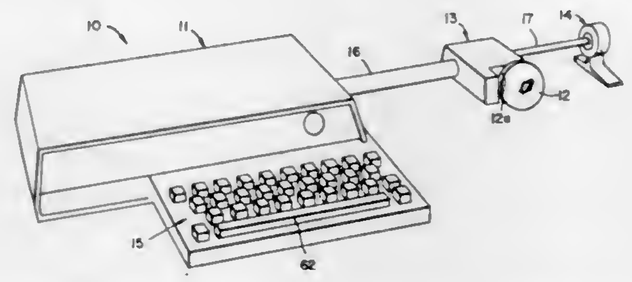
TYPEWRITER FOR FLAT SURFACES HAVING A TYPE HEAD MOVABLE RELATIVE TO A STATIONARY BASE

Richard A. Nyquist, 4534 Blanca, Fremont, Calif. 94536

Continuation-in-part of application Ser. No. 485,396, Sept. 7, 1965. This application July 26, 1967, Ser. No. 659,839

Int. Cl. B41j *3/38, 1/32*

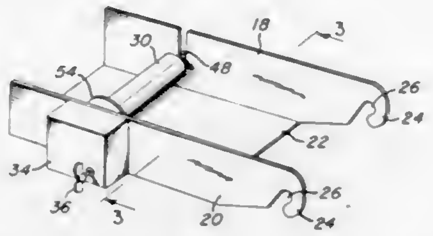
U.S. Cl. 197—2 **22 Claims**



A typewriter for typing on the supporting surface on which it rests (e.g., a large drawing) in which the type elements are mounted outboard of the keyboard and mechanism housing so that the type head moves across the paper outside of the housing while the keyboard and housing stand still, and so that the type marks made on the paper are clearly visible as the head moves along.

3,447,657
TAPE REWINDING ACCESSORY FOR COMPUTERS, CALCULATING MACHINES, AND THE LIKE

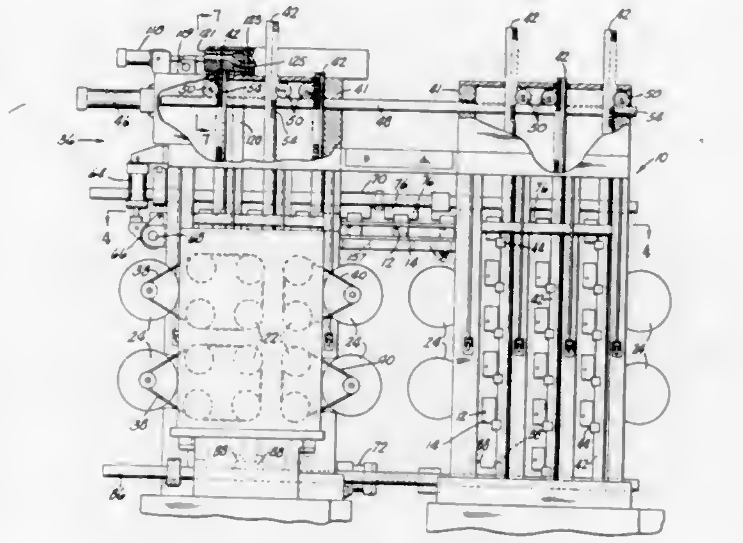
Paul A. Majors, Miamiville, Ohio, assignor to Hill Top Research, Inc., Miamiville, Ohio, a corporation of Ohio
Filed Apr. 27, 1967, Ser. No. 634,205
Int. Cl. B41j *15/16;* **B65h** *17/02*
U.S. Cl. 197—133 **1 Claim**



The accessory disclosed is for computers and calculator machines having a shaft carrying a tape roll. The accessory comprises a rigid frame having spaced parallel side members rotatably carrying therebetween a take-up spool shaft. The forward ends of said side members have integral hook means for removably securing the frame to the shaft of the tape roll, whereby the two shafts will be held in parallelism. The take-up spool shaft is driven by a motor having a slipping clutch connection therewith.

3,447,658
MACHINE TOOL APPARATUS

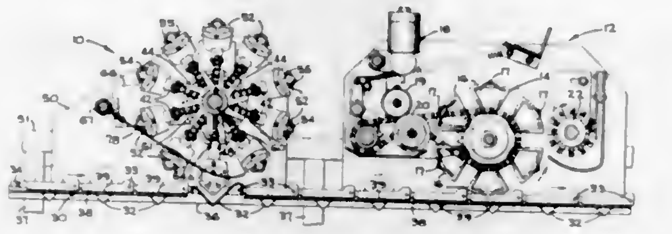
Lloyd H. Joichi, Warren, Mich., assignor to La Salle Machine Tool, Inc., Warren, Mich., a corporation of Michigan
Filed May 31, 1966, Ser. No. 554,152
Int. Cl. B23q *7/00;* **B65g** *47/52, 49/00*
U.S. Cl. 198—19 **2 Claims**



Apparatus for advancing a workpiece through a plurality of successive stations arranged in a plurality of spaced vertically extending lines comprising vertically movable transfer bars for moving a plurality of workpieces in each of the lines vertically to successive stations so that the workpieces in adjacent lines move in opposite directions, means for subsequently moving the workpieces at the tops of the lines which have been moved upwardly and the bottoms of the lines which have been moved downwardly in one direction substantially horizontally to a position in the next successive line, means for holding moved workpieces in fixed positions at some of the stations, and machine tools for performing a particular machine operation on the workpieces in some of the stations in which workpieces are held in fixed positions.

3,447,659
ALIGNING MECHANISM

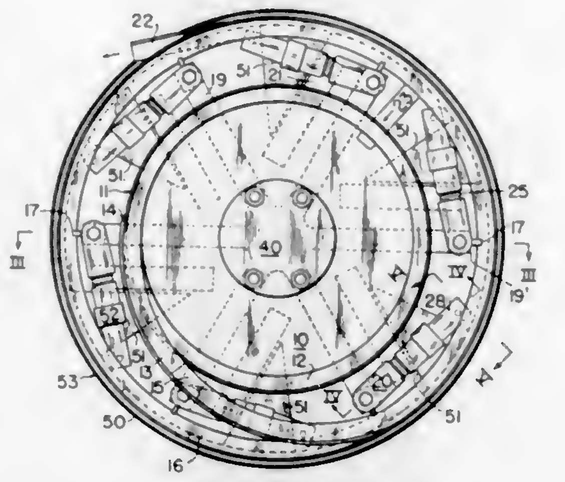
Harold J. Mumma, Riverside, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 4, 1967, Ser. No. 672,889
Int. Cl. B65g *47/22, 47/44;* **B41f** *17/00*
U.S. Cl. 198—29 **6 Claims**



An apparatus for centering potatoes within the transversely extending troughs of a continuously moving conveyor. A plurality of sets of opposed arms are pivotally attached about the periphery of a rotating wheel that is mounted above the conveyor with the arms of each set being urged inwardly toward each other as they are rotated directly over the conveyor to push a potato laterally along its supporting trough and to retain it in the center thereof.

3,447,660
APPARATUS FOR VIBRATORILY FEEDING AND ORIENTING PARTS

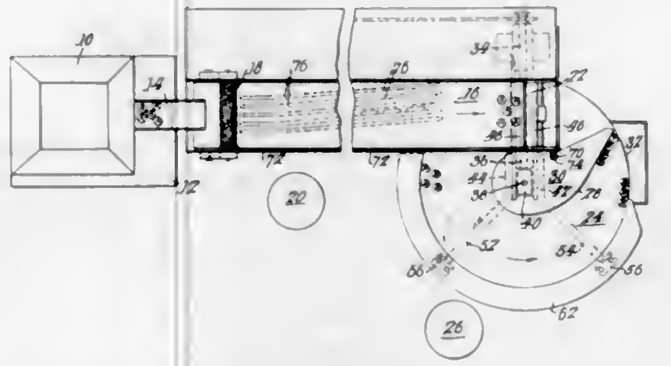
William J. Winans, 243 Wainwright St., Pittsburgh, Pa. 15227
Filed Apr. 24, 1967, Ser. No. 633,202
Int. Cl. B65g *27/02, 47/24*
U.S. Cl. 198—33 **15 Claims**



A vibratory feeding and orienting apparatus having a receptacle member with a circular helical track running from the base to the top perimeter thereof. Independent of the receptacle member is an orientation member with a circular helical track running from the point of exhaust of the receptacle track to the exhaust point of the orientation track. The two members are coupled by resilient couplings, and are operably connected to a vibratory drive unit that operates at approximately a resonance frequency of the apparatus. The combination of the motion directly imparted by the drive unit and the motion translated through the resilient couplings feed the parts from the receptacle to the orientation member where they are oriented.

3,447,661
INSPECTION TABLE FOR TABLETS AND CAPSULES

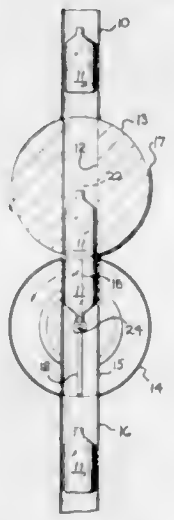
Eugene E. Lakso, Ashburnham, and George W. Saari, Westminster, Mass., assignors to The Lakso Company Incorporated, Fitchburg, Mass., a corporation of Massachusetts
Filed July 14, 1967, Ser. No. 653,544
Int. Cl. B65j *47/24*
U.S. Cl. 198—33 **4 Claims**



An inspection table which comprises a source of articles to be inspected, an endless belt upon which said articles are arranged in a single layer for inspection of one side thereof, means at an end of said endless belt for inverting said articles onto a second inspection apparatus so that the opposite sides thereof may be seen, the second inspection device comprising a rotary disc driven in timed relation with respect to the belt and has means for ejecting the inspected articles into a container or the like, wherein said disc is easily detached from the apparatus for thorough cleaning and the single belt is also easily accessible for thorough cleaning also with the disc removed.

3,447,662
BOTTLE ORIENTING MECHANISM

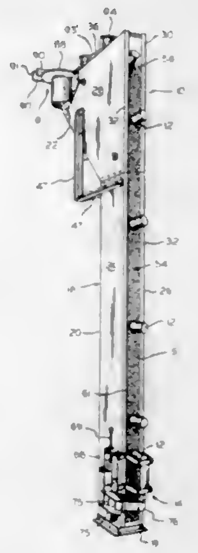
Ronald A. House, 1504 Heatherton Drive, Toledo, Ohio 43614
Filed Jan. 2, 1968, Ser. No. 694,618
Int. Cl. B65g *47/24*
U.S. Cl. 198—33 **10 Claims**



Apparatus for orienting bottles including a disc capable of rotation equipped with pockets to receive randomly-oriented bottles. A rotating wheel containing radially aligned pegs to receive neck-down bottles from the pockets of the rotatable wheel. Neck-up bottles that will not fit over a peg of the rotating wheel are, in one embodiment, reversed so that they will be neck-down hence fit over the pegs; and in another embodiment, the neck-up bottles bypass the pegged rotating wheel by means of a chute.

3,447,663
MAGNETIC ELEVATOR FOR CONTAINERS

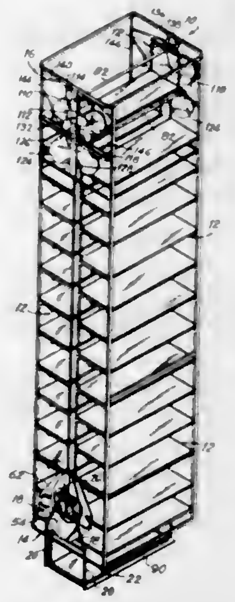
Steve Sarovich, Oak Forest, Ill., assignor to The Sardee Corporation, Chicago Ridge, Ill., a corporation of Illinois
Filed Mar. 27, 1967, Ser. No. 626,259
Int. Cl. B65g *47/00, 17/46*
U.S. Cl. 198—41 **1 Claim**



An elevator having continuous magnetic means for attracting magnetic sensitive containers to a conveyor belt as the containers are conveyed upward and over the hump of the elevator at the upper end thereof; the relationship between the elevator and containers being such that the same are removed from the conveyor in an upright or stable position.

3,447,664
SYSTEM OF TWO VERTICAL COLUMNS OF MOVABLE SUPPORT UNITS

Johan Goedkoop, Sloatsburg, N.Y. (% Netherlands Industrial Trading Corp., 17 Battery Place, New York, N.Y. 10004)
Continuation-in-part of application Ser. No. 515,351, Dec. 21, 1965. This application May 5, 1967, Ser. No. 636,497
Int. Cl. B65g *37/00;* **E04h** *6/00*
U.S. Cl. 198—85 **20 Claims**



A system of two vertical columns of movable support units includes a lower support means comprising a rotating motor and two pairs of rotating plates which supports the two columns and moves a lowermost movable support unit from one column to the other. An upper support means comprising two pairs of rotating plates is supported by the uppermost nested immovable support unit in each of the two columns, not by any outer framework, and moves an uppermost not-nested movable support unit from one column to the other.

3,447,665

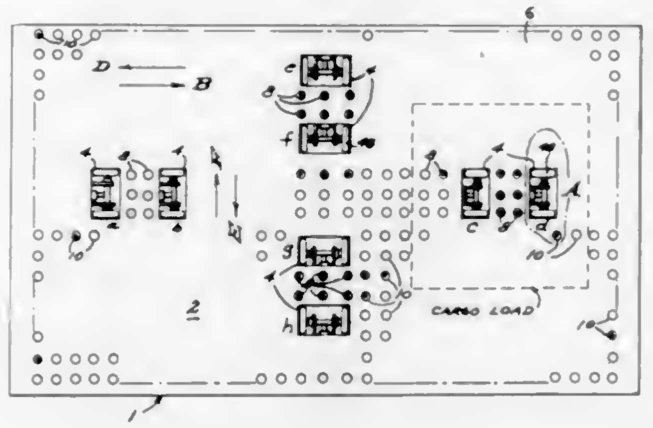
CARGO LOAD CARRIER ENABLING UNIVERSAL MOVEMENT OF CARGO LOAD THEREON AND THEREOVER

Haakon G. Egeland, Stoneybrook, and John Dioguardi, Port Washington, N.Y., assignors to Cragomatic, Inc., Westbury, N.Y., a corporation of Delaware

Filed June 15, 1967, Ser. No. 646,402

Int. Cl. B65g *13/02;* **B60p** *1/00*

U.S. Cl. 198—127 **5 Claims**



A cargo load carrier, for example, a commercial aircraft cargo load carrier, utilizing, in addition to swivel casters and the fixed casters mounted on the platform, as the case may be, power driven rollers movable into and out of engagement with the cargo load on the platform for movement in the direction of the movement of said power driven rollers to enable the transfer of the cargo load from the platform of the carrier at desired positions for universal movement of the cargo load on and over the platform surface of the carrier. The power driven rollers are mounted on a support means moved pivotally with respect to the platform for engagement with or retraction from the cargo load on said platform by an actuator means, for example, a linear actuator such as an hydraulic ram.

3,447,666

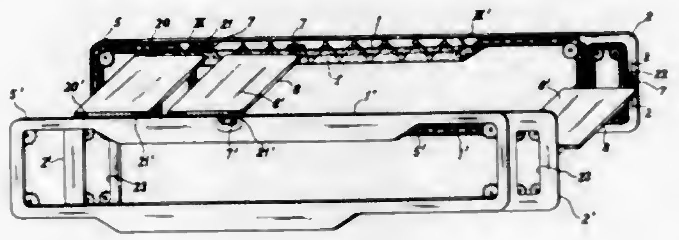
CONVEYOR ELEVATOR APPARATUS

Jacob I. Nevo-Hacohen, Brookline, Mass., assignor to Computerized Volumetric Conveyance Systems, Inc., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,792

Int. Cl. B65g *17/16*

U.S. Cl. 198—158 **3 Claims**



Conveyor elevator apparatus for automobile or similar articles provided with carrier platforms that are horizontally supported by means of rear and front supports, the rear supports being attached to synchronously driven main roller conveyors and the front supports traveling along auxiliary tracks parallel to the main roller conveyors, the space for housing the conveyor elevator apparatus being reduced by specific mechanism that diverts certain of the rollers of the main roller conveyors to auxiliary paths parallel to the paths of the travel of the roller conveyors.

3,447,667

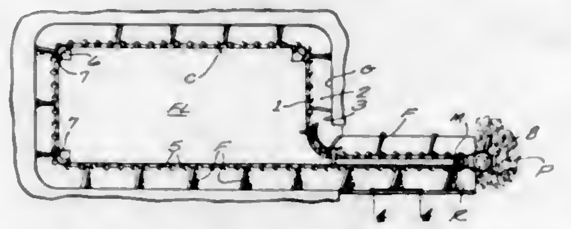
FLIGHT FOR BARN CLEANERS

Paul Patz and Edward A. Graetz, both of Pound, Wis. 54161

Filed Oct. 2, 1967, Ser. No. 672,168

Int. Cl. B65g *19/08, 19/24*

U.S. Cl. 198—171 **7 Claims**



A flight for an endless conveyor of a barn cleaner of the type having a series of flights spaced along its endless length and which pull the manure or the like through a trough in the barn floor for ultimate disposal at a remote location.

3,447,668

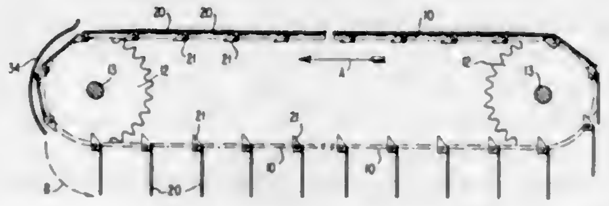
CONVEYER

Thomas L. Jernigan, Richmond, Va., assignor to Eskimo Pie Corporation, Richmond, Va., a corporation of Delaware

Filed Apr. 12, 1967, Ser. No. 630,235

Int. Cl. B65g *15/30*

U.S. Cl. 198—195 **7 Claims**



This invention relates to a conveyer comprising a plurality of plates each having a forwardly projecting ledge which is pivotally supported at spaced intervals along an endless belt arranged and supported in the form of an elongated loop in a vertical plane in which the trailing edge of each plate supportingly rests on the ledge of the following plate when moving along the upper portion of the loop.

3,447,669

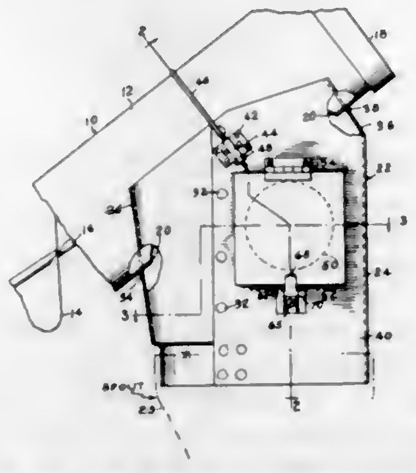
AUGER CONVEYOR DISCHARGE UNIT WITH SAFETY OUTLET

Martin Mayrath, 10707 Lennox Lane, Dallas, Tex. 75229

Filed Mar. 24, 1967, Ser. No. 625,863

Int. Cl. B65g *33/14*

U.S. Cl. 198—213 **8 Claims**



An outlet spout for an auger conveyor is provided with a normally closed gate automatically popped open by an excess accumulation of pressure in the spout due to stoppage therein, to release grain or the like therefrom to prevent damage to the auger conveyor.

3,447,670

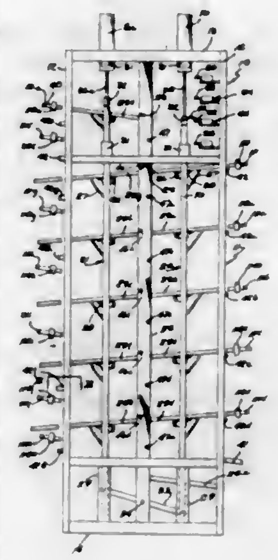
SEMICONTINUOUS VERTICAL LIFT

Robert J. McKnight, Springfield, N.J., assignor to Rapistan Incorporated, Grand Rapids, Mich., a corporation of Michigan

Filed May 2, 1967, Ser. No. 635,484

Int. Cl. B65g *25/04*

U.S. Cl. 198—218 **16 Claims**



A conveyor for transporting articles vertically in either direction having two adjacent tiers of platforms, the tiers being arranged to move in opposite vertical directions simultaneously, producing at one limit of movement, inclined ramps each consisting of two platforms, one belonging to each tier, and at the other limit of movement ramps of the same type but inclined in the opposite direction and consisting of a different pairing of the platforms. The articles are raised or lowered, step by step, as they are transferred back and forth over the inclined ramps. Controls in the form of selectively activated stops and variation in the total vertical movement of the tiers change the conveyor's direction of article movement from descending to ascending.

3,447,671

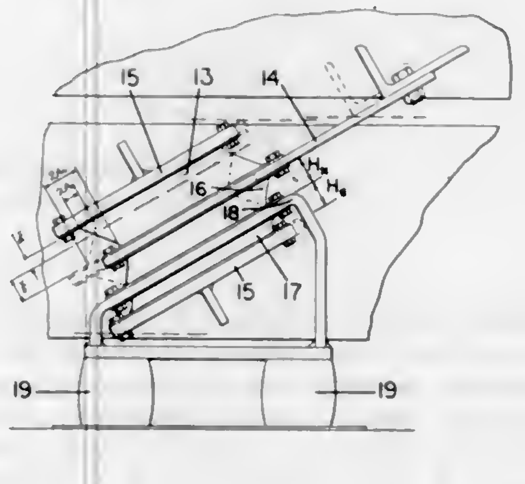
VIBRATORY WORK MACHINE WITH SHAKEPROOF SUPPORT

Hans Schwelnfurth, 28 Hesterstr., 58 Hagen-Haspe, Germany

Filed June 20, 1966, Ser. No. 558,836

Int. Cl. B65g *27/08, 27/18*

U.S. Cl. 198—220 **3 Claims**



The invention relates to a vibratory machine for conveying or sieving which comprises a useful mass and a counter mass. The masses are connected by shear rubber springs and are excited by an oscillating drive between the masses. The machine is supported by shear rubber spring means disposed in a plane parallel to the oscillating plane of the drive.

3,447,672

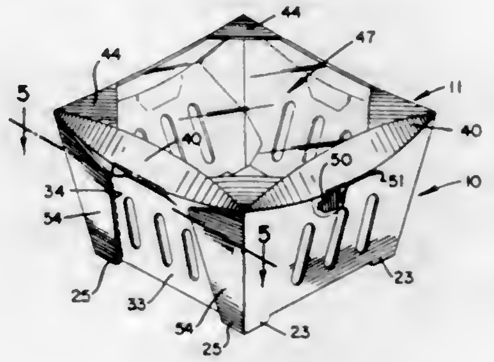
BULGING CARTONS

Ernest L. Bailey, Atlanta, and Raymond A. Cote and Bruce H. Schrier, Doraville, Ga., assignors to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1967, Ser. No. 669,217

Int. Cl. B65d *25/00, 1/00, 3/00*

U.S. Cl. 206—45.31 **15 Claims**



The invention is directed to improved, two piece covered bulging cartons for commodities such as berries and the like, the trays of which are erected from novel polygonal or generally circular blanks and the covers of which cartons have varying degrees of bulge. The two piece carton is of a unique rigidified construction which includes legs for rigidifying the carton and for facilitating the stacking of a plurality of boxes one upon the other without crushing the packaged contents; tear opening arrangements for providing access to the interior of the carton through a side wall; and bottom ventilating ports formed automatically by the erection of the rigidifying legs.

3,447,673

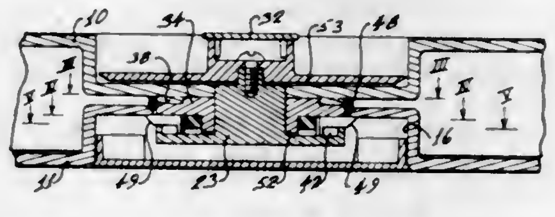
REEL CANNISTER WITH IMPROVED LOCK

William G. Rahaim, Decatur, Ala., assignor to Decatur Plastic, Inc., a corporation of Alabama

Filed July 7, 1967, Ser. No. 651,898

Int. Cl. B65h *55/02;* **B65d** *45/00*

U.S. Cl. 206—52 **4 Claims**

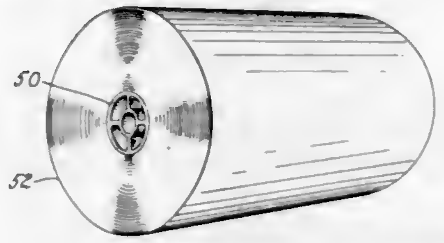


A cannister for tape reels and the like embodying a lock mechanism which snaps to lock position and is unlocked by partial rotation of a handle, the lock comprising a plurality of lugs which are biased toward locking position. A cam and handle operator therefor are provided for moving the lugs, against the forces of the biasing means, to unlocked position.

3,447,674

WINDING CORE

William T. Fraser, 24 Dartmouth Road,
Mountain Lakes, N.J. 07046
Filed July 14, 1967, Ser. No. 653,434
Int. Cl. B65h *75/00;* **B65** *75/02;* **B65d** *85/04*
U.S. Cl. 206—59 11 Claims

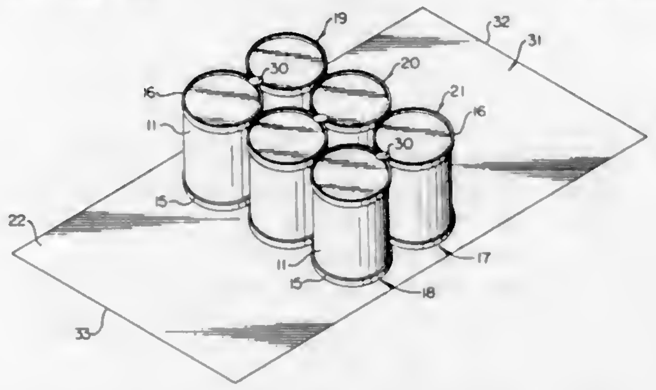


A core for rolled sheet material which is an extrusion in the form of a pair of concentric continuously extruded cylinders joined by continuous longitudinal ribs.

3,447,675

PACKAGE CONSTRUCTION AND METHOD OF MAKING THE SAME OR THE LIKE

Thomas E. Kirby, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,070
Int. Cl. B65d *71/00, 65/16*
U.S. Cl. 206—65 10 Claims

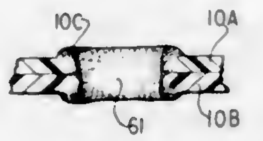


This disclosure relates to a package construction wherein a plurality of cylindrical containers are arranged in two side-by-side rows with each container having the top and bottom rims or chimes thereof abutting the respective top and bottom chimes of adjacent containers while being secured by adhesive means to at least one of the adjacent abutting chime of a container in the other row so that when the arranged containers are subsequently compacted together by a surrounding heat shrunk tubular member to complete the package construction, the adhesive means prevents the containers from chime riding relative to each other in the heat shrunk tubular member.

3,447,676

TUBULAR PACKAGE WITH MELT-PIERCED SEAL

Miroslav J. Piroutek, Stamford, Conn., assignor, by mesne assignments, to Corning Glass Works, Corning, N.Y., a corporation of New York
Original application Nov. 17, 1964, Ser. No. 411,819. Divided and this application Jan. 25, 1968, Ser. No. 700,502
Int. Cl. B65d *85/62*
U.S. Cl. 206—65 4 Claims

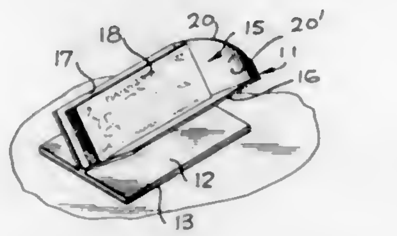


A seal is made in resilient plastic sheet material held tightly wrapped around articles to be packaged, in regions of plastic material which are unsupported from inside the package, by melt-piercing overlapped edges of the material to leave the edges fastened together by spaced rings of fused plastic. An automatic machine wraps the sheet and holds the overlapped edges of the plastic material against its resilience while the seal is formed by groups of melt-pierced holes located at positions between the spaced peripheries of the articles in the package.

3,447,677

BANK CHECK HOLDER

Edward B. Aitkens, 750 S. Westlake Ave.,
Los Angeles, Calif. 90057
Filed June 13, 1967, Ser. No. 645,668
Int. Cl. B65d *1/34;* **A47f** *7/00*
U.S. Cl. 206—73 8 Claims



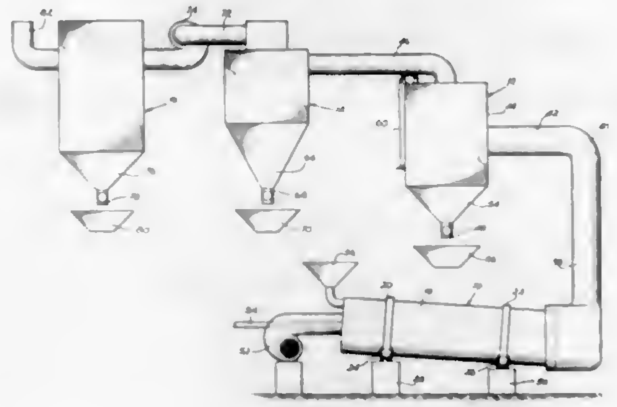
This application discloses a trough-like device for holding bank checks or the like which is provided with angularly disposed end wall means against which to slide the checks individually to separate them one by one.

This invention has to do generally with devices for holding a quantity of bank checks or similar items in a manner such that they can be readily separated by a person who wishes to remove them one by one as appropriate data is taken from them and recorded.

3,447,678

METHOD FOR SEPARATING EXPANDED PERLITE WITH MINIMUM PARTICLE BREAKAGE

Donald L. Henry, 12208 Park Ave.,
Santa Fe Springs, Calif. 90670
Filed Apr. 20, 1967, Ser. No. 632,440
Int. Cl. B07b *7/04;* **B03d** *3/00*
U.S. Cl. 209—3 3 Claims

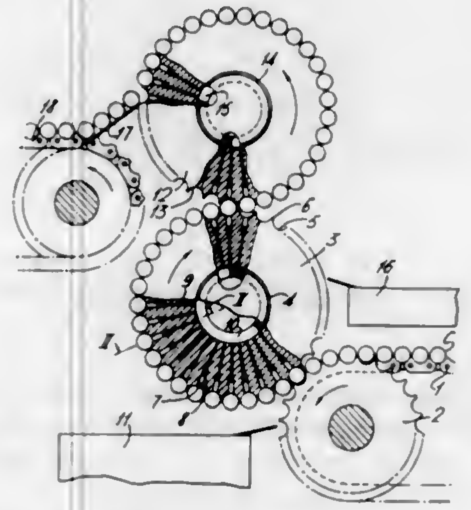


Expanded perlite is stratified in a pneumatic conduit and the stratified suspension is introduced into a baffle-type pneumatic separator wherein coarse expanded perlite particles settle. Due to the pre-stratification, abrasion of the expanded perlite by the baffle is avoided. The coarse-free suspension is separated into a fines perlite fraction and a dust suspension in a cyclone. Dust is subsequently separated from the dust suspension whereby three sizes of perlite are obtained.

3,447,679

ARTICLE TESTING APPARATUS

Desmond Walter Molins and Tom Rowlands, London, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Oct. 4, 1966, Ser. No. 584,159
Claims priority, application Great Britain, Oct. 8, 1965, 42,797/65
Int. Cl. B07c *5/04, 1/10*
U.S. Cl. 209—73 9 Claims

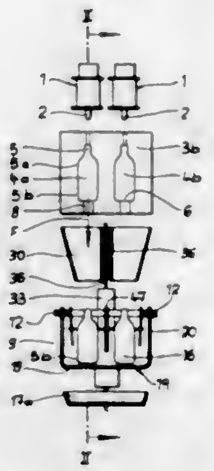


A method and apparatus are disclosed for testing rod-like articles such as cigarettes to detect defective cigarettes. Two conveyor drums are provided with flutes in their external surfaces, each of the flutes conforming to the total external surface on opposite sides respectively of a plane through the axis of the cigarette. Suction holes are provided at each end of each flute. Correctly shaped cigarettes will be retained first in a flute of the first drum and then when transferred to a flute in the second drum will be retained there also, but an incorrectly shaped cigarette will not fit closely over the suction holes in a flute of either the first or second drum and will fall therefrom.

3,447,680

TRANSPORTING APPARATUS FOR BLOW MOLDED ARTICLES

Gottfried Mehnert, Lankwitzerstrasse 14–15, Berlin-Mariendorf, Germany
Filed Aug. 8, 1967, Ser. No. 659,223
Claims priority, application Germany, Aug. 11, 1966, M 55,989
Int. Cl. B07b *13/16;* **B07c** *9/00*
U.S. Cl. 209—73 20 Claims



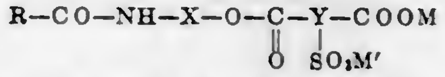
Hollow synthetic plastic articles which are formed in the cavity of a mold are discharged by gravity in response to opening of the mold, together with flashes or like surplus material which is separated from the articles during or subsequent to opening of the mold. A receptacle is reciprocable at a level below the mold between a first position in which its bottom portion intercepts descending articles but permits further descent of surplus material and a second position out of registry with the mold. A take-off conveyor receives articles which descend from the receptacle in the latter's second position and in response to automatic movement of bottom portion to open position.

3,447,681

SEPARATION OF KAINITE FROM POTASSIUM CHLORIDE BY FLOTATION

Jose L. Ramirez, Agro-Quimicas de Honduras, Apartado Postal 362, Tegucigalpa, D.C., Honduras,
No Drawing. Filed Apr. 17, 1967, Ser. No. 631,128
Int. Cl. B03d *1/02*
U.S. Cl. 209—166 8 Claims

A froth flotation process for separating kainite from salt mixtures containing kainite in admixture with potassium chloride, in which the collector is in the form of a compound having the formula



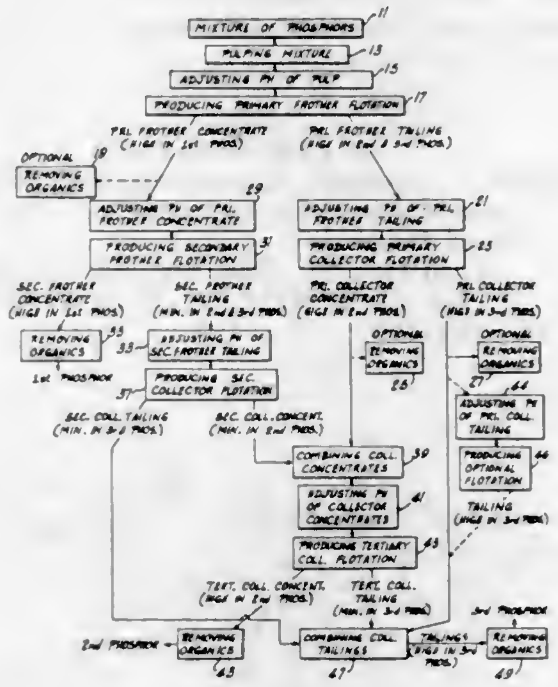
$$\mathrm{R{-}CO{-}NH{-}X{-}O{-}\underset{\underset{O}{\|}}{C}{-}\underset{\underset{SO_3M'}{|}}{Y}{-}COOM}$$

where R—CO— is the acyl radical of a monocarboxylic acid containing a chain having from 12 to 22 carbon atoms, X is an alkylene or alkyl substituted alkylene radical containing from 2 to 6 carbon atoms, Y is the carbon-hydrogen residue of a 4 to 8 carbon atom dicarboxylic acid, and M and M' are cations of alkali metals, or ammonium or substituted ammonium bases.

3,447,682

METHOD FOR SEPARATING PHOSPHORS

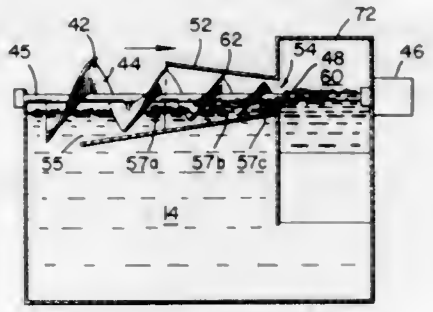
Robert A. Hedler and Winslow E. Ryan, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,985
Int. Cl. B03d *1/14*
U.S. Cl. 209—167 8 Claims


MIXTURE OF PHOSPHORS 11
PULPING MIXTURE 13
ADJUSTING PH OF PULP 15
PRODUCING PRIMARY FROTHER FLOTATION 17
PRL FROTHER CONCENTRATE (HIGH IN 1st PHOS.)
PRL FROTHER TAILING (HIGH IN 2nd & 3rd PHOS.)
OPTIONAL
REMOVING ORGANICS 19
ADJUSTING PH OF PRL FROTHER CONCENTRATE 29
ADJUSTING PH OF PRL FROTHER TAILING 21
PRODUCING SECONDARY FROTHER FLOTATION 31
PRODUCING PRIMARY COLLECTOR FLOTATION 25
SEC. FROTHER CONCENTRATE (HIGH IN 1st PHOS.)
SEC. FROTHER TAILING (MIN. IN 2nd & 3rd PHOS.)
PRL COLLECTOR CONCENTRATE (HIGH IN 2nd PHOS.)
PRL COLLECTOR TAILING (HIGH IN 3rd PHOS.)
REMOVING ORGANICS 33
1st PHOSPHOR
ADJUSTING PH OF SEC. FROTHER TAILING 35
PRODUCING SEC. COLLECTOR FLOTATION 37
OPTIONAL
REMOVING ORGANICS 26
OPTIONAL
REMOVING ORGANICS 27
ADJUSTING PH OF PRL COLL. TAILING 44
PRODUCING OPTIONAL FLOTATION 46
TAILING (HIGH IN 3rd PHOS.)
SEC. COLL. TAILING (MIN. IN 3rd PHOS.)
SEC. COLL. CONCENT. (MIN. IN 2nd PHOS.)
COMBINING COLL. CONCENTRATES 39
ADJUSTING PH OF COLLECTOR CONCENTRATES 41
PRODUCING TERTIARY COLL. FLOTATION 43
TERT. COLL. CONCENT. (HIGH IN 2nd PHOS.)
TERT. COLL. TAILING (MIN. IN 3rd PHOS.)
2nd PHOSPHOR
REMOVING ORGANICS 45
COMBINING COLL. TAILINGS 47
TAILINGS (HIGH IN 3rd PHOS.)
3rd PHOSPHOR
REMOVING ORGANICS 49

A method for nondestructively separating individual phosphors from a mixture of at least first and second separable phosphors wherein the composition and luminescent properties of the respective phosphors are not substantially affected. The mixture is pulped with water to form a slurry and treated with an organic flotation agent having an affinity for the first phosphor to substantially remove the first phosphor as a concentrate. The second phosphor is substantially contained in the tailing and may be further treated by flotation techniques to effect further separation.

3,447,683
SEPARATION APPARATUS AND METHOD FOR MIXED IMPURITIES ON THE EXPOSED SURFACE OF A LIQUID BODY

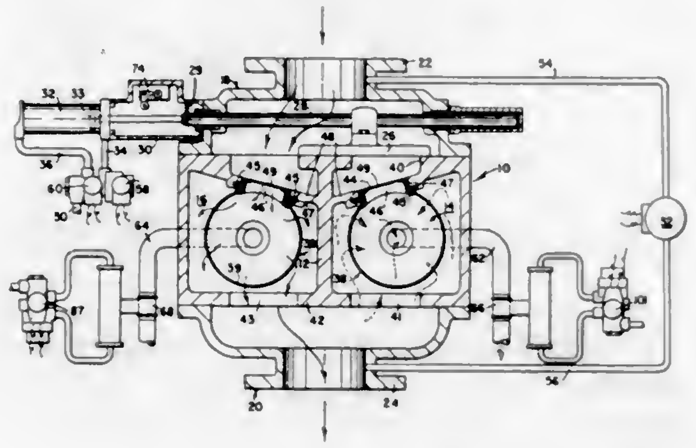
Laurence E. Luce, Jr., Berkeley, Calif., assignor to De Laval Turbine, Inc., Millbrae, Calif.
Filed May 15, 1967, Ser. No. 638,535
Int. Cl. B01d *21/14*
U.S. Cl. 210—83 **8 Claims**



An apparatus and method for inducing or enhancing the settling separation of impurities floatably disposed and mixed with the ambient liquor of a liquid body. A settling sump having boundaries for the support of a fluid column of mixed impurities is supported at an elevation approximately that of the exposed surface of the body. The mixed impurities are removed from the exposed surface and discharged interior of the sump. In the sump the mixed impurities form a fluid column many times the thickness of the mixed impurities as originally floatably disposed, forming internal pressures in the column to promote settling separation of the ambient liquor of the liquid body from the impurities. The sump is fluidly communicated below the column of mixed impurities with the liquid body so as to return the separated liquor of the liquid body and permit the static head of the liquid bath to support the column of mixed impurities. After standing for settling separation, the impurities are discharged in a separated state from the sump.

3,447,684
FLUID STRAINER

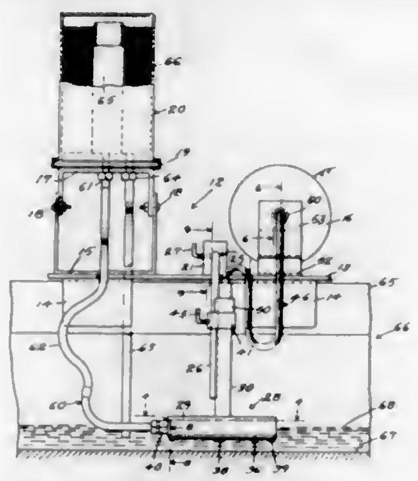
Frank A. Morrison, Greensburg, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,638
Int. Cl. B01d *29/24, 29/36, 29/38*
U.S. Cl. 210—108 **4 Claims**



A liquid filtering system including a strainer having two baskets through which a stream of fluid to be filtered selectively flows wherein a control circuit automatically cycles the stream through a clean basket while making provision for cleaning by backflushing the dirty basket.

3,447,685
PUMP AND FILTER UNIT

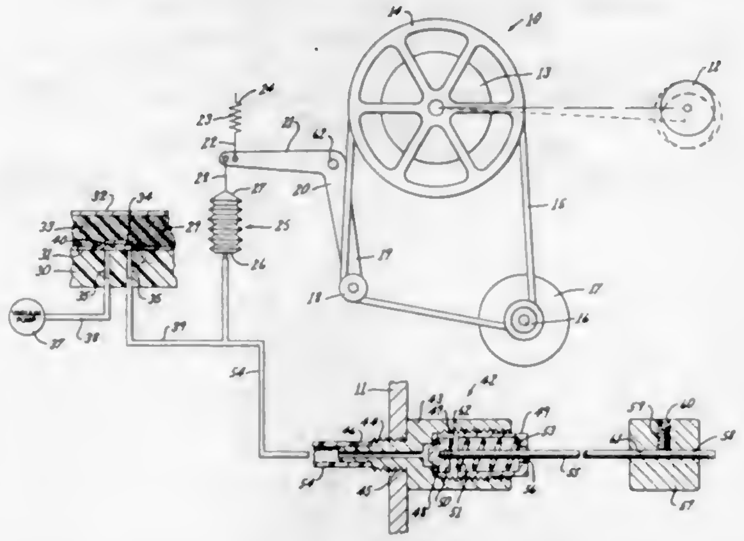
John H. Bircher, Ellsworth, Kans.
(Box 31, Somers, N.Y. 10589)
Filed Dec. 7, 1966, Ser. No. 599,896
Int. Cl. C02c *1/18*
U.S. Cl. 210—167 **1 Claim**



A pump and filter unit capable of operating while a deep fryer is cooking food for filtering impurities from the oil before such impurities can be cooked into the oil, to thereby greatly increase the usable life of cooking oils. The unit is constructed as an attachment which may be readily applied to conventional deep fry cookers to function therewith, without in any way modifying the fryer. The pump can be readily adjusted with respect to the remainder of the unit so as to center the pump relative to the cooking receptacle and to position the pump at least partially submerged in the cooking oil.

3,447,686
WASHING MACHINE SYSTEM

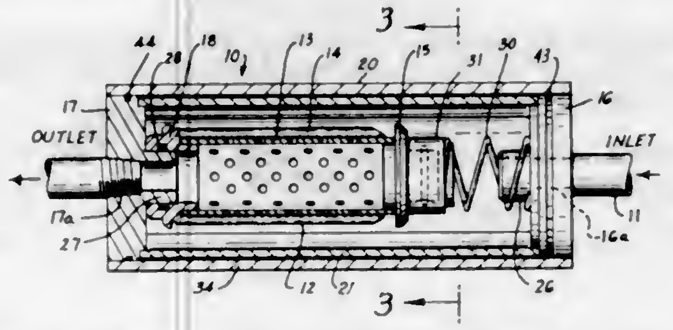
Roy W. Houser, Orange, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation of application Ser. No. 367,824, May 15, 1964. This application June 16, 1967, Ser. No. 646,738
Int. Cl. B01d *21/26;* **D06f** *35/00*
U.S. Cl. 210—144 **5 Claims**



This disclosure relates to improved control means for a washing machine having a washing compartment and variable speed means for spinning the washing compartment between a high limit speed or a low limit speed, the control means including means for sensing the unbalanced condition of the spinning washing compartment and being interconnected to the variable speed means to reduce and maintain the speed thereof at a speed intermediate the high and low speed limits thereof substantially proportional to the sensed unbalanced condition as long as that particular sensed unbalanced condition exists.

3,447,687
IN-LINE FILTER CASE

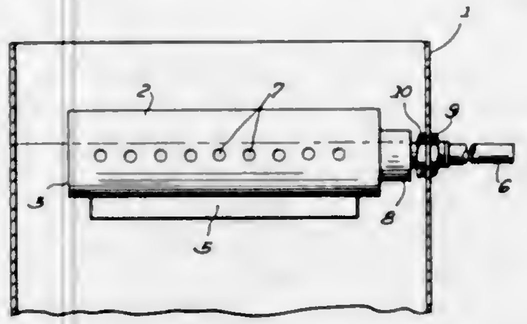
Howard M. Canterbury, 6306 Schevers, Houston, Tex. 77017
Continuation-in-part of application Ser. No. 636,892, May 8, 1967. This application Oct. 6, 1967, Ser. No. 673,339
Int. Cl. B01d *21/02, 35/00;* **C02c** *1/26*
U.S. Cl. 210—232 **10 Claims**



An in-line filter case comprising disc-shaped inlet and outlet members permanently connected in the flow line, two spacer bars connected between the members and a sleeve in sliding sealing engagement with said members and enclosing the space therebetween. A filter element releasably mounted in said case between said inlet and outlet members.

3,447,688
STABILIZED EFFLUENT TROUGH FOR SETTLING TANKS OF A CONTINUOUS FLOW SEWAGE TREATMENT PLANT

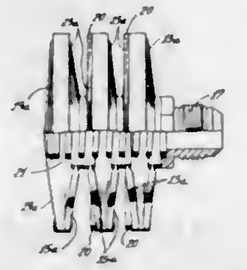
Bernard S. MacCabe, Pittsburgh, Pa., assignor to Dravo, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 3, 1967, Ser. No. 650,765
Int. Cl. B01d *21/24;* **C02c** *1/26*
U.S. Cl. 210—242 **3 Claims**



The effluent trough comprises a wholly enclosed hollow member having perforations in the side walls thereof and weighted to maintain the perforations below the liquid-air surface of the settling tank for continuous withdrawal of the clear effluent therein.

3,447,689
BELLOWS FILTER

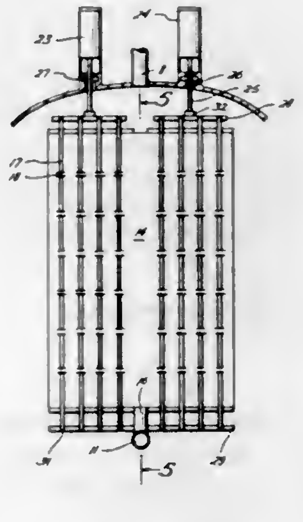
George G. Solymar, North Hollywood, Calif., assignor to Aerospace Components Corporation, Los Angeles, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 581,881, Sept. 26, 1966. This application Nov. 8, 1967, Ser. No. 685,233
Int. Cl. B01d *25/02, 39/12*
U.S. Cl. 210—356 **4 Claims**



A compressible bellows filter comprising a plurality of sections. Each section includes opposed flat radially pleated sides extending between inner and outer tubular members. A sealing member is mounted on each outer member to seal the edges of the sections when the filter becomes fully compressed.

3,447,690
APPARATUS FOR REMOVAL OF FILTER CAKE

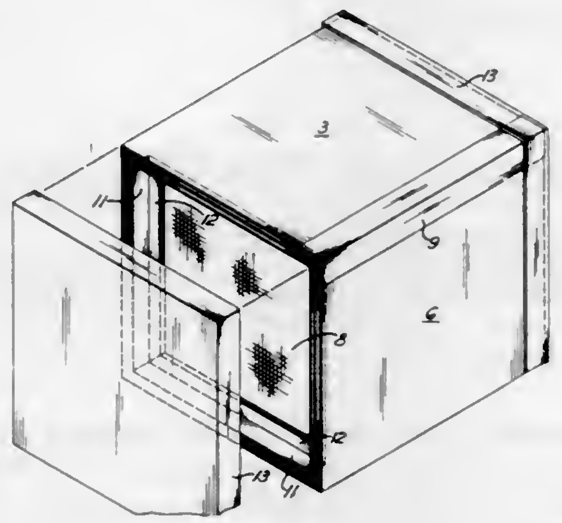
Aloysius C. Kracklauer, Conroe, Tex., assignor to Sparkler Manufacturing Company, Conroe, Tex., a corporation of Illinois
Filed May 25, 1966, Ser. No. 552,734
Int. Cl. B01d *25/34, 29/28, 35/16*
U.S. Cl. 210—332 **8 Claims**



In a filter apparatus, a flexible filter bag is provided with loops, and a plurality of flexible strips extend through the loops. Flexing means are provided to selectively flex the strips. Flexing of the strips results in shaking of the bag and dislodging of the filter cake thereon.

3,447,691
FILTER

Paul D. Andrews, Dormont, and Robert A. Bub, Gibsonia, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1967, Ser. No. 627,731
Int. Cl. B01d *27/00*
U.S. Cl. 210—483 **3 Claims**

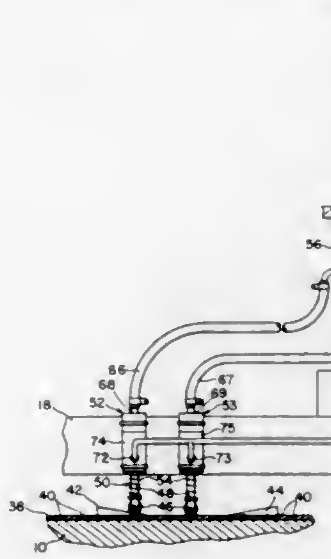


A paperboard housing surrounds four sides of a rectangular filter unit and projects from the opposite ends of the unit to form rectangular frames. Flaps integral with the outer edges of the side walls of the frames are secured flat against the inner surfaces of those walls, and flanges integral with the inner edges of the flaps overlap the marginal areas of the end faces of the filter unit, to which they are attached.

3,447,692

AUTOMATIC CRANE BOOM STOP ABOUT A VERTICAL AXIS

Thomas W. Thomas, 235 Union St.,
San Rafael, Calif. 94901
Filed May 19, 1967, Ser. No. 641,744
Int. Cl. B66c *13/48, 13/20*
U.S. Cl. 212—39 **7 Claims**

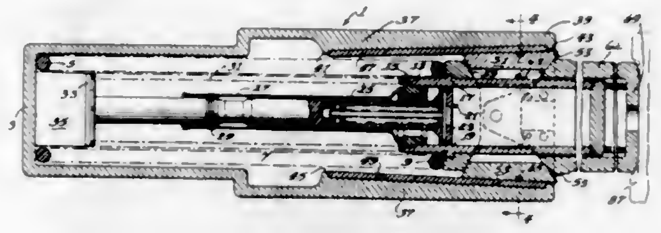


A device for limiting the rotation of a crane boom extending from a platform rotatably mounted on a base in which a pair of movement-limiting wedges are secured to the base and engage a sensor mounted on the platform of the crane. The sensor includes valves which actuate hydraulic or pneumatic actuators connected with the means energizing the drive means for rotating the cab, the boom, and the platform. The hydraulic or pneumatic actuators return the means, such as a swing lever, to its neutral position in which the drive means are de-energized and the brakes are set.

3,447,693

COMBINED HYDRAULIC CUSHION-FRICTION CLUTCH DRAFT GEAR

Lloyd Cardwell, Chicago, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 520,208, Jan. 12, 1966. This application Nov. 2, 1967, Ser. No. 680,205
Int. Cl. B61g *9/08, 9/10, 9/20*
U.S. Cl. 213—22 **10 Claims**

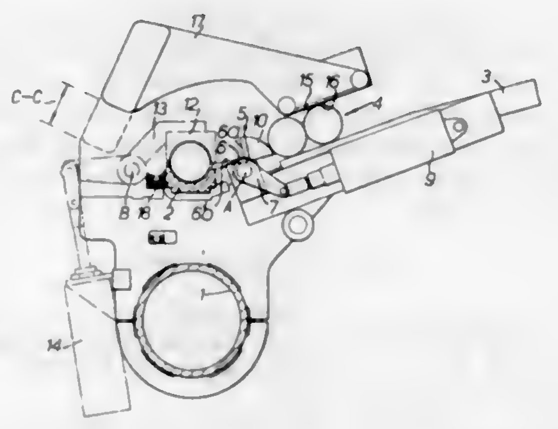


A combination friction clutch and hydraulic draft gear for railroad cars in which the friction clutch elements are mounted alongside the hydraulic cushioning unit instead of in front of it as in Patent No. 3,150,782, thereby providing greater travel length for a given gear length. The friction clutch arrangement which makes shorter construction possible for any given travel length comprises two oppositely positioned movable clutch members, the outer walls of which are in frictional engagement with fixed clutch members. The surfaces of the ends of the movable members are sloped toward each other and abut matching sloping surfaces on a collar, mounted intermediate the ends of the cylinder of the hydraulic cushioning device, and a ram adapted to reciprocate between the housing and the hydraulic cushioning cylinder. The draft gear is equipped with necessary springs to assist in resisting forces applied to the gear and returning the gear to release position.

3,447,694

FEED MECHANISMS

Brian Hartle, Fazeley, England, assignor, by mesne assignments, to G.K.N. Machinery Limited, Wolverhampton, England
Filed June 27, 1966, Ser. No. 560,745
Claims priority, application Great Britain, July 3, 1965, 28,267/65
Int. Cl. B65h *5/00;* **B23q** *5/22*
U.S. Cl. 214—1.2 **7 Claims**

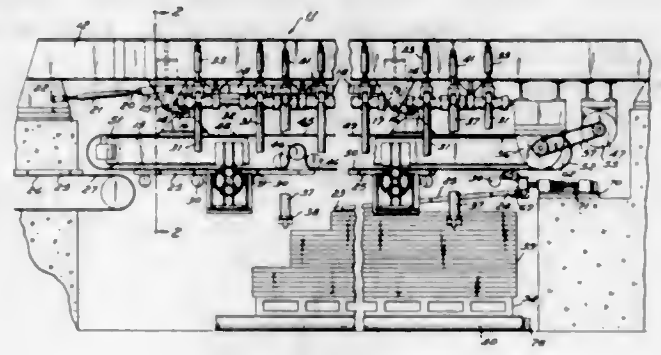


A bar feed mechanism comprises an inclined rack on which a supply of bars can be placed and an elongated feed member which has a longitudinally extending recess and which is positioned at the bottom of the rack with the recess extending perpendicular to the lines of greatest slope of the rack. The feed member is rockable between a receiving position in which the mouth of the recess faces towards the rack so that the lowest bar thereon can roll into the recess and a delivery position in which the recess faces away from the rack and the previously received bar can roll out of the recess.

3,447,695

STACKER

John D. Krepp and Eugene L. Mackey, Cleveland, Ohio, assignors, by mesne assignments, to P & F Industries, Inc., Great Neck, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,829
Int. Cl. B65g *57/03;* **B65h** *31/34*
U.S. Cl. 214—6 **15 Claims**



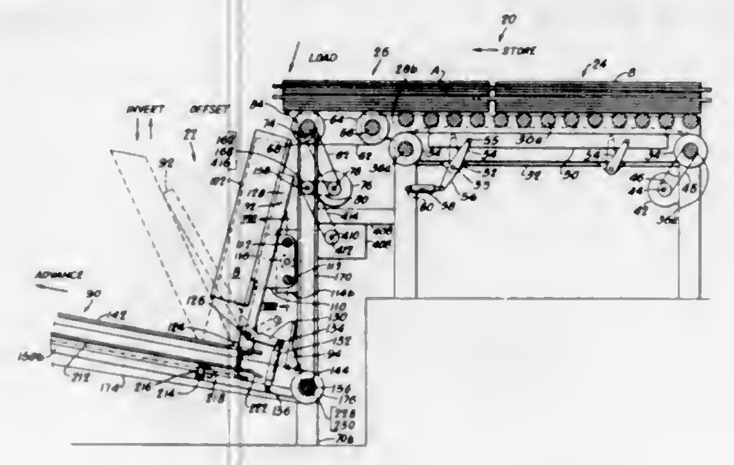
The disclosure relates to apparatus for stacking pieces which are supported on roller supports in a pass plane and moved by contact with the lower run of a belt conveyor. Selected ones of the plural roller supports are

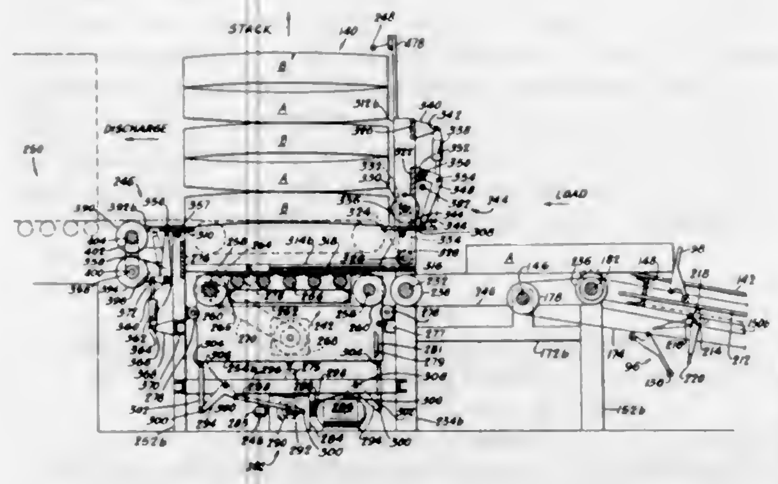
swung downwardly out of the pass plane to drop the pieces which may be of variable length and accordingly the selected number of roller supports that are swung downwardly is varied. The pieces drop onto a stack and hit an end stop, and are then pushed slowly upstream into alignment in the stack.

3,447,696

STACKING SYSTEM FOR PAPERBOARD BLANKS

Mircea Calistrat, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Sept. 11, 1967, Ser. No. 666,605
Int. Cl. B65g *57/081, 47/24*
U.S. Cl. 214—6 **16 Claims**



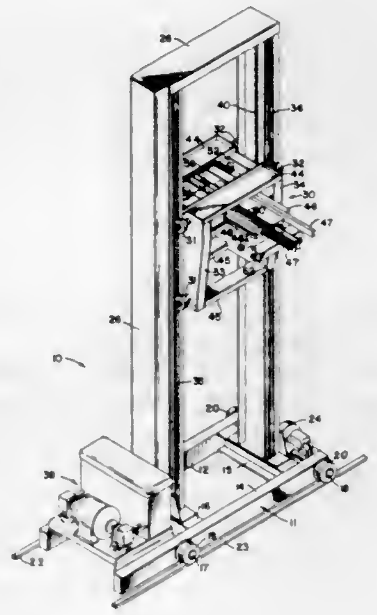


Apparatus for stacking alternate stacks or corrugated paperboard blanks discharged from a blank-forming machine face up and face down to reduce warping comprising an intermittently rotating transverse storage conveyor means for receiving and temporarily storing stacks of blanks in face-up position from an in-line conveyor adjacent the blank-forming machine; an inverter for sequentially receiving stacks from the storage conveyor and inverting alternate stacks to a face-down position on a rising conveyor comprising a guide for directing the stacks into a substantially vertical position with the stack resting on its leading edge on the rising conveyor where a pivoting finger carried by the rising conveyor engages the bottom edge of a first stack on the conveyor to advance it along the conveyor thereby positioning the first stack face up, an inverting lever adjacent the underside of a subsequent stack intermittently operable to engage the underside surface of this second stack to pivot it about its bottom edge so that it descends onto the rising conveyor with its underside up, first and second advancing fingers for sequential engagement with the trailing edges of the first and second stacks to advance them along the rising conveyor; and stacking them one under the other to form a pile of blanks comprising a lifting conveyor including a stop for positioning each of the stacks, means for raising the lifting conveyor, with the stack thereon, a distance slightly greater than the height of the stack, a support for engaging the bottom face of the lifted stack to maintain the stack in its lifted position, means for lowering the lifting conveyor to receive another stack for repeating the foregoing lifting operation, and means rotating the lifting conveyor in its uppermost position when the pile of blanks reaches a selected height to discharge the pile on a skid or other conveyor for further handling.

3,447,697

ARTICLE HANDLING APPARATUS

Woodruff A. Morey, Flossmoor, Richard P. Molt, Olympia Fields, Victor H. Ames, Midlothian, and Edward T. Dolin, Oaklawn, Ill., assignors to Whiting Corporation, a corporation of Illinois
Filed Apr. 4, 1966, Ser. No. 539,923
Int. Cl. B65g *59/02*
U.S. Cl. 214—8.5 **20 Claims**



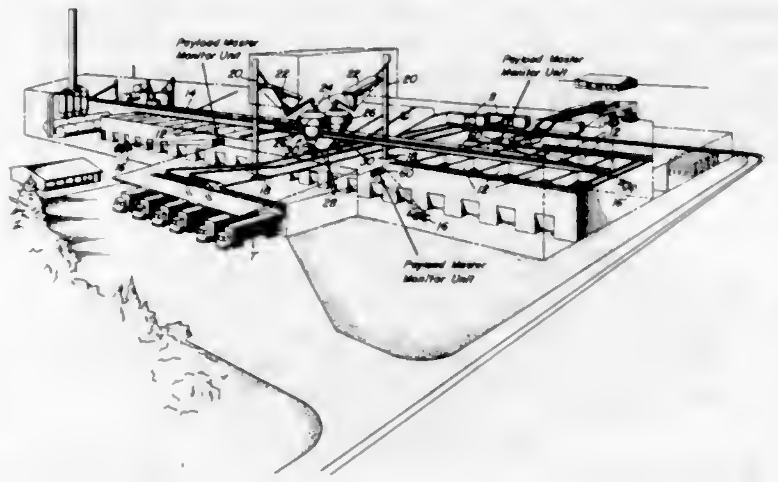
A mobile support mounts an upright member or mast supporting a carriage for vertical reciprocal movement. The carriage mounts first and second sets of parallel article engaging forks, each set of forks being horizontally movable relative to the carriage between extended and retracted positions. One set of forks supports an article in the stack and any articles thereabove. The other set of forks moves a selected article horizontally from or to a position beneath the first mentioned article or articles. In another embodiment of the invention, a plurality of carriages are mounted on the mast for differential vertical movement relative thereto. In this embodiment, all articles in the stack are engaged and lifted such that vertical spaces are formed between all adjacent articles; the selected article is moved horizontally to and from a position within the stack.

3,447,698

HIGH SPEED SELECTIVE PACKAGING SYSTEM

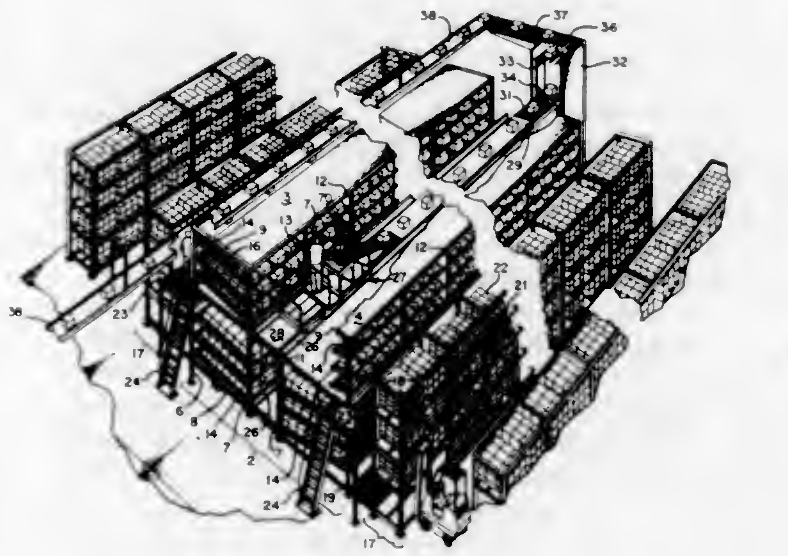
Walter J. Sackett, Sr., Baltimore, Md., assignor to The A. J. Sackett & Sons Company, Baltimore, Md., a corporation of Maryland
Filed Dec. 20, 1965, Ser. No. 514,937
Int. Cl. B65g *65/74, 11/12*
U.S. Cl. 214—16 **3 Claims**

Granular material is selectively dispensed from a charging hopper into a pair of chutes, each of which communicates to a rotary spout, each of which, in turn communicates selectively with compartments in a pair of hoppers, thereby enabling each compartment of each hopper to be charged with the granular material desired from the single charging hopper. Each compartment is provided with a discharge gate, and a collecting hopper bridges all the discharge gates for collecting the granular material for weighing purposes. A swingable conveyor is provided to receive granular material discharged from the collecting hopper and delivering such material to another conveyor which recycles the material to the charging hopper.



3,447,699
WARehouse SYSTEM WITH AN ARTICLE LABELLING DEVICE

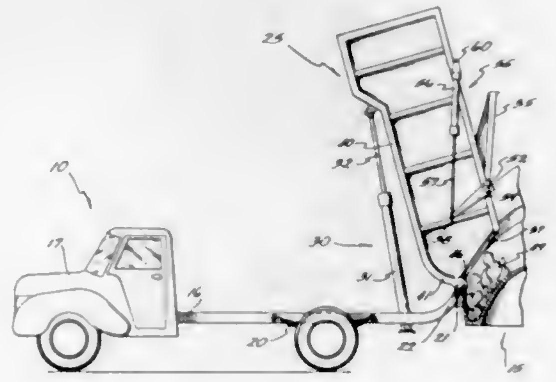
Stanley M. Weir, Palo Alto, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,942
Int. Cl. E04h *5/02*
U.S. Cl. 214—16.4 **2 Claims**



Power-driven warehouse equipment facilitates accurate and rapid selection of articles of commerce for distribution to warehouse outlets. A mobile trackmounted order-selection vehicle under the control of a warehouseman moves along an aisle formed by storage racks arranged in rows. Each rack is divided into compartments or slots, each slot containing cases, cartons or containers of a designated article of commerce. As the vehicle moves along the slots, selection of type and quantity of containers is made in accordance with a predetermined program carried by the driver of the vehicle in accordance with order picking instructions displayed for him by a display unit on the vehicle. Following selection of the requisite type and quantity of containers, each contanier is automatically labeled with a label which indicates the type, quantity and destination information imprinted thereon according to a program, and the containers are mechanically transported to an area where they are automatically diverted to accomplish assembly of orders in accordance with their proper destination.

3,447,700
DUMP TRUCK ARRANGEMENT FOR DUMPING MATERIAL FROM ONE TRUCK TO ANOTHER

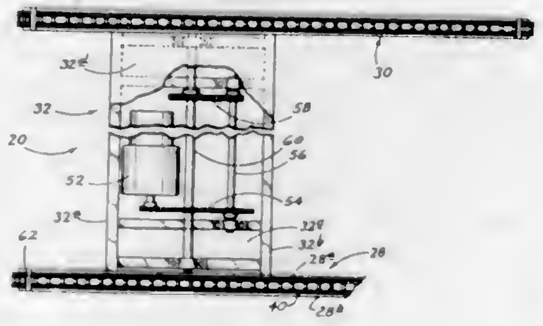
Ronald W. Nickel, 604 Glenview Ave., Oconomowoc, Wis. 53066
Filed May 25, 1966, Ser. No. 552,765
Int. Cl. B65g *67/02;* **B60p** *1/16, 1/28*
U.S. Cl. 214—38 **12 Claims**



A trucking arrangement in which a small dump truck is adapted to dump its contents into a larger truck for hauling to a remote destination. The small dump truck is provided with a coupling means that engages the larger truck when the dump body on the small truck is elevated. This couples the two trucks together so that they cannot separate during the transfer operation and the trucks are held in relative positions so that the large truck receives the contents being discharged out of the small truck.

3,447,701
LOAD-HANDLING APPARATUS INCLUDING PORTABLE PERCH

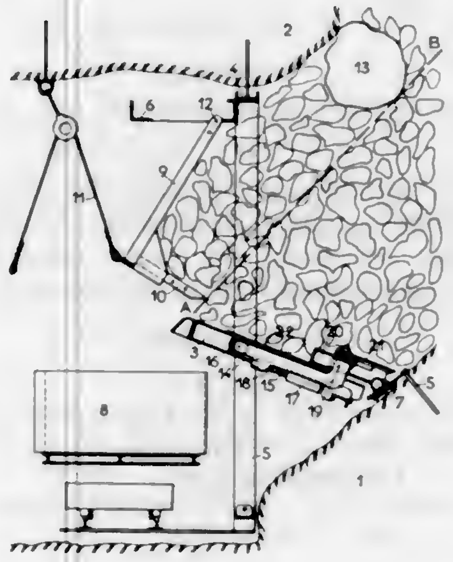
Henry Sause, Jr., 3829 NE. Flanders, Portland, Oreg. 97232
Continuation-in-part of application Ser. No. 594,196, Nov. 14, 1966. This application Feb. 13, 1967, Ser. No. 615,739
Int. Cl. B65g *43/00, 65/08, 15/28*
U.S. Cl. 214—38 **9 Claims**



A stanchion removably mounted at one location and a perch comprising a pair of laterally spaced substantially horizontal arms joined together by a cross member removably mounted on the upper end of the stanchion with the arms forming a cantilevered load support platform projecting from one side of the stanchion over another location at a different elevation. Each arm of the perch has a power-operated conveyor for moving loads therealong.

3,447,702
METHOD AND DEVICE FOR THE LOADING OF ORES

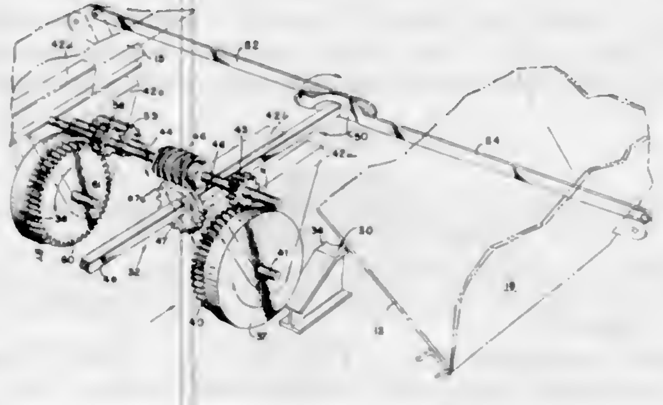
Etienne H. Vincent, May-sur-Orne, Calvados, France
Continuation of application Ser. No. 530,484, Feb. 28, 1966. This application Aug. 28, 1968, Ser. No. 757,218
Claims priority, application France, Mar. 2, 1965, 7,544; May 11, 1965, 16,532; Nov. 5, 1965, 37,367
Int. Cl. B65g *67/04;* **B65d** *47/00*
U.S. Cl. 214—41 **6 Claims**



An apparatus for regulating the flow of material from a passage, including a pair of plate means which respectively extend from the walls of the passage and into the opening thereof to normally block flow therethrough, each of the plate means being movable to and from its flow blocking position to permit selective discharge of the material from the passage.

3,447,703
OPERATING MECHANISM FOR VEHICLE DISCHARGE MEANS

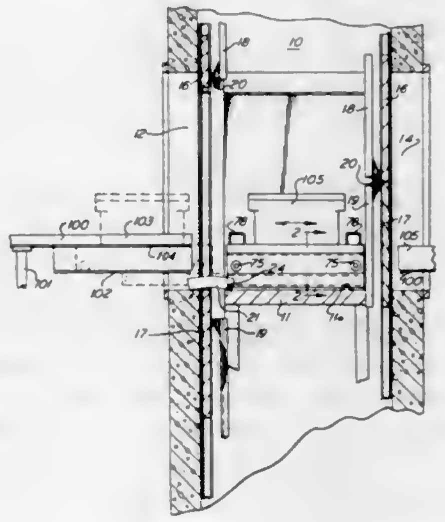
Leonard P. Kutch, Chesterton, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,640
Int. Cl. B65g *67/24;* **B61d** *7/08, 7/30*
U.S. Cl. 214—63 **7 Claims**



A railroad hopper door operating mechanism comprising rail engaging wheel means having gear structure rotating about a transverse axis to drive a worm or worm gear means which rotates a helical or worm gear means about a longitudinal axis of a longitudinally extending door operating shaft connecting with laterally spaced side opening doors of the railroad vehicle where the initiating door opening rail is disposed beneath the hopper car and between the rails.

3,447,704
CONTAINER TYPE AUTOMATIC LOADING AND DISCHARGE SYSTEM FOR DUMBWAITERS

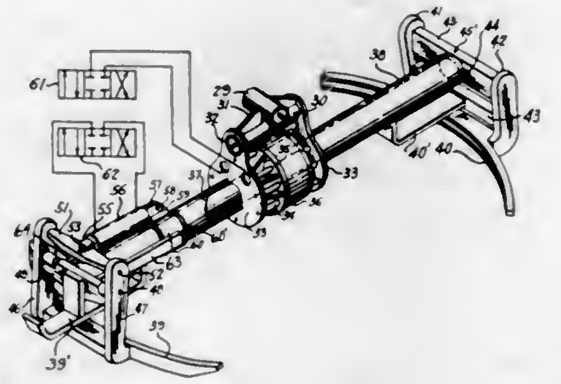
Nicholas R. Guilbert, Jr., Glenside, Pa., assignor to Guilbert, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 10, 1967, Ser. No. 629,439
Int. Cl. B66b *9/10;* **B65g** *17/34;* **E04h** *6/14*
U.S. Cl. 214—95 **4 Claims**



A container type automatic loading and discharge system for dumbwaiter cars and the like wherein the container carriage on the car can be extended under a table top and load or discharge a container from or onto the table top from the car.

3,447,705
PICK-UP AND DUMP MECHANISM

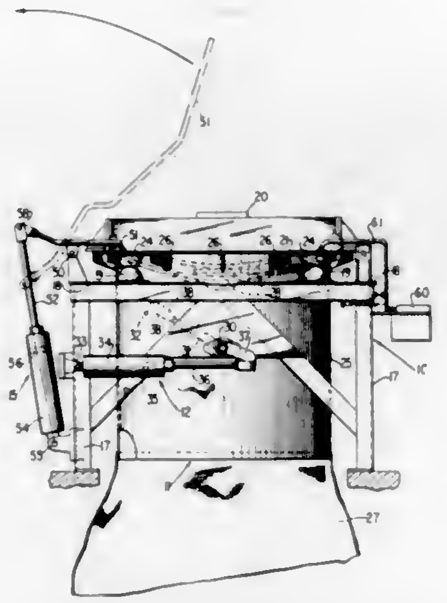
Oscar T. Stone, P.O. Box 2644, Lakeland, Fla. 33803
Filed Oct. 12, 1967, Ser. No. 674,963
Int. Cl. B65g *65/02*
U.S. Cl. 214—302 **5 Claims**



Mechanism for attachment to an elevating lever or boom on a truck and with such mechanism usable for clamping onto a container such as that in which citrus or other fruit is collected for picking up the container and for tilting the container to discharge the contents thereof.

3,447,706
BAG OPENING AND EMPTYING MACHINE

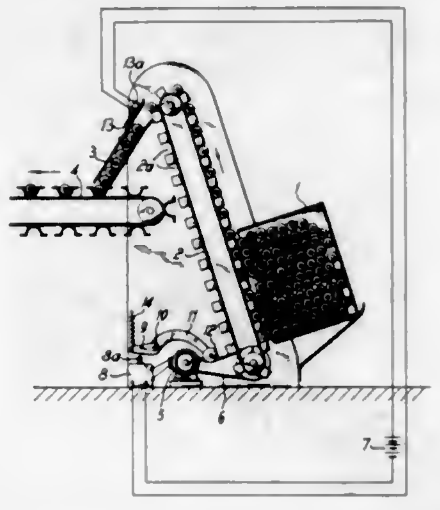
Edward J. Moriarty, 8821 Kenwood Road, Cincinnati, Ohio 45242
Filed Oct. 9, 1967, Ser. No. 673,762
Int. Cl. B65b *21/02, 69/00;* **B65g** *65/04*
U.S. Cl. 214—305 **4 Claims**



A machine for slitting a bag containing free flowing particles of material, vibrating the bag to empty the same, and an elongate member for ejecting the empty bag from the machine. The machine has one or more knifes which alternately are moved in opposite directions by fluid pressure controlled mechanism. The operation of the bag ejecting member is controlled by a timer.

3,447,707
DEVICE FOR UNLOADING TRANSFER CASES FILLED WITH TEXTILE COILS

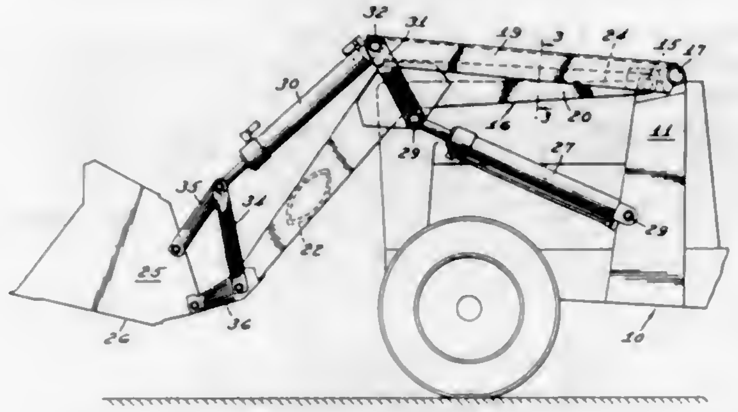
Stefan Furst, Monchen-Gladbach, Germany, assignor to Walter Reiners Monchen-Gladbach, Germany
Filed Jan. 26, 1967, Ser. No. 611,942
Claims priority, application Germany, Feb. 5, 1966, R 42,567
Int. Cl. B65b *21/02;* **B65g** *65/44, 43/00*
U.S. Cl. 214—307 **5 Claims**



Switch means are provided in a device for unloading transfer cases containing textile coils which serve to produce between transfer case and a conveyor apparatus provided with troughs passing below a discharge opening in the transfer case a temporary relative motion in a direction opposite that of the automatic normal run-direction of the conveyor apparatus whereby jammed coils are loosened and properly inserted in the troughs.

3,447,708
TRACTOR MOUNTED LOADER

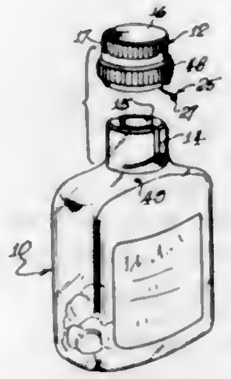
John O. Steinkamp, Troy, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,435
Int. Cl. E02f *3/70*
U.S. Cl. 214—775 **1 Claim**



A mechanical linkage compensates for increased bucket tilt upon raising a tractor mounted loader. The compensating linkage lies along the loader boom and utilizes pivots provided for mounting the lift and bucket cylinders.

3,447,709
LOCKING CAP FOR BOTTLES AND THE LIKE

Vincent Marasco, 1364 North Western Ave., Los Angeles, Calif. 90027
Filed June 14, 1967, Ser. No. 646,016
Int. Cl. B65d *55/02, 55/14*
U.S. Cl. 215—9 **13 Claims**

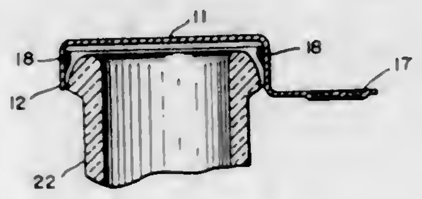


A safety cap for an aspirin bottle or the like is provided with a relatively rotatable locking member that, unless manually held, is rotated with the cap and moved into a recess in the bottle neck, thereby preventing removal of the cap. When the locking member is properly manipulated, that is, held against this rotation by the cap, the cap can be removed in the usual manner. The safety cap is designed to deny young children access to drugs when packaged in conventional bottles of glass or plastic.

3,447,710
MANUALLY REMOVABLE TEAR-TYPE CLOSURE ELEMENTS

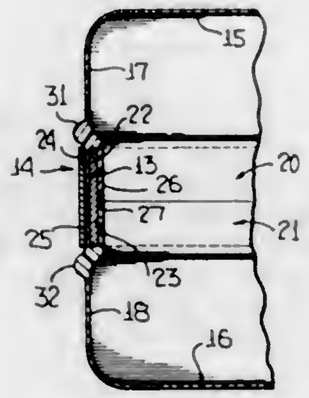
Stanley A. Blair, Malden, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Original application May 3, 1965, Ser. No. 456,029, which is a continuation-in-part of application Ser. No. 419,637, Dec. 21, 1964. Divided and this application Aug. 15, 1967, Ser. No. 671,178
Int. Cl. B65d *23/00, 53/02, 43/02*
U.S. Cl. 215—40 **5 Claims**

A tear off closure for containers which includes a sealing gasket positioned substantially exclusively on the inner surface of the skirt of the closure. A suitable gasket is composed of a fluxed plastisol of a vinyl chloride resin having a cellular structure. Because the gasket is solely on the inner surface of the skirt, the possibility of fracturing the scored section of the closure while capping a container is reduced.



3,447,711
TWO-PIECE PLASTIC CONTAINER WITH REINFORCING MEANS

John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 19, 1967, Ser. No. 646,813
Int. Cl. B65d *7/00, 17/20*
U.S. Cl. 220—4 **7 Claims**

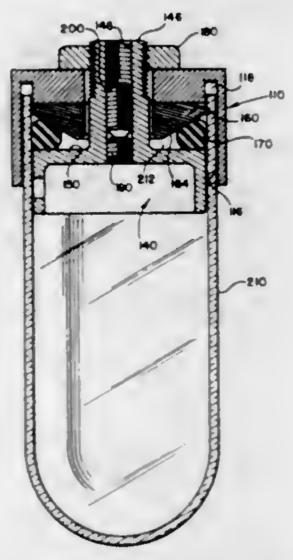


A plastic container of a two-piece construction including a container body and a cover each of which includes an end panel and a peripheral skirt. Each peripheral skirt has a terminal end portion which is defined by inner and outer peripheral wall portions between which is a circumferential axially opening groove. An annular metallic band is received in the grooves for rigidifying the container thus preventing abnormal deformation or breakage thereof upon the application of a securing member to the outer peripheral wall portion or when subject to normal abuses of storage, shipment and handling. Circumferential beads above and below the securing member also prevent the inadvertent or accidental removal therefrom.

3,447,712
CENTRIFUGE TEST TUBE CAP

Maurice Galasso, Los Gatos, and Joseph C. Kirby, San Jose, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Dec. 13, 1965, Ser. No. 513,280
Int. Cl. B65d *39/12*
U.S. Cl. 220—24.5 **4 Claims**

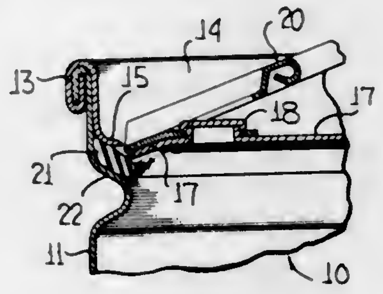
A vessel cap in which a washer with a lower beveled surface is interposed between a crown and a stem. An O-ring is disposed between the stem and the beveled surface of the washer so that when the crown and the stem are clamped together the O-ring deforms, entirely filling



the space between the stem and beveled surface forming a liquid tight seal.

3,447,713
SCORE SHIELD AND ANTI-IMPLOSION RING

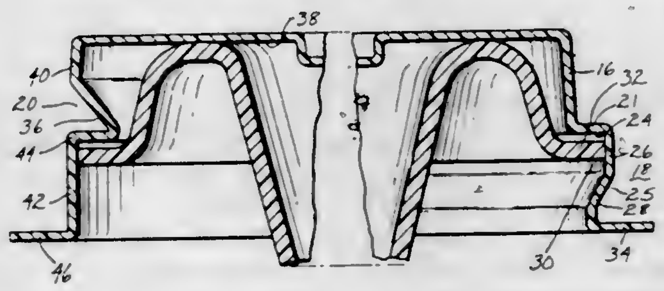
Frederick J. Stec, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 3, 1967, Ser. No. 680,472
Int. Cl. B65d *17/20*
U.S. Cl. 220—54 **9 Claims**



This disclosure relates to an easy opening container of the type wherein one end has substantially the entire end panel thereof removable during the opening thereof. The end panel is reinforced by a pliable ring which is positioned in underlying relation to the end panel and projecting into the removable panel portion so as to both reinforce the end panel along the score line thereof and to prevent implosion during opening when the pressure within the container is less than atmospheric.

3,447,714
CONTAINER AND LID

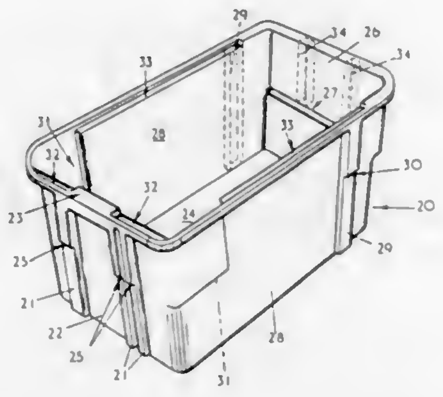
Neil C. Elliot, East Granby, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,808
Int. Cl. B65d *21/00, 43/10*
U.S. Cl. 220—97 **16 Claims**



A stackable, snap-on, tight sealing, easily removable, resealable, plastic lid for a container body, having spaced peripheral stacking means and sealing means intermediate the stacking means. The lid is particularly adaptable for noncircular configurations where the stacking means are in the lid corners.

3,447,715
CONTAINERS

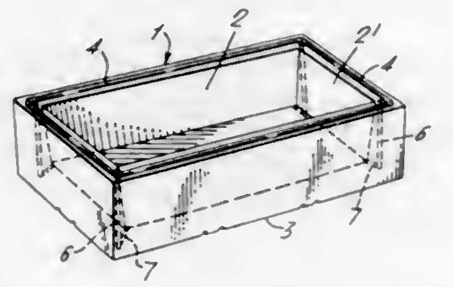
Richard William Oliver Beney, The Old Parsonage, Edale, Via Sheffield, Derbyshire, England
Continuation-in-part of abandoned application Ser. No. 548,938, May 10, 1966. This application Mar. 4, 1968, Ser. No. 710,087
Int. Cl. B65d *21/04, 23/06, 25/22*
U.S. Cl. 220—97 **1 Claim**



An open top container provided at its open top with an outwardly directed flange or rim and with at least three external projections and internal seatings therefor formed in its walls. The projections and seatings are so positioned that by orienting the container in one direction the lower surfaces of the projections are engaged on a section of the rim above the projections of a similar container whereby the container is stacked in a balanced condition. By orienting the container in a different direction, the projections are received in the seatings of a similar container to provide nesting.

3,447,716
TRANSPORT CASE OF AN EXPANDED ARTIFICIAL MATERIAL

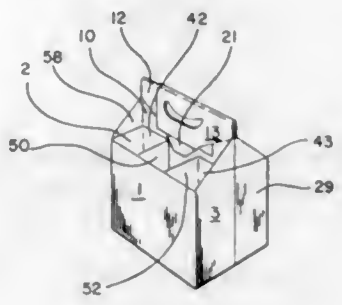
Kåre Nesse, Nessane, Norway, assignor to Nessplast-Kare E. Nesse, Nessane, Norway
Filed Apr. 12, 1967, Ser. No. 630,443
Claims priority, application Norway, Apr. 13, 1966, 162,565; May 4, 1966, 162,871
Int. Cl. B65d *21/00*
U.S. Cl. 220—97 **2 Claims**



Disposable transport case constructed of light expanded plastic material comprises bottom wall and upwardly extending side wall integrally connected at its lower portion to bottom wall. Grooves are provided in exterior surface of bottom wall and tongues extending upwardly from uppermost portion of side wall are arranged for mating engagement with grooves in bottom wall of similar case when series of such cases are stacked one above the other. Transport case has drainage system for draining single case or vertical stack of cases.

3,447,717
ARTICLE CARRIER WITH REINFORCED END PANELS

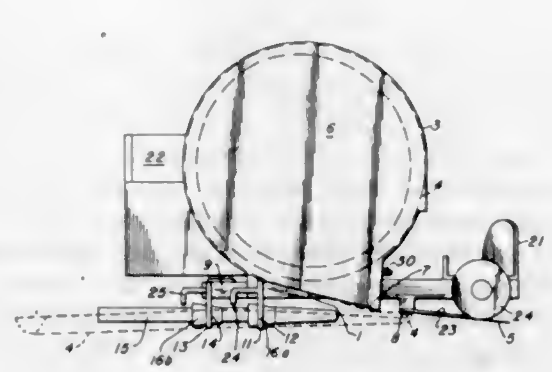
Homer W. Forrer, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed Dec. 4, 1967, Ser. No. 687,799
Int. Cl. B65d *75/00, 5/48*
U.S. Cl. 220—113 **4 Claims**



An article carrier is disclosed wherein a main outer blank is used in conjunction with one or more supplementary inner blanks to provide an unusually sturdy article carrier, the inner blank or blanks being adhered in certain areas thereof to corresponding areas of the outer blank so as to provide reinforcement therefor while other areas of the inner blank or blanks are left detached from the corresponding areas of the outer blank so as to provide partitioning structure for the carrier. This partially laminated construction is especially arranged so as to afford reinforcement for the carrier end panels.

3,447,718
TAPE DISPENSERS

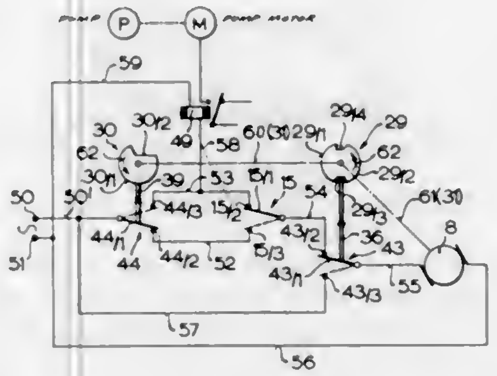
Kenneth Burbidge, Miramar, Wellington, North Island, New Zealand (73 Hastie Ave., Mangere Bridge, Manukau City, Auckland, North Island, New Zealand)
Filed Sept. 20, 1966, Ser. No. 580,791
Claims priority, application New Zealand, Sept. 24, 1965, 142,960; Sept. 20, 1966, 146,410
Int. Cl. B65h *5/28, 17/44*
U.S. Cl. 221—73 **11 Claims**



A dispenser having strips of flexible sheet material for dispensing articles. A frame has a magazine for the sheet material and an actuating member is slidably mounted on the frame. A releasable drawing clamp for gripping and drawing the sheet material from the magazine is provided and a releasable checking clamp for gripping and checking the sheet material. The clamps each comprise a collar and cooperating means loosely retained within the collar. The collar of the drawing clamp cooperates with the actuating member. Stop means depend from each collar towards the associated cooperating means to oppose withdrawal of the cooperating means from its associated collar. Means effecting the gripping action of said drawing clamp upon actuation of said actuating member upon the strip of flexible sheet material between the collar and cooperating means of said drawing clamp move the cooperating means into gripping position with its associated collar to grip the strip of flexible sheet material. Means are provided for releasing the action of the gripping means upon return of the actuating member causing the strip of flexible sheet material to drag the cooperating means from its gripping position. Means effect the checking action of said checking clamp by said drag between the cooperation means and associated collar of the checking clamp on the cooperating means when said sheet material is moved therebetween by said drag when said cooperating means is dislodged in said drawing clamp. Means are provided for deforming said strip of sheet material adjacent said clamps to resist buckling and crumpling. Adjusting means are provided for said actuating member and slots are provided in the collars for edgewise insertion of the sheet material. A peeling blade is located in front of the frame together with an applicator roller.

3,447,719
DISCHARGE NOZZLE CONTROLLED FLUID DISPENSING ARRANGEMENT

Manfred Bottling, Villingen, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Oct. 3, 1967, Ser. No. 672,527
Claims priority, application Germany, Oct. 4, 1966, K 60,387
Int. Cl. B67d *5/26, 5/22*
U.S. Cl. 222—33 **11 Claims**

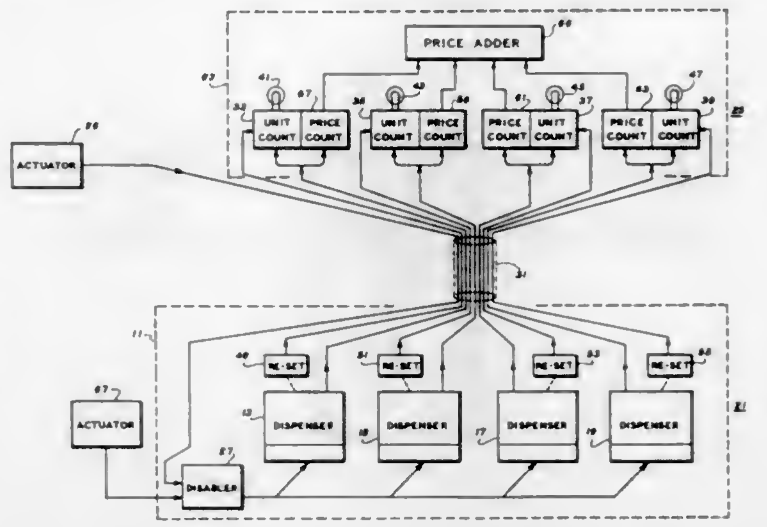


The clearing motor for clearing the price calculator of a gas station is started when the discharge nozzle is removed from its rest. In order to prevent interruption of a clearing operation by return of the discharge nozzle to its rest, a control cam is driven by the started clearing motor to operate a switch which connects the clearing motor directly to the power source whereupon another control cam driven by the clearing motor operates a pump control switch for starting the pump motor so that fuel is dispensed, whereupon the clearing motor is stopped and half of the cycle is completed. During the second half of the cycle which is started by placing the discharge nozzle on its rest, the clearing motor is again started, and the driven control cams disconnect the pump motor, and at the end of the cycle also the clearing motor from the power source.

3,447,720
DISPENSING SYSTEM AND DISPENSER ASSEMBLY THEREFOR

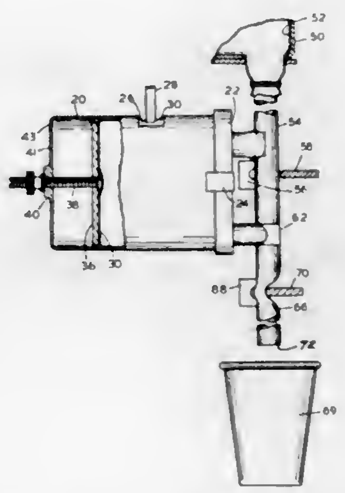
Kenneth E. Janigian, Novato, and Arthur G. Lachman, San Francisco, Calif., assignors to Continental Room Service, Inc., San Francisco, Calif., a corporation of California
Filed Aug. 17, 1967, Ser. No. 661,256
Int. Cl. B67d *5/22*
U.S. Cl. 222—36 **3 Claims**

A dispensing system and a dispenser assembly are described for dispensing a plurality of types of units by individual units. The dispenser assembly has a plurality of dispensers, one for each type of unit. The number of units dispensed and the individual and total price thereof may be monitored. In addition, the dispensers may be collectively disabled.



3,447,721
LIQUID MEASURING DEVICE

Herbert F. Cox, Jr., 406 Sedgwick Drive, Syracuse, N.Y. 13203
Filed Mar. 13, 1967, Ser. No. 622,512
Int. Cl. B65d *35/08, 37/00;* **G01f** *11/02*
U.S. Cl. 222—107 **2 Claims**

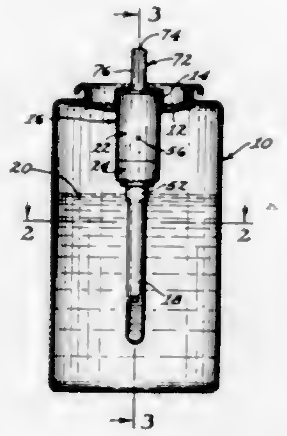


A measuring cylinder having a removable header carrying a flexible thin wall impervious liner disposed within the cylinder, and adapted to fill out into contact with the internal walls of the cylinder, which thus measures the volume that can be introduced into the liner. The cylinder has a movable disk, so as to vary the volume in which the liner can fill out in. The header and liner are inexpensive and discarded for a fresh sterile unit as often as necessary. A plurality of means for providing a sealed attachment of the liner to header are described.

3,447,722
PLURAL SOURCE VALVED PRESSURIZED FLUID DISPENSER

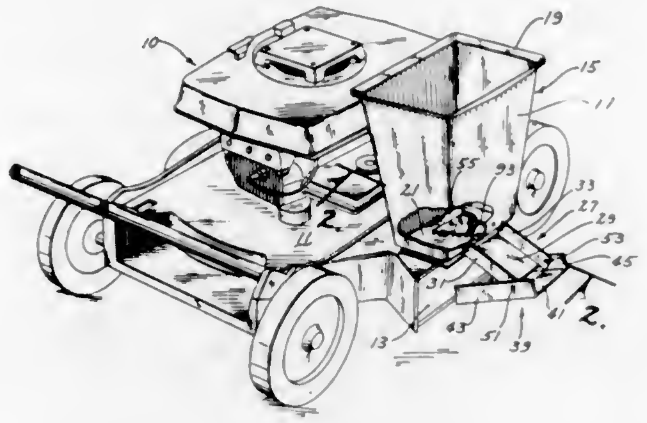
Jimmie L. Mason, Hacienda Heights, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Feb. 9, 1968, Ser. No. 704,359
Int. Cl. B65d *83/14;* **F16k** *11/00*
U.S. Cl. 222—136 **12 Claims**

A fluids dispensing valve, wherein a stationary seat and movable valve member are disposed engageably at opposite sides of a flexible valve element at said opposite sides of which fluid passages are disposed, such that movement of the movable valve member away from the flexible valve element allows fluids to pass concurrently and in proportioned amounts at said opposite sides of said flexible valve element.



3,447,723
MATERIAL SPREADER FOR A LAWNMOWER

Thomas G. Peterson and Marvin A. Pomerantz, Des Moines, Iowa, assignors to Great Plains Bag Co., Des Moines, Iowa, a corporation of Iowa
Filed Oct. 5, 1967, Ser. No. 673,119
Int. Cl. B67d *5/54, 47/00, 3/00*
U.S. Cl. 222—193 9 Claims

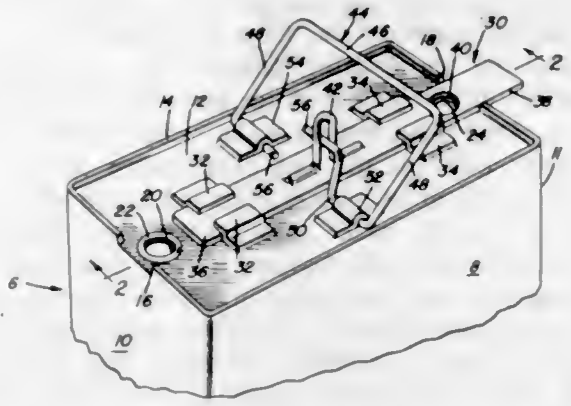


A material spreader attachment for rotary lawnmowers which spreads fertilizer, seed, as the the lawnmower is operated. A material container is mounted on the lawnmower housing and has a discharge chute extending downwardly and outwardly from an opening formed therein. An air scoop which is in communication with the lawnmower discharge opening is pivotally secured to the lower end of the chute and is adapted to spread the material being carried thereby.

3,447,724
POUR SPOUT AND VENT CONSTRUCTION

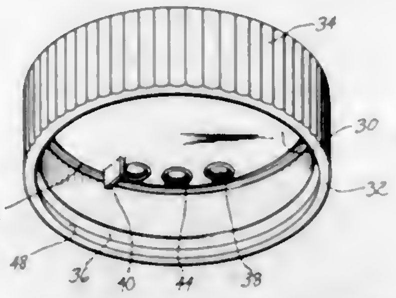
Earl W. Fiddyment, 246 Billings St.,
North Quincy, Mass. 02171
Filed Jan. 10, 1967, Ser. No. 608,360
Int. Cl. B67d *3/00;* **B65d** *43/20, 43/26*
U.S. Cl. 222—469 6 Claims

A liquid storing and dispensing container has a top wall provided at one end with a first opening providing a pouring spout and at the other end with a second opening providing an air vent. A valve plate is accessibly slidable atop the wall and normally covers both openings. By sliding the plate properly a venting port therein can be registered with the air vent. A U-shaped handling bail is pivotally bracketed in place and has a crank arm operatively connected with a push-pull link carried by a median portion of and serves to open and close the valve plate.



3,447,725
SHAKER

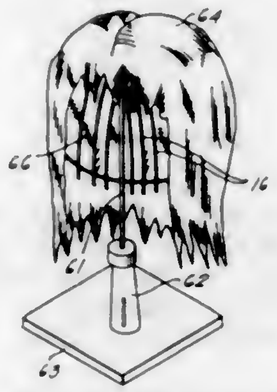
Donald F. Armour, Bloomfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,038
Int. Cl. B65d *83/06*
U.S. Cl. 222—486 7 Claims



This invention is directed toward a plastic shaker comprising a container with a notched upper end and a cooperating rotatable cap having apertures alignable with the notch, and having unique means on the cap for sealing against the upper face of the container which comprises a slightly concave downwardly top wall and a thinned section adjacent the periphery of the top wall.

3,447,726
FRAMES FOR SUPPORTING WIGS DURING THE PROCESSING THEREOF

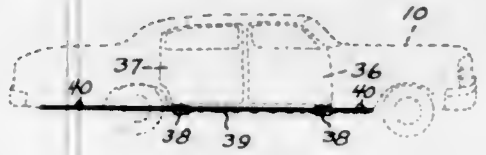
Robert A. George, New York, N.Y., assignor to Genie Wigs, Inc., New York, N.Y., a corporation of New York
Filed Nov. 28, 1967, Ser. No. 686,097
Int. Cl. D06c *15/00;* **A41g** *5/00;* **G09f** *19/00*
U.S. Cl. 223—66 19 Claims



An open-work frame for supporting a wig or hairpiece during such operations as permanent waving, setting, chemical treatment, dyeing and cleansing. The wig-supporting member comprises an arrangement of spaced ribs with relatively rigid and yieldable portions and adapted to adjustably accommodate wigs of various sizes, the member having a handle internally connected to the crown and fastener elements on said ribs for holding the wig against movement relative to the frame and for maintaining it in taut condition.

3,447,727
CLAMP SUPPORTS FOR AUTOMOBILE ROCKER PANELS

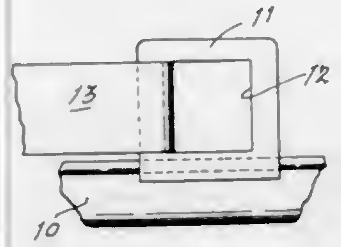
Lyall L. Lowe, 517 Dakota Ave.,
South Sioux City, Nebr. 68776
Filed Apr. 6, 1967, Ser. No. 629,029
Int. Cl. B60r *11/100;* **A47b** *97/00*
U.S. Cl. 224—42.1 3 Claims



The invention relates to support structure adapted to be attached to lower automobile framework structure. The support structure includes spaced apart clamps which engage the framework structure, elongated members extending between the clamps, and load support members on the elongated members for supporting a load above the automobile.

3,447,728
STABILIZED MEAL SERVING TRAY

Florabel Maben, 1405 W. Center St.,
Visalia, Calif. 93277
Filed Sept. 22, 1967, Ser. No. 669,806
Int. Cl. A47g *23/06;* **B65d** *25/32*
U.S. Cl. 224—48 3 Claims

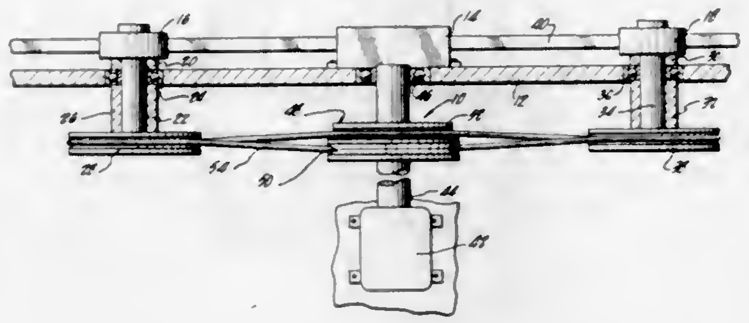


The purpose of this invention is to provide a bale-like carrying means for shallow food serving trays and the like in which a bale-like handle of flat ribbon-like cross-section is looped at its ends and extended through hinge forming supporting ears having a rectangular bale accommodating opening, as distinguished from a round opening, through which the looped ends of the bale-like handle extend so that when loaded and in use the tray will be held in a substantially horizontal plane and stabilized against tipping when loaded and supported by the bale-like handle.

3,447,729
SINGLE BELT DRIVE

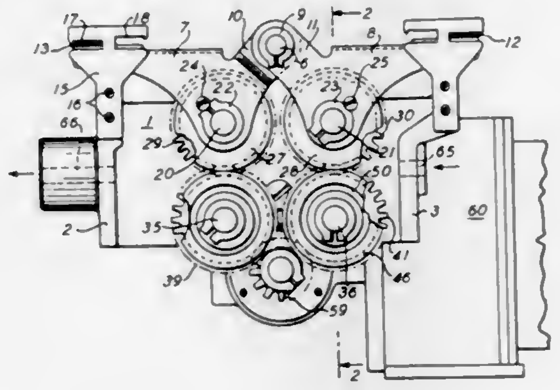
Ralph Sidney Cass, Azusa, Calif., assignor to Leach Corporation, San Marino, Calif., a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,658
Int. Cl. F16g *1/00*
U.S. Cl. 226—49 7 Claims

A belt drive system is disclosed employing a single continuous elastic belt engaging two driven pulleys rotatably mounted on a base for driven rotation in the same direction about their mountings, and also engaging a drive pulley having at least two radially disposed belt engaging surfaces joined together and rotatably mounted on the base for driven rotation together about its mounting in one of two rotational directions, The diameter of the driven pulleys are equal, while the drive pulley diameters are unequal in order to provide a speed differential between the driven pulleys in response to either direction rotation.



3,447,730
WIRE FEED APPARATUS

Joseph C. Jeannette, Union, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 15, 1966, Ser. No. 542,943
Int. Cl. B65h *51/02, 51/10*
U.S. Cl. 226—176 9 Claims

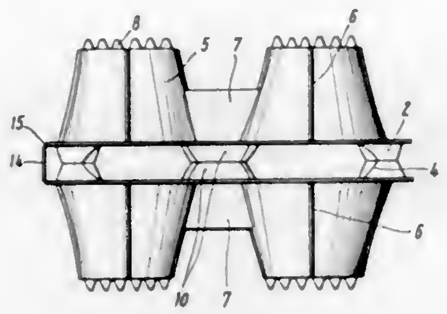


A four-roll wire feed device adapted to drive wires of varying diameters. One of a pair of spring biased rolls is split perpendicular to its axis whereby variable size and/or number of spacers may be inserted to accommodate varying wire diameters.

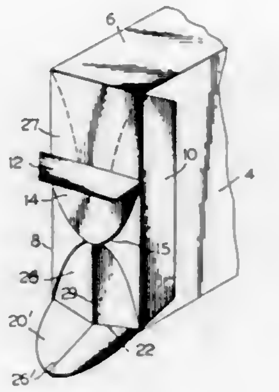
3,447,731
MANUFACTURE OF PACKING TRAYS PRODUCED IN MOULDED PLASTIC, IN PARTICULAR MOULDED PLASTIC SHEET

Klaus Lehmann, Avenida de America 44, Madrid 2, Spain
Filed Sept. 25, 1967, Ser. No. 670,302
Claims priority, application Spain, Oct. 7, 1966, 332,066
Int. Cl. B65d *1/34, 3/24, 5/66*
U.S. Cl. 229—2.5 3 Claims

A packing molded plastic tray which is divided into two halves, a hinge construction is provided between such halves so that material may be packed in one while the other half is arranged to fold down on the first half. The tray contains truncate conical cavities with inwardly curved surfaces which are grooved along generatrix lines. Partitions are provided in the tray whose axes pass through the centers of the cavities in longitudinal and transverse directions at right angles to one another. The partitions have a height which exceeds half the height of the cavities so that when the units are stacked on top of one another there is no contact between or pressure exerted upon the separate cavities.

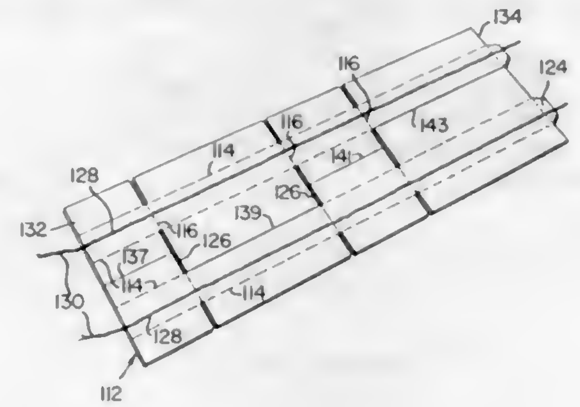


3,447,732
INTEGRALLY FORMED DISPENSING CONTAINERS HAVING IMPROVED POURING MEANS
Jonas E. Deckys, Olympia, Wash., assignor to The Chemithon Corporation, Seattle, Wash., a corporation of Washington
Filed Sept. 13, 1967, Ser. No. 667,489
Int. Cl. B65d *5/72, 5/00*
U.S. Cl. 229—17 **8 Claims**



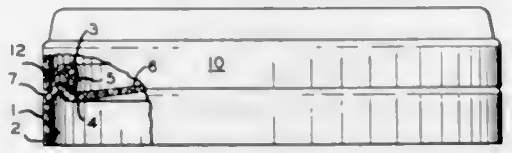
This invention relates to a container having a pouring spout and pouring chutes. Said pouring spout and pouring chuates are integrally formed with two parts of the container but are operative only when manual pressure is exerted on the side walls of the container. In the normal relaxed condition, the container comprises a polygonal body having one end provided with a rectangular top wall wherein three sides of said rectangular top wall are attached to the side walls of the container and the fourth side is unattached to provide an outlet. The outlet is adapted to be sealed by the pouring spout which folds over said outlet. The rectangular top wall comprises a plurality of superimposed layers wherein the outer layer is perforated to provide a removable section which has a pull tab attached thereto. To open the container, pressure is exerted on the pull tab and the perforated portion is thereby removed; this exposes the pouring spout which is held in a retaining recess formed by the remaining outer layer and an inner layer of said top wall. This spout may be pulled outwardly from the retaining recess when dispensing is intended. During such dispensing, pressure applied manually to the container side walls opens the outlet and forms pouring chutes and a pouring spout.

3,447,733
MODULAR SHIPPING CASE
Carl G. Smith, Niagara Falls, Ontario, Canada, and Lloyd A. Nelson, Fremont, Mich., assignors to Gerber Products Company, Fremont, Mich.
Filed Dec. 5, 1966, Ser. No. 599,068
Int. Cl. B65d *5/02, 5/45, 1/36, 5/54, 5/70, 17/00*
U.S. Cl. 229—37 **6 Claims**



A modular shipping case comprised of a pair of container sections arranged in side-by-side relationship with a side panel of one of the container sections in juxtaposition to the side panel of the other container section. The juxtaposed side panels have means thereon interconnecting the same whereby the container sections form a container unit capable of being shipped and stored. The container sections are formed from an initially flat sheet of corrugated material which is provided with fold lines and is cut into two parts which are folded to define the container sections.

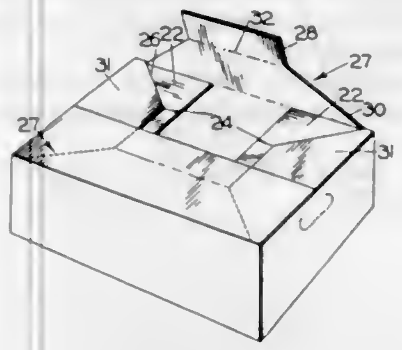
3,447,734
CLOSURE, AND APPARATUS FOR MAKING A CLOSURE
Isaac L. Wilcox, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,568
Int. Cl. B65d *5/64, 21/00*
U.S. Cl. 229—43 **8 Claims**



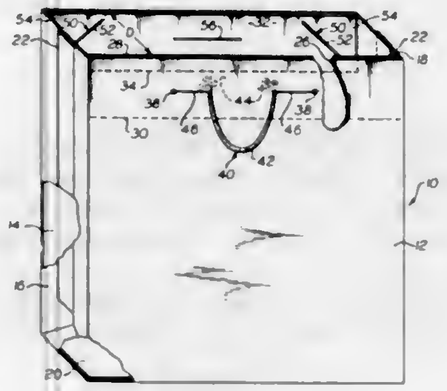
A two-piece nestable closure comprising a skirt portion surmounted by an integral upstanding flange portion and a diaphragm joined at its periphery by means of a projection with the flange portion and further provided with an offset extending radially inwardly between the skirt portion and the flange portion to permit stacking of one closure upon another.

3,447,735
EASY-OPENING CONTAINER
Varsel Eli Whitney, Portland, Oreg., assignor to Western Kraft Corporation, Portland, Oreg.
Filed July 3, 1967, Ser. No. 650,783
Int. Cl. B65d *17/00, 5/54, 5/08*
U.S. Cl. 229—51 **2 Claims**

An easy-opening container has an open top, closeable by folding down opposite pairs of underlapping and overlapping closure flaps. The overlapping flaps have tear lines enabling tearing out central sections of the flaps to afford access to the interior of the container. The central sections of the flaps, in turn, have foldable terminal parts which may be folded upwardly, to provide handles which assist in tearing along the tear lines, or downwardly, to provide locking keys which insert in cooperating slots for re-closing the container.



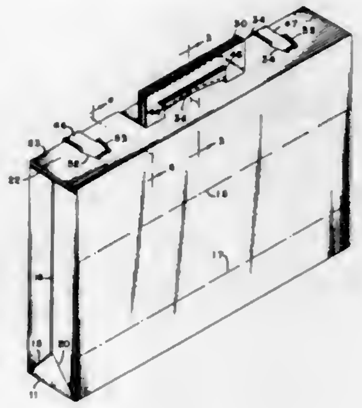
3,447,736
BAG WITH BOX-LIKE TOP CLOSURE
Leonard E. Canno, New York, and William H. F. Grob, Babylon, N.Y., assignors to Equitable Paper Bag Co., Inc., Long Island City, N.Y., a corporation of New York
Filed Dec. 18, 1967, Ser. No. 691,270
Int. Cl. B65d *33/12*
U.S. Cl. 229—54 **8 Claims**



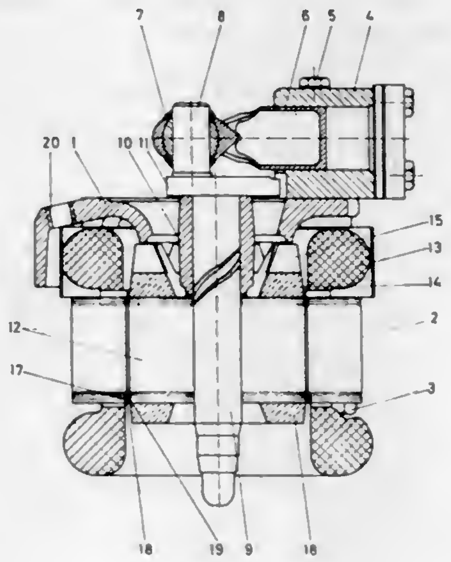
This specification discloses a container similar to a folding box for garments but made with paper instead of stiff boards, having only parts of the structure stiffened with paperboard or heavy paper bonded to the upper portion of the front and back panels of the bag, and as a reinforcing or stiffening to the bottom if desired. The parts of the container to which the stiffening panels are connected fold over one another to form a closed top with the pliant paper sides of the container folded in between the overlapping stiffening panels. The upper end of the container, when closed, provides a folding box construction. A handle inserted through cuts such as holes or slits in the under panel pulls into slits in the panel that grip the cord; and the handle is inserted through a slit in the upper panel to hold the container closed. Corners at the ends of the upper panel are scored and preferably made more flexible by slotting so that they fold inward to make a neater package.

3,447,737
CARRIER CONTAINERS
Malcolm Mahr, ℅ The Maryland Paper Box Company, 4545 Old Annapolis Road, Baltimore, Md. 21227
Filed Mar. 6, 1968, Ser. No. 711,082
Int. Cl. B65d *31/06, 33/08*
U.S. Cl. 229—54 **2 Claims**

A foldable container is provided in the form of a rectangular bag having an open top. Cardboard strips are glued to the side walls along a marginal area at the top, forming sections which are hingeable to a horizontal position inwardly in overlapping relation, thus forming a closure for the container. Spaced slits are provided in the sections forming panels which are hinged upwardly to a vertical position in side by side relation. These panels are provided with hand holes which together form a handle for carrying the container. The hand holes are formed by cutting out flaps, one hinged at the top and the other at the bottom. These flaps engage opposite panels, respectively, and thereby hold the panels together as a unit.



3,447,738
BEARING ARRANGEMENT FOR MOTOR-COMPRESSOR ASSEMBLIES AND THE LIKE
Knud Vagn Valbjorn, Augustenhof, Nordborg, Denmark
Filed Aug. 11, 1967, Ser. No. 659,936
Int. Cl. F04b *35/04*
U.S. Cl. 230—58 **5 Claims**

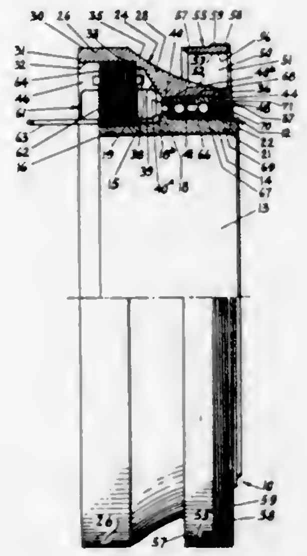


The invention relates to a bearing arrangement for a motor-compressor assembly of the type used for small refrigerating units. In prior art constructions there are provided, between the rotor shaft and the housing, either a relatively long main bearing or two shorter bearings at opposite ends of the shaft. In this invention a relatively short main bearing is provided in the housing for the rotor shaft, between the rotor and the compressor, and a second ring bearing is provided at the opposite end of the assembly between the rotor and the stator. The ring bearing between the stator and the rotor is made of a material of low magentic and electric conductivity such as aluminum or a synthetic material such as polytetrafluoroethylene.

3,447,739
FAN

Jack F. Hodder, 803 3rd St. NW., and Raphael D. Schilz, 429 1st Drive NE., both of New Philadelphia, Ohio 44663

Filed Mar. 6, 1967, Ser. No. 620,923
Int. Cl. F04d *25/06, 25/08, 29/26*
U.S. Cl. 230—117 3 Claims

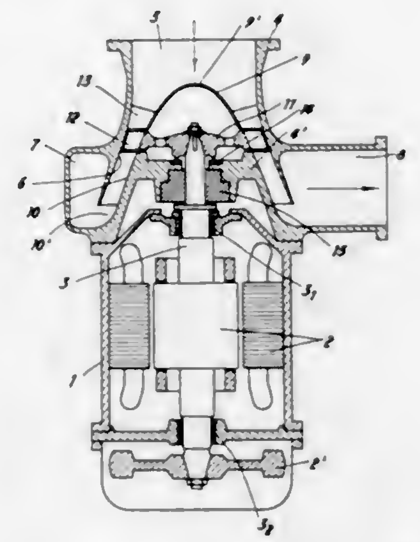


A power driven fan including an inner tubular member adapted to be mounted on a non-rotating shaft, an outer tubular member spaced from the inner member and rotatable thereabout, and a plurality of radially, outwardly extending, circumferentially spaced blades fixed to a peripheral portion of the outer member.

3,447,740
SUPERSONIC COMPRESSOR

Jean Fabri, Ville-d'Avray, Jean Marie Eugene Friberg, Bourg-la-Reine, Pierre Henri Jean Maginot, Paris, Jean Marie Merigoux, Palaiseau, and Raymond Siestrunck, Le Rosier, France, assignors to Societe Anonyme, Societe Alsacienne de Constructions Atomiques de Telecommunications et d'Electronique Alcatel, Paris, France, a corporation of France

Filed July 13, 1967, Ser. No. 653,076
Claims priority, application France, July 16, 1966, 69,660
Int. Cl. F04d *25/16, 19/00, 23/00*
U.S. Cl. 230—119 7 Claims

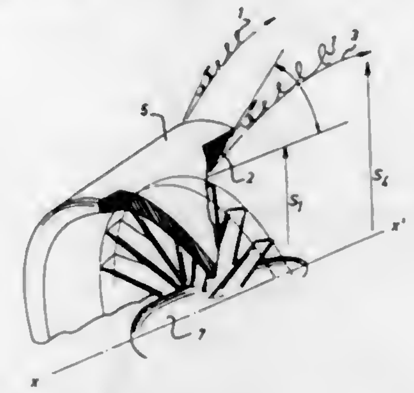


The invention provides a compressor arranged in such a manner that it combines in a movement resulting in a conical flow or flowing sheet, on the one hand centrifugal velocity motion transmitted in a centrifuge compressor to a fluid having a transversal motion, and on the other hand, the (axial) velocity motion imparted to the fluid in an axial compressor.

3,447,741
FAIRED PROPELLER WITH DIFFUSER

Claude Havette, Fontenay-aux-Roses, Michel Lazareff, Paris, and Jean Soulez-Lariviere, La Celle-Saint-Cloud, France, assignors to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France

Filed Sept. 21, 1967, Ser. No. 669,576
Claims priority, application France, Sept. 26, 1966, 77,679
Int. Cl. F04d *19/02, 27/00*
U.S. Cl. 230—122 6 Claims

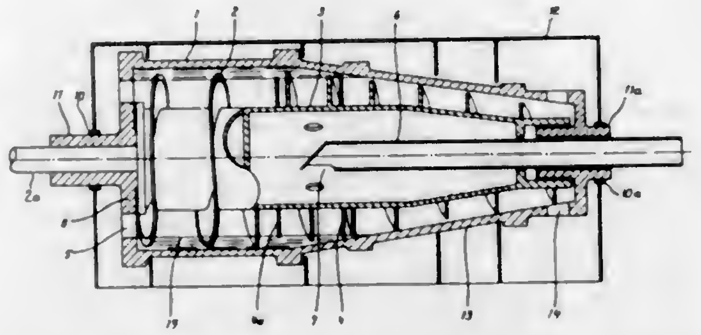


A propeller comprising a hub and blades faired by a diffuser channeling the flux which passes through the said propeller, characterized in that the said blades are coupled together at their free peripheral extremities by a circular ring, the said ring carrying vanes suitably orientated in the flux so as to produce a self-blowing effect of the parasitic vortex streams by wire-drawing said streams against the fairing of the diffuser.

3,447,742
SLUDGE-SEPARATING CENTRIFUGE

John Thorbjörn Eriksson, Stockholm, and Birger Torsten Arne Möller, Hunnebostrand, Sweden, assignors to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden

Filed Oct. 21, 1966, Ser. No. 588,522
Claims priority, application Sweden, Oct. 21, 1965, 13,632/65
Int. Cl. B04b *11/08*
U.S. Cl. 233—7 1 Claim

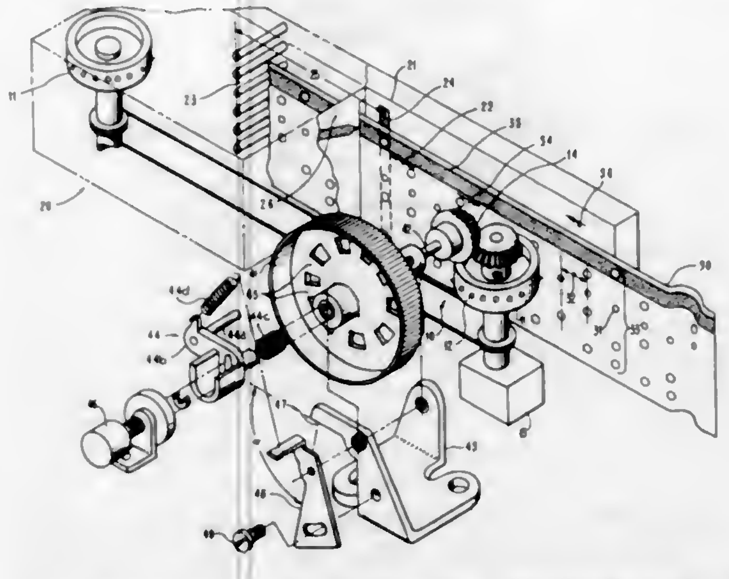


The centrifugal rotor has an outlet for separated sludge and a separate level-maintaining outlet for separated liquid, the mixture of liquid and sludge being fed into the rotor from the discharge opening of a supply pipe. A screw conveyor has a shaft mounted for rotation in the rotor and is operable to convey centrifugally separated sludge to the sludge outlet; and a circular disc is fixed to this shaft at an axial location between the discharge opening of the supply pipe and the sludge outlet, the disc being coaxial with the screw conveyor and having its periphery lying radially outside the level-maintaining outlet. A second circular disc is fixed to the shaft at an axial location between the discharge opening of the supply pipe and the level-maintaining outlet, the second disc also being coaxial with the screw conveyor and having its periphery lying radially outside the level-maintaining outlet but radially inside the periphery of the first disc.

3,447,743
RECORD ENTRY POSITIONER

Thomas A. Hoskins and Walter F. Klein, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 14, 1965, Ser. No. 495,775
Int. Cl. G06k *1/08, 1/10;* **B26f** *1/04*
U.S. Cl. 234—129 6 Claims



1. An apparatus for delivering a record media along a predetermined path past an operational station in predetermined feed increments to operate at successive data entry locations thereon and having feed means operatively engageable with the record media and means for operating the feed means to move the record media along its path; the data entry locating mechanism comprising:

a clearly visible reference mark positioned along the path and spaced from the operational station by a distance that is a multiple of the feed increments,

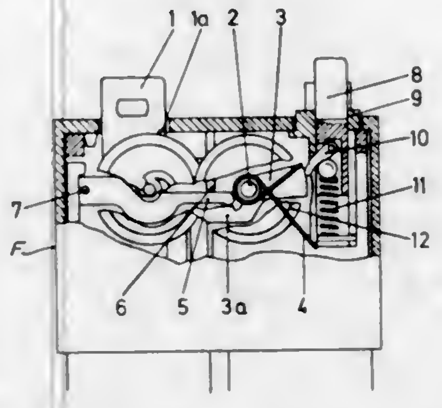
a selectively activatable positioner engageable, when active, with the feed operating means for movement therewith, and

travel limit means engageable with said positioner to limit motion thereof to an amount proportional to said spacing distance.

3,447,744
SETTING DEVICE FOR KEY-OPERATED PRESETTABLE COUNTERS

Reinhard Irion, Kurt Wilhelm Kratt, and Winfried Fischer, Aldingen, Germany, assignors to J. K. G. Hengstler, Zahlerfabrik, Aldingen, Kreis Tuttlingen, Wurttemberg, Germany

Filed July 27, 1967, Ser. No. 656,429
Claims priority, application Germany, July 30, 1966, H 60,119
Int. Cl. G06f *15/18*
U.S. Cl. 235—132 1 Claim

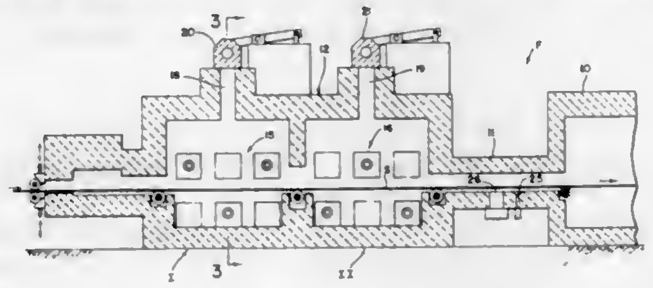


A setting device for key-operated presettable counters wherein in order to set counters to new counts, the settable digit wheels are adjusted by means of setting keys. The adjustable digit wheels are turned back to the originally set count, by means of resetting cams and held in position. With the presetting operation, the setting drive for setting each digit wheel and the transfer clutch are disengaged to release the digit wheels and to eliminate the drive connection. The adjustable digit wheel is a two-part wheel connected by a detent and is then adjusted in that the part provided with the cam is held in position by the resetting device, and the part provided with the digits is rotated under the action of the setting keys and snaps into position.

3,447,745
FURNACE HEATING CONTROL

Ralph J. Perrine, Columbiana, and Frank Robert Mathews, Salem, Ohio, assignors to The Electric Furnace Company, Salem, Ohio, a corporation of Ohio

Filed July 25, 1966, Ser. No. 567,627
Int. Cl. F23n *1/00;* **F27b** *9/20;* **G05d** *23/00*
U.S. Cl. 236—15 8 Claims

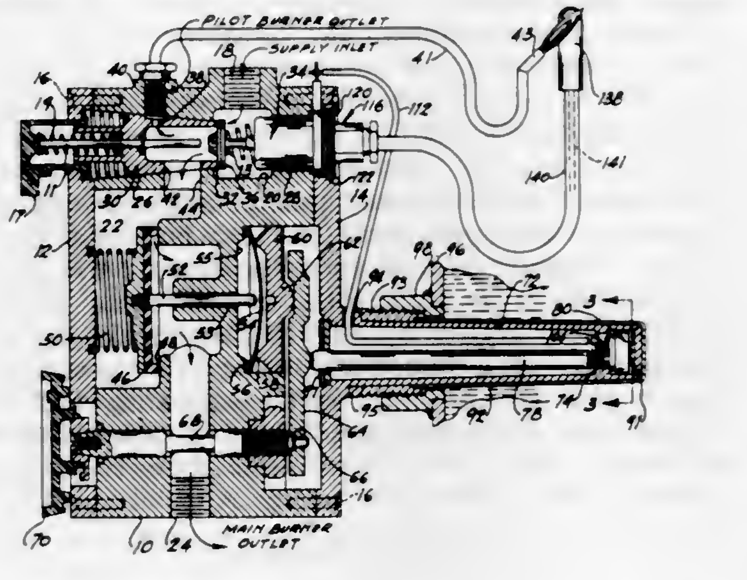


The present disclosure pertains to a furnace control and method for the control of strip temperature over a wide range by automatically calling into operation a succession of heating zones each of which has a temperature controller preset to bring the zone into service in response to a master signal which varies independently of the respective zone temperatures in accordance with the deviation of strip temperature from a desired strip temperature.

3,447,746
BURNER CONTROL DEVICE FOR A WATER HEATER

Charles D. Visos, St. Louis, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Oct. 17, 1966, Ser. No. 587,203
Int. Cl. G05d *23/22;* **F23n** *5/10*
U.S. Cl. 236—21 4 Claims

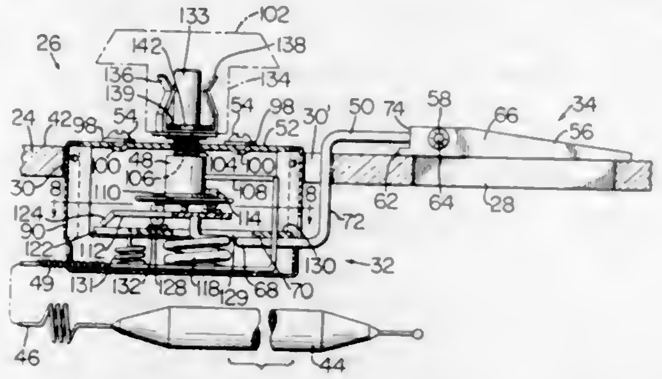


1. In a fuel flow control device for controlling gas flow to the gas burner of a water heater, which device is adapted to be mounted on the water tank by engaging a threaded boss on the device in a threaded aperture in the tank wall and which device has a rod and tube type thermostatic valve actuator adapted to be inserted into the water tank through the threaded wall aperture; the improvement which consists in providing a tube member

for the thermostatic rod and tube valve actuator which also serves as a structural member to support the control device, the tube member being formed as a casting of relatively low cost metal having a relatively high coefficient of thermal expansion but having relative low resistance to corrosion in heated tap water, the tube member comprising a flat cover portion connected to the body of the control device and (a) an integral tubular portion extending perpendicularly from said cover portion to a closed outer end and receiving a rod member, said tubular portion having an externally screw threaded bushing press fitted thereon near the junction of its inner end with said cover portion, which bushing is adapted to be threadedly engaged in a screw threaded aperture in the wall of a water heater tank, and a thin protective sheath of material having a relatively high resistance to the corrosive effects of tap water tightly fitted on said tubular portion and extending from said threaded bushing to the outer end thereof and covering the end thereof, and said threaded bushing being constructed of a relatively expensive metal having a high resistance to corrosion in hot tap water.

3,447,747
FLUID SYSTEM AND CONTROL THEREFOR, AND METHOD

William L. McHale, Broomall, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 661,959
Int. Cl. F25d *17/04*
U.S. Cl. 236—49 **16 Claims**

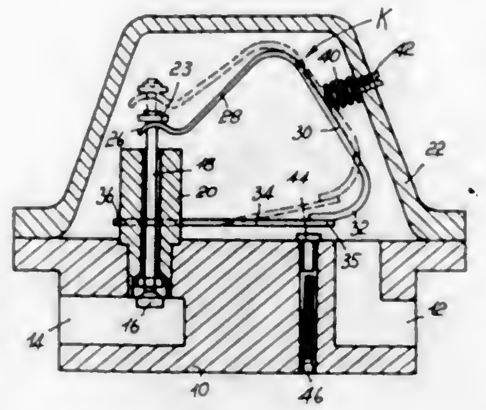


This application discloses an air flow controller particularly useful in connection with a compartment separating wall between two compartments to be maintained at different temperatures. The controller has a thermostat to be placed in an aperture in the wall. A damper member is connected to the thermostat and is to be placed adjacent an air flow opening in the wall to regulate the flow of air between the two compartments. A thermostatic sensor or fluid bulb is placed in the compartment receiving the air flow. Such bulb is connected to the thermostat to regulate the position of the damper and the flow of air between the compartments. The controller can be received by a flat wall surface of the separating wall with a thermostat supporting plate and the flat damper over openings in the separating wall. The thermostat has levers controlled by a power element, and the levers can lift off their pivot points if the power element pusher overtravels.

3,447,748
THERMOSTATIC APPARATUS

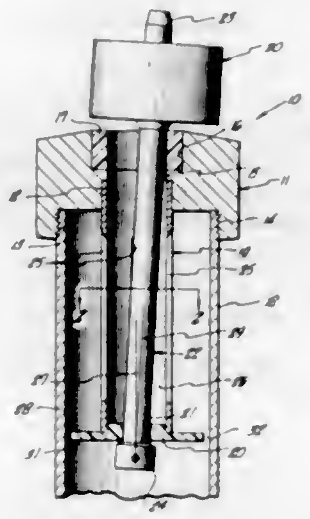
Emiliana Saronni, Viale Tibaldi 10, Milan, Italy
Filed May 18, 1967, Ser. No. 639,373
Claims priority, application Italy, May 20, 1966, 18,127/66
Int. Cl. F16t *1/08, 1/12*
U.S. Cl. 236—59 **4 Claims**

This invention relates to a thermostatic control unit which comprises a hollow casing defining a fluid chamber and having a fluid inlet and a fluid outlet, a valve seat provided in said hollow casing and communicating between said fluid chamber and said fluid outlet, an axially slidable valve member arranged in said valve seat for controlling the flow of fluid from said fluid chamber to said fluid outlet, and a bi-metallic plate having one end in abutting engagement with a flange provided on the shaft of said valve, the other end of said bi-metallic plate being secured to said casing, said bi-metallic plate being arranged to cause the axial sliding of said valve in response to variations in the pressure: temperature ratio in said fluid chamber.



3,447,749
FOUNTAIN

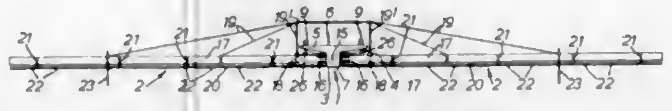
John O. Hruby, Jr., Burbank, Calif., assignor, by mesne assignments, to Rain Jet Corporation, Burbank, Calif., a corporation
Filed Dec. 27, 1966, Ser. No. 604,796
Int. Cl. B05b *17/08, 3/16, 3/04*
U.S. Cl. 239—17 **8 Claims**



A multiple-tier fountain in which a lower tier of the fountain is defined by water which swirls upwardly along and around a gyratory hollow stem mounted within a body, and in which an upper tier of the fountain is defined by water flowing through the gyratory stem, the stem having opposite open ends. To produce esthetic balance between the upper and lower fountain tiers, and also to regulate to a desired angular velocity the speed at which the fountain pattern appears to rotate, a baffle is provided between the body and the inner walls of a riser pipe to which the fountain body is mounted so that the body extends substantially coaxially of the riser within the riser.

3,447,750
SPRAYING BOOMS

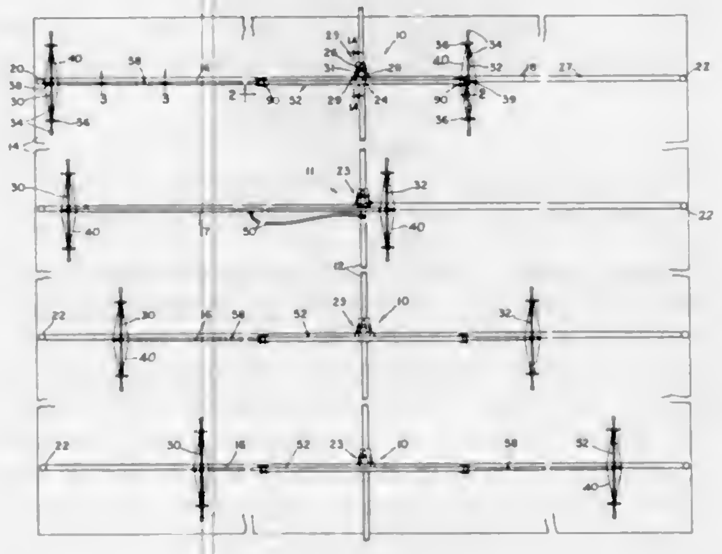
Harry William Weston, Witcombe Place, Albion St., Cheltenham, England
Filed Dec. 28, 1965, Ser. No. 516,872
Claims priority, application Great Britain, Dec. 28, 1964, 52,539/64
Int. Cl. B05b *1/20;* **E01h** *3/02*
U.S. Cl. 239—167 **11 Claims**



A spraying boom for mounting on an agricultrual tractor or other self-propelled vehicle has side sections which when mounted extend on opposite sides of the vehicle. A central pivotal mounting is provided which supports the weight of the boom in use and is formed for attachment to the vehicle. The mounting defines a pivot axis about which the boom can swing as a whole in a general vertical plane. Ground-engaging members are provided which respectively project downwardly from the side sections and which clear level ground when the boom is at the normal spraying height, damping means also being provided to control and damp swing of the boom as a result of one of the ground-engaging members striking the ground.

3,447,751
REVERSIBLE IRRIGATION LINES

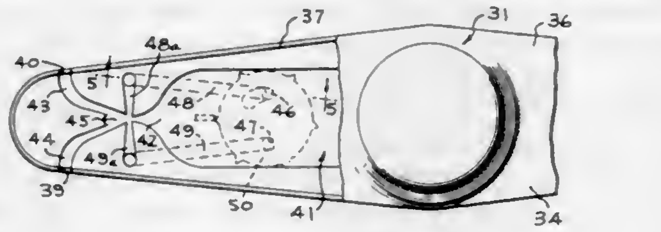
Gregory J. Wieck, Enterprise, Oreg. 97828
Filed July 20, 1967, Ser. No. 654,809
Int. Cl. A01g *25/02;* **B05b** *1/20, 3/18*
U.S. Cl. 239—212 **19 Claims**



A long hose having sprinklers at both ends forms, with a cable running over a reversible, powered capstan, an endless, reversible towline. The length of the hose is about one-half of the length of the area to be irrigated and the hose is advanced through an injection tube at the central portion of the area to be irrigated, and water under pressure supplied to the tube enters the hose through check valves in thick-walled coupling portions spaced along the hose. The check valves are in the form of elastic sleeves fitting in the coupling portions, each sleeve normally covering two oppositely disposed openings in the coupling portion and adapted to buckle from the higher water pressure in the injection tube to admit water into the hose. Each sleeve preferably has stiff backing plates on its inside and plugs on its outside filling the openings in the coupling portion. The openings preferably are elliptical. Washing chambers at the ends of the injection tubes wash the hose before it enters the seals in the injection tubes. In one construction, two hoses with sprinklers are disposed in parallel relationship in one side of a field with two cables connecting their ends and forming an endless towline therewith, one cable being on a capstan of a drive unit midway between two sides of the field. Two other parallel hoses and cables are positioned in the other half of the field and are pulled by a second capstan of the drive unit. In another construction, a power unit midway between two sides of the field pulls two parallel cables to pull two hoses through injection tubes from one side of the field to the center of the field. The injection tubes then are disconnected from a fixed pipeline in the first half of the field, the cables are disconnected from the hoses, the hoses and injection tubes are towed by a tractor to the second half of the field, the injection tubes are connected to a pipeline in the second half of the field, the cables are connected to the other ends of the hoses, and the power unit pulls the hoses to the power unit from the far side of the second half of the field.

3,447,752
REVERSING SPRAY HEAD ASSEMBLY FOR AUTOMATIC DISHWASHER

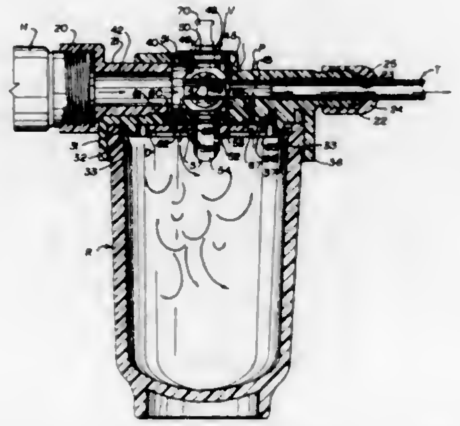
Albert L. Hardy, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1967, Ser. No. 659,918
Int. Cl. B05b *3/06, 3/00*
U.S. Cl. 239—251 **5 Claims**



A reversing spray head assembly for an automatic dishwasher comprising a hollow casing supported in the dishwasher wash chamber for rotation about an axis transverse to the casing major plane. Pressurized liquid is admitted to the casing through an opening adjacent the axis of rotation and is issued into the wash chamber from orifices provided in the casing. The liquid issued from certain of the orifices generates a washing action. A passageway is formed in an arm of the casing which extends outwardly from the axis, and the liquid conducted through it issues into the wash chamber from either of a pair of jet propelling orifies which open in opposite directions from the arm. Issuance of the liquid from one of the propelling orifices urges rotation of the casing in one direction about the axis, while issuance of liquid from the other urges reverse rotation of the casing. The arm passageway is divided into an inlet portion connected to the casing liquid inlet opening and two outlet portions which have a common intersection with the passageway inlet portion and extend from opposite sides thereof to a respective one of the propelling orifices. A pair of air inlet ports are provided in the casing arm and are connected by separate conduits to the opposite sides of the passageway inlet portion adjacent the intersection. The air conduits have a considerably smaller cross-section than the liquid passageway portions. Control means including a cam-actuated valve plate rotatably mounted on the casing arm are provided for selectively opening and closing the air inlet ports to allow aspiration of air through only one of the ports at one time and thus direct the liquid toward one of the propelling orifices and away from the other whereby direction of rotation of the casing about the axis can be reversed.

3,447,753
SPRAY WASHER WITH DETERGENT FEED

Rudy R. Proctor, Lakewood, and Denver L. Proctor, Denver, Colo., assignors to Jet-X Corporation, Denver, Colo., a corporation of Colorado
Filed Jan. 27, 1967, Ser. No. 612,184
Int. Cl. B05b *7/28*
U.S. Cl. 239—317 **7 Claims**

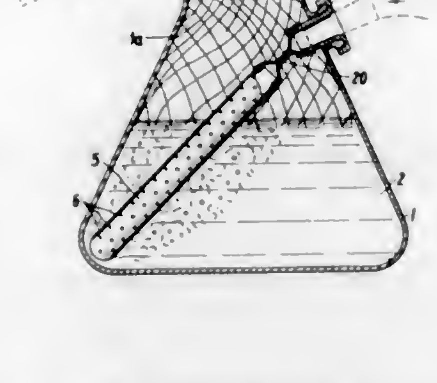


A spray washer connectable to a hose and including a body having a compound, three-position valve controlling both a primary passageway and an auxiliary passageway. An extension tube attached to the body forms a continuation of the primary passageway and terminates in a spray nozzle. The auxiliary passageway, shunting the primary passageway, includes a detergent reservoir mounted on the underside of the body. The valve, operable by a finger lever, may be shifted from an "off" position where the passageways are closed, to a "rinse" position where only the primary passageway is open, and alternately to a "soap" position where both the primary and auxiliary passageways are open. When at the "soap" position, a small flow through the auxiliary passageway agitates and stirs the detergent solution and forces detergent solution into the primary passageway. The valve has a rotatable stem extending into a body socket and includes a spherical plug in the primary passageway and a control disc on the underside of the body. Intake and outlet orifices form the auxiliary passageway and extend from the primary passageway to the reservoir, while this disc has ports which register with these orifices when the valve is rotated to the "soap" position. Another port registers with the downstream orifice when the valve is at the "off" position, to relieve pressure within the reservoir. A simple arrangement of O-ring seals eliminates leakage about the several movable parts of this valve structure. The detergent reservoir has ears which engage, from the underside, bayonet slots in a body rim formed during molding by abutting lugs of the male and female dies.

3,447,754
FOAM CLEANING

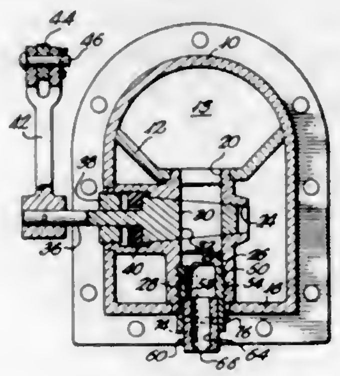
Egon Nohl, Wiener Neustadt, Austria, assignor to Firma Lewo, Chemische Fabrik GmbH, Steinau, Kreis Schluchtern, Germany
Filed Oct. 4, 1965, Ser. No. 492,390
Claims priority, application Germany, Oct. 16, 1964, N 25,691; Aug. 7, 1965, N 27,150
Int. Cl. B05b *7/28, 1/34*
U.S. Cl. 239—343 **19 Claims**

1. Apparatus for cleaning and maintaining coarse fabrics such as textile floor coverings comprising; a container; a container bottom part for receiving a liquid treatment agent; a container upper part adapted for discharge of foam and being tapered inwardly and upwardly away from said bottom part; a sieve in said upper part; a gas supply pipe secured in said upper part, extending into said bottom part and being adapted to be connected to a source of compressed gas; and outlet openings in said gas supply pipe communicating at least with said bottom part.



3,447,755
SPRAY NOZZLE AND ALIGNMENT ARRANGEMENT THEREFOR

Horace A. Cartwright, 1166 Timberlake Drive, Lynchburg, Va. 24505
Filed Dec. 5, 1966, Ser. No. 599,056
Int. Cl. B05b *1/14, 1/30*
U.S. Cl. 239—551 **3 Claims**

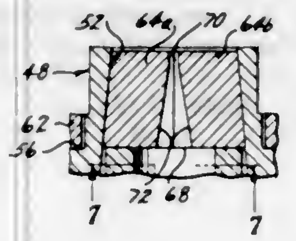


A spray nozzle assembly is provided including an adapter with external threads to be threaded within a bore in a supporting body. The nozzle tip means is mounted within the adapter by a quick disconnect arrangement including a U-shaped member which passes through holes provided in the adapter and is received within grooves formed in the nozzle tip. A tool is provided for adjusting the angular position of the nozzles and comprising a generally flat body having substantially straight parallel opposite edges spaced apart a distance substantially equal to the desired spacing of the spray orifices of adjacent spray nozzles, the tool including lug means on one edge thereof. A method of aligning the orifices includes placing the lug means of the tool in the orifice of a nozzle to be adjusted and then moving the adapter so that the edge of the tool opposite the lug is aligned with the center of the slot of an adjacent previously adjusted nozzle.

3,447,756
SPRAY NOZZLE

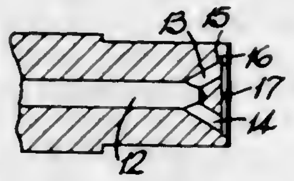
Robert C. Lawrence, Jr., 1943 Barrington Court, Claremont, Calif. 91711
Filed Sept. 2, 1966, Ser. No. 576,897
Int. Cl. B05b *1/04, 1/20*
U.S. Cl. 239—594 **4 Claims**

A descaling nozzle for hydraulically removing surface material from a work member is provided. The nozzle has an improved generally fan shaped orifice of rectangular cross-section which emits a fan shaped spray characterized by generally uniform flow velocity over the entire cross-sectional area of the spray.



3,447,757
SPRAY NOZZLES

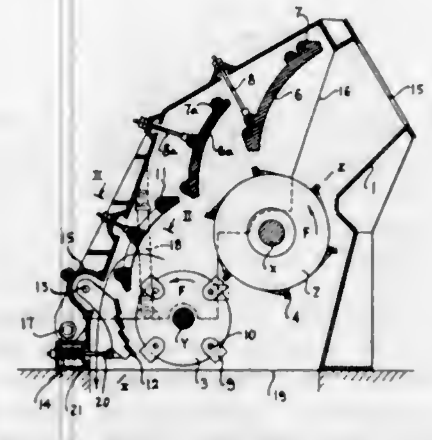
Harold Place, Accrington, and Maurice Swift Roberts, Liverpool, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Feb. 28, 1967, Ser. No. 619,437
Int. Cl. B05b *1/26*
U.S. Cl. 239—597 **2 Claims**



A spray nozzle has an end face of its body provided with a cover to define a pair of passages meeting at a region at which an elongated opening is provided in the cover, so that supply of liquid along both passages simultaneously impinge upon one another and are emitted through the opening in a flat fan shaped spray pattern.

3,447,758
MULTIPLE IMPACT BREAKER

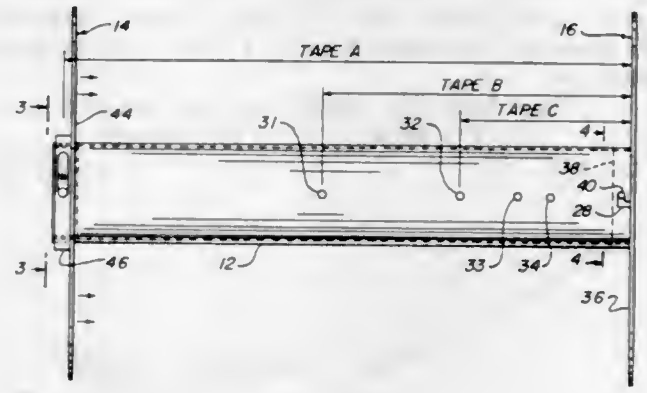
Nicolas Oznobichine, 200 Boulevard Malherbes, Paris, France
Filed July 22, 1965, Ser. No. 474,190
Claims priority, application France, July 23, 1964, 982,715
Int. Cl. B02c *17/02*
U.S. Cl. 241—89 **18 Claims**



A multiple impact breaker in which a pair of impeller means rotatable in the same direction about horizontal axes are located one above the other in a housing and in which impact plates arranged in the housing cooperate with the impeller means in such a manner that the material to be crushed and impelled by the impeller means against the impact plates will rebound from the latter back to the respective impeller means so that the material will at least in part be passed several times between the respective impact plate and impeller means before being moved in circumferential direction of the impeller means.

3,447,759
COLLAPSIBLE FILM REEL

Ben W. Rau, 1535 Knollwood, Highland Park, Ill. 60035
Filed May 19, 1967, Ser. No. 639,705
Int. Cl. B65h *75/18*
U.S. Cl. 242—71.9 **6 Claims**

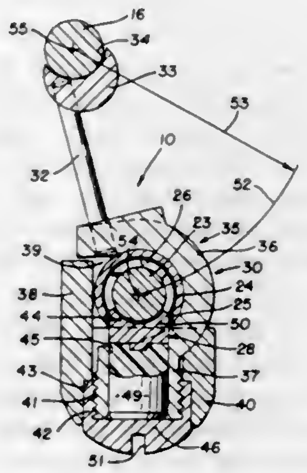


A collapsible film reel having a pair of end plates which are removably affixed to a tubular spool. One of the end plates further is adapted to be positionably adjustable on the spool, with respect to the other one of the end plates so as to provide a spacing therebetween substantially corresponding to a particular size, in width, film.

A disposable weakened tubular core can be slidably fitted over the spool, after removing one of the end plates. The film is wound on the disposable core and the latter can be easily removed from the spool, for both storing the film thereon for later use and for disposing of the film, without the necessity of rewinding the film.

3,447,760
REMOVABLE LEVEL WIND FOR FISHING REELS

Thomas F. Sarah, Akron, Ohio, assignor to Pflueger Corporation, Akron, Ohio, a corporation of Ohio
Filed Apr. 12, 1967, Ser. No. 630,435
Int. Cl. A01k *89/04*
U.S. Cl. 242—84.42 **5 Claims**



A reel of the bait casting type having a level wind including at least a line guide and line guide block which are removable from the reel without necessitating disassembly of the reel itself. The line guide block, which carries the line guide, is solely supported on the double-threaded traversing shaft and guard therefor. Engagement of a stabilizer on the level wind with a frame pillar disposed parallel to and spaced apart from the traversing shaft maintains the desired orientation of the level wind. The guide block is separable to permit it to be swung out of engagement with its supporting traversing shaft and guard therefor about an arc centered at the pillar engaged by the stabilizer.

3,447,761

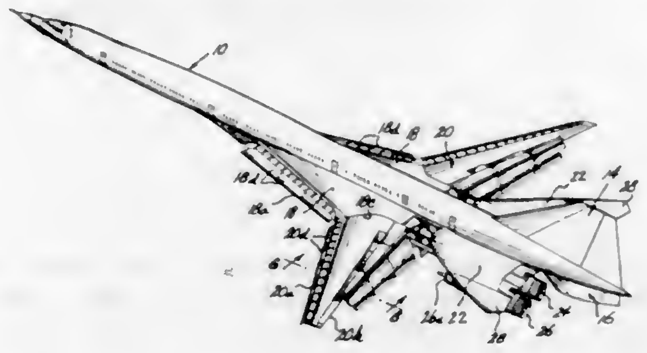
SUPERSONIC AIRPLANE VARIABLE-SWEEP INTEGRATED AIRFOIL SYSTEM

Philip C. Whitener and Robert R. Wadleigh, Seattle, and David G. Blattner, Mercer Island, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,254

Int. Cl. B64c *3/42, 9/38, 25/04*

U.S. Cl. 244—15 **22 Claims**



This invention provides a variable-sweep integrated airfoil system the main wing of which cooperates with an inboard fixed stub wing and an associated tail wing to compose a high sweep Delta planform configuration for the supersonic flight regime. In this setting, the main wing is shortened in its chord, and the relatively bluntly rounded nose of the tail wing and the deep aft spar section of the main wing are bridged together by trailing edge panels on the main wing so as to form a continuous unitary airfoil. Hinged by its root on the stub wing, the main wing is swung forward and away from the tail wing for subsonic flight. When this occurs, flaps normally retracted in nested relationship between the edge panels of the chord-shortened main wing are partially extended aft and, conjunctively with the trailing edge panels of the main wing, thereby increase the chord length and reform the airfoil section of the main wing for efficiency in the high subsonic cruise regime. In the forward position of the main wing, trailing edge panel sections serve as spoilers and are usable for lateral control. In the fully forward position of the main wing, used for landing and taking off, the flaps are further extended, depressed, and separated so as to form an efficient high-lift composite airfoil. Flaps in the stub wing are then depressed so as to carry the line of high lift devices inboard to the side of the fuselage and thereby not only increase the total lift but improve the load distribution across the airfoil span. The stub wing flaps also provide an ingestion shield for the inboard engines aft thereof. Through-openings in the stub wings uncovered with extension of the stub wing flaps provide auxiliary paths for increasing airflow to the engine inlets when the normal inflow pattern is partially obstructed by these flaps in their shielding positions. Overlapping relationship between the main wing and stub wing aft of the main wing pivot is achieved by nesting the sets of flaps in the respective wings at relatively different levels, thereby to obviate the necessity for eliminating the stub wing flaps or a sectoral portion of the main wing or its inboard flaps for purposes of clearance in the swept-back position of the main wing.

3,447,762

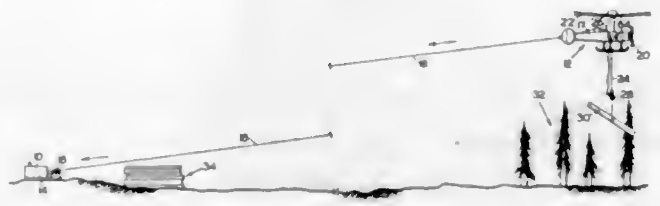
METHOD AND APPARATUS FOR AIRCRAFT LOGGING

William H. Rock, 5806 SE. 46th Ave., Portland, Oreg. 97206

Continuation-in-part of application Ser. No. 570,955, Aug. 8, 1966. This application June 24, 1968, Ser. No. 744,275

Int. Cl. B64c *27/18, 25/02*

U.S. Cl. 244—17.17 **5 Claims**



An apparatus for logging is provided using an autogiro and having powered winch means at a log dump area connected to the autogiro by a line for pulling the autogiro with a load of logs from a cutting area. The autogiro has means for lifting a log load under its own power at the cutting area and is capable of being pulled rearward to the log dump area under power of the winch whereby it is substantially maintained in flight by pulling forces imparted by the winch. The autogiro returns with the line to the cutting area under its own power. For the above purpose, the autogiro has rotor blades driven by jets on the ends of the blades to accomplish the load lifting function and has a propeller to drive it in its return movement. The aircraft also has air pickup means to utilize forced air from the propeller to assist in driving the rotor. The rotor blades of the autogiro have a resilient cushion connection with the aircraft to permit the blades to pivot a short distance forward or rearward or up or down. Arm means are connected between adjacent rotor blades to anchor the latter against rotation on their longitudinal axes.

3,447,763

FLAP SYSTEMS FOR AIRCRAFT

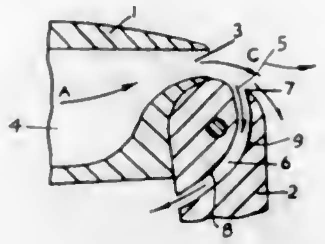
Alastair William Rodney Allcock, Northwood, England, assignor to Power Jet (Research and Development) Limited, London, England

Original application Oct. 21, 1965, Ser. No. 499,239, now Patent No. 3,355,125, dated Nov. 28, 1967. Divided and this application Aug. 17, 1967, Ser. No. 669,340

Claims priority, application Great Britain, Dec. 11, 1964, 50,618/64

Int. Cl. B64c *3/48, 9/02*

U.S. Cl. 244—42 **3 Claims**



An aircraft wing flap in which air is blown over the upper surface from a nozzle located in the wing to which the flap is attached, said flap being provided with a discontinuity in its surface which acts to separate flow over the flap to cause drag and loss of lift. The discontinuity, which may be in the form of a step, is shrouded by the wing trailing edge during the normal range of flap operation, and becomes exposed only when the flap is turned beyond this range.

In one variation, the discontinuity is associated with a passage extending through the flap from its nose to its undersurface.

3,447,764

AIRCRAFT WITH JET PROPULSION ENGINE

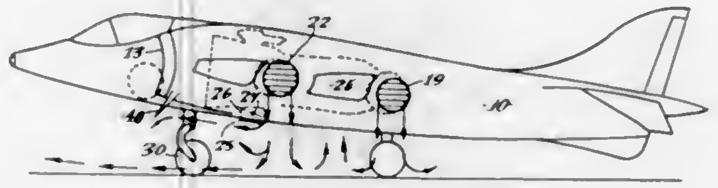
Ralph Murch Denning, London, England, and Heinrich Hertel and Siegfried Harmsen, Berlin, Germany, assignors to Bristol Siddeley Engines Limited, London, England, a British company

Filed May 17, 1967, Ser. No. 639,225

Claims priority, application Great Britain, May 21, 1966, 22,761/66

Int. Cl. B64d *27/20*

U.S. Cl. 244—53 **6 Claims**



When vertical or short take-off and landing aircraft are hovering stationary near the ground the downward propulsion jets are deflected by the ground to cause upcurrents which can be ingested at the engine intake. This hot air ingestion causes loss of thrust and in addition debris from the ground can be ingested. The invention concerns the provision of an additional gas jet for deflecting the upcurrents away from the engine intake so as to prevent ingestion.

3,447,765

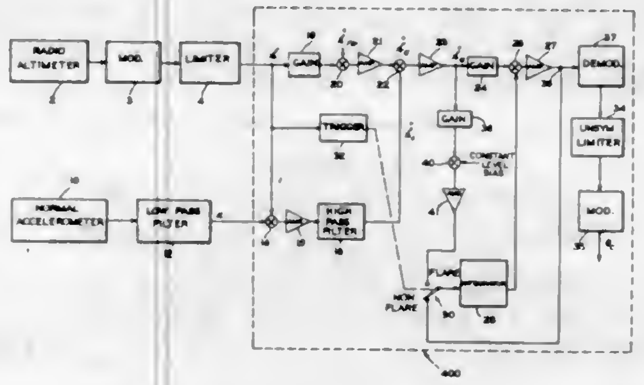
AUTOMATIC CONTROL SYSTEM FOR LANDING AN AIRCRAFT

Jerry Doniger, Montvale, Ervin Schoenblum, Elizabeth, and Martin W. Feintuch, Jersey City, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed May 27, 1965, Ser. No. 459,245

Int. Cl. B64c *13/00, 15/00*

U.S. Cl. 244—77 **18 Claims**



A system for landing an aircraft provides altitude displacement signals, commanded rate of descent signals and actual rate of descent signals which are combined and summed with a command signal. The summation signal is integrated and added to the combined signal to provide a control signal which is limited and used to control the aircraft during landing.

3,447,766

CONTROL STICK WITH SOLID STATE SENSORS

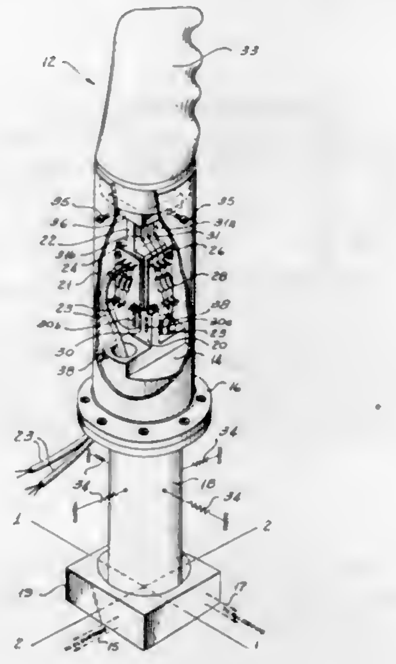
Raymond D. Palfreyman, Clifton, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Feb. 14, 1967, Ser. No. 616,067

Int. Cl. B64c *13/04*

U.S. Cl. 244—83 **3 Claims**

A control element having spring members orthogonal to one another and each spring member mounting semiconductor strain gauges to provide signals corresponding to the flexure of the associated spring member. The strain gauges on each spring member may be connected in a bridge circuit to differentially unbalance the bridge and provide an electrical output corresponding to the force applied to the spring member.



3,447,767

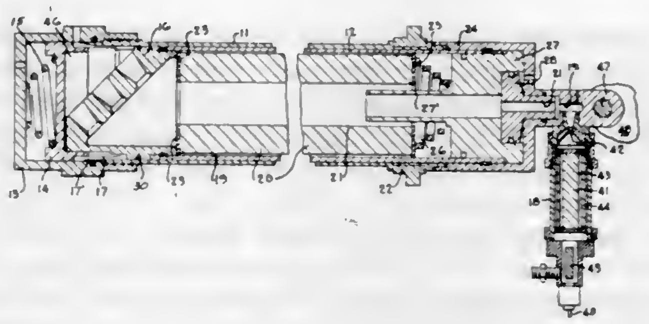
ROCKET CATAPULT

Hugh D. MacDonald, Jr., Cinnaminson County, N.J., and Richard H. Bagwell, Philadelphia County, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Aug. 1, 1966, Ser. No. 569,521

Int. Cl. B64d *25/10*

U.S. Cl. 244—122 **4 Claims**

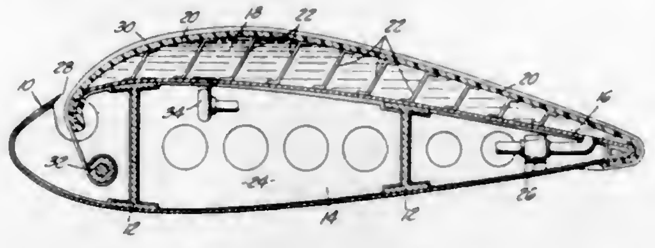


A man-seat ejection arrangement for emergency escape from an aircraft having secured thereto a launching tube that telescopingly receives a rocket tube. The rocket tube carries a forwardly located man-seat securing means, has a rearward nozzle portion and outwardly adjacent thereto, releasable latching fingers that normally latch the rocket tube against forward movement relative to the launching tube. Tubular propellant carried by the rocket tube has its inner, outer and end surfaces completely covered with an inhibitor coating that controls rocket ignition from a body of solid propellant having plural longitudinal passages and located within a gas generator housing threadedly secured to a forward portion of the rocket tube. The gas generator housing has a nozzle throat portion in fluid communication with the coating of the tubular propellant inner surface.

3,447,768

LIFTING BODY EXTERNAL FUEL STORES

Malcolm M. McQueen, Northridge, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 8, 1967, Ser. No. 614,704
Int. Cl. B64d *37/06;* **B64c** *3/48, 3/14*
U.S. Cl. 244—135 **3 Claims**

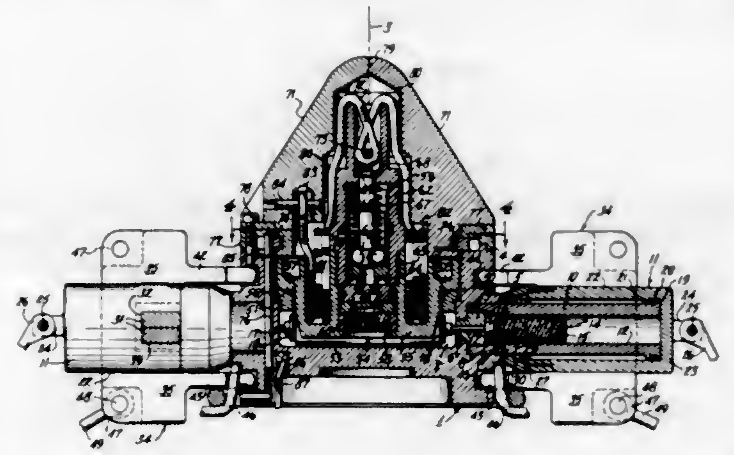


This invention relates to a novel wing structure for an aircraft to provide lifting body external fuel stores and a variable ratio of the wing thickness to the wing cord.

3,447,769

PARACHUTE SPREADING GUN

Fred B. Stencel and Thomas M. Britton, Jr., Asheville, N.C., assignors to Stencel Aero Engineering Corp., Arden, N.C., a corporation of North Carolina
Filed June 13, 1966, Ser. No. 556,994
Int. Cl. B64d *17/52, 17/62*
U.S. Cl. 244—149 **12 Claims**

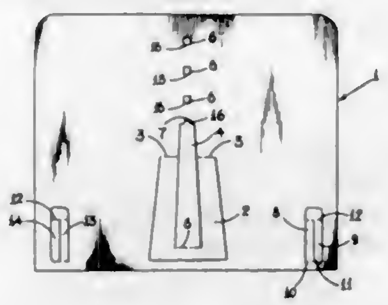


A compact gun device for spreading the canopy of a parachute, including a main or central body means and a plurality of telescoping drive assemblies disposed radially about the body means. Each telescoping drive assembly includes a generally cup-shaped outer or drive member slidably telescoped over a hollow tubular interior member. The interior cavities in the members of each drive assembly thus form an expansible chamber and a fluid pressure generating means, advantageously in the form of a pyrotechnic charge, communicates with each expansible chamber. When high fluid pressure enters the expansible chambers, it causes the volume thereof to increase, thus forcing the drive members radially outwardly from the main body. Projectiles are disposed radially about the main body and are attached to the drive members of the drive assemblies. Advantageously, a cooperating pair of such projectiles are attached to each individual drive member so that as the fluid pressure forces the drive members radially outwardly, the projectiles are likewise propelled radially outwardly, and since the projectiles are coupled to the canopy, such outward propelling of the projectiles serves to spread the canopy. Cooperating stop means are provided between the telescoping members of each drive assembly to limit the radially outward sliding of the drive members upon the interior members, and after the limit has been reached, the entire drive assembly separates from the main body to aid the projectiles in spreading the parachute canopy.

3,447,770

ONE-PIECE BOOK HOLDER

Constancio R. Gallamos, 442 Mendoza St., Quiapo, Manila, Republic of the Philippines
Filed July 1, 1966, Ser. No. 563,341
Claims priority, application Republic of the Philippines, Sept. 22, 1965, UM 753
Int. Cl. A47b *97/04*
U.S. Cl. 248—453 **1 Claim**

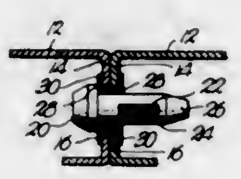


A book holder consisting of a panel member having a prop attached to one side and book engaging and holding clips attached to the other side.

3,447,771

REINFORCEMENT FOR CONCRETE WALL FORM CONNECTORS

James E. Trimmer, 7713 E. 113th St., Kansas City, Mo. 64134
Filed Aug. 14, 1967, Ser. No. 660,464
Int. Cl. E04g *17/04, 11/08*
U.S. Cl. 249—192 **1 Claim**

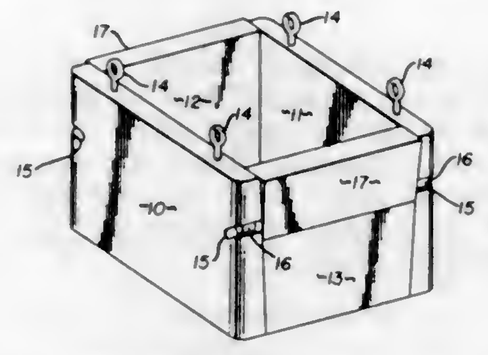


A connector for concrete wall forms of the kind which joins the flanges of the panels through use of a pin and wedge unit, the aligned holes of the flanges being fitted with a reinforcement liner made of hard metal capable of withstanding abuse so as to protect the forms themselves, the liner being held in place by a plate that is welded to the liner and riveted to the form.

3,447,772

HOT TOP FOR INGOT MOLDS

Michael Donald La Bate, 115 Hazen Ave., Ellwood City, Pa. 16117
Filed May 10, 1967, Ser. No. 637,523
Int. Cl. B22d *7/10;* **E04b; B65d** *7/00*
U.S. Cl. 249—197 **4 Claims**

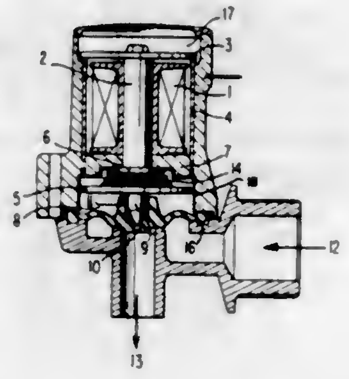


A hot top for an ingot mold forming a heat insulating and heat adding structure partially positioned within the top of an ingot mold to retain a bath of molten metal at the top of the mold during the freezing of the ingot poured therein and shaped to fit tightly within the ingot mold to reduce fins that otherwise form between the hot top and the mold wall.

3,447,773

ELECTROMAGNETIC FLUID VALVE HAVING FLUID-TIGHT HOUSING FOR ELECTROMAGNETIC PARTS

Jakob Huber, Wurenlos, Switzerland, assignor to J. Huber & Cie, AG, Wurenlos, Switzerland
Filed Apr. 28, 1966, Ser. No. 545,939
Claims priority, application Switzerland, May 3, 1965, 6,171/65
Int. Cl. F16k *1/42, 31/04*
U.S. Cl. 251—30 **5 Claims**

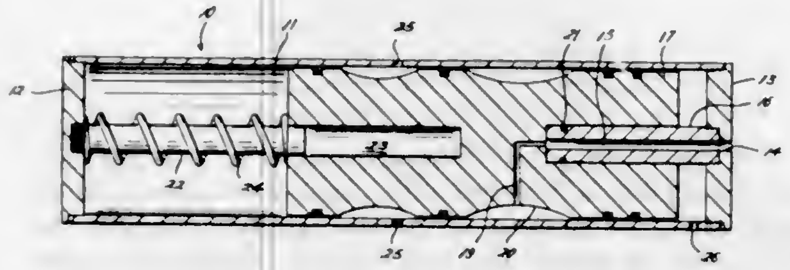


An electromagnetically operated fluid valve assembly comprising a plate-shaped magnetically permeable armature member for actuating the fluid valve assembly and acted on by a magnetic coil. The magnetic coil is enclosed in a stationary central core member and an outer cup-shaped magnetically conductive casing having one open end and that forms an outer sleeve core member encloses the magnetic coil. The outer casing is cast in a plastic housing which encloses the casing substantially and includes an extended housing portion of plastic material. The extended housing portion extends beyond and completely seals off the magnetic coil against the fluid chamber of the valve assembly. The plate-shaped armature is equipped with means for achieving a valving action and is movably disposed below the extended housing portion and subjected to a spring action for purposes of closure of the valve. The ends of the central core member and the open end of the outer sleeve core member are extended through the extended plastic housing portion within close proximity to the armature member to minimize magnetic losses.

3,447,774

HIGH PRESSURE AIR VALVE

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Benjamin T. Howland, Long Beach, Calif.
Filed Dec. 27, 1966, Ser. No. 605,090
Int. Cl. F16k *3/26, 17/04*
U.S. Cl. 251—31 **7 Claims**

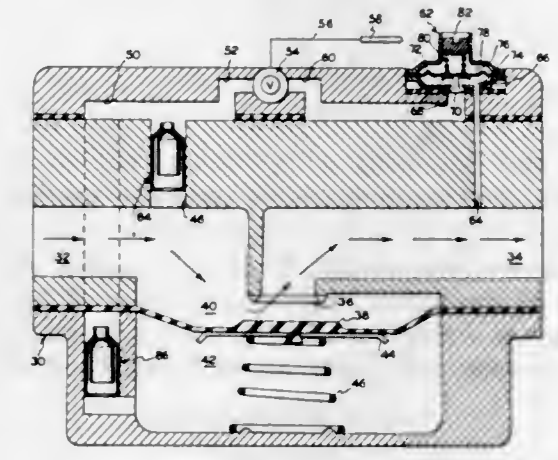


A high pressure control valve formed of an elongated hollow body having an inlet at one end and an outlet intermediate the two ends. A sliding valve having circumferentially extending, longitudinally spaced seal means is located in the body. A tubular member extending from the inlet port is telescopically and sealingly engaged with one end of the sliding valve. A passageway in the sliding valve extends from the tubular member to the circumferential wall and is either in or out of communication with the outlet port. A mandrel extends from the other end of the body and is telescopically engaged in the other end of the sliding valve. A spring extends between the end of the body and the valve to bias the sliding valve. An operating port extending into the body permits injection of fluid to move the valve from one position to another. The valve may be biased either open or closed.

3,447,775

DIAPHRAGM VALVE CONTROL

Jay R. Katchka, Long Beach, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 25, 1965, Ser. No. 442,582
Int. Cl. F16k *31/165, 31/12, 31/36*
U.S. Cl. 251—45 **3 Claims**



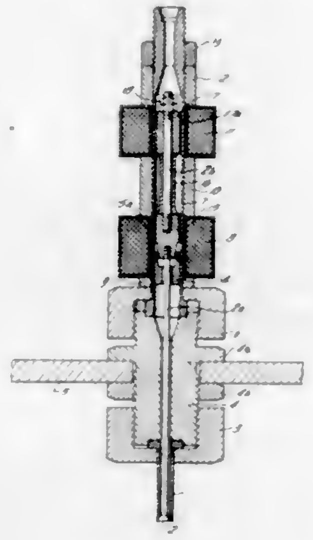
1. In a control system for supplying a fuel flow to burner apparatus, the combination comprising
a casing having inlet and outlet means,
a diaphragm valve operatively disposed between said inlet and outlet means and defining a pressure operating chamber in said casing,
bleed line means for effecting operation of said diaphragm valve,
said bleed line means including an inlet bleed passage communicating with said inlet means, a first bleed passage between said inlet bleed passage and the pressure operating chamber and a second bleed passage between said inlet bleed passage and said outlet means,
valve means in said bleed line means controlling a bleed flow therethrough, and
floating variable orifice means operatively disposed in the inlet bleed passage of said bleed line means upstream of said valve means therein to vary a bleed flow therethrough and effect operation of said diaphragm valve,
said floating variable orifice means being operated in response to pressure differentials of the bleed flow.

3,447,776

PLURAL MAGNET OPERATED POPPET VALVE

Armin Blumer, Schwanden, Switzerland, assignor to Maschinenfabrik und Giesserei Netstal AG, Netstal, Switzerland
Filed Nov. 30, 1966, Ser. No. 598,061
Claims priority, application Switzerland, Dec. 1, 1965, 16,593/65
Int. Cl. F16k *31/08, 31/10*
U.S. Cl. 251—65 **3 Claims**

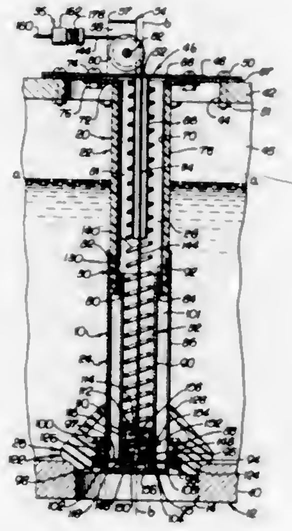
A poppet valve is disclosed and shown in the drawing which includes a valve head mounted on a stem movably extending through a tube, forming the valve passage which tube in accordance with the invention is surrounded by first and second magnets cooperating with first and second armatures mounted on said stem and operable by said magnets so as to move said stem and valve head axially within said tube. The inventive feature relates to the arrangement and assembly of valve head, stem and armatures so as to form a rigid and compact unit, permitting a relatively unobstructed throughflow in the open position of the valve, being easy to remove for cleaning purposes and being movable between two abutments defining the open and closed valve position respectively.



3,447,777

VALVE CONSTRUCTION

Kenneth B. Carlson, Granada Hills, Calif., assignor to Monogram Industries, Inc., Culver City, Calif.
Filed Feb. 2, 1966, Ser. No. 529,601
Int. Cl. F16k *1/36, 31/46;* **F16g** *11/10*
U.S. Cl. 251—144 **4 Claims**

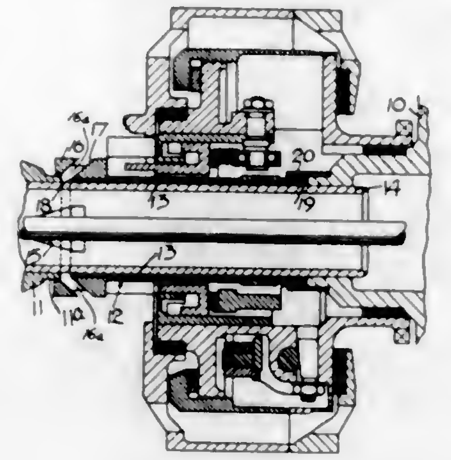


A valve construction having a movable cylinder telescopically mounted on a stationary cylinder with the valve plate mounted around the free end of the movable cylinder, a seal between the cylinders, a biasing means within the cylinders to urge the movable cylinder downwardly and a control means partially within the cylinders adapted initially to move upwardly without moving the movable cylinder and subsequently to move the movable cylinder upwardly.

3,447,778

VARIABLE FLOW METERING DEVICE

Harry Simister Bottoms, Sollhull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Apr. 6, 1966, Ser. No. 540,727
Int. Cl. F16k *39/00*
U.S. Cl. 251—282 **2 Claims**

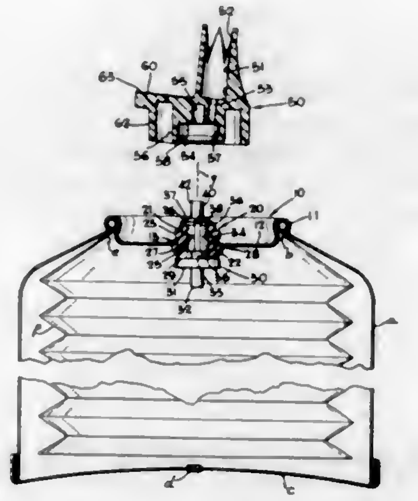


A variable flow metering device for fluids comprising a body part in which is mounted a fixed outer sleeve, a further outer sleeve co-axial with the fixed sleeve being axially movable within the body, an inner tube mounted co-axially with and in sliding engagement with the outer sleeve, the inner tube having in its wall at least one opening with diverging opposite edges, said opening being registerable with the space defined between adjacent ends of the outer sleeve, and the movable sleeve having at least one longitudinally extending passageway affording communication between the end thereof adjacent to the fixed outer sleeve, and a cavity defined between the end of the movable outer sleeve and the body part.

3,447,779

SANITARY VALVE AND NOZZLE ASSEMBLY FOR PRESSURE DISPENSERS

James K. Huling, Belleville, Ill., assignor to Clayton Corporation, St. Louis, Mo., a corporation of Delaware
Filed Aug. 4, 1967, Ser. No. 658,531
Int. Cl. F16k *1/16, 31/00*
U.S. Cl. 251—303 **8 Claims**

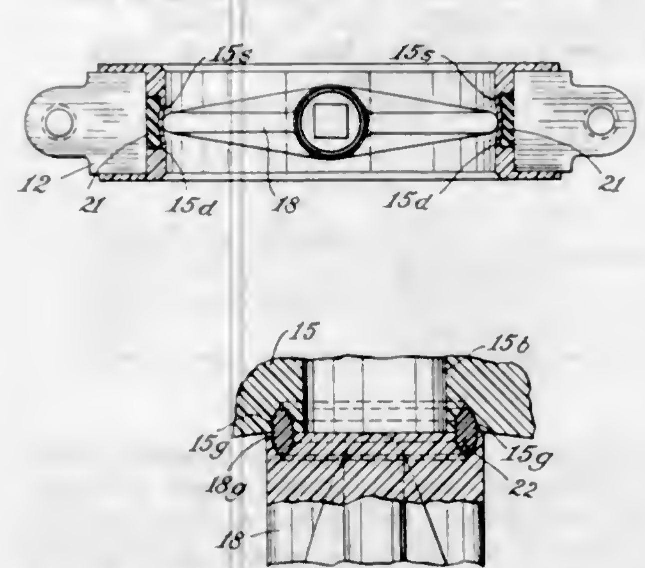


For use with pressurized dispensers, a sanitary tilt-valve assembly is provided with a snap-on nozzle-actuator which may be pressed on axially without opening the valve, and removed for easy rinsing. Supported in an elastic grommet, a solid stem member has an external flow groove along the stem and through a shoulder overlaying the grommet. The groove is not rinsable, but its volume is minimal. A nozzle actuator mounts axially onto the valve member and has a skirt which snaps sealedly onto the grommet periphery.

3,447,780

PLASTIC RESIN LINED BUTTERFLY VALVE WITH IMPROVED SEALING ARRANGEMENTS

Charles M. Hobson, Jr., Wenonah, N.J., assignor to Garlock Inc., Palmyra, N.Y., a corporation of New York
Filed June 22, 1967, Ser. No. 648,040
Int. Cl. F16k *1/226, 25/00*
U.S. Cl. 251—306 **8 Claims**

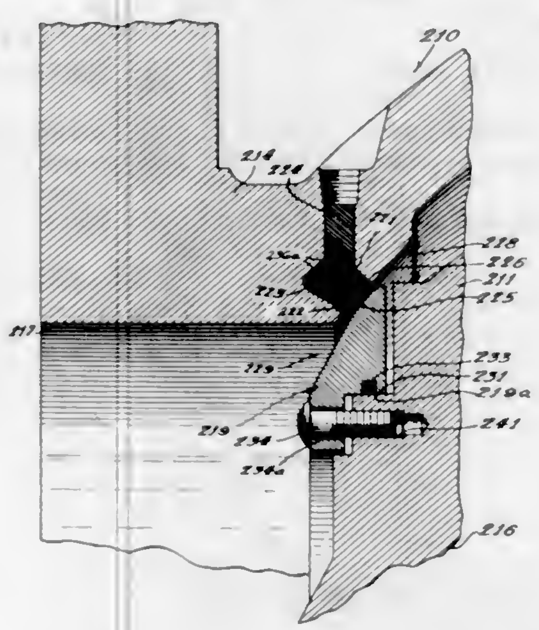


A butterfly valve device having a replaceable substantially rigid fluorocarbon resin valve liner having a thin-walled resiliently backed sealing surface for cooperation with a pivoted fluorocarbon resin encapsulated butterfly disc and making wedge-shaped grooves in the liner and in the opposite ends of the disc for receiving corresponding wedge-shaped sealing rings to provide an improved sealing arrangement.

3,447,781

BALL VALVE STRUCTURE

Donald G. Fawkes, Aurora, Ill., assignor to Henry Pratt Company, a corporation of Illinois
Continuation-in-part of application Ser. No. 269,527, Apr. 1, 1963. This application Feb. 10, 1967, Ser. No. 615,093
Int. Cl. F16k *5/20*
U.S. Cl. 251—315 **12 Claims**

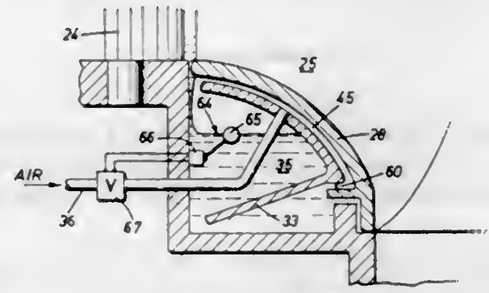


A ball valve having a seat ring on the ball accurately located relative to the axis of rotation of the ball, and a seal having an interlock portion received in an annular groove in the body of the valve and a seat portion extending outwardly from the groove and urged into uniform compressive sealing engagement with the seat surface on the ball by a set plastic body in the groove. The seat surface on the ball may be accurately related to the axis of rotation by forming the seat surface in place on the ball in a suitable mold, or by adjustably mounting the means defining the seat surface on the ball and adjusting the disposition thereof accurately relative to the axis.

3,447,782

SUPPLY OF SEALING FLUID FOR ROTARY FLUID MACHINES

Robert Stanley Sproule, Montreal, Quebec, Canada, assignor to Dominion Engineering Works, Limited, Lachine, Quebec, Canada, a corporation of Canada
Filed Oct. 16, 1967, Ser. No. 680,288
Claims priority, application Great Britain, Oct. 27, 1966, 48,263/66
Int. Cl. F01d *11/06*
U.S. Cl. 253—26 **3 Claims**

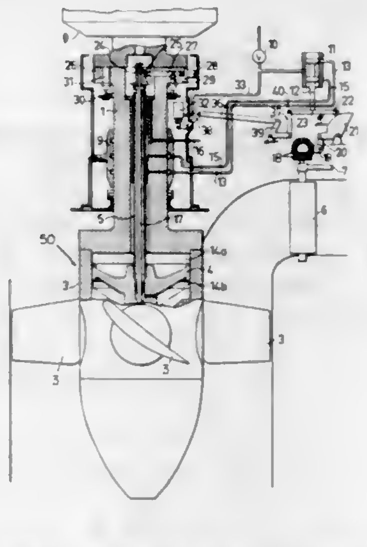


Control of the location of a gas-liquid sealing interface bounding one end of the aeration space of a shrouded turbo machine is effected by varying the admission of the gas in response to changes in the static pressure head of the liquid providing the seal interface, so as to maintain the gas-liquid interface effectively located in sealing relation with a flinger member of the shroud.

3,447,783

DEVICE FOR TRANSLATING THE POSITION OF AN ELEMENT AXIALLY DISPLACEABLE IN A ROTATABLE SHAFT

Svante Helmer Wijkander, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden, a corporation of Sweden
Filed June 14, 1966, Ser. No. 557,399
Claims priority, application Sweden, June 15, 1965, 7,902/65
Int. Cl. F01d *7/00, 17/26*
U.S. Cl. 253—122 **8 Claims**



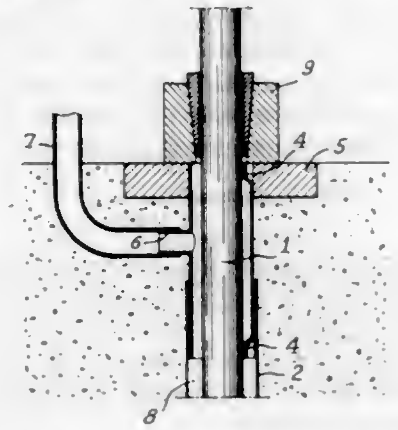
There is disclosed a device for controlling the load and the r.p.m. of a turbine the runner blades of which are controlled by wicket gates. The device comprises a runner blade assembly including a hollow rotary shaft mounting a hollow hub which, in turn, pivotally supports the runner blades. The piston of a servomotor within the hub is displaceable in the direction of the axis of the shaft and is coupled with the runner blades to control the pivotal position thereof by the lengthwise position of the piston. The wicket gates are coupled to the piston to maintain a predetermined angular relationship between the pivotal position of the runner blades and the wicket gates. The coupling between the runner blades and the wicket gates is effected by feeding pressure fluid to one or the other side of the piston to control the axial position thereof in reference to the shaft. The flow of pressure fluid is controlled by a valve which, in turn, is controlled by the angular position of the wicket gates so as to cause pivoting of the runner toward angular positions corresponding to the angular positions of the wicket gates. The position of the piston and the valve are further controlled for moving the same into a predetermined neutral position when the angular positions of the wicket gates and the runner blades correspond to each other. The control valve when in its neutral position interrupts the flow of pressure fluid to the servomotor thereby arresting movement of the piston and thus the pivotal movements of the runner blades.

3,447,784

APPARATUS FOR PRESTRESSING CONCRETE

Pierre Launay, Versailles, France, assignor to Compagnie Industrielle de Travaux, Paris, France, a company of France

Filed Jan. 3, 1966, Ser. No. 518,315
Claims priority, application France, Jan. 4, 1965, 735; Dec. 21, 1965, 43,216
Int. Cl. E21b *19/00*
U.S. Cl. 254—29 **4 Claims**

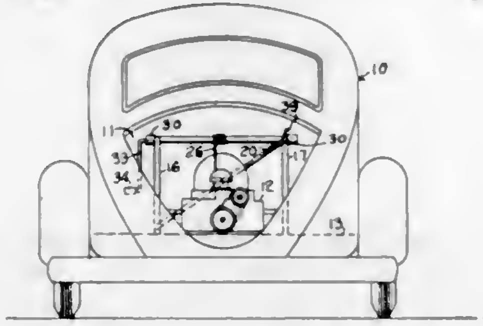


An apparatus for prestressing concrete including a tube extending through the concrete through which a tension rod or the like extends. On each end of the rod wedge-shaped gripping means are placed to hold said rod in a tensioned condition.

3,447,785

WINCH FOR RAISING AND LOWERING MOTOR VEHICLE ENGINES

Jack H. Brown, 4633 Lippi Parkway, Sacramento, Calif. 95823
Filed Aug. 18, 1967, Ser. No. 661,678
Int. Cl. B66c *23/60*
U.S. Cl. 254—145 **3 Claims**

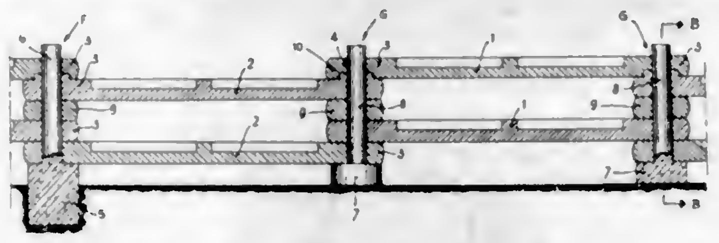


Spaced vertical supports are adapted to rest usually on the frame of a rear engine vehicle, and a cross shaft supported at the top of the structure is adapted to be turned to wind a cable to raise the engine, particularly of a rear engine car, after the attaching bolts thereof have been loosened, enlargements at the ends of the shaft serving to position it longitudinally and providing sockets for the reception of a crank handle, ratchet or other shaft-turning means.

3,447,786

ROAD BARRIER WITH PIVOTABLE SPAN JOINTS

Mario Bigni, Via Ghidoni 31, Brescia, Brescia, Italy
Filed July 11, 1967, Ser. No. 652,608
Claims priority, application Italy, Aug. 20, 1966, 19,000/66
Int. Cl. E01f *15/00;* **A01k** *3/00;* **E04h** *17/14*
U.S. Cl. 256—13.1 **4 Claims**

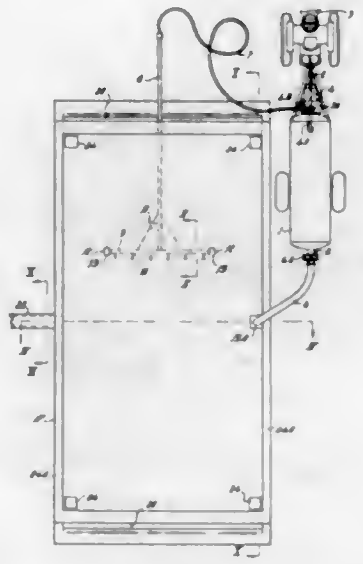


Road barriers and road dividers are rendered more resistant to impact by vehicles, more elastic and permanently non-deformable, and more economically installed and repaired by using the unique prefabricated arrangement disclosed herebelow. Each span or section of the barrier is composed of two road-embedded supports (or of one embedded) and a plurality of intermediate non-embedded supports resting on the pavement. The horizontal beams, made of reinforced and massive concrete are provided with annularly shaped terminals which slide around two adjoining supports. Washer-like doughnuts may be inserted between superimposed beams to obtain a rail effect. The annular extremities and the doughnut separators are movable (pivotable) about the vertical supports to impart the required elastic effect.

3,447,787

APPARATUS FOR THE STORAGE AND SPREADING OF LIQUID AND SEMI-LIQUID SUBSTANCES

Cornelis van der Lely, Zug, Switzerland, assignor to Lely Ltd., Burlington, Ontario, Canada
Filed Jan. 24, 1967, Ser. No. 611,357
Claims priority, application Netherlands, May 13, 1966, 6606560
Int. Cl. B01f *5/12;* **B65d** *25/00*
U.S. Cl. 259—95 **19 Claims**

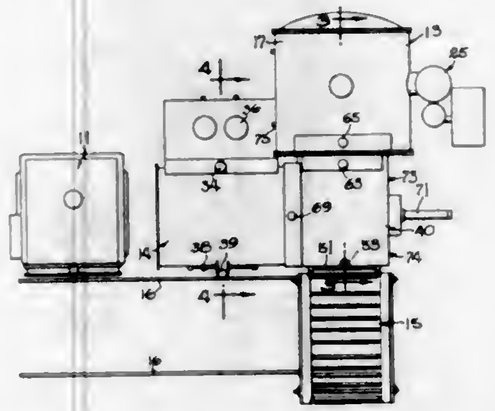


Apparatus for the storage and spreading of semi-liquid organic manure and like substances comprising a transportable spreading implement and a stationary reservoir pit. A pipe and interconnected mouthpiece are provided for injecting turbulating air or water into the substance to facilitate its homogenous transfer from the reservoir to the implement, injection of the air or water being effected by a pump on the implement.

3,447,788

HEAT TREATING METHOD AND APPARATUS

June Richard Bornor, Rockford, Ill., assignor to Alco Standard Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 10, 1967, Ser. No. 652,155
Int. Cl. F27b *9/14;* **F27d** *3/00*
U.S. Cl. 263—6 **10 Claims**



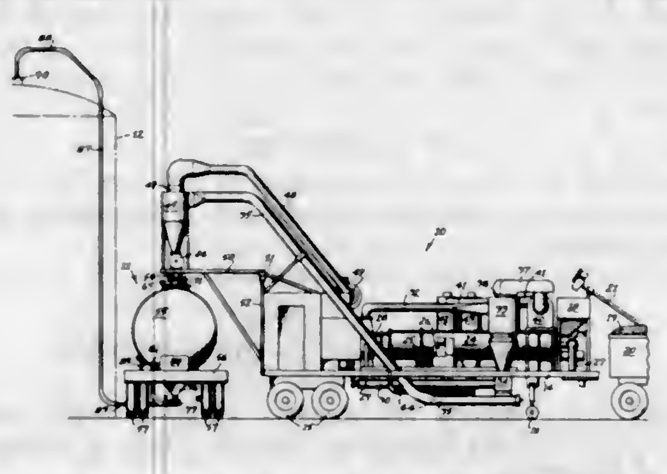
Workpieces to be heated in a furnace chamber and then cooled in a quenching chamber first are introduced into a loading chamber communicating with the furnace and quenching chambers, are shifted into the heating chamber and heated, and then are shifted back into the loading chamber and are transferred to the quenching chamber. To prevent vapors from the quenching chamber and other oxidizing contaminants from entering the furnace chamber, the latter is sealed closed each time the loading chamber is opened to admit new workpieces into the loading chamber or to transfer heated workpieces to the quenching chamber. In addition, the loading chamber is purged with a non-oxidizing atmosphere at such times as it is necessary to open the furnace chamber to shift the workpieces back and forth between the furnace chamber and the loading chamber.

The workpieces are transferred into and out of the furnace chamber by a series of power-driven rollers which also selectively reciprocate the workpieces back and forth within the furnace chamber to shift the position of the workpieces with respect to heating elements in the chamber and thereby avoid the continuous concentration of heat on the same portions of the workpieces.

3,447,789

PORTABLE PERLITE HANDLING APPARATUS AND METHOD

Walter Martin Sharp, Nashville, Tenn., assignor to Chemrock Corporation, Nashville, Tenn., a corporation of Tennessee
Filed May 31, 1967, Ser. No. 642,366
Int. Cl. F27b *7/10*
U.S. Cl. 263—22 **5 Claims**

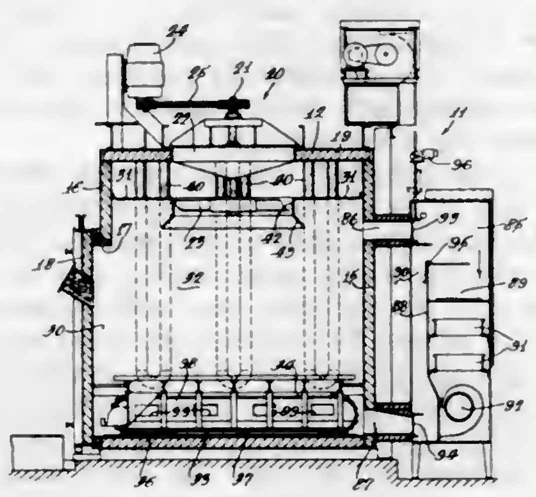


A portable perlite handling apparatus having a pressurized chamber for receiving expanded perlite from a device in situ, and a conduit system for delivering the pressurized expanded perlite from the pressurized chamber to a delivery station above the chamber.

3,447,790

ALUMINUM ANNEALING FURNACE

Robert H. Ross, Willard Roth, Robert Larko, and Walter Swartzfager, Meadville, Pa., assignors to Sunbeam Equipment Corporation, Meadville, Pa., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,126
Int. Cl. F27d *7/04, 19/00;* **C21d** *9/52*
U.S. Cl. 263—28 **9 Claims**

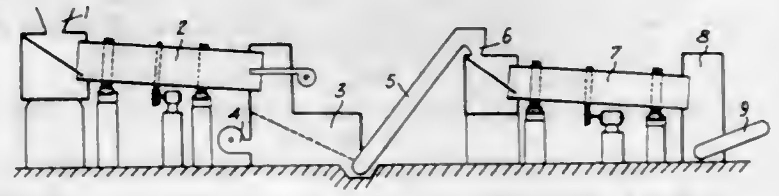


An aluminum coil annealing furnace having a work chamber, within the furnace enclosure, formed by a horizontal baffle with an opening for a fan and vertical baffles spaced from the sidewalls and floor of the furnace. Radiant tubes are positioned in the space between the enclosure and the work chamber. A fan draws heating and cooling gases upwardly through and across the aluminum coils at high velocities. A gas cooling chamber is positioned adjacent to and connected to the furnace by means of ducts for rapidly cooling the aluminum coils. Thermocouples for sensing the temperature of the gas and aluminum coils are mounted in the gas stream near the fan and in the aluminum coils, respectively. Electrical signals proportional to the temperatures sensed by the gas and work thermocouples are compared to an electrical signal proportional to a set annealing temperature and the signals resulting from the difference between the gas and set anneal temperatures and the difference between the work and set anneal temperatures are compared after the electrical signal resulting from the difference between the gas and set anneal temperature has been reduced, by the introduction of a resistance value, by a preselected ratio. Signals from the comparison of the differences of the gas and work temperature from the set anneal temperature control the increase or decrease of the temperature of the heating or cooling gas.

3,447,791

METHOD AND ARRANGEMENT FOR PRODUCING WHITE CEMENT

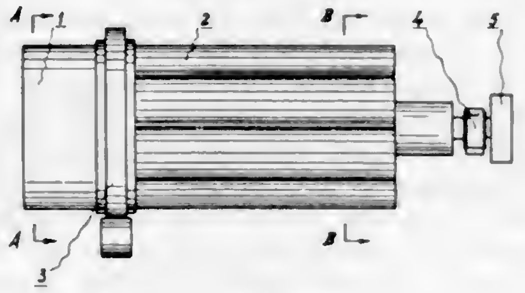
Pierre Coiffu, Paris, France, assignor to Societe des Ciments Francais, Guerville, France
Filed Dec. 7, 1965, Ser. No. 512,129
Claims priority, application France, Dec. 8, 1964, 997,791
Int. Cl. F27b *7/00;* **C04b** *7/44*
U.S. Cl. 263—32 **9 Claims**



White hydraulic cement is produced by calcining in a kiln in the presence of hot combustion air a material capable of forming upon calcination clinkers which when cooled in a non-oxidizing medium will be substantially white, thereby forming hot clinkers of the material. The thus-formed hot clinkers are then subjected to direct heat exchange with air and cooled thereby while the air is simultaneously heated and colored clinkers are obtained upon cooling of the hot clinkers. The thus-heated air is introduced into the kiln as hot combustion air and the thus-obtained colored, cooled clinkers are reheated to a temperature of at least between about 800 and 1,200° C. so that, due to such reheating, the coloration of the clinkers will disappear. The thus reheated clinkers are then cooled in a non-oxidizing medium. This will result in cool substantially white clinkers capable of being converted into white cement.

The above-described method may be advantageously carried out in an arrangement which includes calcining and reheating devices for calcining material so as to form thereof clinkers which upon cooling in a non-oxidizing medium may be converted into white cement, and the device also serving for reheating the thus-cooled clinkers. An air-cooling device is associated with the calcining device for air cooling clinkers formed in the calcining device and for simultaneously heating of the cooling air. An arrangement is provided for introducing the thus-formed hot air as combustion air into the calcining device and, furthermore a non-oxidizing cooling device is operatively associated with the calcining device for the non-oxidizing cooling of the reheated clinkers so that the same will retain their at least substantially white color.

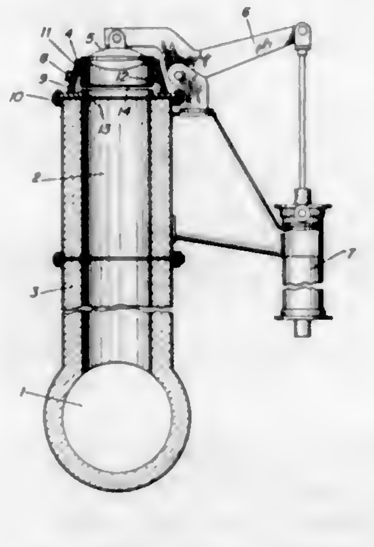
3,447,792
ROTARY HEAT EXCHANGING APPARATUS
Victor Duhem, Avon, France, assignor to Venot-Pic, a French concern
Filed Mar. 24, 1967, Ser. No. 625,685
Claims priority, application France, Apr. 20, 1966, 58,394
Int. Cl. F27b *7/04*
U.S. Cl. 263—32 **3 Claims**



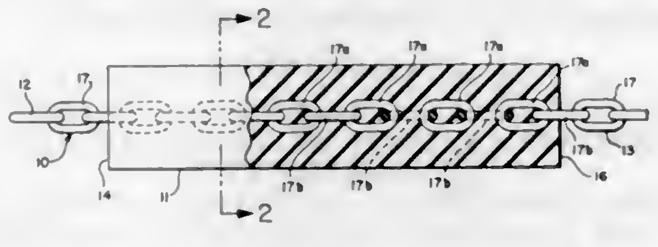
A rotary heat exchanging apparatus including a plurality of juxtapositioned independent treatment enclosures forming, by means of their juxtaposed arrangement, a self-supporting bundle. A driving mechanism is provided as well as a cylindrical feed shell at one end of the bundle.

3,447,793
MEANS FOR PREVENTING COMBUSTION AND EXPLOSIONS IN HOT AIR CONDUITS IN BLAST FURNACES
Johannes Uerlichs and Rudolf Müller, Duren-Birkesdorf, Germany, assignors to Hermann Rappold & Co. G.m.b.H., Duren-Birkesdorf, Germany
Filed May 31, 1966, Ser. No. 554,108
Claims priority, application Germany, July 3, 1965, R 30,922
Int. Cl. F27d *7/00;* **F23l** *1/00;* **F23c** *7/00*
U.S. Cl. 266—30 **1 Claim**

The air exhaust conduits associated with blast furnaces are provided with exhaust means including an outlet valve structure having a space sufficient for the introduction of a propellant medium which is connected with one or more associated injection nozzles installed in the openings connecting the conduits with valve outlets. The space for the propellant agent is provided adjacent one end of the outlet valve and defined by two generally concentrically spaced pipe sections connected at their outer ends to a valve seat. The outer pipe has a connection for introducing the propellant medium between the pipes and has its inner end connected to a valve mounting flange, while a free beveled end of the inner pipe is also fastened to the valve seat forms, together with a raised complementally beveled inner annular portion of the mounting flange, a circular injection nozzle for the propellant medium.



3,447,794
RUBBER COVERED CHAIN FENDER
John R. Sudyk, Huntsburg, Ohio, assignor to The Johnson Rubber Co., Middlefield, Ohio, a corporation of Ohio
Filed May 13, 1966, Ser. No. 549,976
Int. Cl. F16f *13/00;* **B63b** *43/18*
U.S. Cl. 267—1 **4 Claims**

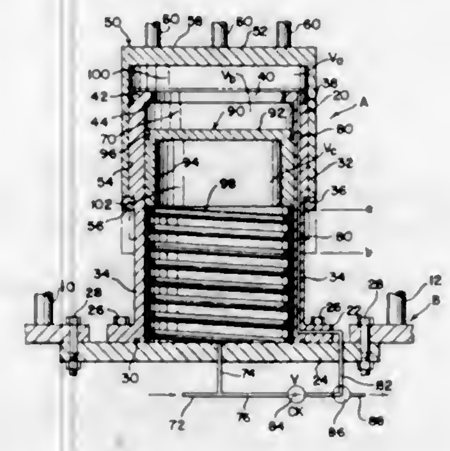


A fender comprising an elongated body of rubber material having a substantially uniform square cross section. A link chain is embedded therein and extends lengthwise therethrough, with free ends of the chain at the ends of the body so that the fender can be connected to a supporting structure. The links of the chain within the rubber are in an extended position, and the rubber surrounds each link so that relative movement between the links and the rubber does not occur and wear of the rubber body is minimized.

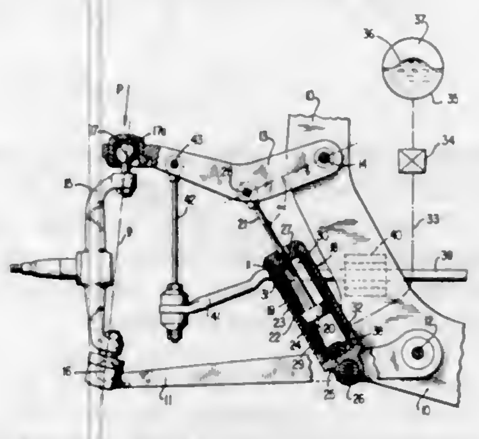
3,447,795
SELF-CONTAINED DIE CUSHION WITH AIR SAVER
Robert V. Vickers, Warrensville Heights, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,166
Int. Cl. F16f *1/22, 3/06*
U.S. Cl. 267—1 **15 Claims**

A self-contained die cushion for use on a power press wherein the normal cushion chamber includes a separate

reservoir sealed from the rest of the chamber and having a movable wall, such as a piston, to allow the fluid in the reservoir to assist in biasing the die cushion upwardly, but preventing exhaust of the reservoir fluid when the chamber is exhausted to drop the cushion for changing or repairing dies in the press.



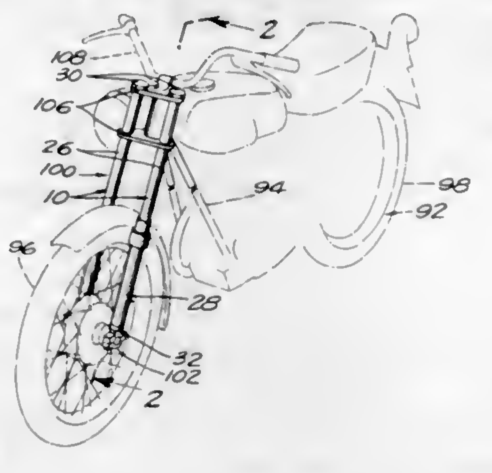
3,447,796
SPRING SUSPENSION FOR VEHICLE WHEELS
Friedrich H. van Winsen, Kirchheim-Teck, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 7, 1965, Ser. No. 453,999
Claims priority, application Germany, May 8, 1964, D 44,361
Int. Cl. B65d *9/14, 9/18, 9/22*
U.S. Cl. 267—15 **18 Claims**



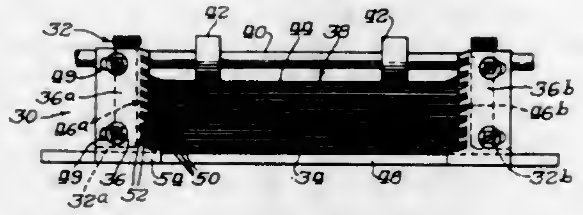
A spring suspension for motor vehicle wheels, comprising an upper and a lower guide lever and a hydraulic shock absorber which is so connected between the guide levers so as to be lengthened in a telescopic manner when the wheel is deflected upwardly to displace fluid from the shock absorber cylinder.

3,447,797
TELESCOPING, SPRING-LOADED, HYDRAULICALLY DAMPED SHOCK ABSORBER
Joseph P. Roberts, Denver, Colo., assignor of one-half to William T. Smith, Tujunga, Calif.
Filed Dec. 14, 1966, Ser. No. 601,733
Int. Cl. B60g *11/56, 11/26;* **F16f** *5/00*
U.S. Cl. 267—34 **7 Claims**

A telescoping shock absorber is provided for motor driven cycles and the like. The shock absorber has a pair of telescoping tubes containing a hydraulic damper and a surrounding coil spring which extends centrally through the tubes between the ends thereof for yieldably resisting and damping relative longitudinal displacement of the tubes. The hydraulic damper is arranged to impose a minimum viscous drag on relative telescoping movement of the tubes and a maximum viscous drag on relative extension movement of the tubes, whereby contraction of the shock absorber under load is resisted primarily by the shock absorber spring and jarring rebound of the shock absorber after removal of the load is prevented.

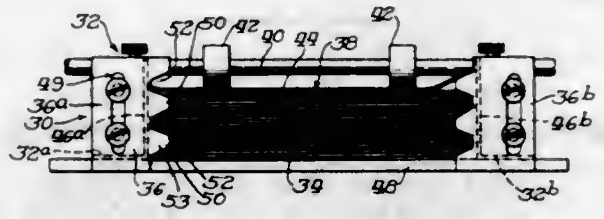


3,447,798
APPARATUS FOR FEEDING SINGLE SHEETS
Walter F. Bishop, Elk Grove Village, and George W. Bookless, Franklin Park, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed May 3, 1967, Ser. No. 635,825
Int. Cl. B65h *3/06, 3/46*
U.S. Cl. 271—21 **8 Claims**



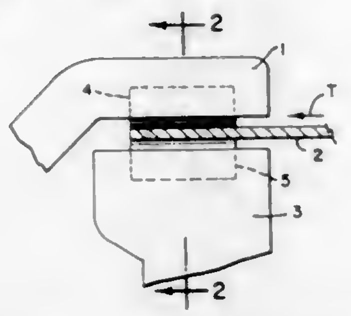
Apparatus for feeding single sheets from a stack of sheets, including a spaced pair of fixed sheet separators each having a comb-like configuration with a number of teeth, each tooth blocking a minor area of the front of the stack of sheets. Individual sheets are vertically buckled and fed through restricted downwardly sloping passageways between the teeth.

3,447,799
METHOD AND APPARATUS FOR FEEDING SINGLE SHEETS
Walter F. Bishop, Elk Grove Village, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed May 3, 1967, Ser. No. 635,889
Int. Cl. B65h *3/06*
U.S. Cl. 271—21 **12 Claims**



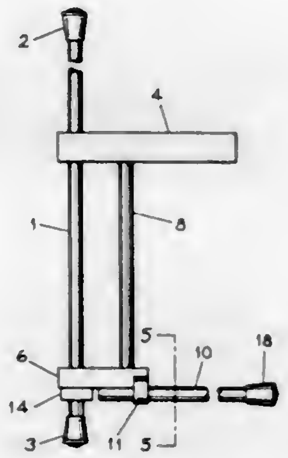
Feeding of single sheets from a stack of sheets, employing a spaced pair of fixed sheet separators, one at each side of the stack, each sheet separator having a comb-like configuration with a number of teeth blocking the front of the stack of sheets. Individual sheets are fed through restricted passageways between the teeth.

3,447,800
SHEET GRIPPING DEVICE
Peter Reinhardt, Leipzig, Germany, assignor to VEB Druckmaschinenwerk Planeta, Radebeul, Germany
Filed July 14, 1967, Ser. No. 653,539
Int. Cl. B65h *5/06, 29/06*
U.S. Cl. 271—51 **6 Claims**



A sheet gripping device on a printing machine or the like, for conveying paper sheets, having gripping fingers and gripper backing elements, each provided with means for permitting movement and alignment of the sheets in a direction generally at right angles to the direction of paper travel, while the sheets are being firmly held an conveyed by the sheet gripping device in its closed operative position.

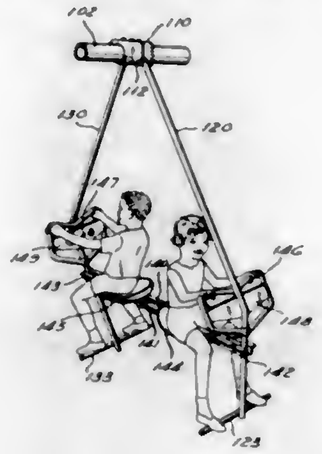
3,447,801
JUMP STICK
George D. Smith, 1904 13th St. Court E., Bradenton, Fla. 33505
Filed Oct. 10, 1966, Ser. No. 585,681
Int. Cl. A63b *5/22, 1/32*
U.S. Cl. 272—74 **4 Claims**



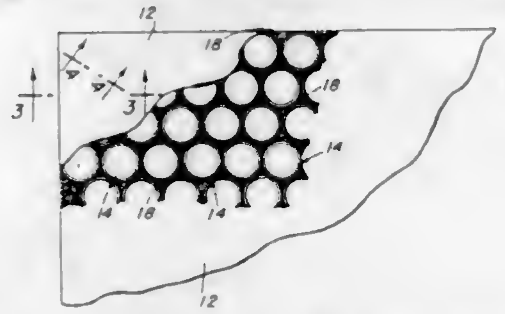
An amusement and exercising device which embodies a substantially horizontal jump stick removably connected to a substantially normally vertical operating stick which manipulated at its top end in a substantially circular path with its bottom end resting upon a hard surface will impart substantially rotating movement to the jump stick to provide both amusement and exercise for the user as he jumps over the jump stick at points in its scope of movement, together with a power development arm carried by the operating stick near its upper end to enhance the power administered to the operating stick by the user.

3,447,802
FLIGHT SIMULATING SWING
Daniel P. Grudoski, Hartstown, Pa., assignor to Blazon, Inc., a corporation of Ohio
Filed Dec. 30, 1964, Ser. No. 422,299
Int. Cl. A63g *9/16, 9/00;* **A47c** *15/00*
U.S. Cl. 272—87 **7 Claims**

A swing for children hanging from a bracket fixed to a support. The bracket, having spaced pivots near its ends, forms the fixed minor base of an isosceles trapezium linkage. A seat structure having spaced pivots near its ends forms the major base of the isosceles trapezium linkage. Substantially rigid hangers of substantially equal length, each having a bell-crank configuration bent outwardly, connect the bracket pivots and the seat pivots to provide body and head clearance for children riding within the structure. Handholds are mounted on the hangers above the seats and foot bars below. A pair of seats can be positioned back to back or in tandem on the seat bar structure. The hangers may cross over to form an isosceles trapezoid.

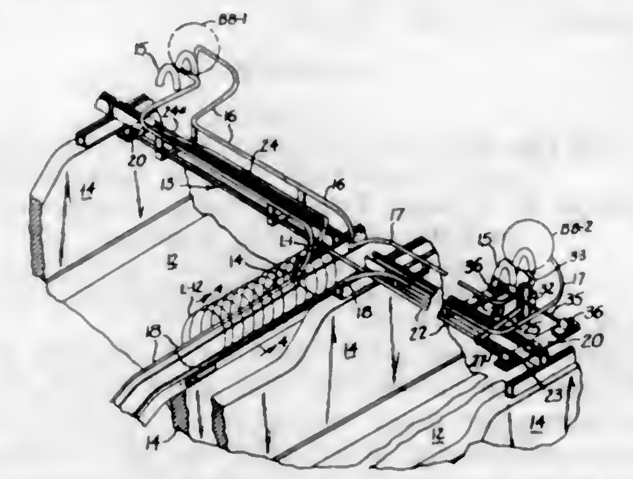


3,447,803
LAMINATED PANELS
Sam Kucheck, 1311 Chicago Ave., Evanston, Ill. 60201
Filed Sept. 23, 1964, Ser. No. 398,579
Int. Cl. A63d *15/00*
U.S. Cl. 273—6 **8 Claims**



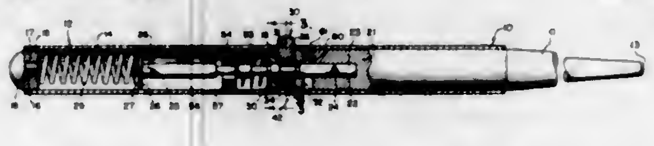
A laminated structural panel for use as doors, walls and billiard tables. Said panel comprises a flat top sheet and a flat bottom sheet. The area between said panels includes a plurality of ring-like members providing voids between the spaced sheets and an adhesive material is provided between the ring-like members.

3,447,804
CODING OF BOWLING BALLS
William D. Cornell, Grand Haven, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed July 23, 1965, Ser. No. 474,442
Int. Cl. A63d *5/04*
U.S. Cl. 273—54 **23 Claims**



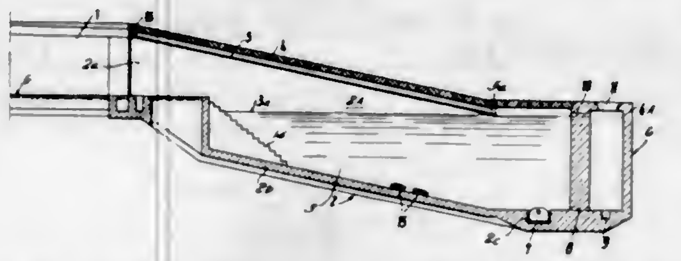
A bowling ball detection system is provided in combination with a bowling lane. The system includes a plurality of balls, each having a distinctive signal transmitter or other detectable coding means and a detector for detecting the coding means in the ball path, e.g., on the return track. The detector can differentiate between the ball signals for identifying the balls and can comprise a plurality of oscillator loops, one tuned to the signal transmitter in each ball to be bowled on the lane.

3,447,805
SPRING-POWERED CUE
Frank C. Baley, Jr., 5935 Electric Ave., Berkeley, Ill., and Raymond J. Baley, 1852 Scoville Ave., Berwyn, Ill. 60402
Filed Jan. 6, 1966, Ser. No. 519,069
Int. Cl. A63d *15/08*
U.S. Cl. 273—69 **4 Claims**



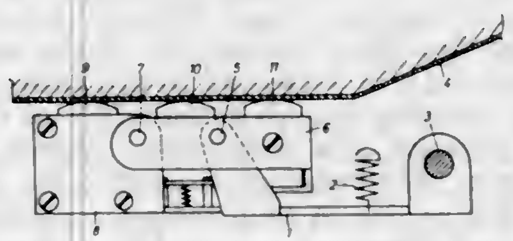
A spring powered cue including a shock absorber comprised a coil spring and a pneumatic spring. The pneumatic spring includes an annulus slideable in the handle section through which an extension of the relatively movable foresection passes. A member disposed on the extension cooperates with the annulus to form an air cushion between the annulus and the trigger assembly of the cue.

3,447,806
BULLET TRAPPING ASSEMBLY
Herbert Pfaff and Walter Lasseur, Meppen, and Friedhelm Hillebrand, Osnabrueck, Germany, assignors to Klöckner-Werke AG, Duisburg, Germany
Filed May 31, 1966, Ser. No. 553,744
Claims priority, application Germany, June 5, 1965, K 56,320
Int. Cl. A63b *67/00, 69/00, 71/00*
U.S. Cl. 273—102.4 **7 Claims**



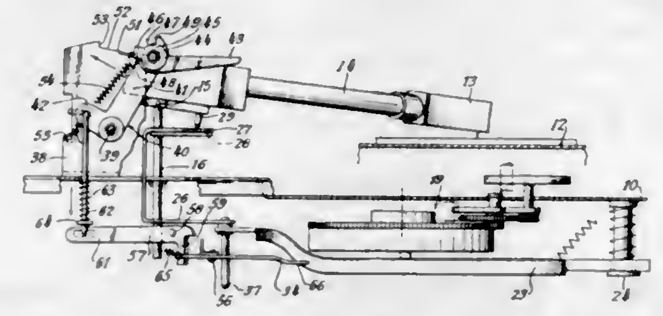
A bullet trapping assembly in which the bullets are deflected by a panel formed by compound casting steel plates on a downwardly inclined top wall of a chamber into a water basin formed by the chamber.

3,447,807
APPARATUS FOR A THREE-PART RECORDING HEAD ARRANGEMENT
Heinz Mayer, Kaufbeuren, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 19, 1966, Ser. No. 543,608
Claims priority, application Germany, Apr. 23, 1965, St 18,588
Int. Cl. G11b *5/48*
U.S. Cl. 274—4 **2 Claims**



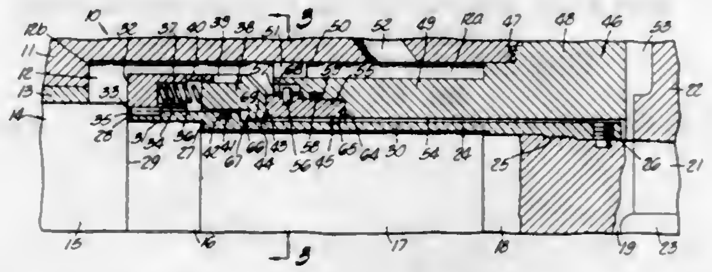
A three-part recording head arrangement having three recording heads arranged on the slide of a track selector of a multi-track tape recorder, said slide being parallel to the running direction of the tape and being pressed by a spring in the direction of the magnetic tape. A two-arm lever is pivoted on said slide. One arm of the lever carries two recording heads on a rocker pivoted on said lever, and a third recording head is mounted on the other arm of the lever. The lever arm ratios are so chosen that the recording heads are applied to the tape with equal pressure by providing that the distance of the third head to the pivot of the lever arm is one-third the distance of the third head to the pivot of the rocker.

3,447,808
SOUND REPRODUCING APPARATUS
Albert E. Draper, London, England, assignor to S. Korobuk Limited, London, England
Filed June 1, 1967, Ser. No. 642,848
Int. Cl. G11b *17/12*
U.S. Cl. 274—10 **5 Claims**



Record-operated means for controlling the sizing mechanism of a disc record player comprising a main arm swinging in a vertical plane and operatively coupled to a stop for determining the starting position of the pick-up stylus on a record, a trigger arm mounted on the main arm to be contacted by records dropping on to the turntable, and fixed stops engaged by a part associated with said main arm which part is disengaged from a first stop by the fall of any record over a first predetermined size and carried past a second stop by the fall of any record of a second, larger predetermined size, the trigger arm moving substantially horizontally during the swinging of the main arm.

3,447,809
MECHANICAL SEAL ASSEMBLY
Fernando G. Marrujo, La Habra, and Winfred J. Wiese, Whittier, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 7, 1967, Ser. No. 644,214
Int. Cl. F16j *15/40;* **F16l** *17/02*
U.S. Cl. 277—27 **12 Claims**

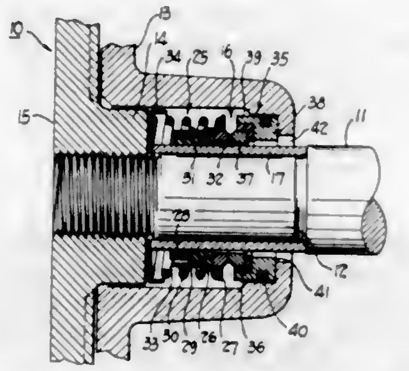


A mechanical seal assembly having a stationary sealing ring on a housing and a cooperating rotary sealing ring on a rotatable shaft for sealing against fluid flow in either direction along the shaft. The sealing rings are balanced to provide desired leakage rates in both directions of fluid flow across the sealing interface. The rings also may move in unison longitudinally of the shaft between limit stops in response to differential fluid pressure, the direction of movement depending upon the direction of the pressure differential.

3,447,810

SHAFT SEALS

Robert J. Porter, Mansfield, Ohio, assignor to The Gorman-Rupp Company
Filed Oct. 7, 1965, Ser. No. 493,675
Int. Cl. F16j *15/36, 15/38, 15/34*
U.S. Cl. 277—85 **4 Claims**

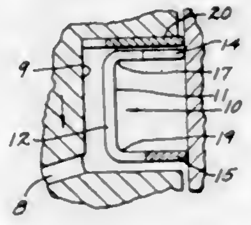


In a face-type shaft seal, a seat including a seat body mounted by a surrounding, resiliently flexible ring for tilting movement and for compound floating movement in circumferential, radial and axial directions, and a seal ring resiliently mounted in the seat body for radial and axial floating movement relative to the body.

3,447,811

PISTON RING ASSEMBLY

George C. Mayfield, Richmond Heights, Mo., assignor to McQuay-Norris Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Continuation-in-part of application Ser. No. 313,844, Oct. 4, 1963. This application Aug. 12, 1966, Ser. No. 594,951
Int. Cl. F16j *9/20*
U.S. Cl. 277—193 **4 Claims**

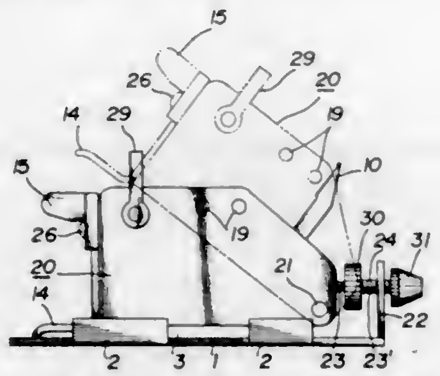


Non-bottoming self-expansible oil ring for pistons having segmented top and bottom lands in which the segments of the respective lands are separated in axially staggered relationship, and the segments of each land are connected by struts of varying cross-section, and in which the radial dimension of one land is greater than that of the other.

3,447,812

DEVICE FOR BINDING THE HEEL PART OF A SKI SHOE

Koji Kato, 14-Go, 12-Ban, Higashi-Ogu 4-chome, Arakawa-ku, Tokyo, Japan
Filed July 26, 1967, Ser. No. 656,098
Int. Cl. A63c *9/00*
U.S. Cl. 280—11.35 **4 Claims**

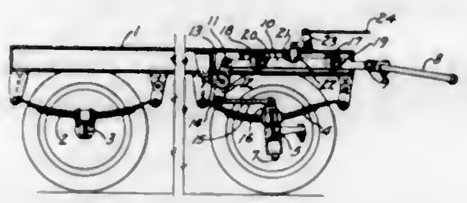


A step-in type device for binding the heel part of a ski shoe whereby the shoe may be quickly and easily mounted or removed on or from the ski when used. The device includes a frame member and a lever each pivotally mounted on a carrier plate. The frame member carries an anchor block which engages a pin on the lever.

3,447,813

AXLE CASTER-REVERSING MEANS

Lloyd J. Wolf, 2425 Irving Blvd., Dallas, Tex. 75207
Filed Jan. 11, 1967, Ser. No. 608,645
Int. Cl. B62d *17/00;* **B60b** *33/04*
U.S. Cl. 280—80 **4 Claims**

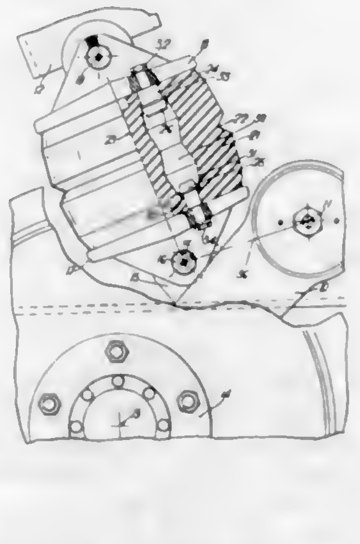


Means are provided for reversing the caster of the front wheels of a road vehicle whereby to cause the vehicle to steer properly when pushed rearwardly. The caster is reversed when the axle supporting the front wheels is pivoted or moved about its axis by power means or by linkage means.

3,447,814

RESILIENT SUSPENSION

Erwin-Walter Siber, Longueuil, Quebec, and Marvin William Keary, Cite de la Salle, Quebec, Canada, assignors to Go-Tract Limited, Les Cedres, Soulange County, Quebec, Canada, a Canadian company
Filed Dec. 23, 1965, Ser. No. 515,976
Claims priority, application Great Britain, Aug. 31, 1965, 37,214/65
Int. Cl. B60g *11/22;* **B62d** *25/00*
U.S. Cl. 280—124 **17 Claims**

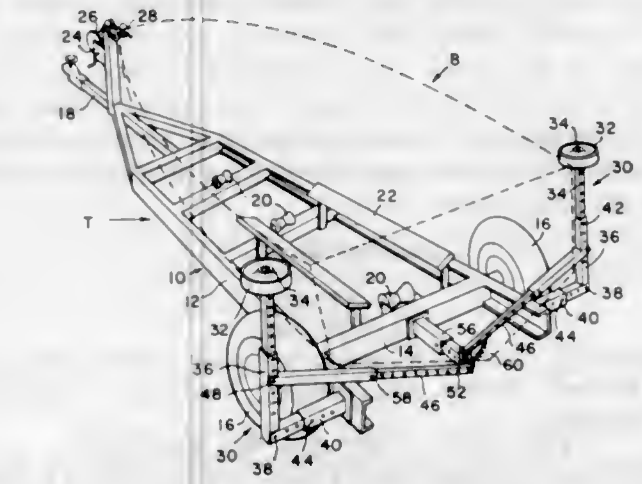


A resilient suspension arrangement for a vehicle is described. The total deflection of the resilient suspension system has at least successive first and second portions with the first portion being a high rate deflection portion extending throughout at least 20% of the total designed deflection and with the second portion being a lower rate portion extending through at least 55% of the total designed deflection at a substantially constant rate which is not more than one third as great as the average rate of the first portion. A third successive portion having a high rate of deflection may extend throughout at least the final 5% of the total designed deflection. The resilient suspension system includes a resilient member which is pivotally interconnected between a trailing arm of a vehicle body and a point of attachment of the vehicle body. The resilient member is attached with its axis at an angle to a line joining the pivotal connection of the resilient member to the trailing arm and a pivotal connection of the trailing arm to the vehicle, and the angle of attachment is preferably within the range of 92°–96° when the vehicle is static and unladen.

3,447,815

BOAT-CENTERING APPARATUS

Clark E. West, 2413 Forbes Ave., Santa Clara, Calif. 95050
Filed May 1, 1967, Ser. No. 634,971
Int. Cl. B60p *3/10;* **B62d** *33/08, 53/04*
U. S. Cl. 280—144 **2 Claims**

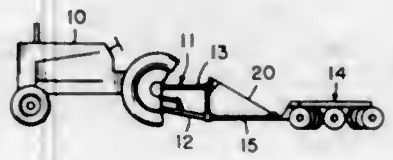


Boat-centering apparatus for a boat trailer including a pair of boat engaging members pivotally mounted on opposite sides of the boat trailer and arranged to engage the sides of the boat being loaded thereon, these boat engaging members being operatively interconnected by a connecting linkage including a single spring which urges both members inwardly toward the sides of the boat being loaded.

3,447,816

THREE-POINT TRACTOR-IMPLEMENT HITCH

Jefferson C. Shannon, % Shannon Tractor Company, Inc., P.O. Box 808, Yazoo City, Miss. 39194
Filed Feb. 8, 1967, Ser. No. 614,627
Int. Cl. B60d *1/14;* **B60r** *21/02*
U.S. Cl. 280—452 **9 Claims**

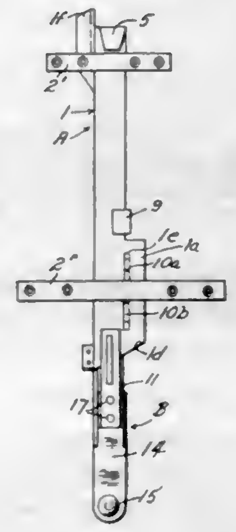


A three-point tractor-implement hitch for connecting and transferring weight from the implement to the rear wheels of the tractor. The drawbar of the implement is hinged to a rigid frame mounted on the three hitch links of the tractor. A draft member connects the implement drawbar to an upper portion of the frame and includes a safety coupling device that functions to disconnect the draft member in the event that excessive weight transfer or tension, exerted by the draft member on the rigid frame upon disconnection of the drawbar, tends to upend the tractor.

3,447,817

VEHICULAR ATTACHMENT FOR TRAILER HITCHES

Robert Faure, 5 Rue des Acacias, L'Haye-les-Roses, Val-de-Marne, France
Filed Apr. 27, 1967, Ser. No. 634,305
Claims priority, application France, May 5, 1966, 60,364
Int. Cl. B60d
U.S. Cl. 280—491 **8 Claims**

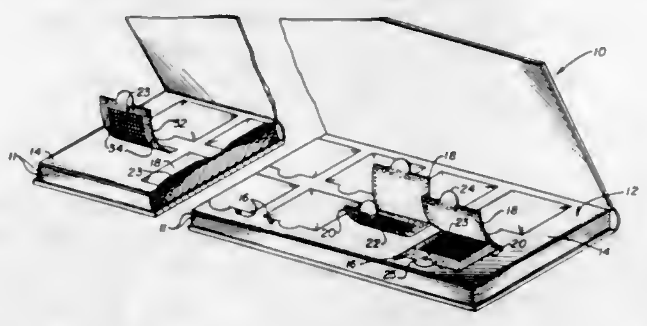


A tractor-borne attachment for a trailer hitch consists of two separable bar-shaped elements, i.e. a fixed element secured to the tractor and a detachable element carrying a swivel head, the two bars extending in the direction of travel when operatively interconnected. The fixed element has nonparallel front and rear edges engageable by respective lugs on the detachable element upon lateral movement of the latter, locking means being provided to prevent spontaneous disassembly of the two bars. The swivel head may be mounted on a separable extension of the detachable element.

3,447,818

DOCUMENT IDENTIFICATION AND PROTECTION SYSTEM

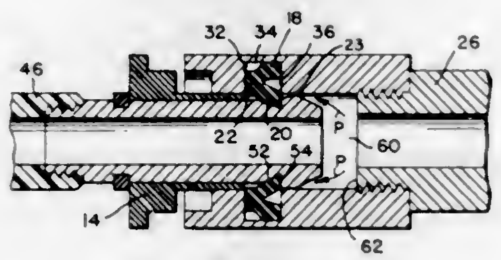
Armand L. De Pizzol, 234 Corbett Ave., San Francisco, Calif. 94114
Continuation-in-part of application Ser. No. 546,660, May 2, 1966. This application Aug. 9, 1966, Ser. No. 575,214
Int. Cl. B42d *15/00*
U.S. Cl. 283—7 **9 Claims**



A document identification and protection system in which the fingerprint of the person transferring the document is compared with a fingerprint of the person authorized to actually transfer the document which has been preprinted on the document by the document issuing authority. The entire document is, by a single treatment, protected from ink eradicators and made responsive to invisible ink. Ink reservoirs for the taking of fingerprints are also provided.

3,447,819
PUSH-PULL CONNECTOR HAVING COMBINED SEAL AND LOCKING RING

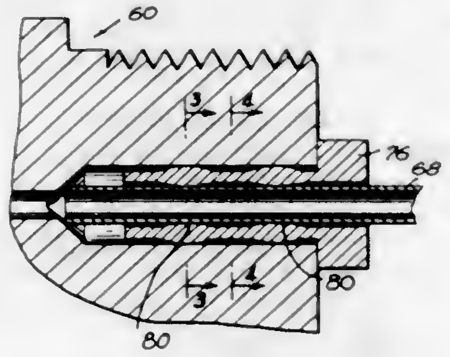
Adolph W. Borsum and William K. Borsum, both of
521 Pacific Ave., Solana Beach, Calif. 92075
Filed Dec. 30, 1966, Ser. No. 606,465
Int. Cl. F16l *17/00, 33/16*
U.S. Cl. 285—111 7 Claims



A push pull connector including a male connector element, a female connector element adapted to receive the male connector element, peripheral depressions in each of the connector elements, a resilient element which extends between the depressions and acts as both a lock and a seal, and a ring-shaped disconnect member which is adapted to slide along the male element and cause disengagement of the lock-seal member from the male element. Connection is made by bringing the male and the female elements together; disconnection may be made by pushing the connector elements together and then pulling them apart.

3,447,820
COMPRESSION FITTING PARTICULARLY FOR FLUID-DISTRIBUTING SYSTEMS

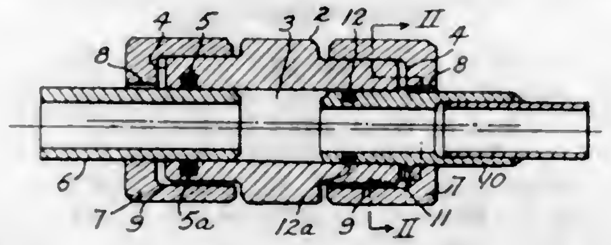
William E. Durnan, Rochelle Park, N.J., assignor to Auto Research Corporation, Boonton, N.J., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,512
Int. Cl. F16l *21/04;* **F16b** *7/04;* **F16j** *15/50*
U.S. Cl. 285—159 5 Claims



A compression fitting including a first cylindrical bore, an inner tubular member for conducting fluid, which member is to be coupled with said first bore, and a resilient compression sleeve having a bore through which said tubular member passes; the compression sleeve having on its interior two axially closely spaced annular outwardly projecting beads with an exterior diameter greater than the interior diameter of the wall of the first bore into which the sleeve is fitted, whereby the beads are deformed inward by the pressure exerted by the wall surrounding the first bore to form annular inwardly projecting beads in said sleeve and to cause said sleeve to deform outward between said beads.

3,447,821
FASTENING MECHANISM

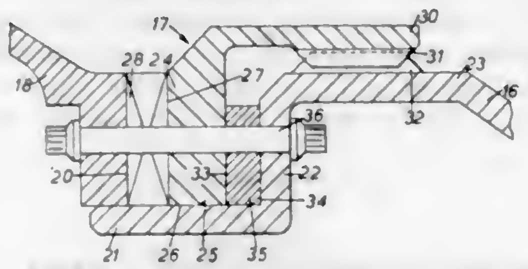
Michael Bochory, Los Angeles, Calif. (6124 Buckingham Parkway, Culver City, Calif. 90230)
Continuation-in-part of application Ser. No. 472,560, July 16, 1965. This application Mar. 9, 1967, Ser. No. 621,904
Int. Cl. F16l *55/00*
U.S. Cl. 285—178 10 Claims



A female member is provided with an inner circumferential surface of circular outline. A male member is provided with an outer peripheral surface of circular outline. The outer peripheral surface is received within the confines of the inner circumferential surface, and cam means are provided for moving the members radially relative to one another in response to their angular displacement with reference to each other, for providing a wedging action between them.

3,447,822
COUPLING

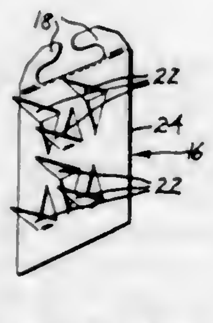
Peter King, Derby, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a British company
Filed Oct. 6, 1967, Ser. No. 673,447
Claims priority, application Great Britain, Oct. 11, 1966, 45,452/66
Int. Cl. F16d *1/06;* **F16b** *7/04, 1/02*
U.S. Cl. 287—53 4 Claims



The shafts of a gas turbine engine are coupled together by a coupling member which is secured to one of the shafts and which has a radial face provided with dogs which mesh with dogs on an end face of the other shaft.

3,447,823
ANCHOR CLIP

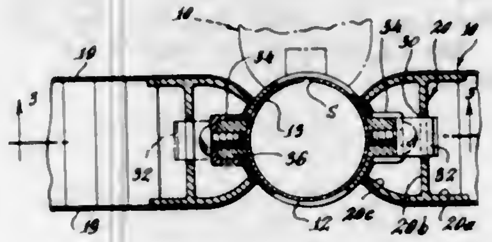
Resta S. Gregoire, Rte. 3, Newport, Pa. 17074
Filed Oct. 4, 1967, Ser. No. 672,915
Int. Cl. F16b *1/00;* **A47h** *1/10*
U.S. Cl. 287—189.35 4 Claims



An anchor clip formed of sheet material having attachment means at one end thereof and a pair of opposed inturned ears at the other end for engaging a supporting member. The ears are spread apart in opposite directions out of the plane of a head section of the clip to facilitate their mounting over edge portions of the base structure of the supporting member.

3,447,824
SPACE PARTITIONING

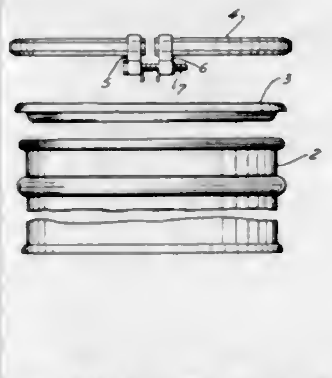
Roland Brown, 4 Assisi Way, Norwalk, Conn. 06851
Filed May 9, 1967, Ser. No. 637,131
Int. Cl. F16b *1/00, 5/00, 7/00;* **E04g** *7/00*
U.S. Cl. 287—189.36 6 Claims



A sectional partition is provided with support and interconnecting means such that one section or panel may be adjustably related to another at any desired angle and so that one or more sections or panels may be connected to a support means and disposed at any angle throughout the whole range of 360°.

3,447,825
DRUM CLOSING RING ASSEMBLY

Cesar Santoni, Hamilton, Ontario, Canada, assignor to The Greif Bros. Cooperage Corporation, Delaware, Ohio, a corporation of Delaware
Filed May 27, 1968, Ser. No. 732,417
Int. Cl. B65d *45/32*
U.S. Cl. 292—256.67 17 Claims

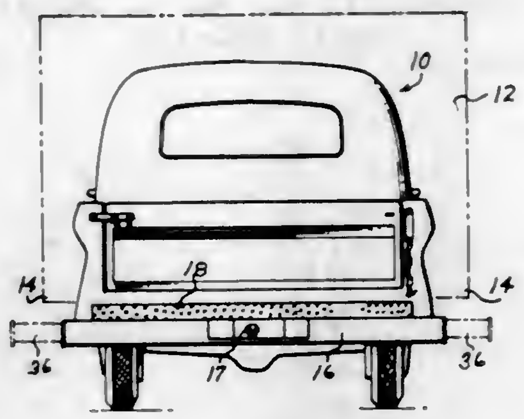


A closing ring assembly for drums is designed to provide a recessed position for the sealing means which permits the container to be rolled without damaging the seal. The closing ring assembly is provided with a cocked locking mechanism to permit straight through insertion of the locking bolt. The arrangement of the locking bolt passageways prevents the locking bolt from being drawn into the passageway when the ring is tightened on the container.

3,447,826
LATERALLY EXTENSIBLE BUMPER ASSEMBLY

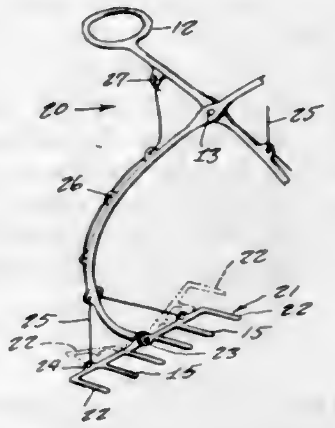
Frank T. Gostomski, 246 W. 8th St.,
Wahoo, Nebr. 68066
Filed Nov. 21, 1967, Ser. No. 684,673
Int. Cl. B60r *19/02, 19/04*
U.S. Cl. 293—69 5 Claims

This invention relates to a bumper assembly for vehicles, as a pick-up truck, carrying a fixed load, as a camper, and which bumper assembly is extensible and contractable in length to provide bumper protection for the vehicle alone or for the vehicle and the fixed load together. The invention further relates to the construction of such bumper assembly, as a tubular hollow bumper having a longitudinally extending passageway therein in which is slidably mounted bumper tips and which tips are securely held at selected extensions to the bumper.



3,447,827
ROAST LIFTER

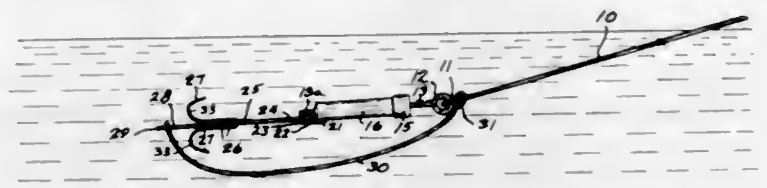
Albert Meszaros, 24 Easter Ave.,
Ossining, N.Y. 10562
Filed Dec. 18, 1967, Ser. No. 691,309
Int. Cl. A47g *21/10*
U.S. Cl. 294—3 3 Claims



A specially designed pair of tongs for lifting a roasted meat or turkey out of a roasting pan, the tongs having toothed racks that slip within a narrow space between the meat and sides of the rotating pan and then slip below the meat to form a firm grip thereof.

3,447,828
TACKLE RETRIEVER

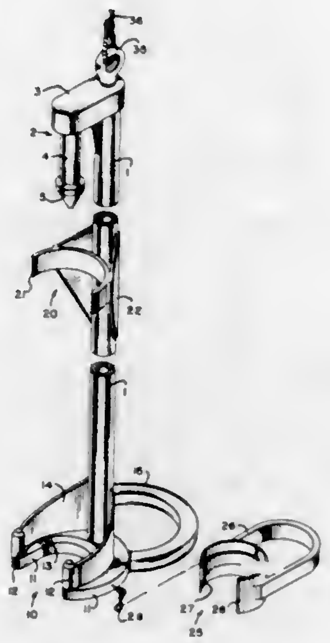
Alexander O. Hanson, 820 S. Spring Ave.,
Sioux Falls, S. Dak. 57104
Filed Apr. 12, 1967, Ser. No. 630,331
Int. Cl. B66f *19/00;* **A01k** *85/02*
U.S. Cl. 294—66 2 Claims



A retriever for fishing tackle or the like. The retriever includes a grappling hook device adapted to be pulled through the water to engage the tackle. A spring loaded release allows the hooks to reverse their position to clear snags or the like.

3,447,829
DRILL ROD HANDLING TOOL

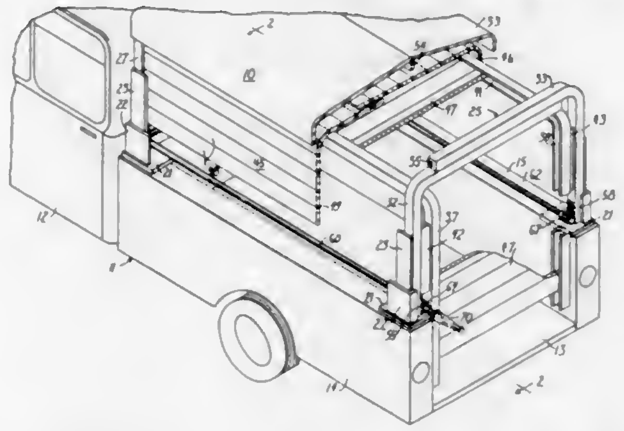
Laszlo Gyongyosi, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 18, 1967, Ser. No. 668,463
Int. Cl. B66c *1/10*
U.S. Cl. 294—99 **10 Claims**



A tool for handling drill rods having a reduced diameter portion near one end. The tool includes a connecting bar having a pilot member at one end which fits into the upper, open end of the drill rod. A lifting fork is at the other end of the connecting bar and fits into the reduced diameter portion of the drill rod to support the drill rod in a vertical position. A positioning member is located along the connecting bar between the lifting fork and the pilot member. Safety apparatus fits into the reduced diameter portion of the drill rod below the lifting fork when a drill rod is to be lifted.

3,447,830
EXPANDABLE CAMPER CANOPY FOR PICKUP TRUCKS

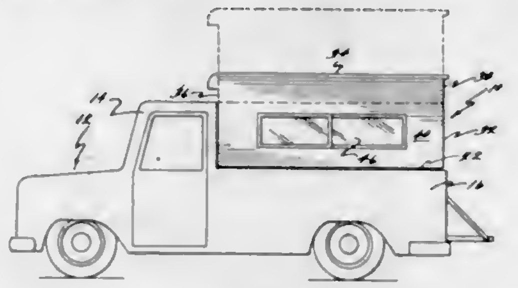
Alfred G. Willison, 2439 McDonald Ave.,
Missoula, Mont. 59801
Filed Jan. 13, 1967, Ser. No. 609,021
Int. Cl. B60p *3/28, 7/02*
U.S. Cl. 296—26 **8 Claims**



The disclosure of the specification describes a preferred embodiment of my invention concerning an expandable camper canopy for pickup trucks comprising a front inverted U-shaped cross frame **24** and a rear inverted U-shaped cross frame **25** slidably mounted to the truck body. Longitudinal channel iron frames **37** and **38** are interconnected to the cross frames **24** and **25** to form a unitary support structure. A pair of flexible side panels **45** and **46** are slidably mounted to the cross members for movement to and from side walls **14** and **15** of the truck body. A rear flexible panel **47** is slidably mounted to the longitudinal channel iron frames **37** and **38** for movement to and from the bed **13** of the truck body. Racks **55**, **56**, **57** and **58** are mounted on the legs of the cross frames **24** and **25** and are engaged by pinions **64**, **65**, **66** and **67** respectively. The pinions are mounted on shafts **60** and **62**.

3,447,831
EXPANDABLE CAMPER BODY

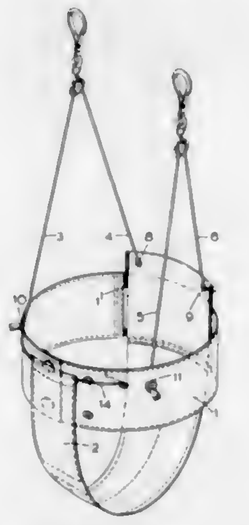
Emil O. Wagner, Lakewood, Colo.
(494 Carr St., Denver, Colo. 80226)
Filed Aug. 14, 1967, Ser. No. 660,339
Int. Cl. B60p *3/32;* **E04b** *7/16*
U.S. Cl. 296—27 **7 Claims**



This invention relates to an expandable camper or trailer body of the telescoping type that incorporates a garage door type torsion spring, together with a system of pulleys, cables and guides as the lift mechanism.

3,447,832
HARNESSES FOR BABY EXERCISERS

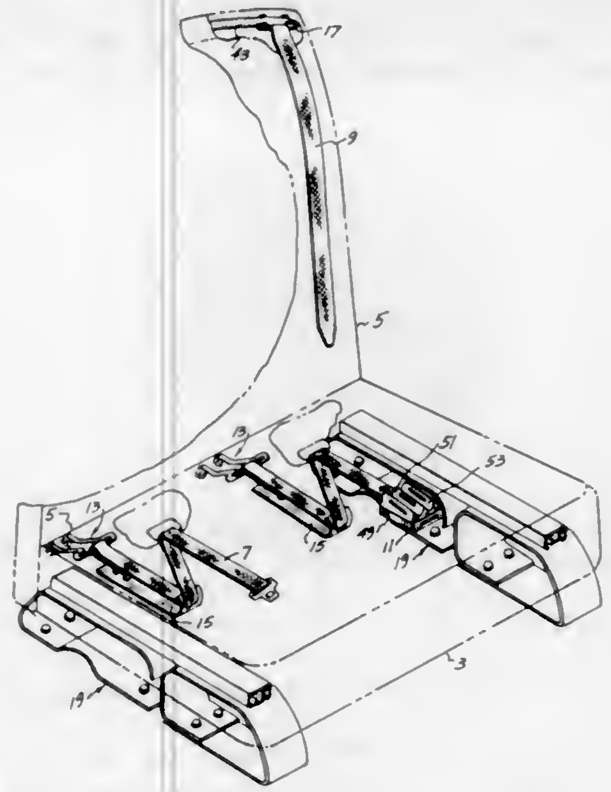
David Robert Shaw, Bromhope, near Leeds, England, assignor to Cindico (Products) Limited, Driffield, Yorkshire, England, a British company
Filed Dec. 23, 1966, Ser. No. 604,204
Claims priority, application Great Britain, Feb. 15, 1966, 6,497/66
Int. Cl. A63g *9/00*
U.S. Cl. 297—274 **2 Claims**



A harness for a baby exerciser having a body belt and a crotch strap, the harness being resiliently suspended from a support so that a young child is comfortably held in a position to touch the ground with his feet and bounce up and down. The body belt is adapted to be threaded through the crotch strap and the ends of the rear of two suspension members is connected to the end of the crotch strap in an arrangement in which the rear end of the crotch strap is movable lengthwise of the belt to centralize the points of connection of the rear two suspension members with respect to two front suspension members with adjustment in the length of the belt. The front end of the crotch strap likewise is adjustable lengthwise of the belt to center it as by connection to the belt by a flexible member such as a lace.

3,447,833
PASSENGER RESTRAINING SYSTEM

Herbert C. Rice, 16940 Log Cabin,
Detroit, Mich. 48203
Filed Sept. 13, 1967, Ser. No. 667,529
Int. Cl. B60r *21/10;* **A62b** *35/00*
U.S. Cl. 297—386 **10 Claims**

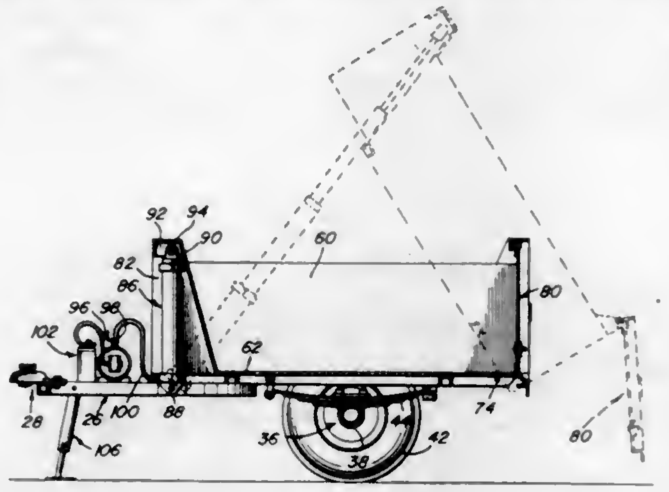


The subject matter of this invention is a passenger restraining system for smoothing out upon impact inertial forces and dissipating inertial energy by employing a unique anchorage. This anchorage in its preferred embodiment is formed from a bar and includes a pair of symmetrically disposed energy dissipating means including a pair of substantially parallel straight sections connected to a curved section. A restraining belt, for example, a shoulder belt is attached at one end to the anchorage whereby upon impact the curved sections open up to spread out inertial forces and dissipate inertial energy. Such anchorages can also be employed for lap belts. When both shoulder and lap belts are used, the shoulder belt anchorage is preferably attached to the back of the seat and one end of the shoulder belt is attached to this anchorage and the other end to the lap belt preferably by means of a combination lap belt-shoulder belt buckle employing the half-hitch principle. Further, the lap belt may be retracted when not in use by a pair of retractors formed from a resilient material.

3,447,834
DUMP LOAD BED FOR VEHICLES

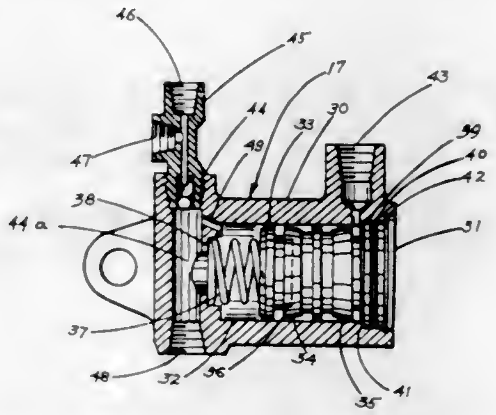
Tony W. Grosse-Rhode, 8233 Keystone Drive,
Omaha, Nebr. 68134
Filed Apr. 10, 1967, Ser. No. 629,672
Int. Cl. B60p *1/16;* **B62d** *33/08, 53/04*
U.S. Cl. 298—22 **3 Claims**

A trailer construction including a wheeled frame having front and rear end portions and a pair of upstanding longitudinally extending opposite side wall means supported from the rear end portion of the frame with a dump-type load bed supported from the frame between the side wall means and including upstanding front and opposite side walls interconnected adjacent their lower ends by means of a bottom wall, the rear end portion of the load bed being pivotally supported from the frame for swinging movement relative thereto about a horizontal axis extending transversely of the frame between a horizontal load carrying position and a forwardly and upwardly inclined dumping position and means being operatively connected between the forward end portion of the load bed and the frame operable to swing the load bed from the load carrying position toward the dumping position thereof.



3,447,835
VEHICLE BRAKE SYSTEM AND VALVE

Edwin H. Parkhurst, Jr., 3214 Rumson Road,
Cleveland Heights, Ohio 44118
Filed July 6, 1967, Ser. No. 651,407
Int. Cl. B60t *15/46, 15/16, 17/18*
U.S. Cl. 303—7 **5 Claims**

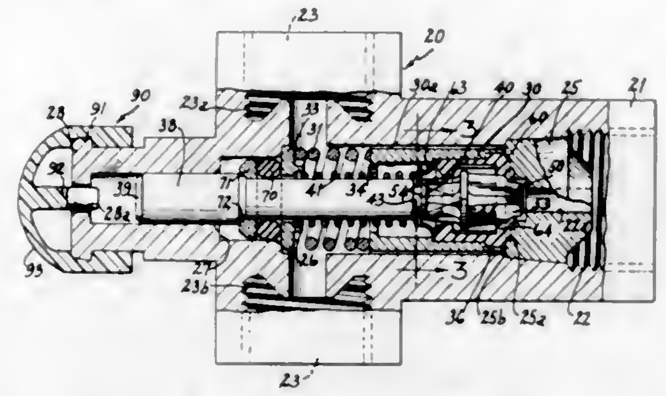


A brake system for a highway trailer, for use with a towing vehicle equipped with a split hydraulic braking system, actuated by a dual master cylinder. The system incorporates an isolation valve, connected to both ends of the split system of the towing vehicle, but is so arranged that it keeps the two ends isolated. In the event of loss of fluid from either end of the braking system of the towing vehicle, the brakes of the trailer will nevertheless be applied for a normal stop. If the connected end of the auto fails, the isolation valve causes the other end to apply pressure for trailer braking.

3,447,836
METERING VALVE

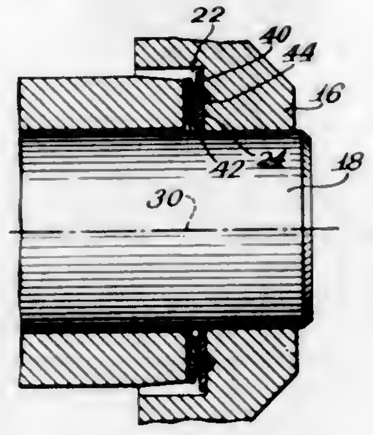
Roger E. Doerfler, Annapolis, Md., assignor to Hydrasearch Co., Inc., Annapolis, Md., a corporation of Maryland
Filed Feb. 21, 1968, Ser. No. 707,096
Int. Cl. B60t *13/12;* **G05d** *11/00;* **F15b** *7/06*
U.S. Cl. 303—6 **10 Claims**

Apparatus for metering hydraulic pressure from the master cylinder of a hydraulic brake system to the front disc brakes of a motor vehicle having a hybrid brake system. As is disclosed herein, the metering valve permits free hydraulic flow of hydraulic fluid to the front disc brakes up to a certain predetermined pressure level thus compensating for pressure and volume changes caused by temperature changes. Thereafter, upon brake application, the valve is closed off until a second pressure level is attained at which time the disc brakes are actuated. The valve includes a body having a bore connected between the inlet and outlet thereof, and a spool and coaxially mounted plunger, both being urged toward the inlet of the valve by separate springs. Interiorly of the spool is a poppet and a poppet retainer composed of a resilient material which urges the poppet towards the plunger, while the plunger spring tends to urge the plunger and thus the poppet towards the inlet allowing free flow of hydraulic fluid, or fluid communication between the master cylinder and the outlet of the valve. At a predetermined preset pressure level, the plunger moves away from its contact with the poppet permitting the poppet to close-off free hydraulic communication and at a second pressure level at the inlet, the entire spool moves away from the inlet against its spring pressure permitting hydraulic communication once again between the inlet and outlet.



3,447,837
TRACK PIN AND BUSHING SEAL ASSEMBLY

Jack M. Dell, Wheaton, and Ramiz Y. Hermiz, Addison, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,446
Int. Cl. B62d *55/26;* **B21k** *19/00;* **B23p** *11/00*
U.S. Cl. 305—11 **11 Claims**

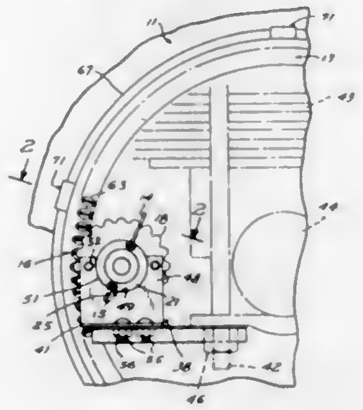


Track pin and bushing seal assembly made of relatively rotatable and relatively fixed thrust washers, the fixed one being flat and taking a permanently self-anchored position during assembly, and the other washer flattening elastically from an initial frustoconical shape so as to store energy for automatic axial wear take-up.

3,447,838
ANTISKID SYSTEM FOR MOTOR VEHICLES HAVING AIRBRAKES

Girard S. Haviland and Murray A. Gerber, West Hartford, and Francis W. Stager, Stafford Springs, Conn., assignors to The Jacobs Manufacturing Company, West Hartford, Conn., a corporation of New Jersey
Filed Dec. 6, 1967, Ser. No. 688,427
Int. Cl. B60t *8/02;* **F16h** *57/06*
U.S. Cl. 303—21 **9 Claims**

An antiskid system designed to sense and avoid wheel lock-up and consequent skidding of a wheel of a motor vehicle equipped with airbrakes The system includes a skid sensing and brake control unit mounted upon a stationary part of the vehicle and interconnected in the usual airbrake service lie between the air pressure brake chamber of a particular wheel and the pressure air service tank. A rotary inertia flywheel mechanism in the unit is driveably associated by gearing with the wheel. The flywheel mechanism acts in response to rapid changes in deceleration occurring between the wheel and the vehicle to oscillate or rapidly shuttle an air service control valve between a normal condition allowing service air flow to the brake chamber and a reverse condition blocking service air flow and venting the brake chamber. This action of the flywheel and valve continues until the wheel is finally braked to a stop. A ring gear supported by a group of universal bracket elements to the rim of the wheel serves to transmit rotation of the wheel through a drive pinion of the control unit to the flywheel. A universal bracket mounting the control unit to the vehicle is adjustable according to the mounted position of the ring gear so as to properly mesh the pinion with the ring gear. The pinion and ring gear also cooperate with one another to be self-cleaning.

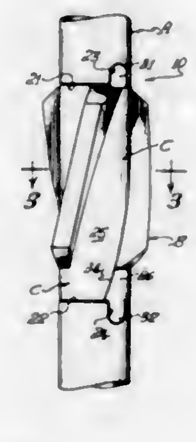


ERRATUM

For Class 305—11 see:
Patent No. 3,447,837

3,447,839
WELDED DRILL BLADE STABILIZER

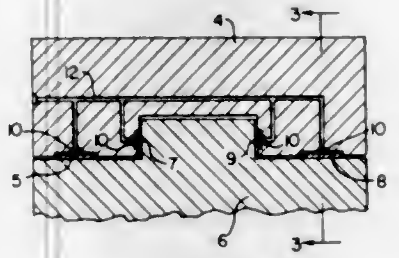
Albert H. Salvatori, 4 Queen's Gate Place, London SW. 7, England
Filed Jan. 9, 1967, Ser. No. 608,140
Int. Cl. F16c *17/02, 31/02*
U.S. Cl. 308—4 **2 Claims**



A drill string stabilizer comprising a sleeve of longitudinally mating sections mounted on an elongated tubular body, wherein the sleeve has a protrusion extending into a mating indentation in a shoulder of the body preventing relative rotation therebetween.

3,447,840
BEARING MEANS

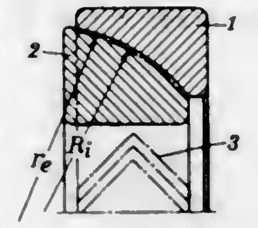
Albert V. Gress, Jr., Dayton, Ohio, assignor to The Bendix Corporation, a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,615
Int. Cl. F16c *1/24, 33/10, 33/74*
U.S. Cl. 308—5 **2 Claims**



Bearing means are disclosed for providing frictionless movement between two relatively movable members in which a commercial grade of plate glass is used as the way surface for the two members. The continuous strip of glass forms the way surface and also provides the reaction surface for a hydrostatic bearing.

3,447,841
DYNAMIC/STATIC SLIDING BEARING

Ingemar Fernlund, Hindas, Sweden, assignor to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,904
Claims priority, application Sweden, June 3, 1966, 7,596/66
Int. Cl. F16c *7/04, 35/00, 17/00*
U.S. Cl. 308—9 **4 Claims**

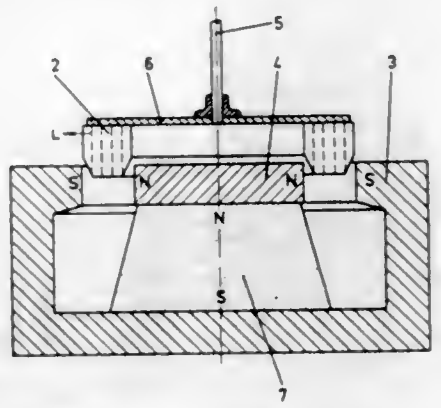


A sliding bearing capable of withstanding thrust and radial loads comprising a stationary member and a rotatable member adapted for relative sliding movement having coacting confronting sliding surfaces between which a pressure medium such as a lubricant is introduced. At least one of the sliding surfaces of one member is formed with shallow grooves arranged in a manner so that upon relative rotation of the sliding surfaces, the fluid pressure medium is pumped toward the central transverse plane of the bearing creating a pressure supporting the members to bear the load in a satisfactory manner.

3,447,842
DIAMAGNETIC BODY

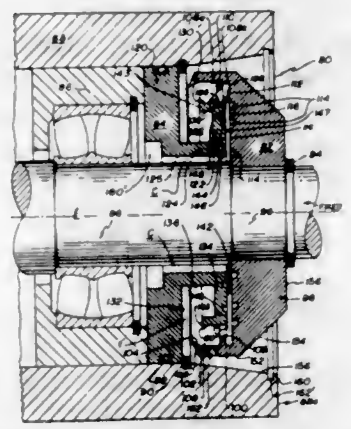
Erich Steingroever, Bonn, Germany, assignor to Magnetfabrik Bonn GmbH., vorm. Gewerkschaft, Windhorst, Bonn, Germany
Filed Oct. 20, 1965, Ser. No. 498,542
Claims priority, application Germany, Oct. 30, 1964, M 62,945
Int. Cl. F16c *35/00, 39/06*
U.S. Cl. 308—10 **7 Claims**

A magnetic suspension system for a rotatable armature wherein the armature is attached to a ring of diamagnetic material disposed in an air gap between the poles of an annular magnetic field with the diamagnetic material composed of anisotropic crystals being magnetically oriented.



3,447,843
SEAL DEVICE

George Shipman, Ontario, Calif., assignor to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada
Original application July 6, 1964, Ser. No. 380,434, now Patent No. 3,343,891, dated Sept. 26, 1967. Divided and this application Apr. 3, 1967, Ser. No. 644,042
Int. Cl. F16c *1/24, 33/72;* **F16j** *15/42*
U.S. Cl. 308—36.4 **4 Claims**

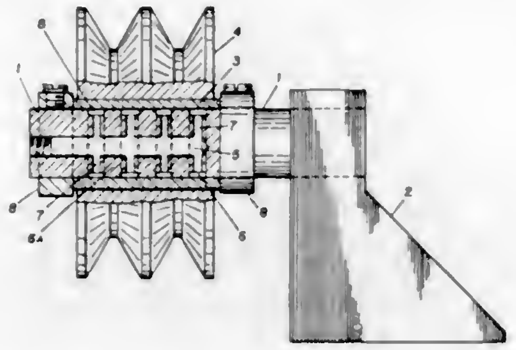


An improved seal or guard device for use in closing the space between a shaft and a bearing assembly therefor wherein the improved seal or guard includes elements having uniquely arranged walls, ribs and flanges which provide a tortuous access path to the bearing assembly whereby entry of foreign material into the bearing assembly is inhibited.

3,447,844
BEARING SYSTEMS

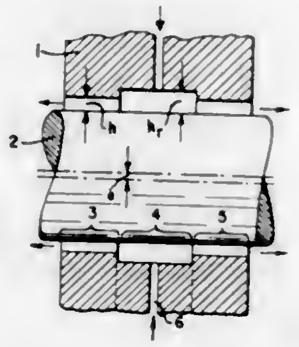
Richard H. Weichsel, Hudson, Ohio, assignor to The Apex Bearings Company, a corporation of Ohio
Filed Mar. 9, 1967, Ser. No. 623,507
Int. Cl. F16c *1/24, 3/08, 33/66*
U.S. Cl. 308—93 **7 Claims**

A stationary shaft is provided having a central bore, a plurality of spaced peripheral grooves, and conduit means leading from the central bore to the peripheral grooves. A stationary porous sleeve is mounted on said shaft and covers said grooves and a member, such as a pulley, is rotatable on said sleeve which pulley has a close tolerance with the sleeve but sufficient to enable a thin film of gas to be formed between the sleeve and the pulley. The sleeve is preferably composed of spherically-shaped copper particles encapsulated by sintered tin in the form of venturi-shaped pores and means is provided for passing a gas through the central bore of the shaft and the radial conduit means to said grooves and from thence through the venturi-shaped pores in said sleeve which restrict the flow of the gas which gas after passing through the porous sleeve expands to form a thin uniform bearing between the porous sleeve and the rotatable member. The thickness of the sleeve should be sufficient to support the static or at rest load at the working surface and the width of the peripheral grooves and the lands between them should be approximately the same thickness as the sleeve and the depth of the peripheral grooves should be approximately one-half of the thickness of the sleeve.



3,447,845
GAS BEARING

Dieter Thomaier, Heidelberg, and Heinz Riethmüller, Heidelberg-Kirchheim, Germany, assignors to TELDIX Luftfahrt-Ausrustungs G.m.b.H., Heidelberg-Wieblingen, Germany
Filed Mar. 3, 1967, Ser. No. 620,512
Claims priority, application Germany, Mar. 3, 1966, T 30,579
Int. Cl. F16c *1/24, 33/66, 13/02*
U.S. Cl. 308—122 **10 Claims**

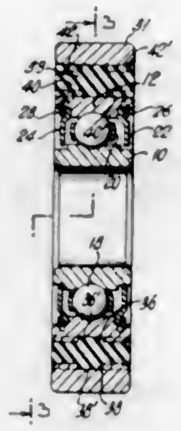


A gas bearing composed of a floated part of circular cross section and disposed in a hollow recess of circular cross section formed in a housing so as to create an air gap between the inner housing wall and the outer surface of the floated part, the air gap having an annular portion of increased radial depth disposed substantially midway between the axial extremities of the gap, the bearing being provided with but a single ring of gas inlet conduits extending through the housing and communicating directly with the annular portion of the air gap.

3,447,846
BEARING MOUNT ASSEMBLY

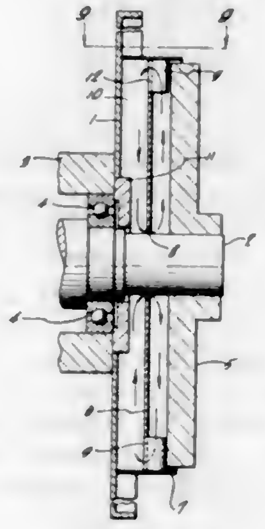
Donald R. Marsh, Westfield, Conn., assignor, by mesne assignments, to Textron, Inc., Providence, R.I., a corporation of Delaware
Original application Aug. 9, 1965, Ser. No. 478,091, now Patent No. 3,348,289, dated Oct. 24, 1967. Divided and this application Sept. 26, 1967, Ser. No. 684,082
Int. Cl. F16c *27/00*
U.S. Cl. 308—184 **3 Claims**

1. A bearing comprising
a generally rigid assembly ring having an accurately machined outer peripheral surface,
a bearing outer ring sized to fit with annular clearance within the assembly ring,
a mass of resilient material having a durometer hardness rating generally within the range of from 50 to 80 and being placed in the annular clearance between the bearing outer ring and the assembly ring to resiliently support the bearing outer ring within the assembly ring with the bearing outer ring having a race formed therein after support thereof by said resilient mass of material,
an annular metallic structure having a generally annular central portion and a plurality of tabs extending therefrom,
said annular metallic structure being sized and shaped to fit within the mass of resilient material with selected tabs contacting the bearing outer ring and assembly ring in electrical and heat conducting relationship,
a bearing inner ring having a race, and
antifriction elements between said bearing inner and outer rings and positioned for movement in said races.



3,447,847
ROTATABLE SHAFT SEALING ARRANGEMENT

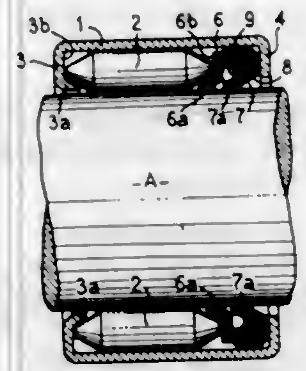
Alpheus F. Stansell, West Covina, and Shahbuddin A. Billawala, Los Angeles, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 12, 1967, Ser. No. 638,053
Int. Cl. F16c *1/24, 33/78;* **F16j** *15/54*
U.S. Cl. 308—187.1 **9 Claims**



A rotatable shaft passes through a stationary wall. A rotary member mounted on the shaft near the wall has a surface extending outwardly from the length of the shaft. A chamber is formed that encloses the point at which the shaft passes through the wall on the side of the rotary member. The air displaced by the rotary member as the shaft rotates is directed into the chamber to raise the pressure therein. Preferably, the pressure in the chamber is raised until it equals or exceeds the pressure on the opposite side of the wall.

3,447,848
JOURNAL ROLLING BEARING HAVING A BUILT-IN SEALING ELEMENT

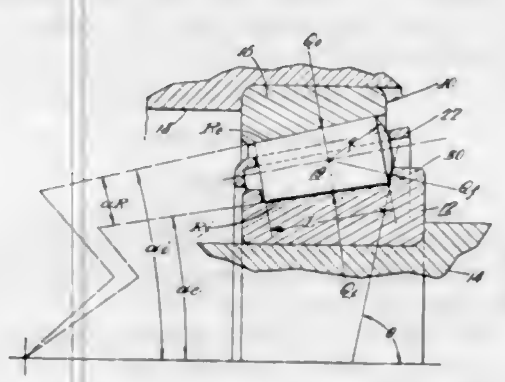
Alfred Pitner, Paris, France, assignor to Nadella S.A., a French body corporate
Filed June 21, 1966, Ser. No. 559,216
Claims priority, application France, June 24, 1965, 22,074
Int. Cl. F16c *33/78;* **F16j** *15/32*
U.S. Cl. 308—187.2 **12 Claims**



Needle bearing comprising a thin-hardened outer ring with a radial shoulder at each end, means for retaining the needles, a plane washer adjacent one end of the needles for axially guiding the needles, the periphery of the washer defining with the outer ring an annular space and an annular flexible sealing element located between the washer and one of the shoulders of the ring and terminating axially short of the annular space, the sealing element being capable of being inserted in the ring by bending the middle plane or mean circumference thereof.

3,447,849
TAPERED ROLLER BEARING ASSEMBLY

Tedric A. Harris, Warminster, and Frank W. Wellons, Devon, Pa., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,634
Int. Cl. F16c *19/36*
U.S. Cl. 308—214 **3 Claims**



A tapered roller bearing assembly comprising inner and outer rings spaced apart to define therebetween an annular space, at least a portion of the confronting surfaces of the rings being angularly disposed relative to the rotational axis of the bearing to define frustoconical inner and outer raceways, a plurality of tapered rollers in the annular space, the large diameter end face of each roller being sphered. At least one flange at one end of one of the rings has a conical load bearing surface confronting the sphered ends of the rollers, the end sphere radius R of each of the rollers being approximately equal to

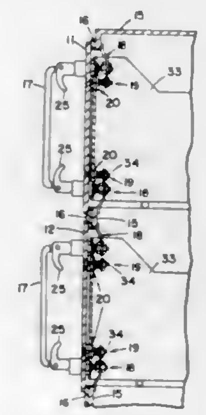
$$\sqrt{\left(\frac{D}{2}\right)^2+L\left[1-\frac{1}{3}\left(\frac{3D-\alpha_R L}{2D-\alpha_R L}\right)\right]^2}$$

where D is the large roller end diameter, L is the roller length and α_R is the roller included angle. The conical load bearing surface is disposed at an angle θ relative to the raceway of one ring, the angle θ being approximately equal to

$$+\alpha_e+\frac{\alpha_R}{2}+\arctan\left[\frac{D}{L\left[1-\frac{1}{3}\left(\frac{3D\alpha_R L}{2D\alpha_R L}\right)\right]}\right]-90$$

3,447,850
SEALED CABINETRY

Robert Samson, Scottsdale, Ariz., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 22, 1967, Ser. No. 640,154
Int. Cl. A47b *96/00, 88/20*
U.S. Cl. 312—296 **5 Claims**



A cabinet sealed against electromagnetic radiation having a plurality of drawers with spring tensioned drawer fronts which float with respect to the drawer frame permitting the drawer front to seal against a deformable electromagnetic radiation sealing strip. Two adjacent drawer fronts may share a common sealing strip without leakage.

3,447,851
FERRIMAGNETIC LIGHT TRANSMISSION GARNETS

Joseph P. Remeika, Warren Township, Somerset County, and Darwin L. Wood, Murray Hill, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 8, 1965, Ser. No. 506,665
Int. Cl. G02b *13/14*
U.S. Cl. 350—1 **7 Claims**

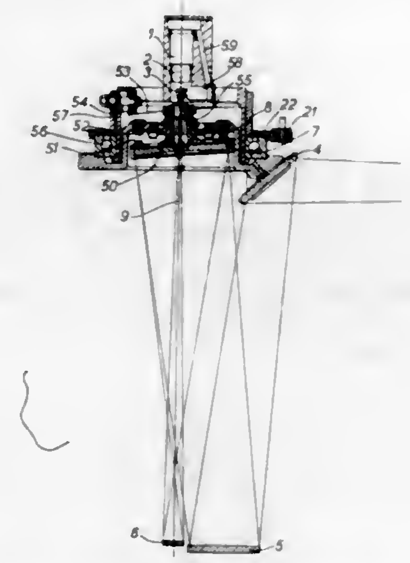
Light transmission devices for use in the near infrared are discussed. These devices comprise single crystal bodies of ferrimagnetic rare earth iron garnet compositions. Divalent and tetravalent dopant ions such as Ca^{2+}, Zn^{2+}, Mg^{2+}, Si^{4+}, Sn^{4+}, and Ge^{4+} are added to increase the percentage of trivalent iron in said compositions.

3,447,852
SCANNING APPARATUS

Boris Victorien Barlow, Edgware, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company
Filed Dec. 21, 1965, Ser. No. 515,364
Claims priority, application Great Britain, Jan. 2, 1965, 200/65
Int. Cl. G02b *27/18*
U.S. Cl. 350—7 **8 Claims**

Scanning apparatus designed to scan a target, e.g. a human being, having a sensor device and a plurality of plane mirrors mounted for rotation about the path along which the radiation must reach the sensor. The plane mirrors are sequentially opeartive and reflect the radiation from an elemental area of the target onto a concave mirror having a hole through which the said path passes, the concave mirror facing away from the sensing device.

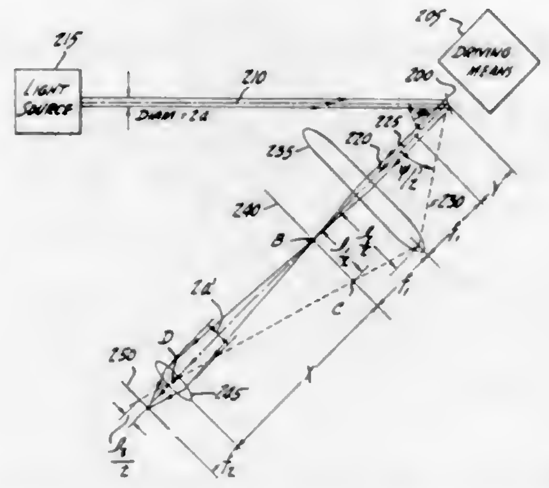
This concave mirror reflects the radiation onto a fixed concave mirror which has its axis colinear with the said path, which faces the sensor and which reflects the radiation along the said path. The first-mentioned concave mirror is disposed with its axis at a small angle to that of the path and rotates with the rotatable member. As each of the plane mirrors begins its scan the first-mentioned concave mirror is tilted to a particular angular position and remains in the same angular relationship with that plane mirror as that plane mirror performs its scan.



3,447,853
LIGHT DEFLECTING APPARATUS

William Henry Barkow, Pennsauken, and Daniel Brasen, Hightstown, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed July 30, 1965, Ser. No. 476,000
Int. Cl. G02b *17/06*
U.S. Cl. 350—7 8 Claims



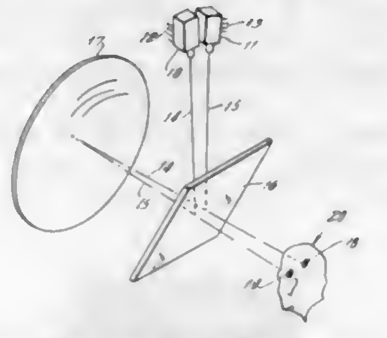
Apparatus in which a first lens collects a deflected beam of light and focuses it to a diffraction limited spot and in which a second lens is positioned where the first lens reduces the deflection substantially to zero for focusing the diffraction limited spot to a reduced size.

3,447,854
THREE-DIMENSIONAL VIEWER

Robert L. Minter, Smithtown, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Filed Aug. 18, 1965, Ser. No. 480,584
Int. Cl. G03b *27/22;* **G02b** *17/00*
U.S. Cl. 350—131 3 Claims

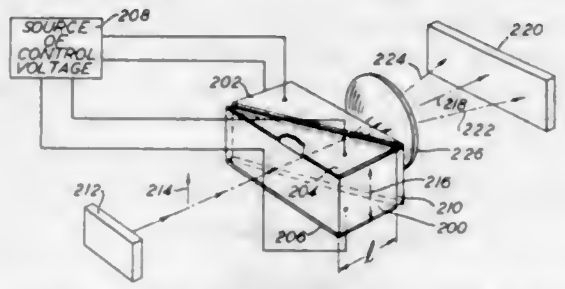
A three-dimensional viewer is disclosed wherein a pair of projectors direct converging right and left hand image beams along coplanar optical axes of predetermined angular relation, a beam splitting mirror intercepts and redirects the converging beams toward a crossover point, a spherical reflector of concave form disposed at or adjacent the crossover point acts as a field lens to reflect the image beams through the beam splitting mirror in a transposed, divergent axis relationship to define two exit pupils at the viewing position.



3,447,855
ELECTRO-OPTICAL BEAM DEFLECTION APPARATUS

John G. Skinner, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 4, 1965, Ser. No. 461,418
Int. Cl. G02f *1/26;* **H04q**
U.S. Cl. 350—150 19 Claims

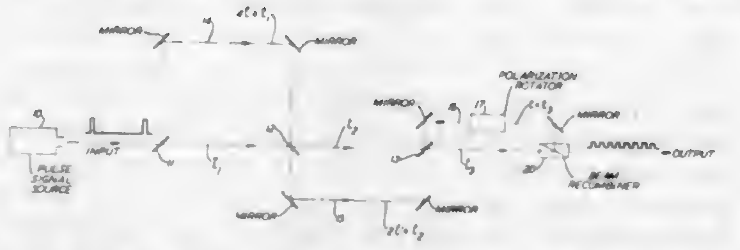


An optical beam deflecting device for increasing the deflection of a radiant beam in a straight-line path includes two right-angle electro-optic prism elements positioned with their oblique faces in parallel registry to form a rectangular parallelepiped. An intermediate element disposed between the right-angle prisms electrically isolates one prism from the other. Variable voltages applied to the prisms cause the index of refraction of each prism to change, allowing push-pull deflection to either side of a central point of nondeflection or additive deflection to one side only of the central point.

3,447,856
OPTICAL PULSE MULTIPLIER

Owen E. De Lange, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Oct. 7, 1966, Ser. No. 584,998
Int. Cl. G02f *1/26*
U.S. Cl. 350—150 4 Claims



1. A pulse multiplier for increasing the pulse repetition rate of optical pulses by a factor of 2^n, where *n* is an integer, comprising:

a plurality of *n* beam splitters longitudinally distributed along a first wavepath for successively dividing optical pulses incident thereon into two equal portions and for coupling one of said portions out of said first wavepath;

a beam recombiner for recombining along a common wavepath orthogonally polarized optical pulses propagating along two different directions;

means for directing that portion of said pulses coupled out of said first wavepath by said beam splitters along distinctly different parallel delay loops of unequal lengths and for directing the pulses in each of the first $(n-1)$ delay loops onto the next successive beam splitters along said first wavepath;

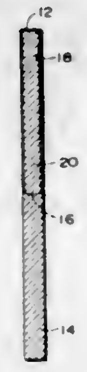
means for introducing a 90 degree relative rotation between the directions of polarization of the pulses in said first wavepath and the pulses in said *n*th delay loop;

and means for directing the pulses in the *n*th delay loop along with the pulses in said first wavepath onto said beam recombiner.

3,447,857
METHOD OF SELECTIVE STRESSING AND BIREFRINGENT ARTICLE

John S. McCartney, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Aug. 19, 1965, Ser. No. 481,034
Int. Cl. G02f *1/24*
U.S. Cl. 350—157 4 Claims

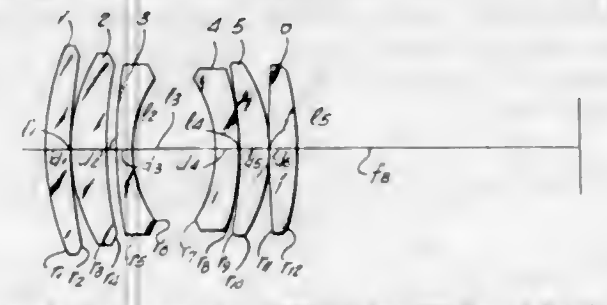


The present invention relates to a glass article having a varying birefrigence, and to a method of producing such article by imparting compressive stress within a selected portion of a surface zone on the article. It is particularly concerned with such a glass article having a major plane and two major axes which are generally perpendicular to one another, the article being adapted to transmit light perpendicular to the major plane and, with respect to such transmitted light, exhibiting a birefrigence pattern such that the birefringence is substantially uniform along one axis and varying along the other.

3,447,858
PHOTOGRAPHIC OBJECTIVE OF LARGE DIAMETER AND BACK FOCAL LENGTH COMPRISING SIX LENSES

Tomokazu Kazamaki and Toru Matsumoto, Itabashi-ku, Tokyo-to, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

Filed Dec. 17, 1964, Ser. No. 419,146
Claims priority, application Japan, July 15, 1964, 39/39,911
Int. Cl. G02b *1/00, 9/62*
U.S. Cl. 350—176 1 Claim



An objective lens system of focal length *f* and having a long back focal length includes six separate individual lenses, the first, second, fifth and sixth lenses being positive, and the third and fourth lenses being negative, said lens system possessing the following parameters:

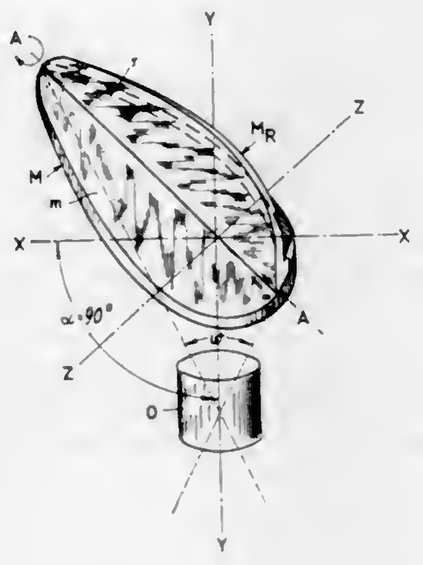
$$f_{1234}\geq 0.5f \qquad l_2\leq 0.06f$$
$$f_{123456}\geq 2f \qquad d_4\geq 0.04f$$
$$|f_{123\,\ldots\,8}|\leq 5f \qquad n_4\geq 1.67$$
$$r_2\geq f,\ r_4\geq 0.08f,\ |r_9|\leq 2f,\ r_{11}\geq f,\ \nu_5\geq 40,\ \nu_6\geq 40,\ \nu_4\leq 30$$

wherein $f_{123\,\ldots\,n}$ is the resultant focal length of the lenses between the subscript designated faces, l_2 is the axial distance between the confronting faces of the second and third lenses, d_4 is the axial thickness of the fourth lens, n_4 is the index of refraction of the fourth lens, r_n is the radius of curvature of the corresponding subscript designated lens face, and ν_n is the ν-value of the corresponding subscript designated lens.

3,447,859
COMPACT COMBINATION OF A SEPARATELY USABLE PLANE MIRROR AND ROOF MIRROR

Henry A. Giesecke, Valley Stream, N.Y., assignor to Apromat, Inc., Barrington, Ill., a corporation of Delaware

Filed May 3, 1965, Ser. No. 452,628
Int. Cl. G02b *17/00, 5/08;* **G02f**
U.S. Cl. 350—203 6 Claims



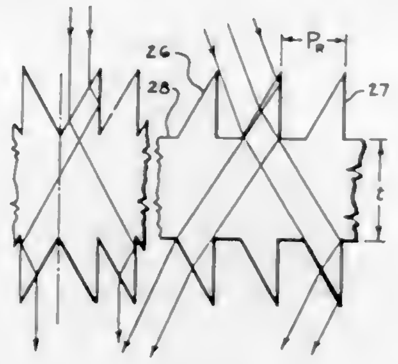
A unitary mirror structure, one portion of which has a mirror surface for direct-vision projection through a lens system as well as an additional mirror surface which cooperates with a mirror surface on another portion to form a roof mirror for laterally reversed projection. The structure is rotatable between positions for direct-vision and reversed projections, the axis of rotation being disposed in parallel to and at equal distances from the roof edge as well as the center line of the first-mentioned mirror surface.

3,447,860
LARGE APERTURE ACHROMAT OBJECTIVE

James W. Lucas, 1480 N. Doheny Drive, Los Angeles, Calif. 90069

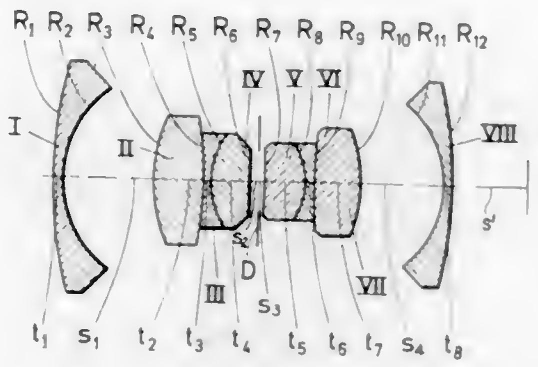
Continuation-in-part of application Ser. No. 270,493, Mar. 29, 1963. This application July 3, 1967, Ser. No. 655,989
Int. Cl. G02b *3/08*
U.S. Cl. 350—211 4 Claims

A lens including at least one element containing a multiplicity of grooves or ridges wherein bending of light rays is accomplished by internal reflection rather than by refraction. A concentrically grooved element may be employed as a light gathering system. An image forming lens is disclosed having two elements, the first of which has concentric or spiralled grooves on both surfaces, and the other of which has radial grooves on both surfaces.



3,447,861
WIDE ANGLE OBJECTIVE

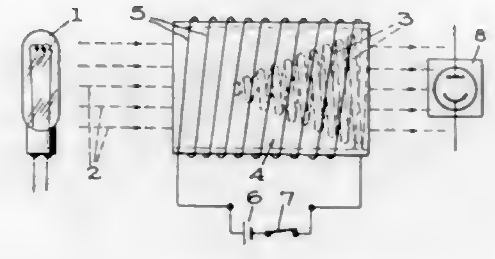
Franz Schlegel, Munich, Germany, assignor to Optische Werke G. Rodenstock, Munich, Germany
Filed July 19, 1966, Ser. No. 567,330
Claims priority, application Germany, Aug. 19, 1965, O 11,075
Int. Cl. G02b *9/34*
U.S. Cl. 350—220 **1 Claim**


R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12
I
II
III
IV V VI
VII
VIII
D
t1 s1 t2 t3 t4 s3 t5 t6 t7 s4 t8
s'

A wide-angle objective of the modified symmetrical type has two outer, negative meniscus lenses made of the same crown glass having abnormal dispersion characteristics, and two cemented triplets air spaced from each other and from the meniscus lenses. The refractive indices of the glasses used in the triplets increase in an outward direction. The middle glass of each triplet is an asymmetrical biconcave lens made of telescope flint. Specific data are given.

3,447,862
LIGHT VALVE SYSTEM

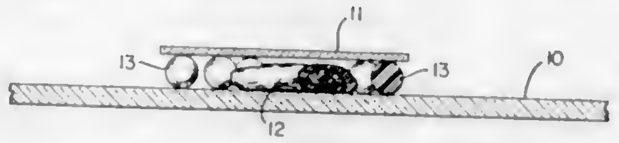
Marlin Elpern, 8217 Greymont St., Hyattsville, Md. 20785
Filed Aug. 19, 1966, Ser. No. 573,562
Int. Cl. G02f *1/32*
U.S. Cl. 350—269 **14 Claims**



This invention encompasses a light valve consisting of an expandable coil spring, actuated either by a magnetic field or by mechanical means.

3,447,863
METHOD FOR PREPARING A SLIDE FOR VIEWING

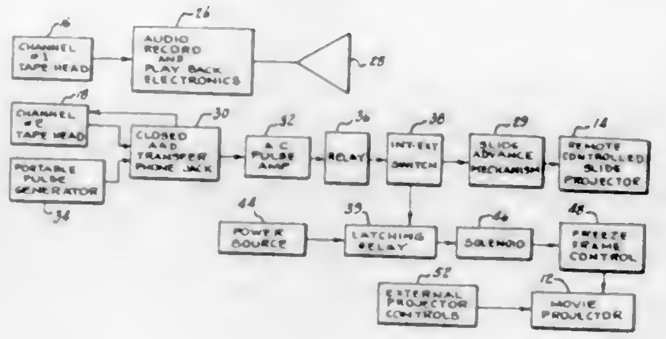
James A. Patterson, Los Altos, Calif., assignor to Sodell Research & Development Company, Palo Alto, Calif.
Filed July 11, 1966, Ser. No. 564,411
Int. Cl. G02b *21/34*
U.S. Cl. 350—320 **7 Claims**



A method for preparing a slide for viewing a specimen in fluid wherein spacer beads formed from cross-linked polymers (styrene-divinyl benzene) are inserted between a microscope slide and cover therefor surrounding the specimen and held in place by capillary attraction.

3,447,864
AUTOMATICALLY SYNCHRONIZED VISUAL AND SOUND PRESENTATION SYSTEM

Miles A. Shadley III, 15964 Dundee Blvd., Dundee, Mich. 48131
Filed Oct. 18, 1965, Ser. No. 497,258
Int. Cl. G03b *31/06*
U.S. Cl. 352—17 **12 Claims**

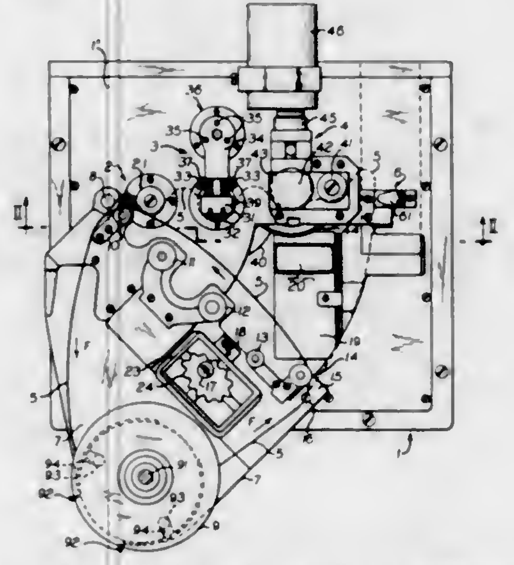


A dual channel tape recorder is used to record sound narration on one channel of a tape while control signals are recorded on a second channel. The control signals are produced by a hand-held signal generator which is plugged into a phone jack on the recorder. A switch is provided such that the signals may be selectively applied either to a slide projector or to the stop-frame mechanism of a motion picture projector. The signals from the signal generator may be used to control the selected projector simultaneously with their recording on the tape.

3,447,865
PORTABLE APPARATUS FOR CONTINUOUS CINEMATOGRAPHIC PROJECTION OF A FILM CONTAINED IN AN INTERCHANGEABLE CHARGER

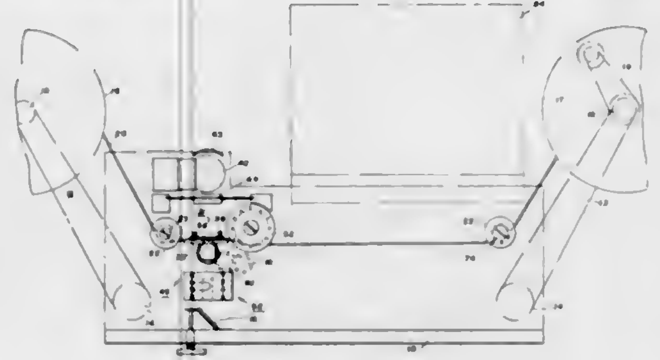
Angelo Bottani, Milan, Italy, assignor to Società Internazionale Fonovisione S.p.A., Milan, Italy, a corporation of Italy
Filed June 20, 1966, Ser. No. 558,839
Claims priority, application Italy, June 24, 1965, 14,064/65
Int. Cl. G03b *31/02*
U.S. Cl. 352—27 **15 Claims**

A portable film projector in which the film drive mechanism, the sound reproduction unit and the projection unit are mounted on the base in a fixed position. The device for supporting the film reel is mounted on a pivotable plate and can be rotated away from its operating position so that the film can be changed.



3,447,866
SLIP-IN LOADING FOR FILM EDITORS

Raymond A. Heisler, 657 Dakota Trail, Franklin Lakes, N.J. 07417
Filed Oct. 6, 1966, Ser. No. 584,703
Int. Cl. G03b *41/08*
U.S. Cl. 352—119 **12 Claims**

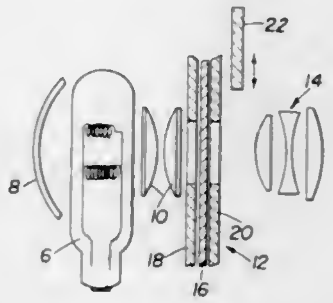


A film editor has a rotating prism interconnected with the shaft of a sprocket roller such that the prism is driven by the film passing about the sprocket roller. The sprocket roller is mounted such that it may be rotated relative to its shaft for synchronizing the film frame with the prism. The sprocket roller has a concave peripheral surface with a groove near one edge for guiding the film and is mounted adjacent one end of a film gate in a position such that the film will be deflected slightly from the plane of the film gate. Two guide rollers having concave peripheral surfaces are positioned, one adjacent the opposite end of the film gate from the sprocket and one between the sprocket and the take-up reel, for maintaining the film in a prescribed path and maintaining the film in contact with the sprocket. The components are spaced apart sufficiently for the film to be inserted laterally into its path through the editor.

3,447,867
FOCUS COMPENSATING MECHANISM FOR SINGLE FRAME PROJECTION

Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 532,688, Mar. 8, 1966. This application June 3, 1968, Ser. No. 739,926
Int. Cl. G03b *3/00*
U.S. Cl. 352—140 **5 Claims**

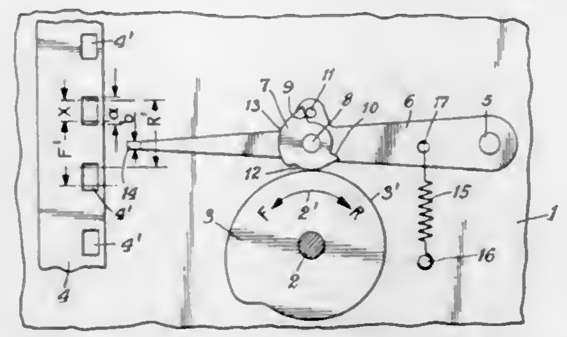
1. A moving picture projector comprising:
a film gate;
means for transporting a film through said film gate;
means for illuminating said film;
an objective lens system defining an optic path and forming a projected film image onto a screen;
control means for said film transporting means movable between a running position, in which said film is transported through said film gate along one path for projecting moving pictures in focus on said screen, and a still position, in which said film transport is stopped for projecting a single frame of film and said film assumes a different path in said film gate due to the heat from said projection lamp, causing the projected image to be shifted out of focus; and



optical compensating means movable between a first position, in which said optical compensating means is held out of said optic path when said control means is in its running position, and a second position, in which said optical compensating means is interposed in said optic path between said film gate and objective lens system to correct said out of focus condition when said control means is in its still position.

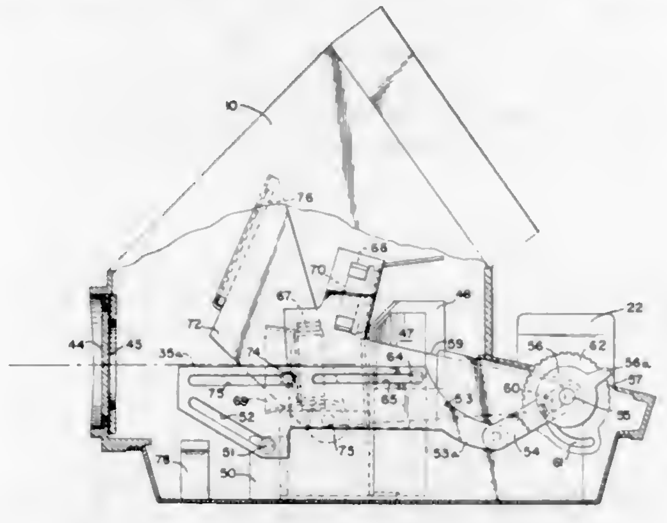
3,447,868
MOTION PICTURE PROJECTOR

Fritz Krumbein, Stuttgart-Mohringen, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany
Filed Sept. 14, 1966, Ser. No. 579,287
Claims priority, application Germany, Oct. 8, 1965, Z 11,799
Int. Cl. B65h *17/40;* **G03b** *1/22*
U.S. Cl. 352—173 **8 Claims**



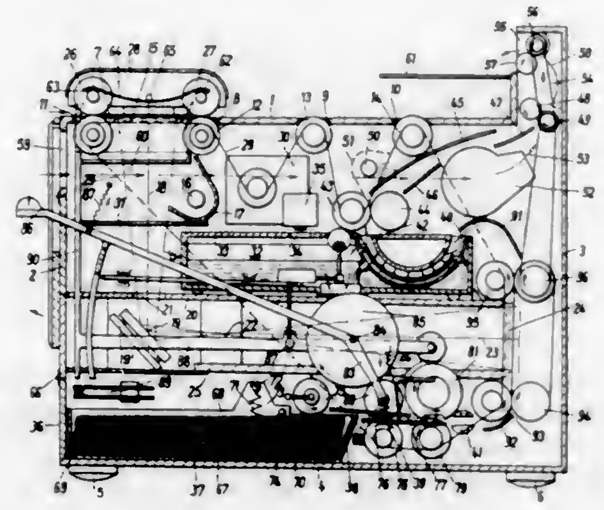
A motion picture projector is provided with a reversible cam disc drive for the film strip conveying claw. A cam disc is selectively rotatable in opposite directions and its circumference is engaged by a slide member arranged on and between the ends of the film strip conveying claw. The slide member is so constructed that different portions of the same can be brought in engagement with the cam disc depending on the direction in which the cam disc is rotated, so that automatically the displacement of the film picture in the picture window of the projector is corrected when the direction of movement of the film strip is changed.

3,447,869
SLIDE PROJECTOR-VIEWER AND SLIDE CHANGING DEVICE THEREFOR
Oleg Szymber, Chicago, Ill., assignor to GAF Corporation, a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,962
Int. Cl. G03b *21/10*
U.S. Cl. 353—71 **18 Claims**



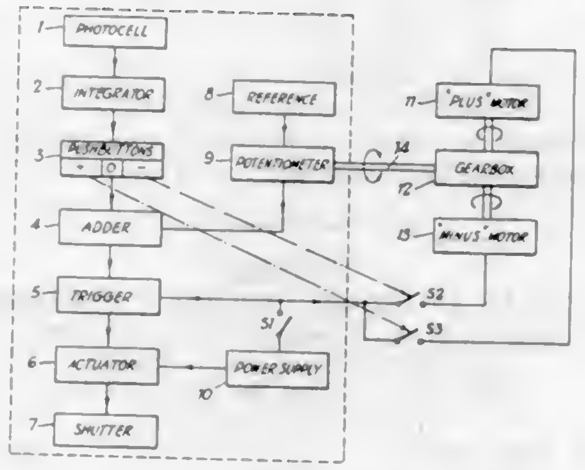
The projector-viewer includes movably mounted lenses and a mirror permitting alternate projection on a remote screen and viewing on a rear projection screen, the latter forming part of the device itself. The projector-viewer is adapted for alternately receiving two different slide changing devices. One slide changing device detachably receives and supports a vertically oriented annular or disk-like slide carrying member, the latter supporting a plurality of slides in circumferential spaced relation. The other slide changing device cooperates with stack-type supply and take-up magazines forming part of the projector-viewer device itself for advancing slides one at a time from the supply magazine, to the projection gate and then to the take-up magazine.

3,447,870
APPARATUS FOR PRODUCING COPIES
Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany
Filed Apr. 19, 1966, Ser. No. 543,655
Claims priority, application Germany, Apr. 23, 1965, L 50,549
Int. Cl. G03g *15/04*
U.S. Cl. 355—3 **2 Claims**



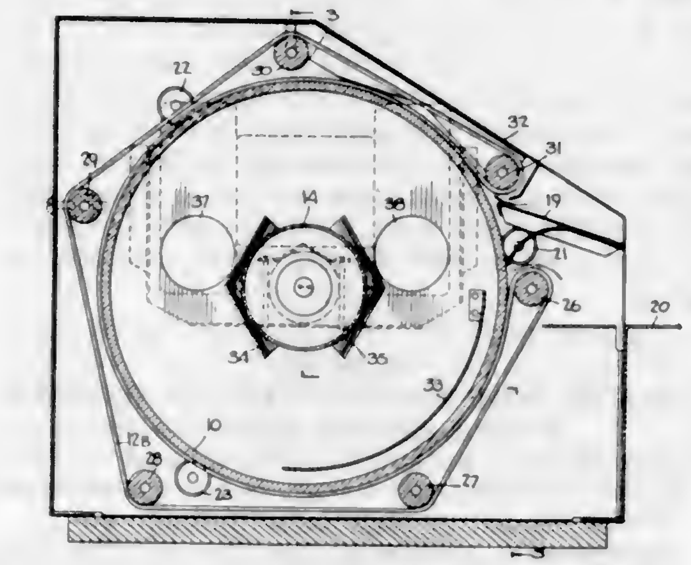
An apparatus for producing copies of an original by the electro-photographic method in which the housing of the apparatus is divided into a number of superimposed zones. At one end of the upper surface of the housing a delivery slot is formed for discharging copies from the housing. Adjacent the delivery slot within the topmost zone in the housing is a fan which draws air into the zone through a vent hole at the opposite end with the air passing over heat emitting devices before combining with a radiation heater for improving the drying efficiency for the copies passing to the delivery slot.

3,447,871
PHOTOGRAPHIC COLOUR PRINTERS AND PROCESSES
Denis M. Neale, Ilford, England, assignor to Ilford Limited, Essex, England, a British company
Filed Jan. 4, 1966, Ser. No. 518,683
Claims priority, application Great Britain, Jan. 4, 1965, 294/65
Int. Cl. G03b *27/76, 27/04*
U.S. Cl. 355—18 **5 Claims**



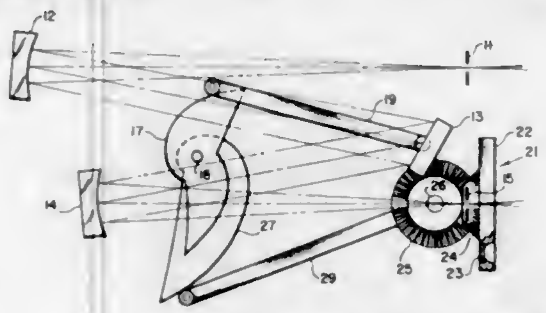
Method and apparatus for printing transparencies onto photographic print material wherein the printing is automatic and self-optimizing. The printer initially prints all types of negatives indifferently, but as the various negatives are returned for reprinting with pushbutton corrections, stepping motors progressively move potentiometers controlling various predetermined exposure integrals so that each type of negative is finally printed in optimum color and density balance.

3,447,872
ULTRAVIOLET EXPOSURE DUPLICATING MACHINE FOR MICROFILM
William A. Pfaff, Centerport, N.Y., assignor to NB Jackets Corporation, Long Island City, N.Y., a corporation of New York
Filed May 26, 1966, Ser. No. 553,153
Int. Cl. G03b *27/10*
U.S. Cl. 355—110 **8 Claims**



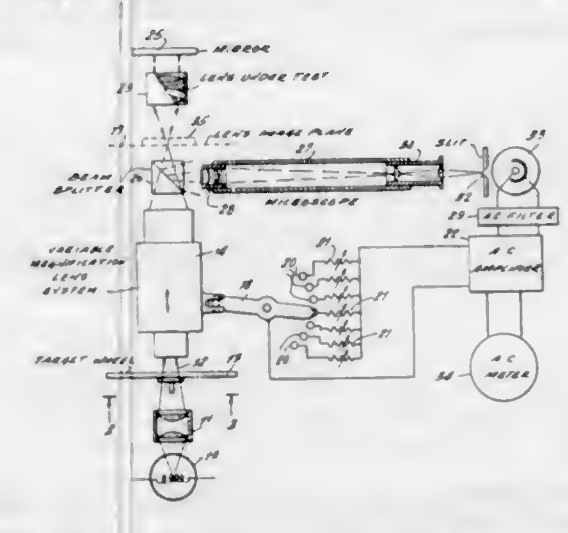
An ultraviolet exposure machine for producing latent images of microfilm records on duplicating film which may thereafter be developed. The machine includes a transparent drum having a diameter exceeding ten inches, the drum being floatably mounted within a cage of circumferentially spaced rollers. The major portion of the drum circumference is engaged by the inner section of a continuous conveyor belt which is under tension and which travels in an arcuate path, whereby movement of the belt causes the drum to rotate and to advance a microfilm record superposed over a duplicating film sandwiched between the belt and the periphery of the drum. The advancing film is uniformly exposed to ultraviolet rays emanating from a bulb mounted coaxially within the drum.

3,447,873
FILTER GRATING MONOCHROMATOR
Joseph Ashley, La Habra, and Gerald Thomas Keahl, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Mar. 10, 1966, Ser. No. 533,191
Int. Cl. G01j *3/18*
U.S. Cl. 356—100 **2 Claims**



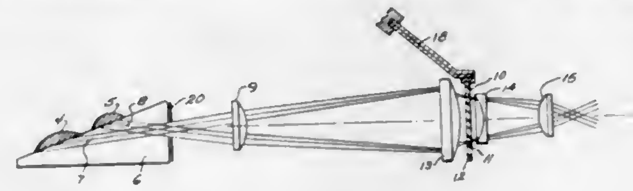
There is disclosed an improved filter-grating monochromator in which an interference filter is associated with a diffraction grating to provide order separation of the wavelengths dispersed by the grating. The interference filter is continuously variable and is driven in synchronism with the diffraction grating. In a second embodiment one or more reflection interference filters provide for multiple reflections of the radiation in the monochromator beam path to provide improved spectral purity.

3,447,874
APPARATUS FOR TESTING LENSES AND METHOD
Frank G. Back, 55 Sea Cliff Ave., Glen Cove, N.Y. 11579
Filed Dec. 20, 1965, Ser. No. 515,095
Int. Cl. G01b *9/04*
U.S. Cl. 356—124 **4 Claims**



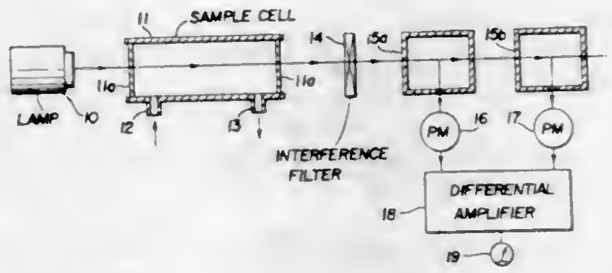
A lens testing apparatus for measuring the modulation transfer function of a lens. The apparatus includes a sectored disc rotating at a uniform speed and generating a series of square pulses. Due to the constant time frequency of the disc the square time pulses, which are passed through a low pass filter to block the higher order harmonics, produces a pure sinosoidal time frequency. The spatial frequency to be measured is varied by a variable magnification lens system and the contribution of this system and other parts of the device are compensated for by a number of potentiometers. The pulse beams leaving the disc are focused by the variable magnification lens system and then directed through a lens to be tested. The test lens collimates the light beams and directs them to a plane mirror which returns the light pulses through the test lens. The light is then directed by a beam splitter to a photosensitive cell and the pulse intensity is measured.

3,447,875
TEMPERATURE COMPENSATING REFRACTOMETERS
Herbert E. Goldberg, Keene, N.H., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed June 21, 1965, Ser. No. 465,598
Int. Cl. G01n *21/46*
U.S. Cl. 356—135 **16 Claims**



A temperature compensating refractometer which indicates the light-refracting properties of test substances on a scale in an optical system by directing light transmitted through the substances to points of focus at an image plane adjacent to the scale. The effect of changes in temperature of the test substances tending to alter the position of the points of focus at the image plane and the corresponding indication thereof on the scale is compensated for by temperature-responsive actuator means for producing scale readings which are independent of temperature. The actuator adjusts the scale or adjacent components of the system bidirectionally in the system in accordance with temperature changes substantially without causing relative displacement of the aforesaid points of focus.

3,447,876
APPARATUS FOR DETECTING MONATOMIC VAPOURS
Anthony Rene Barringer, Willowdale, Ontario, Canada, assignor to Barringer Research Limited, Rexdale, Ontario, Canada, a corporation
Filed Oct. 11, 1965, Ser. No. 494,552
Int. Cl. G01j *3/50, 3/44;* **G01n** *21/26*
U.S. Cl. 356—188 **6 Claims**

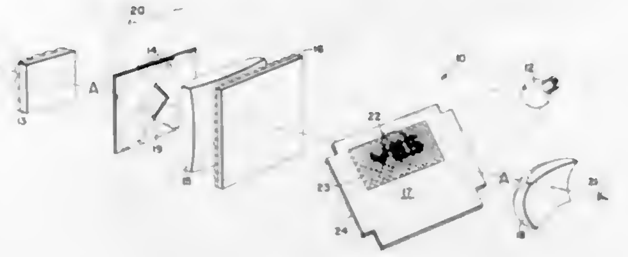


A spectrometer for measuring monatomic vapours. Light from a lamp is first transmitted through a chamber containing a sample of a vapour to be measured, then through a first resonance radiation cell containing the same vapour, and finally, after passing through the first resonance radiation cell, the light is passed through a second resonance radiation cell containing an isotope of the same vapour, the isotope having an absorption line that is closely adjacent to a predetermined absorption line of the vapour. First and second photosensitive detectors are provided for respectively detecting the level of resonance radiation produced in the first and second resonance radiation cells, and circuit means is provided for indicating the degree of unbalance between the output of the first and second detectors.

3,447,877

COMPARISON PHOTOMETER HAVING SUPERPOSED SEPARATELY INTELLIGIBLE INDICIA

Dexter P. Cooper, Jr., Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 26, 1965, Ser. No. 458,879
Int. Cl. G01j *1/12, 1/40*
U.S. Cl. 356—230 **8 Claims**

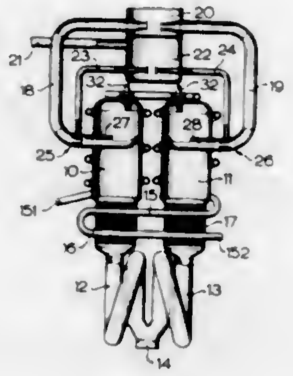


A comparison photometer has two separate information-bearing index symbols, e.g. "yes" and "no," each of which occupies the same visible region. These symbols are capable of being made selectively intelligible each to the exclusion of the other, by adjustments of the relative amounts of light received from two light sources being compared. Because the two symbols are superimposed on and substantially coextensive with each other, the precision of photometric balance is improved. The secondary symbol which is clearly visible at all conditions of light imbalance dominates the primary symbol except at zero balance when it disappears merging into a substantially uniform field. Thereupon the primary symbol snaps into view sharply differentiated from its background, dominating and camouflaging the secondary symbol.

3,447,878

RESONANT PULSE JET BURNER

Franz Haag, Plochingen, and Ludwig Huber, Stuttgart-Mohringen, Germany, assignors to Junkers & Co., G.m.b.H., Wernau (Neckar), Germany
Filed Nov. 28, 1967, Ser. No. 686,216
Claims priority, application Germany, Dec. 20, 1966, J 32,554
Int. Cl. F23c *3/02*
U.S. Cl. 431—1 **10 Claims**

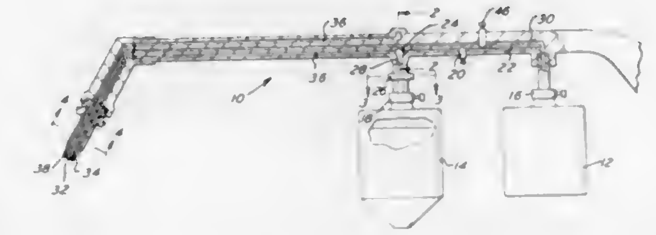


A resonant pulse jet burner having a cylindrical combustion chamber one end of which is closed and accommodates a spark plug and the other end of which is connected with a resonator. The conduit which supplies a mixture of oxygen and gaseous fuel (particularly natural gas of low combustibility) has a spoon-shaped outlet portion extending into the combustion chamber closer to the spark plug than to the resonator and having an open side which faces the closed end of the combustion chamber. The configuration of the outlet portion and of the closed end of the combustion chamber is such that the mixture flows in a circular path and surrounds a hot core of gaseous products which circulate past the open side of the outlet portion and insure immediate ignition of freshly admitted mixture as well as satisfactory combustion of such mixture. The products of combustion flow laterally past the outlet portion and into the resonator.

3,447,879

CUTTING TORCH AND METHOD FOR ACHIEVING HIGH TEMPERATURE CUTTING

Daniel J. Smith, Elkton, Md., William B. Tarpley, Jr., West Chester, Pa., and Charles Dana McKinney, Jr., Wilmington, Del., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania
Filed Nov. 6, 1967, Ser. No. 680,656
Int. Cl. F23j *7/00;* **F23d** *17/00;* **F23c** *1/02*
U.S. Cl. 431—4 **15 Claims**

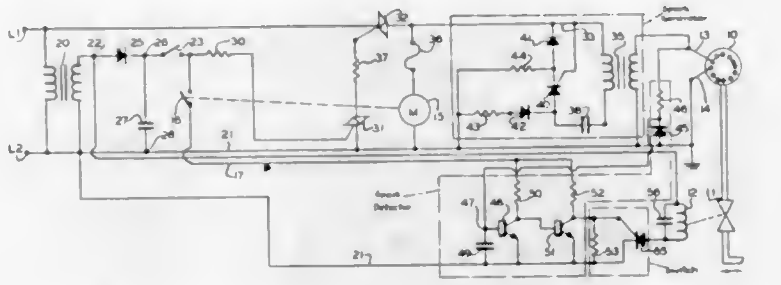


A cutting torch which includes a cylinder of gelled carrier liquefied combustible gas containing uniformly disposed therewithin finely divided solid fuel, and a process for high temperature cutting comprising gasifying the aforesaid gelled carrier liquefied combustible gas and solid fuel mixture to form a stream, igniting the stream, and applying the ignited stream to the work being cut.

3,447,880

CONTROL SYSTEM FOR FLUID FUEL BURNERS

William F. Potts, Liverpool, N.Y., and Francois Duval, Lucerne, Quebec, Canada, assignors to Liberty Combustion Corporation, Syracuse, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 583,032
Int. Cl. F23n *5/08, 5/24;* **F23q** *9/14*
U.S. Cl. 431—27 **25 Claims**

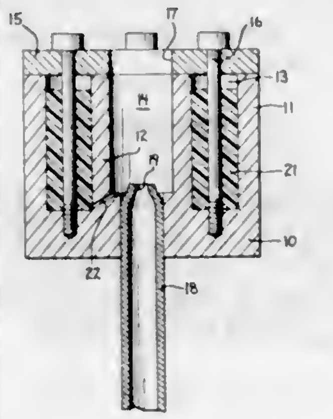


Burner ignition and control system with pilot and main burner, and electrical valves, a blower, spark ignition, a flame sensor for both burners, a switch for sensing blower operation, a spark voltage sensor, a thermostat to complete a circuit to the blower, and to partially complete a circuit through the switch for ignition, a time delay device to complete the ignition circuit after a predetermined period to provide a prepurging of the burners prior to attempting ignition, a circuit for controlling the pilot valve adapted to be closed by the spark voltage sensor indicating sufficient spark voltage, and opened in response to the flame sensor indicating absence of flame, and a second time delay for preventing the actuation of the sensor for a predetermined interval after opening the pilot valve, the flame sensor actuating the main valve upon indication of flame at the pilot burner, and closing the pilot valve and deenergizing the ignition, the flame sensor closing the valve of the main burner upon absence of flame, a latching circuit and a manual reset to disable the ignition and the valve operation until manual actuation of the reset switch.

3,447,881

FLAME-COLORING DEVICE

Richard J. Fay and Philip J. Keitel, Denver, Colo., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 26, 1967, Ser. No. 678,252
Int. Cl. F23d *21/00*
U.S. Cl. 431—126 **2 Claims**

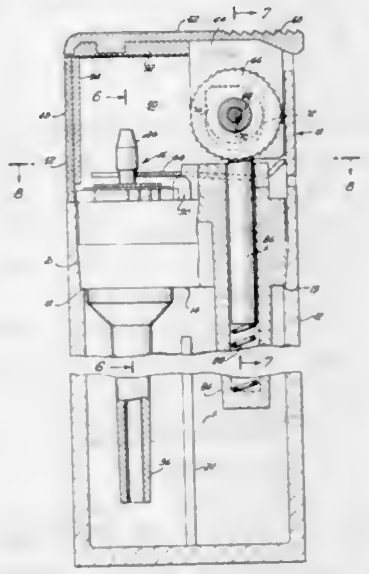


A pyrotechnic flare burner having an enclosed chamber with a quantity of gelled colorant material and a combustion chamber positioned in the center of said enclosed chamber with small apertures connecting the two chambers whereby heat from the combustion chamber generates vapor pressure in the colorant material chamber which forces the gel through the apertures and into the flame in the combustion chamber.

3,447,882

DISPOSABLE CIGARETTE LIGHTER

Stanley H. Newman, % Schwartz & Frohlich, 19 E. 70th St., New York, N.Y. 10021
Filed July 28, 1967, Ser. No. 656,771
Int. Cl. F23q *2/08, 1/04*
U.S. Cl. 431—131 **6 Claims**



A cigarette lighter using liquified gaseous fuel containing a gas valve and sparkwheel system for igniting escaping fuel, the lighter being characterized by a fingerpiece mechanism which is mounted by movable means so that the fingerpiece may be maintained in open and closed positions at the extremes of its rotation whereby the valve is opened and closed.

CHEMICAL

3,447,883

NOVEL METHOD OF BLENDING OLEFIN POLYMERS AND ADDITIVES

Jackson S. Boyer, Claymont, Del., and Francois E. Didot, West Chester, Pa., assignors to Avisun Corporation, a corporation of Delaware
No Drawing. Filed May 6, 1965, Ser. No. 453,813
Int. Cl. D06p *3/00, 5/00*
U.S. Cl. 8—4 **10 Claims**

Petroleum wax is incorporated into preformed polyolefin articles by soaking the articles in molten petroleum wax at a temperature below the fusion point of the polyolefin for a period of at least two minutes, and then removing unabsorbed wax.

3,447,884

CREASE-PROOF WOVEN AND KNITTED FABRICS

Eugen Hasselkuss and Emil Kimmig, Freiburg im Breisgau, Germany, assignors to Deutsche Rhodiaceta AG, Freiburg im Breisgau, Germany
No Drawing. Continuation-in-part of application Ser. No. 349,133, Mar. 3, 1964. This application May 13, 1966, Ser. No. 549,824
Claims priority, application Germany, Aug. 3, 1963, D 42,175; Aug. 13, 1963, D 42,231
Int. Cl. D06c *15/00*
U.S. Cl. 8—17 **15 Claims**

A process for finishing secondary cellulose acetate woven and knitted fabrics to impart wash and wear properties thereto comprising embossing said fabric on at least one side at an elevated pressure and at a temperature of between about 80 to 150° C., washing, dry heating the embossed fabric at a temperature of between about 180 to 200° C. for from about 20 to 30 seconds, coloring, and steam fixing the embossed and dry heated fabric for from about 3 to 5 minutes at a temperature of from about 115 to 125° C., all steps in said process being conducted under conditions wherein the fabric is not stretched.

3,447,885

CREASE-PROOF WOVEN AND KNITTED FABRICS

Eugen Hasselkuss and Emil Kimmig, Freiburg im Breisgau, Germany, assignors to Deutsche Rhodiaceta AG, Freiburg im Breisgau, Germany
No Drawing. Continuation-in-part of application Ser. No. 274,329, Apr. 19, 1963. This application May 13, 1966, Ser. No. 549,826
Claims priority, application Germany, Apr. 21, 1962 (utility model), 1,855,698; May 4, 1962 (utility model), 1,857,993; Oct. 31, 1962, D 40,175; Nov. 14, 1962, D 40,280
Int. Cl. D06p *7/00*
U.S. Cl. 8—17 **11 Claims**

A process for finishing woven or knitted secondary cellulose acetate fabrics to impart wash and wear properties thereto comprising embossing said fabrics on at least one side at an elevated pressure and at a temperature of between about 80 and 150° C., washing, treating the embossed fabric with dry steam, coloring and steam fixing the embossed and steam treated fabric for between about 3 to 5 minutes, all steps in said process being conducted under conditions wherein the fabric is not stretched.

3,447,886

PROCESS FOR DYEING HYDROPHOBIC ORGANIC TEXTILE MATERIALS WITH ANTHRAQUINONE DYESTUFFS

Albin Peter, Binningen, Basel-Land, and Fred Mueller, Munchenstein, Basel-Land, Switzerland, assignors to Sandoz, Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Original application Oct. 1, 1964, Ser. No. 400,903, now Patent No. 3,318,903, dated May 9, 1967. Divided and this application July 11, 1966, Ser. No. 574,861

Claims priority, application Switzerland, Oct. 4, 1963, 12,265/63; Nov. 26, 1963, 14,475/63; Nov. 28, 1963, 14,582/63; May 5, 1964, 5,959/64

Int. Cl. D06p *1/20*

U.S. Cl. 8—39 **2 Claims**

Process for the dyeing of high-molecular, hydrophobic, organic fibers and textile materials manufactured from them, e.g., linear aromatic polyesters, as well as the resulting dyeings. Dyes employed for said dyeing are anthraquinone compounds prepared by condensation of an anthraquinone derivative containing a halogen atom bound to the nucleus with a benzazolyl derivative containing a thiol group, e.g., benzazolyl mercaptoanthraquinones.

3,447,887

PROCESS FOR ADJUSTING THE DYE RECEPTIVITY OF ACRYLIC FIBERS

Alex Lindenhovius and Petrus Klaver, Dubbeldam, and Johannes Andreas Appel, Zwijndrecht, Netherlands, assignors, by mesne assignments, to E. I. du Pont de Nemours and Company, a corporation of Delaware

No Drawing. Filed June 21, 1965, Ser. No. 465,714

Int. Cl. D06p *3/70*

U.S. Cl. 8—55 **4 Claims**

A process for adjusting the dye receptivity of dry-spun acrylic fiber is provided by changing the temperature of the wash-draw liquid based upon a deviation in dyeability of the product from that of a standardized range of dyeability. The temperature of the liquid is changed inversely with the direction of change to be made in the fiber dyeability.

3,447,888

COLORED FABRIC AND METHOD OF COLORING SAME

Herman S. Weisz and Parker W. Downing, Rock Hill, S.C., assignors to M. Lowenstein & Sons, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 19, 1966, Ser. No. 543,521

Int. Cl. D06p *5/00, 1/00*

U.S. Cl. 8—69 **5 Claims**

A colored fabric is provided by application of a composite shade resulting from the additive effect of a first color component from a resin bonded pigment system containing pigment fast to chlorine bleaching, and a second color component from an acid fixed fiber reactive dye that may be discharged upon treatment of the fabric with a chlorine bleaching agent.

3,447,889

TANNING PROCESS

Richard W. Simmons, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,541

Int. Cl. C14c *3/24*

U.S. Cl. 8—94.26 **14 Claims**

1. A process for the tanning of hides in the preparation of leather, which comprises contacting the hide with a solution of a lignosulfonate salt of aluminum and chromium as a tanning agent, said lignosulfonate salt containing aluminum in an amount of at least 50 percent of the stoichiometric amount and chromium as trivalent chromium in an amount of from 5 to 50 percent of the stoichiometric amount.

3,447,890

.1–2% ALKALINE EARTH HYDROXIDE MODIFICATION OF WOOL AT 120–150° F. FOR UNDER 15 MINUTES

Arthur J. I. Harding, 41 Overdale Ave., Branting Hill, Glenfield, Leicester, England

No Drawing. Continuation-in-part of application Ser. No. 219,730, Aug. 27, 1962. This application May 28, 1965, Ser. No. 459,876

Int. Cl. D06m *3/04*

U.S. Cl. 8—128 **5 Claims**

Wool is heated at 120–150° F. for less than 15 minutes in an aqueous dispersion of 0.1–2 percent calcium hydroxide, washed and acidified to render it more receptive to dyestuffs without adversely affecting the physical properties of the wool.

3,447,891

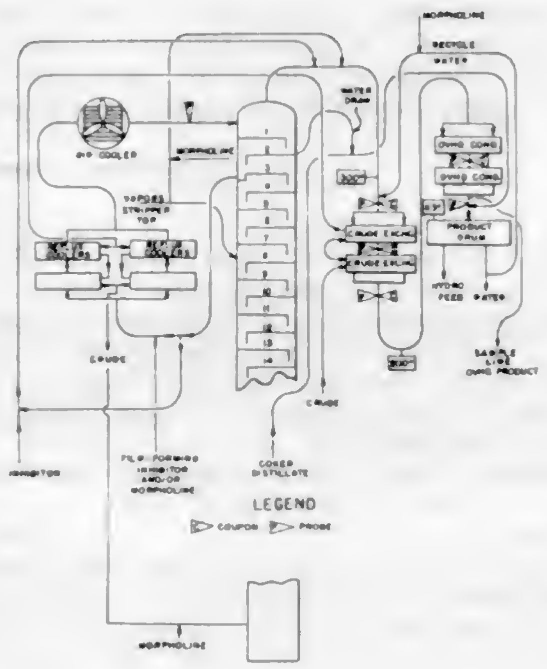
CORROSION INHIBITING PROCESS

Jack D. Crawford, Lyons, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 3, 1964, Ser. No. 394,206

Int. Cl. C23f *14/02*

U.S. Cl. 21—2.5 **10 Claims**



A method of inhibiting corrosion in petroleum refining units in which distillation is taking place, which method comprises adding morpholine either alone or in combination with a film-forming amine to the petroleum product being distilled.

3,447,892

STERILIZER

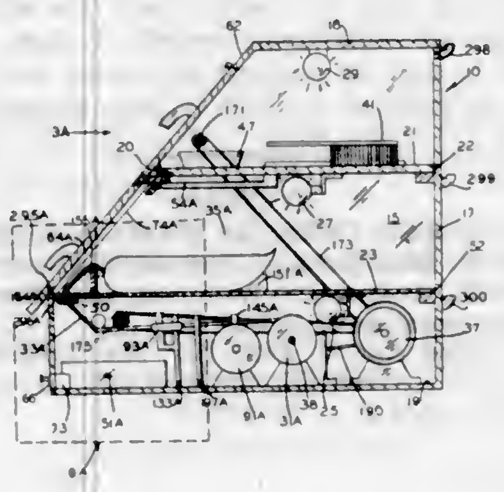
James S. Watson and Keith Clark, Amarillo, Tex., assignors, by mesne assignments, to James S. Watson, Amarillo, Tex.

Filed Feb. 25, 1965, Ser. No. 435,247

Int. Cl. A61b *1/00*

U.S. Cl. 21—83 **3 Claims**

Sterilizer comprising several separate and readily cleaned compartments for each of several instruments with means automatically providing sterilization of each instrument while other instruments locatable in the sterilizer are being used and while the instruments being sterilized are visible to the operator.



3,447,893

OXIDATION CATALYSTS

Ruth E. Stephens, Detroit, Daniel A. Hirschler, Jr., Birmingham, and Frances W. Lamb, Orchard Lake, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 379,720, July 1, 1964. This application Feb. 4, 1966, Ser. No. 525,126

Int. Cl. B01d *57/00;* **B01j** *11/46*

U.S. Cl. 23—2 **8 Claims**

Hydrocarbon and carbon monoxide content of exhaust gas from internal combustion engines are reduced by contacting the exhaust with a catalyst consisting of copper oxide or copper oxide promoted with silver, cobalt or vanadium oxides on an alumina support.

3,447,894

METHOD OF BENEFICIATING TANTALUM- AND NIOBIUM-CONTAINING TIN SLAGS

Robert A. Gustison, West Lawn, Reading, Frank Gorczyca, Pottstown, and John A. Cenerazzo, Pennside, Reading, Pa., assignors to Kawecki Chemical Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,917

Int. Cl. C22b *59/00;* **C21b** *3/04*

U.S. Cl. 23—15 **6 Claims**

1. The method of beneficiating the tantalum and niobium oxide contents of an iron-bearing tin slag or other metallurgical by-product which comprises heating the slag in the presence of sufficient carbon to convert the tantalum and niobium oxides to a hearth product containing the tantalum and niobium as carbides in admixture with a carbon-containing iron alloy, separating oxidic gangue constituents from said hearth product, reacting said hearth product with an amount of sodium nitrate such as to insure oxidation of all metallic constituents of said hearth product to their respective highest-valence heat-stable oxidic form of sodium salt, together with a source of additional sodium oxide in amount of at least about 25% by weight of said sodium nitrate, leaching the resulting reaction product with hot water, subjecting the hot water-insoluble constituents of said reaction product to reaction with an aqueous mineral acid to convert the tantalum and niobium constituents thereof to their hydrated oxides and to dissolve the sodium and iron constituents, and separating the resulting aqueous phase from said hydrated oxides to leave as a residue a beneficiated mass of the tantalum and niobium oxide constituents of the starting tin slag.

3,447,895

METHOD OF PREVENTING SMELT-WATER EXPLOSIONS

Hugh Wharton Nelson, West Hartford, and Charles L. Norton, Triffville, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,228

Int. Cl. D21c *11/12*

U.S. Cl. 23—48 **6 Claims**

A method of preventing explosions in kraft chemical recovery furnaces caused by water leaking from the furnace or boiler or other source onto the molten smelt in the furnace. Involves introducing into the furnace and onto the smelt and ash bed an aqueous quenching solution which will rapidly cool the smelt bed to temperatures below the explosive range without the solution itself causing an explosion. The solutes in the aqueous solution inhibit explosions and allow rapid cooling of the smelt. The materials which may be employed for this purpose are ammonium sulfate and certain high molecular weight, water-soluble organic compounds such as polyethylene glycols.

3,447,896

REMOVAL OF HALIDE IONS FROM CRUDE LITHIUM ALUMINATE

Norman L. Piegols and Charles K. Bon, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich.

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,330

Int. Cl. C01f *7/04;* **C01d** *1/28*

U.S. Cl. 23—52 **6 Claims**

Crude lithium aluminate, containing 7–20% by weight of chemically combined chloride, is roasted with substantially stoichiometric amount of alkali metal hydroxide, based on the chloride, at 450° C. or higher. The chemically combined chloride is converted to a water-soluble alkali metal chloride which is leached out of the lithium aluminate with water.

3,447,897

PROCESS FOR REMOVING POLYVALENT METAL IMPURITIES FROM LITHIUM ALUMINATE

Robert J. Moolenaar, Midland, Mich., and Marshall P. Neipert, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,351

Int. Cl. C01f *7/04*

U.S. Cl. 23—52 **7 Claims**

Lithium aluminate contaminated with polyvalent metal compounds whose hydroxides are insoluble in aqueous alkali are purified by dissolving the lithium aluminate in alkali at a temperature of 145° C. or above, separating the insoluble ingredient, cooling the so separated liquid below 95° C. to crystallize the lithium aluminate and recovering the purified lithium aluminate.

3,447,898

METHOD OF SEPARATION OF THE BORON ISOTOPES

Marius Chemla, Maisons Alfort, Gregoire Dirian, Palaiseau, and Michele Perie, Bourg-la-Reine, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed June 20, 1966, Ser. No. 558,773

Claims priority, application France, June 24, 1965, 22,182

Int. Cl. B01d *59/04;* **C01b** *35/00*

U.S. Cl. 23—59 **4 Claims**

Boron isotopes of mass 10 are separated from those of mass 11 by chemical exchange in a column by forming a boric ester; distilling the ester; and condensing the distilled ester at the top of the column. The ester is then saponified at the top of the column producing an alkaline water-alcohol borate solution which is acidified at the base of the column forming a boric ester. The two isotopes are then separated by chemical exchange and removed at the two extremities of the column.

3,447,899
METHOD OF PURIFYING MAGNESIUM VALUES

John Maskal and Ivan M. Thompson, Ludington, and George W. Waldron, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich.
No Drawing. Filed Feb. 28, 1966, Ser. No. 530,377
Int. Cl. C01f *5/06, 5/24*
U.S. Cl. 23—67 **4 Claims**

A method of treating magnesium hydroxide slurries to produce magnesium oxide having a low boron and chloride impurity level which comprises: carbonating a boron impurity containing magnesium hydroxide slurry, thereby precipitating magnesium carbonate hydrate; separating and washing the precipitate; and calcining the precipitate to form high purity magnesium oxide.

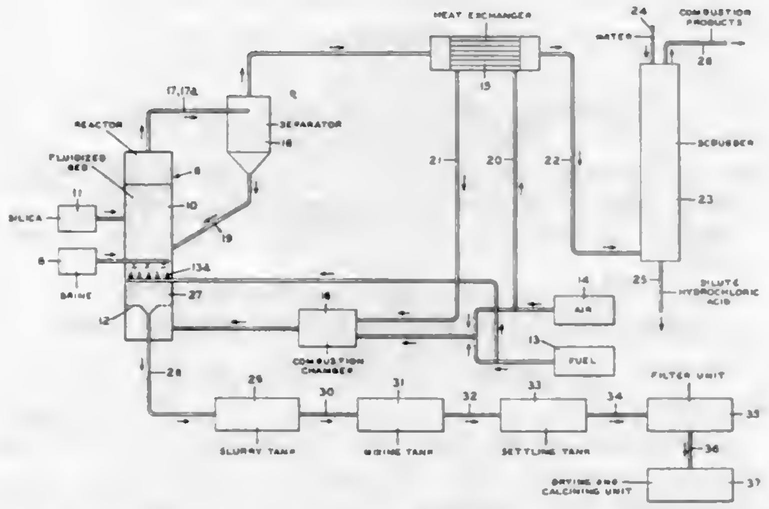
3,447,900
DEFLUORINATION OF PHOSPHATE ORES

Mark Allen Kuck, Montclair, N.J., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 31, 1967, Ser. No. 642,298
Int. Cl. C22b *25/32*
U.S. Cl. 23—108 **13 Claims**

Defluorination of phosphate ores is accomplished by contacting a fluorine-containing phosphate ore having a moisture content of 1% to 4% by weight, with gaseous sulfur trioxide at ambient temperatures followed by incrementally heating the so-contacted ore in the presence of the sulfur trioxide to a temperature within the range of from 325° C. to 500° C. Preferably, the reaction procedure is repeated by cooling the reaction product to ambient temperatures, adding more moisture and sulfur trioxide thereto followed by heating. The product of the reaction is a phosphate material having an extremely low fluorine content which is useable for agricultural purposes.

3,447,901
PRODUCTION OF HYDROGEN CHLORIDE AND MAGNESIUM OXIDE

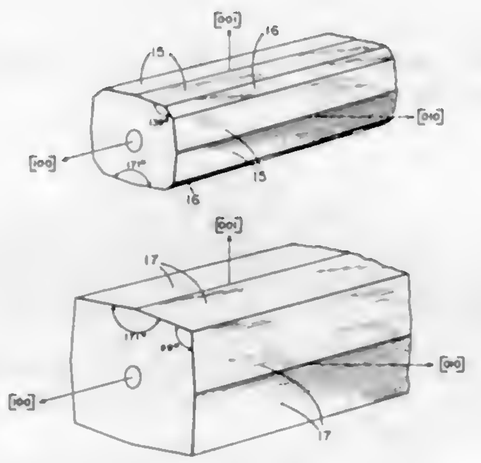
William P. Moore, Chester, and William C. Sierichs and Rob Roy MacGregor, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Aug. 15, 1967, Ser. No. 660,681
Int. Cl. C01b *7/08;* **C01f** *5/02;* **C05d** *5/00*
U.S. Cl. 23—155 **10 Claims**



The production of hydrogen chloride and magnesium oxide particles by feeding a brine containing magnesium chloride and calcium chloride into a fluidized bed composed largely of magnesium oxide, silica and calcium silicate. Silica sand particles are added simultaneously with the brine into the fluidized bed. The solid particles of the bed are withdrawn from the bottom of the bed and may be used as fertilizer or treated with water and calcined to produce a relatively pure magnesium oxide.

3,447,902
SINGLE CRYSTAL SILICON RODS

Theodore S. Benedict and Howard W. Norman, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Apr. 4, 1966, Ser. No. 539,870
Int. Cl. C01b *33/02*
U.S. Cl. 23—223.5 **2 Claims**



A single crystal semiconductor rod having a high degree of crystalline perfection is grown directly from the vapor phase, beginning with a cylindrical substrate rod of single crystal semiconductor material having its longitudinal axis crystallographically oriented in the [100] direction, to produce an elongate polyhedral body having $4n$ surfaces where n is at least 2, and having a polygonal cross section perpendicularly transverse to the longitudinal axis of the rod.

3,447,903
SULPHUR PRODUCTION

Tadeusz K. Wiewiorowski, New Orleans, La., assignor to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 590,022
Int. Cl. C01b *17/04*
U.S. Cl. 23—226 **17 Claims**

An improved process for the production and recovery of elemental sulphur from the reaction of hydrogen sulfide and sulphur dioxide. The improvement comprising performing the process in liquid sulphur in the presence of a basic nitrogen compound catalyst having an equilibrium constant (K_B value) greater than 10^{-10}.

3,447,904
TEST INDICATOR FOR THE DETECTION OF CHLORIDES

Chauncey Orvis Rupe, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Sept. 25, 1964, Ser. No. 399,328
Int. Cl. G01n *31/22, 33/16*
U.S. Cl. 23—230 **18 Claims**

Test indicator for the detection of chloride ions utilizing an insoluble or non-dissociable compound, such as silver carbonate, reactable with chloride to produce a potential chromogenic agent and an indicator material such as bromphenol blue reactable with the potential chromogenic agent to produce a color change. The above ingredients are preferably incorporated with a carrier material.

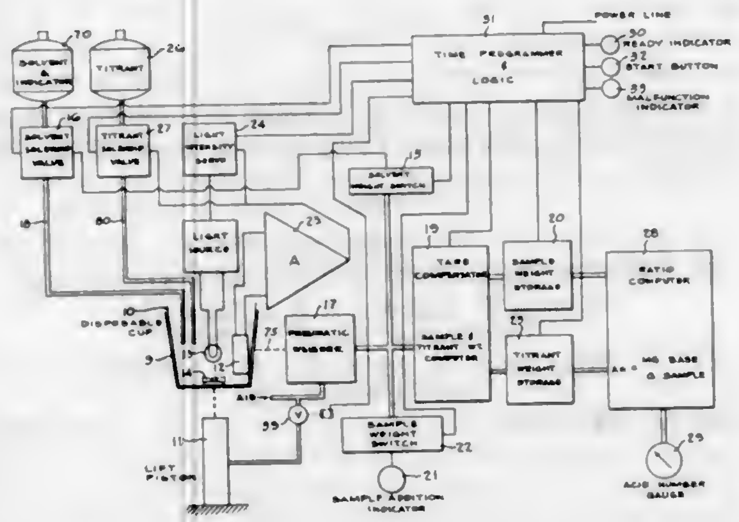
3,447,905
TEST FORMULATION AND DEVICE AND METHOD FOR CREATING AN ACID pH ENVIRONMENT THEREIN

Aeneas J. Shand, Enfield, England, assignor to Miles Laboratories Incorporated, Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,279
Claims priority, application Great Britain, Mar. 11, 1966, 10,861/66
Int. Cl. G01n *33/00;* **B01**
U.S. Cl. 23—230 **17 Claims**

In a dry test formulation which comprises a composition for detecting certain substances in aqueous fluids but requiring an acid pH environment, the improvement which comprises the inclusion in the formulation of a solid adduct of a Friedel-Crafts salt and an organic Lewis base such as dioxane or pyridine which adduct upon contacting the aqueous fluid releases, in situ, a mineral acid in sufficient quantity to establish the acid pH environment required. A test device comprising the test formulation and a carrier member therefor is also disclosed.

3,447,906
AUTOMATIC GRAVIMETRIC TITRATOR FOR BATCH OPERATION

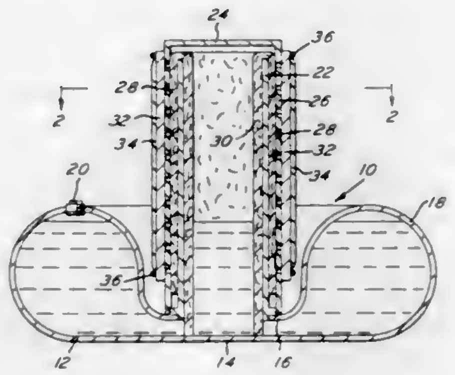
Frederick H. Zimmerli, Ambler, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 21, 1966, Ser. No. 522,292
Int. Cl. G01n *31/16*
U.S. Cl. 23—253 **6 Claims**



Automatic batch type titrator having a titration vessel supported by a weighing means, a solvent supply means, a titrant supply means, and end point detector means, means for automatically controlling: (1) the addition of said solvent to an amount sufficient to dissolve the sample, and (2) the addition of said titrant to an amount sufficient to reach an end point as determined by said detector means, signalling means associated with said weighing means capable of providing signals representative of the actual weights of solvent, sample, and titrant added to said vessel, means for conveying said solvent signal to an operator, so he can add sample, first and second means for receiving and storing said sample and titrant signals, and means for retrieving said latter signals and computing the titration result.

3,447,907
ATMOSPHERE ANALYSIS DEVICE

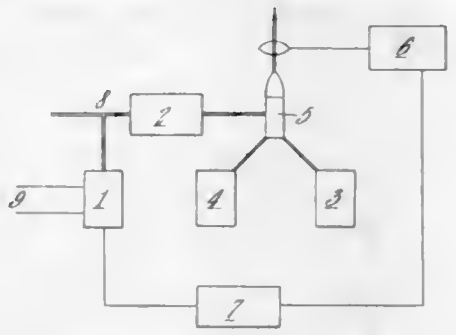
Elmer T. Bennett, 1938 Wilder St., Philadelphia, Pa. 19146
Filed Oct. 10, 1966, Ser. No. 585,431
Int. Cl. G01n *31/22*
U.S. Cl. 23—254 **8 Claims**



1. An atmosphere analysis device comprising a housing adapted to contain a liquid therein, a hollow cylindrical wall having perforations therethrough, said wall being supported by said housing, a wick along the inner surface of said wall, said wick being of sufficient length so as to extend into said housing for contact with a liquid in the housing, and a layer of absorbent material coupled to the outer periphery of said wall in overlying relation with respect to the perforations, whereby said layer of material may be kept moist by said wick.

3,447,908
DETECTION SYSTEMS FOR GAS CHROMATOGRAPHY

William Antony Wiseman, Boyn Valley Road, Maidenhead, Berkshire, England
Filed Dec. 21, 1965, Ser. No. 515,408
Claims priority, application Great Britain, Dec. 23, 1964, 52,326/64
Int. Cl. G01n *31/12*
U.S. Cl. 23—255 **9 Claims**

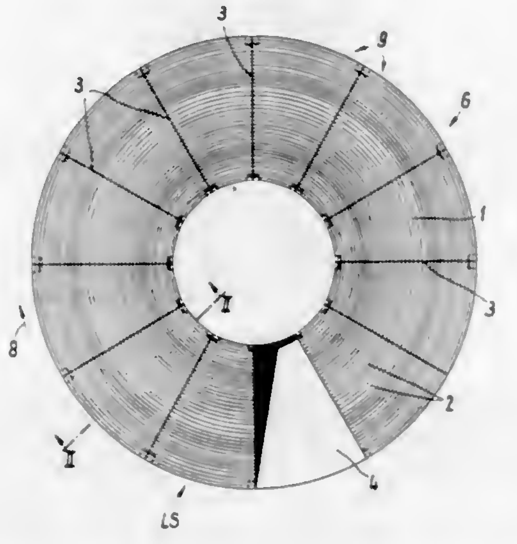


A detection system for detecting combustible material carried in the vapour phase in a gas stream, for example from a gas chromatography column, which includes an oxygen generator for generating oxygen to be mixed with the gas stream containing combustible material; a reaction site where combustion takes place, a detector, such as a flame-ionisation detector, for detecting a change in the reaction when the proportion of combustible material changes; feedback means connecting the detector and the oxygen generator for altering the current through the generator so as to adjust the amount of oxygen generated in the direction required to compensate for the change in amount of the combustible material; and means for measuring and/or recording the current through the generator.

3,447,909

CELL TYPE SOLVENT EXTRACTOR

Wilhelm Depmer, Kielmannseggstr. 86, 2 Hamburg-Wandsbek-Marienthal, Germany
Filed Jan. 4, 1967, Ser. No. 607,187
Claims priority, application Germany, Jan. 4, 1966, D 49,077
Int. Cl. B01d *11/02, 11/00*
U.S. Cl. 23—269 **10 Claims**

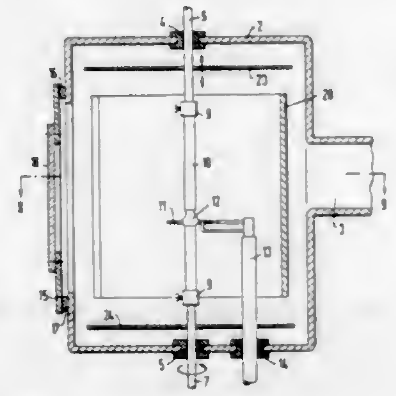


A grate for cell or carrousel type solvent extractors. The grate bars are of arcuate shape and define between themselves arcuate slots whose centers of curvature are located on the axis about which the bottomless cells of the extractor rotate above the grate to convey a mixture of solid and liquid fractions. The slots permit escape of the liquid fraction and the grate has an opening for evacuation of the solid fraction.

3,447,910

ROUGHENED SURFACE ALUMINUM CYLINDER IN ZONE REFINING

Ludwig Sporrer, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 19, 1965, Ser. No. 497,999
Claims priority, application Germany, Feb. 27, 1965, S 95,711
Int. Cl. B01j *17/10;* **B01d** *9/00*
U.S. Cl. 23—273 **5 Claims**



Device for zone-melting a workpiece in vacuum includes a vacuum chamber wherein the workpiece and heating means for forming a melting zone in the workpiece are located, and a secondary uncooled wall mounted in the interior of the vacuum chamber. The vacuum chamber is defined by cool walls, and the secondary uncooled wall consists of aluminum having a roughened surface, is spaced from the cool walls and is located at a relatively great distance from the melting zone when compared to the diameter of the melting zone.

3,447,911

PREPARATION OF SOLID, DRY HYDRAZINE REACTANT AND METHOD FOR PREPARATION OF CYCLOHEPTASULFIMIDE

Henri Garcia, Bagneux, France, assignor to Centre National de la Recherche Scientifique (French Government Administration), Paris, France
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,710
Claims priority, application France, Jan. 6, 1965, 962
Int. Cl. C01b *21/54*
U.S. Cl. 23—357 **4 Claims**

The invention relates to a process for making cycloheptasulfimide S_7NH which comprises reacting nitrogen sulfide or a thiotrithiazyl halide with a hydrazine reactant in an inert solvent sheltered from water. In another aspect, the invention relates to the preparation of a solid, dry hydrazine reactant by absorbing a hyrazine hydrate on a water-retaining porous support such as an activated silica gel.

3,447,912

SULFIDATION CORROSION-RESISTANT COATING CONTAINING RARE EARTH METAL ALUMINIDES

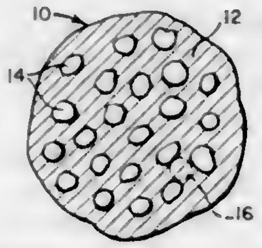
Martin H. Ortner, Kinnelon, and Harold M. McCullough, Little Falls, N.J., assignors to Vitro Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,097
Int. Cl. B22f *7/04*
U.S. Cl. 29—182.3 **9 Claims**

As a coating for articles made of the superalloys to protect them from sulfidation corrosion in high temperature, corrosive environments, an alloy of one or more rare earth metals, which may, for example, occur as misch metal, and aluminum. The aluminum is preferably alloyed with the rare earths in a stoichiometric amount to form the intermetallic rare earth aluminide compounds. The coating composition is preferably deposited as a powder layer from a suitable carrier onto the superalloy substrate and is then sintered to form a dense, substantially impervious, bonded coating, preferably under conditions effective to partially diffuse the alloy coating into the substrate to form an adherent metallurgical bond. The coating system may also include chromium, either as a separately deposited layer formed before the rare earth aluminide layer is deposited, or as a co-deposited material in solid solution with the rare earth aluminide, or as an alloy with the rare earth aluminide in the coating composition.

3,447,913

SUPERCONDUCTING COMPOSITE MATERIAL

George B. Yntema, R.R. 2, Box 80A, Manchester, Conn. 06040
Filed Mar. 18, 1966, Ser. No. 535,407
Int. Cl. H01s *4/00*
U.S. Cl. 29—191.2 **11 Claims**



Disclosed is a composite superconductor comprising a superconductive matrix in which is embedded solid discrete particles of a non-superconducting and non-conducting material. The particles are preferably closely packed as determined by the penetration depth and the coherence length of the material of the matrix.

3,447,914

VISCOUS FLAMMABLE COMPOSITIONS

Alan H. Peterson and Grover L. Farrar, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed Aug. 8, 1966, Ser. No. 574,267
Int. Cl. C10l *7/02*
U.S. Cl. 44—7 **3 Claims**

Viscous flammable compositions comprising gasoline with a polynuclear aromatic concentrate and a polymeric material selected from the group consisting of polystyrene and ethylcellulose.

3,447,915

FUEL OIL COMPOSITIONS

Bruce M. Otto, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Oct. 31, 1966, Ser. No. 590,525
Int. Cl. C10l *1/18*
U.S. Cl. 44—62 **8 Claims**

Pour characteristics of hydrocarbon fuel oils are improved by incorporating in such fuel oils about 0.001–5% of a terpolymer having a melt index of about 0.5–55 grams per minute at 80° C. and containing about 35–89 weight percent ethylene, about 1–5 weight percent propylene, and about 10–60 weight percent of C_{1-12} alkyl ester of acrylic acid or methacrylic acid or mixtures thereof.

3,447,916

ACYLATED POLYESTERS, POLYESTER-AMIDES, OR POLYAMIDES

Alan H. Edwards, Didcot, Berkshire, England, assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 2, 1966, Ser. No. 591,419
Claims priority, application Great Britain, Nov. 10, 1965, 47,735/65
Int. Cl. C10l *1/22, 1/18*
U.S. Cl. 44—62 **13 Claims**

This invention relates to acylated polyesters, polyesteramides or polyamides which are particularly suitable as pour point depressants when added to hydrocarbons, such as fuel oils.

3,447,917

SLUDGING INHIBITED HYDROCARBON FUEL

Herman E. Davis and James C. Ownby, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Jan. 16, 1963, Ser. No. 251,748. Divided and this application Oct. 8, 1965, Ser. No. 507,978
Int. Cl. C10l *1/22;* **C07c** *97/04*
U.S. Cl. 44—66 **7 Claims**

A hydrocarbon fuel containing an additive selected from (1) a mixture of hydrogenated condensation products of reducing sugars and long chain aliphatic amines and (2) aliphatic and aromatic carboxylic acid salts of said mixture of hydrogenated condensation products, said additive being present in an amount sufficient to substantially inhibit sludging of said hydrocarbon fuel.

3,447,918

RUST INHIBITORS

James W. Amick, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Oct. 26, 1967, Ser. No. 678,170
Int. Cl. C10l *1/18;* **C09k** *3/00*
U.S. Cl. 44—70 **2 Claims**

Rust inhibitors for distillate fuels comprising polybutene substituted succinic acid wherein the polybutene substituent has an average molecular weight in the range of 450 to 1100.

3,447,919

METHOD OF FACILITATING HARVEST OF MATURE PLANTS

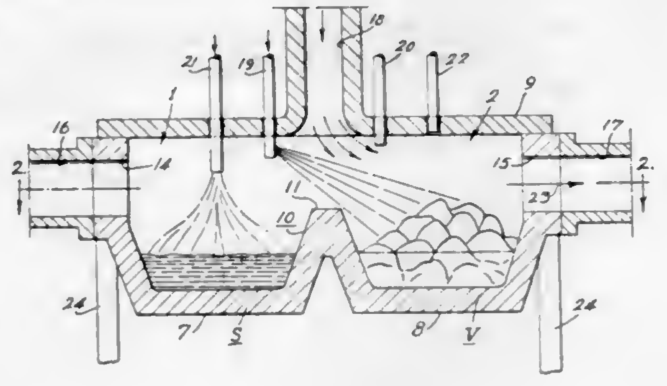
Donald C. Young, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,718
Int. Cl. A01n *13/00, 9/20, 5/00*
U.S. Cl. 71—69 **7 Claims**

The invention comprises the application of ammonium salt solutions containing from 5 to 50 weight percent of foramide and derivatives thereof, to mature plants. The application of these solutions at concentrations containing at least about 15 weight percent of the ammonium salt results in desiccation and defoliation of the plant thereby rendering it more suitable for harvesting. The solutions are applied at dosages from about 35 to 250 pounds per acre and defoliation and desiccation results within about 24 hours. Suitable ammonium salts for use in combination with the formamide are the chloride, sulfate and nitrate and the most preferred material is the nitrate.

3,447,920

PROCESS OF MELTING SCRAP OR ANOTHER SOLID METALLIC CHARGE

Franz Bartu, Kusnacht-Zurich, Switzerland, assignor to Maerz Ofenbau, AG., Zurich, Switzerland, a corporation of Switzerland
Filed June 18, 1965, Ser. No. 464,915
Claims priority, application Austria, July 8, 1964, A 5,852/64
Int. Cl. C21c *5/32*
U.S. Cl. 75—43 **3 Claims**



The invention relates to the melting of a solid metallic charge, such as scrap, in a furnace comprising two interconnected vessels, i.e. a preheating vessel and a melting vessel, which are arranged one behind the other and are used in alternation, the metallic charge being melted in the melting vessel by burning an external fuel, i.e. a fuel supplied from outside of the furnace, therein and the resulting hot flue gases being transferred to the preheating vessel for preheating solid metallic charge therein. Both vessels are heated always at the same time by burning external fuels therein simultaneously, using in the melting vessel an oxygen-containing gas having a higher oxygen content than the oxygen-containing gas for burning the fuel in the preheating vessel.

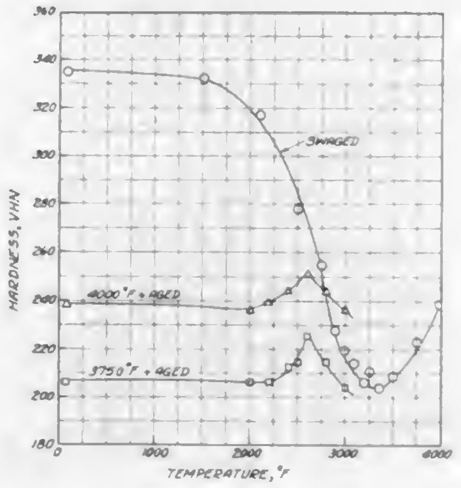
3,447,921

MOLYBDENUM-BASE ALLOY

Winston H. Chang, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 359,188, Apr. 13, 1964. This application Dec. 21, 1966, Ser. No. 609,982
Int. Cl. C22c *27/00;* **C22f** *1/18*
U.S. Cl. 75—176 **5 Claims**

1. A molybdenum-base alloy having a microstructure consisting essentially of a molybdenum matrix having

precipitated carbides distributed therein wherein said precipitated carbides are substantially all zirconium carbide, said alloy consisting essentially of, by weight, about



1.0–2.5% zirconium, about 0.03–0.15% carbon, balance molybdenum, with the atomic ratio of zirconium-to-carbon being about between 1.5:1 and 2.5:1.

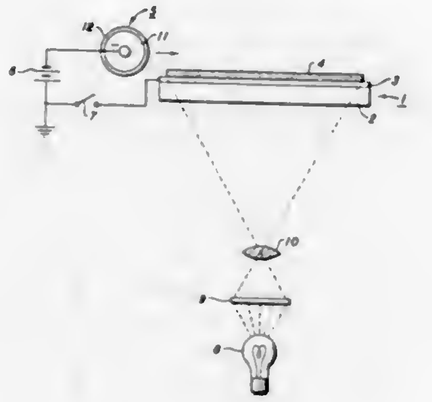
3,447,922
ELECTRICALLY PHOTOSENSITIVE PARTICLES USEFUL IN PHOTOELECTROPHORETIC AND XEROGRAPHIC IMAGING PROCESSES

Lester Weinberger, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,281

Int. Cl. C23b *13/00;* **G03g** *13/00*

U.S. Cl. 204—181 **20 Claims**



N - substituted - 8,13 - dioxodinaphtho (2,1-b; 2′,3′-d)-furan-6-carboxamides are described as new compositions of matter along with their use as electrically photosensitive particles in photoelectrophoretic and xerographic imagery process.

3,447,923
COLOR PHOTOGRAPHIC PROCESS

Jan Jaeken, Hove, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed June 2, 1965, Ser. No. 460,843

Claims priority, application Great Britain, June 8, 1964, 23,533/64

Int. Cl. G03c *7/30*

U.S. Cl. 96—55 **7 Claims**

Color development in the presence of a color coupling compound of a partially bleached silver image still containing silver nuclei, by means of an alkaline aqueous developing medium containing as color developing agent a hydrazone compound dissolved therein.

3,447,924
ALIGNING METHOD

Charles J. Trzyna, R.R. 2, Longrove, Ill. 60047, and Thaddeus S. Trzyna, 1840 Laurel St., South Pasadena, Calif. 91030

Filed Aug. 16, 1965, Ser. No. 479,826

Int. Cl. G03c *5/16*

U.S. Cl. 96—36 **19 Claims**

A method for producing aligned configurations on opposite sides of a workpiece that is penetrable by high frequency radiation, such as X-rays. Opposite sides of the workpiece are coated with a substance that is photo-sensitive to X-rays and an image mask that defines portions opaque to X-rays is placed over one of the coated sides of the workpiece. The one side is exposed through the mask with X-rays so that the workpiece is penetrated by the X-rays and the photo-sensitive substance on both sides of the workpiece is simultaneously exposed to the X-rays. The photo-sensitive susbtance on both sides of the workpiece is then treated with an agent that reacts differently with the portions of the substance exposed to the X-rays than with the unexposed portions thereof.

3,447,925
ANTI-FOGGING AND ANTI-PLUMMING DISULFIDE COMPOUND FOR USE IN SILVER HALIDE PHOTOGRAPHS

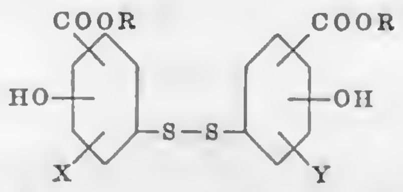
Fritz Dersch and John A. Welsh, Binghamton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,140

Int. Cl. G03c *1/34*

U.S. Cl. 96—66.5 **14 Claims**

A light-sensitive photographic element, a silver halide emulsion therefor and an aqueous developer solution which contain as an anti-fogging and anti-plumming material a compound of the general formula:



where R can be hydrogen, sodium, potassium, ammonium, $NR_1R_2R_3R_4$ where R_1, R_2, R_3 and R_4 can be hydrogen, alkyl of 1 to 4 carbon atoms and hydroxy alkyl and X can be hydrogen, alkyl of 1 to 4 carbon atoms, chlorine, bromine, alkoxy and hydroxy alkyl where the alkyl group in the last two substituents contains from 1 to 4 carbon atoms.

3,447,926
COLOR PHOTOGRAPHIC SILVER HALIDE ELEMENTS CONTAINING 4-SUBSTITUTED URAZOLES AND/OR CYCLOALKANE-1,3-DIONES

Clark Beckett and Everett H. Poppink, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,481

Int. Cl. G03c *7/00*

U.S. Cl. 96—69 **8 Claims**

Multicolor photographic elements containing at least one camera speed spectrally-sensitized emulsion containing a carbocyclic-1,3-dione, preferably in combination with a 4-substituted urazole have greatly reduced tendency to undergo latent image changes during storage between image exposure and photographic processing.

3,447,927
PRINT-OUT SILVER HALIDE EMULSIONS CAPABLE OF BEING CHEMICALLY DEVELOPED AND/OR PHOTODEVELOPED

Robert E. Bacon, Rochester, N.Y., and Jean F. Barbier, Paris, France, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 481,927, Aug. 23, 1965, and Ser. No. 550,119, May 16, 1966. This application Mar 24, 1967, Ser. No. 625,590

Claims priority, application France, July 13, 1965, 24,443

Int. Cl. G03c *1/34*

U.S. Cl. 96—87 **25 Claims**

A silver halide emulsion containing silver halide grains formed in the presence of trivalent metal ions, said silver halide system having a halogen acceptor contiguous to said trivalent metal containing silver halide grains. In one aspect, the emulsions can be used as good print-out emulsions and can be chemically developed. In another aspect they can be utilized in a photodevelopment process.

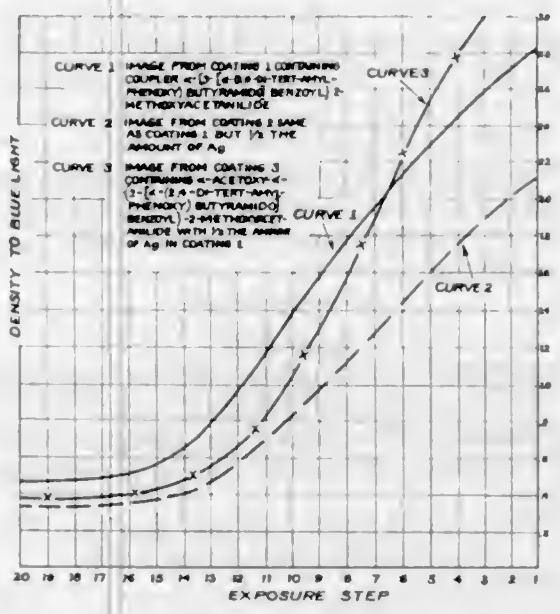
3,447,928
SILVER HALIDE EMULSION CONTAINING TWO-EQUIVALENT YELLOW DYE-FORMING COUPLER

Anthony Loria, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 246,931, Dec. 26, 1962. This application July 26, 1965, Ser. No. 477,353

Int. Cl. G03c *7/32*

U.S. Cl. 96—100 **15 Claims**



Uncolored open-chain reactive methylene two-equivalent yellow dye-forming couplers having one of the hydrogens of the active methylene group replaced with an acyloxy substituent have good coupling reactivity with oxidized primary aromatic amine color developing agents to form good yellow dye images and are advantageously incorporated in light-sensitive photographic silver halide emulsion layers to form yellow dye images.

3,447,929
METHOD OF MANUFACTURING A MEAT-CONTAINING EXPANDED FOOD PRODUCT

Douglas Hale, Creve Coeur, Mo., assignor to Ralston Purina Company, St. Louis, Mo., a corporation of Missouri

No Drawing. Filed June 7, 1965, Ser. No. 462,126

Int. Cl. A23k *1/10*

U.S. Cl. 99—7 **4 Claims**

A method of producing an expanded product directly from proteinaceous material, such as raw meat, that has been heated to decrease the moisture content thereof to a value between 20% and 40% and which has been ground to reduce the particle size thereof. This ground meat material is then subjected to elevated temperature and pressure while being moved through an extruder whereby some of the moisture is converted to steam and the ground and dried meat material is cooked. The material is then expelled through a restricted orifice into a region of lower temperature and pressure, normally atmospheric, whereby the moisture in the material is caused to flash off resulting in an expansion of the material and formation of an expanded product. A farinaceous material component may be combined with the raw meat and extruded to form the expanded product.

3,447,930
PROCESS OF TREATING WHEY

Leo H. Francis, Millbrae, Calif., assignor, by mesne assignments, to Foremost-McKesson, Inc., a corporation of Maryland

Filed Apr. 14, 1966, Ser. No. 542,538

Int. Cl. A23c *21/00;* **B01d** *13/02*

U.S. Cl. 99—57 **8 Claims**

Whey treatment process in which liquid having most of its protein in substantially undenatured form is concentrated without substantial denaturation of protein, clarified and then subjected to electrodialysis to reduce its ash content by about 15% or more. The demineralized whey is then concentrated and some lactose removed.

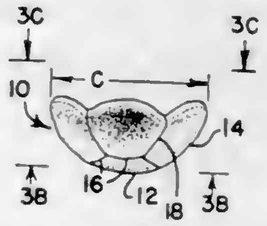
3,447,931
PROCESS FOR PREPARING A PUFFED, CONCAVE SHAPED CEREAL PRODUCT

John O. Benson, Mayer, and Rolf Moen, Hopkins, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Jan. 29, 1965, Ser. No. 429,069

Int. Cl. A23l *1/18*

U.S. Cl. 99—81 **5 Claims**



A column of cooked dough having a center filament and a plurality of outer filaments which surround the center filament, is cut into wafers having a predetermined diameter and a prescribed thickness and then subjected to intense heat to puff or expand the same into pieces having a concave shape.

3,447,932
METHOD OF PROVIDING A DIETETIC MEAT PRODUCT

Floyd C. Olson and Jack C. Trautman, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,047

Int. Cl. A22c *11/00*

U.S. Cl. 99—108 **1 Claim**

The method of providing improved meat particle coherence in sausage and meat loaf products intended for consumption by individuals on a low sodium diet wherein a meat solubilizing agent consisting of potassium chloride and a salt selected from the group consisting of the pyrophosphate and polyphosphate salts of potassium is substituted in place of sodium chloride.

3,447,933

RAPIDLY SOLUBLE FOOD COLORS

Addison M. Smith and Percy Perletz, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 14, 1966, Ser. No. 579,207

Int. Cl. A23l *1/26*

U.S. Cl. 99—148 **6 Claims**

A process for the production of water-soluble food colors having an improved rate of solubility in cold water comprising atomizing an aqueous dyestuff composition, in particular FD&C Red No. 2, FD&C Yellow No. 4 and FD&C Yellow No. 6, at a temperature between about 80 and 110° C. into a stream of heated gas maintained at a temperature in excess of 110° C.

3,447,934

DEHYDRATED POTATOES HAVING IMPROVED WHIPPING PROPERTIES

Rubin Weiner, St. Louis Park, Minn., and Gerald R. Hegarty, Melrose Park, Ill., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed Jan. 24, 1966, Ser. No. 522,551

Int. Cl. A23l *1/12*

U.S. Cl. 99—207 **13 Claims**

Dried potato solids simulating freshly mashed potatoes and possessing improved color, texture and tolerance to adverse whipping conditions are provided by uniformly incorporating into the dry potato solids an edible monoglyceride of a fatty acid and an edible lactylate fatty acid ester salt.

3,447,935

FLUID POLISHING COMPOSITION AND METHOD OF MAKING

Lawrence L. Marley, 3150 Lewis Ave., Fresno, Calif. 93702

No Drawing. Continuation-in-part of application Ser. No. 418,292, Dec. 14, 1964. This application Dec. 21, 1967, Ser. No. 692,308

Int. Cl. C09g *1/10, 1/02*

U.S. Cl. 106—8 **1 Claim**

A fluid polishing composition containing a mixture of a wax classed as a hard wax and a wax classed as a soft wax, hydrocarbon solvent, triethanolamine, oleic acid, ammonia water and a finely ground abrasive material providing a lattice carrier for the ammonia water to permit accelerated evaporation and removal of the ammonia water and abrasive material from a surface of application so as to leave the surface in optimum condition for receiving the wax constituents of the composition.

3,447,936

MOLD COATING COMPOSITION, PARTICULARLY FOR CENTRIFUGAL MOLDS

Martin N. Ornitz, Wilkinsburg, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,917

Int. Cl. B28b *7/38*

U.S. Cl. 106—38.27 **5 Claims**

An elongated centrifugal casting mold and a refractory coating is provided for casting thin walled tubular members wherein the coating is made up by weight of 60% to 97% of one of the group consisting of pulverulent zircon and lamp black, 1% to 25% diatomaceous earth, 2% to 20% bentonite and up to 4% sodium silicate.

3,447,937

STEAM CURED CEMENT AND PROCESS

Arthur T. Hersey, Easton, and Lorrin T. Brownmiller, Bath, Pa., assignors to Alpha Portland Cement Company, Easton, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,972

Int. Cl. C04b *11/00, 7/00*

U.S. Cl. 106—89 **6 Claims**

A portland cement composition useful in the production by steam curing of cement products having low shrinkage, high strength and hardness characteristics which consists essentially of a pulverized clinker material of hydraulic calcium silicates and has uniformly mixed therewith a pulverized calcium sulfate. The pulverized mixture has a fineness in excess of approximately 2600 Wagner surface area and contains less than approximately 4.0% by weight of tricalcium aluminate and in excess of approximately 3.0% by weight of sulfur trioxide.

3,447,938

LIGHTWEIGHT HIGH-STRENGTH CEMENT COMPOSITIONS

Anatole N. Vassilevsky, New York, N.Y., assignor to V.R.B. Associates, Inc., Lincolndale, N.Y., a corporation of the United States of America

No Drawing. Continuation-in-part of application Ser. No. 306,702, Sept. 5, 1963. This application Aug. 8, 1966, Ser. No. 570,743

Int. Cl. C04b *15/02*

U.S. Cl. 106—105 **2 Claims**

Hydraulic cement for admixture with water and inorganic or organic fillers, the cement consisting essentially of an anhydrous composition of magnesium oxide, magnesium sulfate and an alkaline-earth metal chloride selected from the group of calcium chloride, barium chloride and strontium chloride, said magnesium oxide being present in an amount by weight exceeding that of the magnesium sulfate and said alkaline-earth metal chloride being present in a molar quantity of less than that of the magnesium sulfate.

3,447,939

COMPOUNDS DISSOLVED IN CYCLIC AMINE OXIDES

Dee Lynn Johnson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 2, 1966, Ser. No. 576,810

Int. Cl. C09d *3/04, 3/06, 3/08*

U.S. Cl. 106—135 **21 Claims**

Processes for dissolving in a cyclic mono(N-methylamine-N-oxide) compond, compounds such as natural or synthetic polymers. In one aspect, this invention relates to composition comprising compounds dissolved in a cyclic mono(N-methylamine-N-oxide).

3,447,940

PAINT COMPOSITION CONTAINING POLYSACCHARIDES

Frank E. Halleck, Old Saybrook, Conn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 452,330, Apr. 30, 1965, which is a continuation-in-part of application Ser. No. 449,581, Apr. 20, 1965. This application Dec. 4, 1967, Ser. No. 687,919

The portion of the term of the patent subsequent to Jan. 31, 1984, has been disclaimed

Int. Cl. C09d *3/10*

U.S. Cl. 106—162 **20 Claims**

Water-based paints exhibiting improved storage stability and application properties are achieved by incorporating into the paint composition a water-soluble polysaccharide consisting essentially of a polymeric chain of D-glucopyranose units attached to one another by a beta 1,3 linkage to form a polymeric chain with appendant D-glucopyranose groups contiguously attached to the polymeric chain through a beta 1,6 linkage.

3,447,941

SPRAYABLE SULFUR ROAD MARKING COMPOSITIONS

Jacqueline C. Kane, Leonia, N.J., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,805

Int. Cl. C09d *5/26;* **E01c** *23/16*

U.S. Cl. 106—287 **10 Claims**

Sulfur road marking compositions stable against degradation by heat and having a viscosity sufficiently low to permit application by spraying. Said compositions comprising: from about 40% to about 96% elemental sulfur, from about 1% to about 20% of a sulfur containing plasticizer, from about 0.05% to about 10% of a chain terminating compound and from about 0% to about 30% of a filler. The sulfur containing plasticizer is selected from: (a) dimercaptans of the formula:

$$HS—Z—SH$$

wherein Z is a divalent organic radical having from 2 to 10 carbon atoms inclusive, and (b) polysulfides of the unit:

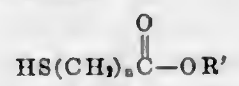
$$-\left[Z'S_x\right]-$$

wherein Z' is a chalcogen interrupted hydrocarbon of from 2 to 10 carbon atoms inclusive and *x* is an integer greater than 1.

The chain terminating compound is selected from: (a) monomercaptans of the formula:

$$RSH$$

wherein R is selected from acyl and hydroxyalkyl of from 2 to 20 carbon atoms inclusive, (b) monobasic acid monomercaptans of the formula:



$$HS(CH_2)_n\overset{O}{\overset{\|}{C}}—OR'$$

wherein *n* is an integer of from 1 to 3 inclusive, and R' is selected from hydrogen, sodium, potassium, ammonium, and alkyl, and hydroxyalkyl of from 1 to 20 carbon atoms inclusive, (c) polysulfides of the unit:

$$-\left[R''S_{n'}\right]-$$

wherein R'' is selected from phenyl and aralkyl and alkyl of from 2 to 10 carbon atoms inclusive, and *n'* is an integer greater than 1, and (d) styrene.

The filler is a finely divided material having an average particle size of from about 0.1 micron to about 300 microns, said filler to include pigments, clays, flours, silicas and the materials commonly used as fillers and extenders, and mixtures thereof.

3,447,942

PREPARATION OF SENSITISED PHOTOGRAPHIC PAPER

Albert Edward Harris and Frank R. Tolhurst, Ilford, Essex, England, assignors to Ilford Limited, Ilford, Essex, England, a British company

No Drawing. Filed Dec. 1, 1965, Ser. No. 510,967

Claims priority, application Great Britain, Dec. 23, 1964, 52,236/64

Int. Cl. G03c *1/88;* **B32b** *29/06*

U.S. Cl. 117—4 **4 Claims**

Sensitised photographic paper having reduced tendency to curl when cut into discrete sheets is prepared by coating one face of a paper web with an aqueous gelatino-silver-halide emulsion, drying the emulsion coating, and then contacting the other non-coated face of the web with the heated surface of a drum or drums for not less than 15 seconds, the temperature of the drum or drums being between 100 and 200° F. and then cutting the coated web into discrete sheets.

3,447,943

PROCESS FOR THE WHITENING OF POLYMERIC MATERIALS

George Harold Keats and Barrie Tinker, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

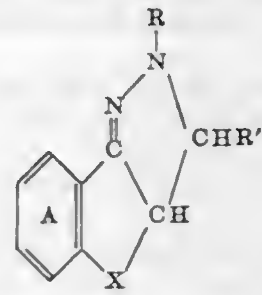
No Drawing. Filed Aug. 19, 1965, Ser. No. 481,107

Claims priority, application Great Britain, Sept. 2, 1964, 35,981/64

Int. Cl. C09k *1/02*

U.S. Cl. 117—33.5 **2 Claims**

Process for whitening polymeric materials which comprises treating the material at 85° C.–100° C. in a neutral aqueous medium with a heterocyclic compound containing at least one group of the formula



where, among other values, R may be phenyl or substituted phenyl; R' may be hydrogen or phenyl; X may be $—CH_2CH_2—$ and the A nucleus may be substituted or unsubstituted.

3,447,944

THERMOGRAPHIC COPYING SYSTEM

Raymond E. Werner, Cincinnati, Ohio, assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1965, Ser. No. 512,016

Int. Cl. B32b *29/06;* **D21h** *1/22*

U.S. Cl. 117—36.2 **3 Claims**

A thermographic process and thermographic paper employing as the image-forming components a solid organic peroxide compound which decomposes in the temperature range 50–200° C. and a substantially colorless substance capable of reacting with the peroxide decomposition products to form a colored reaction product.

3,447,945

PROCESS FOR THE PREPARATION OF PRESSURE-SENSITIVE COPYING PAPERS

Shizuo Mishima, Shizuo Katayama, and Hitoshi Imamiya, Fujimiya-shi, Shizuoka, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan

No Drawing. Filed Apr. 5, 1967, Ser. No. 628,570

Claims priority, application Japan, Apr. 9, 1966, 41/22,197

Int. Cl. D21h *3/02*

U.S. Cl. 117—36.2 **6 Claims**

In the preparation of a pressure-sensitive transfer paper by a procedure which involves hardening microcapsules, containing a colorless electron-donor organic compound, by the addition of formaldehyde, and then applying a dispersion of the capsules to a substrate, the trouble caused by the generation of an irritating odor of formaldehyde vapor is prevented by adding sodium sulfite or urea to the dispersion.

3,447,946
METHOD FOR COATING AND TESTING COMPOSITE CONTAINERS

Sheldon F. Roe, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Jan. 3, 1966, Ser. No. 518,109
Int. Cl. B44d *1/48, 1/40;* **B32b** *1/08*
U.S. Cl. 117—65.2 **2 Claims**

A sprayable coating is applied to the interior of a container having a fluid previous wall and partially set. The container is closed and fluid pressure is applied to the interior thereof. The application of pressure tends to reduce pinholes and bubbles in the coating. Any loss of pressure indicates imperfections in the container or the coating thus making correction of the defect possible before the coating has been completely set. Suitable apparatus for operation of the method is also disclosed.

3,447,947
DRAFTING FILM

Terence A. Abbott, Margaret L. Clachan, David Rankine Kennedy, Ian S. McIntyre, and Basil R. Shephard, Brantham, Manningtree, England, assignors to Bexford Limited, Brantham, Manningtree, England, a British company
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,932
Claims priority, application Great Britain, Mar. 20, 1964, 11,794/64
Int. Cl. C09d *3/64;* **B44d** *1/24;* **G03c** *1/00*
U.S. Cl. 117—73 **13 Claims**

There is provided a translucent polyester film which is receptive to clear legible marking with writing materials which consists of

(1) A hydrophobic film of biaxially oriented synthetic linear polyester;
(2) A layer coated directly on the said film and selected from (a) terephthalic-isophthalic polyesters or polyester-amide or polyester oxazoline, (b) polyvinyl halogenoacetate or copolymers thereof, (c) chlorinated polyalkyl acrylates, or methacrylates or copolymers thereof, and (d) a curable epoxy resin;
(3) An outer layer of a film-forming material containing toothing agents.

3,447,948
RESIN COATED CELLULOSIC SHEET HAVING REDUCED TENDENCY TO ACCUMULATE AN ELECTROSTATIC CHARGE

Walter T. Koch, Drexel Hill, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 2, 1965, Ser. No. 484,716
Int. Cl. B44d *1/30;* **D21h** *1/22*
U.S. Cl. 117—73 **9 Claims**

A composite sheet including a plasticized non-fibrous, water-insoluble cellulosic base sheet impregnated with a small amount of water-soluble salt to inhibit the formation of electrostatic charges in the sheet during handling and a polymer coating firmly adhering to the base sheet is disclosed herein.

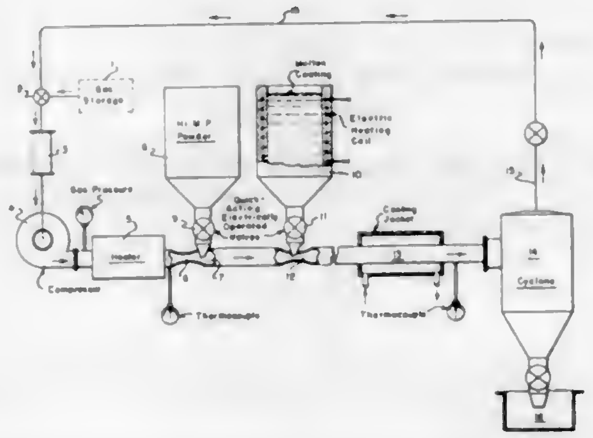
3,447,949
ABRASION RESISTANT POLYURETHANE COATING FOR STEEL

Robert L. Singer, St. Louis, Mo., assignor to Magna Visual, Inc., St. Louis, Mo., a corporation of Missouri
No Drawing. Filed Feb. 11, 1965, Ser. No. 431,992
Int. Cl. B44d *1/34*
U.S. Cl. 117—75 **2 Claims**

A strongly adherent abrasion resistant coating for steel and the like. The coating composition is comprised of a base coat of a major amount of a polyurethane and a minor amount of an epoxy resin, and a top coat consisting mainly of a polyurethane. The polyurethane in the base coat has a lower NCO content than the NCO content in the top coat which provides for grater adherence of the base or prime coat, coupled with a degree of resiliency acting as a shock absorber, while the top coat has a higher degree of abrasion resistance.

3,447,950
PRODUCTION OF ENCAPSULATED POWDERS

Thomas R. Evans, Sayport, and Norman S. Gesick, Killingworth, Conn., assignors to Valley Metallurgical Processing Company, Incorporated, a corporation of Connecticut
Filed Feb. 3, 1966, Ser. No. 524,954
Int. Cl. B44d *1/20*
U.S. Cl. 117—100 **11 Claims**

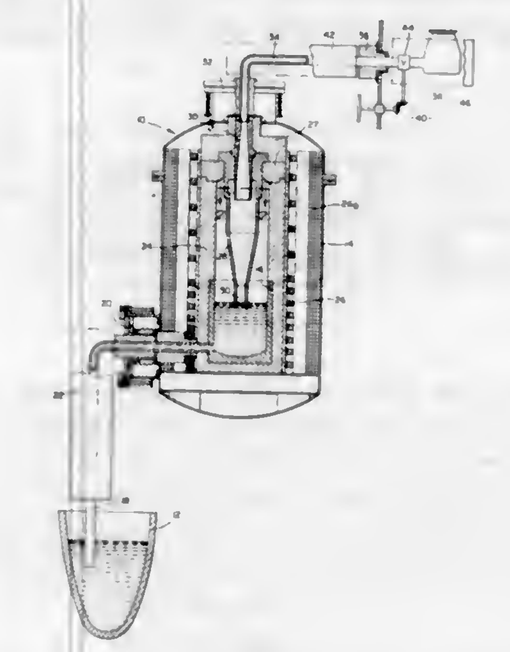


Solid powders having a melting point T_1 are encapsulated with a coating of a normally solid coating material having a melting point T_2, where $T_2<T_1$, by (a) fluidizing the solid powder in the stream of a carrier gas to form a fluidized bed of the solid powder in the carrier gas, (b) liquifying the coating material by heating it to a temperature greater than T_2 and then introducing a predetermined amount of the liquified coating material in the fluidized bed under turbulent mixing conditions so that the coating material forms an aerosol within the carrier gas and thereby encapsulates substantially all of the solid powder which is suspended in the fluidized bed with a predetermined amount of the coating material, (c) passing the resultant fluidized bed through a cooling zone to cool the encapsulated powder to a temperature below T_2, thereby substantially solidifying the encapsulating coating material, and (d) recovering the encapsulated powder. This technique is particularly useful for solid propellants and for various powder metallurgical applications.

3,447,951
CYCLONE SEPARATION OF PARTICLES IN VAPOR COATING

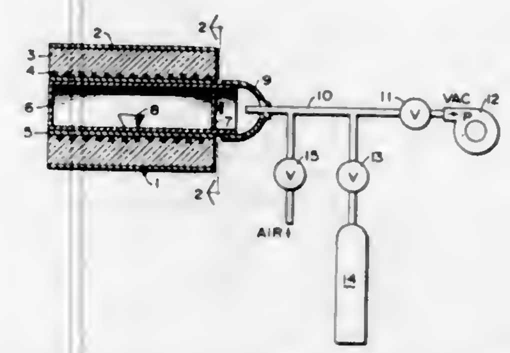
Lennie L. Ashburn, Rockledge, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1965, Ser. No. 498,301
Int. Cl. C23c *13/02;* **B44d** *1/02*
U.S. Cl. 117—101 **17 Claims**

Apparatus and method for vacuum coating of metal in which metal vapor evaporated from a bath is exposed to contrifugation, such as by a cyclone classifier, to separate the vapor into a stream of heavy metal particles, which had been entrained during evaporation, and a stream of clarified vapor. The clarified vapor is drawn off and deposited on an article in the vacuum chamber while the heavy metal particles are returned to the bath whereby the rate of vaporization may be increased without splattering.



3,447,952
MANUFACTURE OF SILICON CARBIDE FIBERS

William Hertl, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 7, 1965, Ser. No. 512,104
Int. Cl. C23c *13/02;* **C01b** *31/36*
U.S. Cl. 117—106 **4 Claims**



This invention relates to the production of submicroscopic fibers containing silicon carbide crystals through the reaction of finely-divided silicon carbide and a solid oxidant having a free energy of dissociation of the oxygen atom less than +100 Kcal./mole at a temperature between 1350°–1650° C. in a vacuum or an inert gaseous atmosphere.

3,447,953
METHOD OF VAPOR SEALING ANODICALLY PRODUCED OXIDE FILMS ON ALUMINUM AND ALUMINUM ALLOYS

Karl Gebauer, Leonberg, Wurttemberg, Robert Brugger, Bernhausen, and Heinzfelix M. Heiling, Dusseldorf-Nord, Germany, assignors to Langbein-Pfanhauser Werke A.G., Neuss (Rhine), Germany
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,094
Claims priority, application Germany, Aug. 3, 1965, L 51,297
Int. Cl. C23f *7/06;* **B32b** *15/08*
U.S. Cl. 117—106 **6 Claims**

This invention relates to sealing a porous anodized coating on a body of aluminum or aluminum alloy by exposing the coating to mixed vapors of water and a chlorinated hydrocarbon such as trichloroethylene or perchloroethylene.

3,447,954
PROCESS FOR PRODUCING DELAYED-TACK ADHESIVE COMPOSITIONS AND COATING SHEET MATERIALS THEREWITH

Hardy Gotthard Lobse, Dallas, Tex., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 488,280, Sept. 17, 1965. This application Mar. 29, 1967, Ser. No. 628,224
Claims priority, application Canada, Aug. 24, 1966, 968,665
Int. Cl. C09j *3/14*
U.S. Cl. 117—122 **18 Claims**

Processes are described for producing compositions that can be applied to sheet materials to produce a dry, nontacky film that becomes tacky when molten and remains tacky for a long period after cooling, which comprises mixing together an aqueous dispersion of a thermoplastic polymer with a substantially larger amount of a molten normally solid plasticizer that is compatible with the thermoplastic polymer to form an emulsion of the water-in-oil type, and processes of applying the said emulsion while still warm to the sheet material that is to be coated and permitting the thus-coated sheet material to dry in the ambient atmosphere.

3,447,955
PROCESS FOR SEALING CEMENT CONCRETE SURFACES

Clifford V Wittenwyler, Union, and John E. Magee, East Orange, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 22, 1965, Ser. No. 489,400
Int. Cl. C04b *41/28;* **C09d** *3/58*
U.S. Cl. 117—123 **8 Claims**

Concrete surfaces may be protected from excess loss of moisture during the first few days of curing after pouring by applying to said freshly poured concrete surface a composition comprising (1) an organic solvent, (2) a polyepoxide and (3) a polyimine containing at least one —C=N— group.

3,447,956
PROCESS FOR STRENGTHENING SWELLABLE FIBROUS MATERIAL WITH AN AMINE OXIDE AND THE RESULTING MATERIAL

Dee Lynn Johnson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,853
Int. Cl. D06m *13/38;* **D21h** *3/12*
U.S. Cl. 117—154 **20 Claims**

Process for strengthening fibrous materials comprising imbibing an amine oxide into said fibrous material and exposing the imbibed fibrous material to a temperature at which said amine oxide will swell the fibers of said fibrous materials. In a highly preferred embodiment, said amine oxide is a cyclic mono(N-methylamine-N-oxide) compound such as, for example, N-methylmorpholine-N-oxide, N-methylpyrrolidine-N-oxide, N-methylazacycloheptane-N-oxide, nicotine-1-oxide, etc. One aspect of this invention relates to articles of manufacture made by the above process.

3,447,957
METHOD OF MAKING A SMOOTH SURFACED ADHESIVE BINDER XEROGRAPHIC PLATE

Arthur J. Behringer, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Aug. 19, 1964, Ser. No. 390,738
Int. Cl. B44c *1/22;* **C08d** *13/24*
U.S. Cl. 117—201 **11 Claims**

This invention relates to a method of forming a smooth surface adhesive binder xerographic plate by pressing an extremely smooth surface cover plate over the free top surface of a binder coating, said cover plate having a distinctly different coefficient of thermal expansion from that of the composite binder layer, holding the sandwich formed by these elements under pressure with the resin in liquid form and then in solid form, and thereafter separating the adhering cover plate from the binder layer whereby a smooth surface xerographic binder plate is obtained.

3,447,958
SURFACE TREATMENT FOR SEMICONDUCTOR DEVICES

Shinkichi Okutsu and Noriyuki Nariai, Kodaira-shi, Takeshi Takagi, Musashino-shi, and Keijiro Uehara, Kita-ku, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Mar. 3, 1965, Ser. No. 436,748
Claims priority, application Japan, Mar. 6, 1964, 39/12,296
Int. Cl. H01b *1/02;* **C23c** *9/00, 11/06*
U.S. Cl. 117—201 7 Claims

A method for obtaining a silicon semiconductor device whose substrate surface is coated with a glass-like layer containing lead oxide by first vapor-depositing a lead layer on a silicon oxide film provided on the surface of the silicon substrate, then conducting a heat-treatment of the substrate for a required time in an oxidizing atmosphere of about 350° C. to completely oxidize the lead layer to lead oxide, thereafter subjecting the substrate to another heat-treatment in an oxidizing atmosphere of about 600° C. for a required time, thereby forming a solid-solution of lead oxide and silicon oxide.

3,447,959
METHOD OF MAKING COATED ARC WELDING ELECTRODES

Lars Hilding Hillert, Goteborg, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,589
Claims priority, application Sweden, Sept. 7, 1964, 10,697/64
Int. Cl. B23k *35/36;* **B32b** *1/10*
U.S. Cl. 117—206 4 Claims

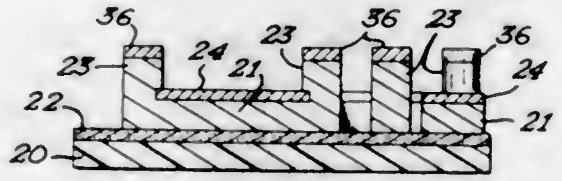
In the method of making coated arc welding electrodes involving the extrusion at a temperature not exceeding 100° C. of a pasty, preferably moistened compound of powdered constituents onto a massive or tubular wire or rod of iron or steel, the steps of incorporating with the coating compound a minor proportion of a compound selected from the group consisting of anhydrous boric oxide, boric acid, metaboric acid and tetraboric acid, and subjecting the coated electrodes to a temperature exceeding 450° C. but not sufficient to cause fusion of any coating constituents other than said selected compound, so that on evaporation of the water present, if any, the boric oxide fuses and on cooling provides a bond between the solid powder particles.

3,447,960
METHOD OF MANUFACTURING PRINTED CIRCUIT BOARDS

Stephen A. Tonozzi, 5140 45th Ave. S., Minneapolis, Minn. 55417

Filed Apr. 11, 1966, Ser. No. 541,579
Int. Cl. H05k *3/06*
U.S. Cl. 117—212 7 Claims

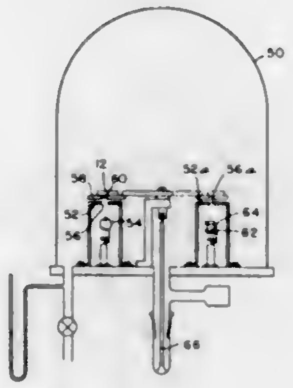
A method of manufacturing printed circuit boards wherein a first conductive layer laminated to an insulating substrate is coated with an etch resistant material applied in a desired circuit line pattern, a second conductive and etchable layer is plated over the first conductive layer and the etch resistant coating, and a second etch resistant coating is then applied to define a connector pad pattern in the portions of the second conductive layer lying thereunder. The portions of the first and second conductive layers not protected by the etch resistant coatings are then simultaneously removed in a single etching operation, thus leaving only the circuit line pattern in the first conductive layer and the connector pads in contact therewith. A second insulating layer is applied over the circuit lines and around the connector pads, leaving the top ends of the connector pads exposed for contact with a second circuit line pattern which may be formed on the second insulating layer by repeating the foregoing steps.



3,447,961
MOVABLE SUBSTRATE METHOD OF VAPORIZING AND DEPOSITING ELECTRODE MATERIAL LAYERS ON THE SUBSTRATE

Robert D. Hitchcock, Ventura, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 20, 1967, Ser. No. 624,616
Int. Cl. B44d *1/18;* **H01l** *7/00*
U.S. Cl. 117—212 3 Claims



The invention is a thin film superconductive tunnel diode and a method of its manufacture. The diode comprises a sandwich of thin films supported upon a substrate; the films are aluminum, aluminum oxide and lead or tin. Thickness of the diode is about 10^{-6} cm. The method of manufacture comprises vaporizing and depositing of aluminum and lead or tin with an oxidizing step after the deposition of aluminum. A double mask arrangement, one of which is movable, allows the method to be carried on at a pressure of about 10^{-3} torr.

3,447,962
METHOD OF AGGLOMERATING

William John Megowen, Carlisle, Mass., assignor of ten percent to The B. H. La Lone Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,590
Int. Cl. C13f *3/00;* **B03b** *3/00*
U.S. Cl. 127—63 7 Claims

A method of agglomerating including agglomerating and breaking particles in a first stage to produce agglomerated particles of a predetermined maximum size, separating from the output of the first stage a fraction of particles in a predetermined size range, and subjecting this separated fraction to a second agglomerating and breaking stage.

3,447,963
METHOD FOR REMOVING SCALE DEPOSITS

Joseph W. Callahan, Sulphur, La., assignor to Chemical Cleaning and Equipment Service, Inc., Houston, Tex., a corporation of Texas

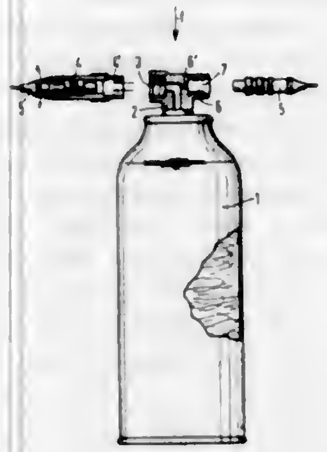
No Drawing. Filed Oct. 4, 1965, Ser. No. 492,856
Int. Cl. B08b *3/04*
U.S. Cl. 134—2 3 Claims

Method for removing scale deposits, and particularly scale deposits on sugar mill equipment, using potassium hydroxide having a concentration of from about 25% to about 60% and at a temperature in a range from about 180° F. to about 235° F. and effecting such removal in a reasonable time.

3,447,964
METHOD AND DEVICE FOR CLEANING INK OR INDIAN-INK WRITING INSTRUMENTS

Harald Koelichen, Geretsried, Bavaria, Germany, assignor to Filler & Fiebig G.m.b.H., Geretsried, Bavaria, Germany

Filed Jan. 24, 1966, Ser. No. 522,700
Claims priority, application Germany, Jan. 27, 1965, F 45,076
Int. Cl. B08b *3/02*
U.S. Cl. 134—22 4 Claims



A cleaning device for cleaning the writing elements of an ink employing writing instrument, comprising a pressurized container filled with a cleaning fluid under pressure, a spray head adapted with a release means for releasing the pressurized contents of the container; the spray head having at least one opening into which the writing elements to be cleaned are inserted; operation of the release means permits the fluid material in the pressurized container to exit through the spray head and pass through and clean the writing elements.

3,447,965
REMOVAL OF COPPER CONTAINING SCALE FROM FERROUS SURFACES

Fred N. Teumac, Charlotte, N.C., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

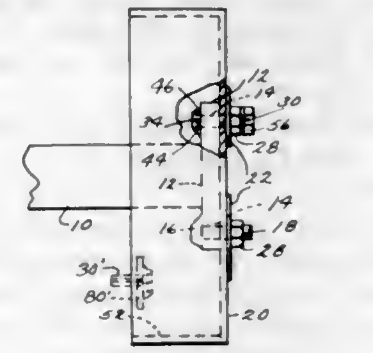
No Drawing. Filed Oct. 31, 1966, Ser. No. 590,501
Int. Cl. C02b *5/06;* **B08b** *3/08*
U.S. Cl. 134—2 10 Claims

1. The method of removing a copper bearing deposit from a ferrous metal surface which comprises:

contacting the ferrous metal surface with an aqueous alkaline solution having a pH of about 7 to 11 and containing both a nitrogen-free polycarboxylic acid complexing agent and an ammonia, amine or alkanolamine salt of polyamine polycarboxylic acid chelating agent, the aqueous solution being maintained at a temperature in the range of about 200 to 360° F. until the deposit is substantially dissolved.

3,447,966
APPARATUS FOR FLUSHING DEBRIS FROM THE REGION OF A VEHICLE BRAKE

James J. Manno, 600 Oak St., Ridgway, Pa. 15853
Filed July 14, 1966, Ser. No. 565,274
Int. Cl. B08b *3/02*
U.S. Cl. 134—22 8 Claims



7. A method for flushing debris from the region of a vehicle wheel brake drum comprising: mounting a nozzle on the brake drum so as to have an outlet end communicating with the interior of the brake drum and an inlet end positioned for easy access externally of the respective vehicle wheel; securing an adaptor to the nozzle inlet end; securing the adaptor to a water hose; directing water under pressure through the water hose, adaptor and nozzle out said outlet end and onto said brake drum.

3,447,967
SILVER-ZINC OR CADMIUM TYPE BATTERY WITH WIRE MESH SCREEN ELECTRODE

Paul O. Hagarman, North Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

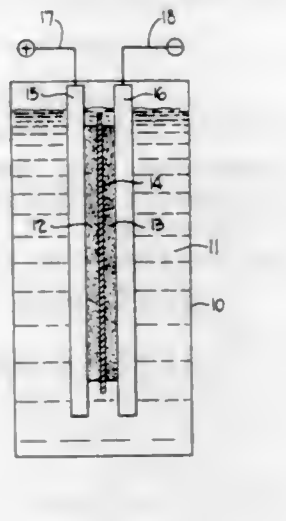
Filed Jan. 3, 1967, Ser. No. 606,620
Int. Cl. H01m *43/02*
U.S. Cl. 136—6 3 Claims

A silver-zinc or silver-cadmium battery including a wire-mesh screen electrode having a metal and metal oxide layers.

3,447,968
ELECTRICAL ENERGY STORAGE DEVICE AND METHOD OF STORING ELECTRICAL ENERGY

Robert A. Rightmire, Northfield, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 424,427, Jan. 8, 1965. This application June 30, 1966, Ser. No. 578,108
Int. Cl. H06m *35/30, 43/06, 13/02*
U.S. Cl. 136—6 6 Claims



A secondary battery operable above the melting point of the electrolyte, comprising a fused salt electrolyte and a pair of spaced electrodes immersed in the electrolyte, one of the electrodes, the cathode, being made of activated carbon having a surface area in excess of 100 $m.^2$/cc.

3,447,969

STORAGE BATTERY IMPROVEMENT

Sidney Tudor, Forest Hills, Aaron Weisstuch, Flushing, and Samuel H. Davang, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 17, 1966, Ser. No. 595,273

Int. Cl. H01m *39/04, 35/08*

U.S. Cl. 136—26 **2 Claims**

Improvements in pasted or sintered plates of storage batteries, particularly the pasted-grid positive plates of a lead-acid battery wherein the paste or active material closer to the grid is of higher density than the paste further from the grid, the active material being applied in two or more layers and wherein the layers are not necessarily continuous over the grid or over the preceding layer. Additionally, in lead acid batteries, phosphoric acid is included in the acid in a comparatively minor amount and in one layer of the paste.

3,447,970

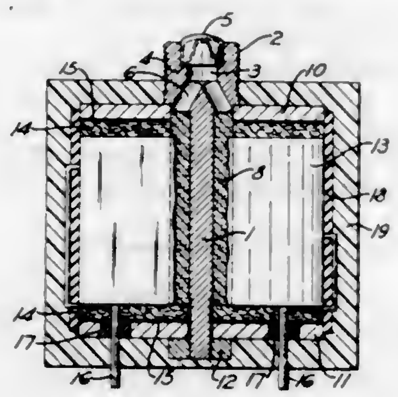
PRIMER HOLDER FOR IGNITABLE FIXTURE

William Jones, Baltimore, Md., assignor to Catalyst Research Corporation, Baltimore, Md., a corporation of Maryland

Filed Jan. 31, 1967, Ser. No. 612,933

Int. Cl. F42c *9/10;* **H01v** *1/00*

U.S. Cl. 136—83 **7 Claims**



A mandrel has a head provided with a central socket for receiving a primer. The body of the mandrel is surrounded by a tubular fuse, and the fuse is surrounded by the fixture that is to be ignited. The fixture is clamped between end plates, through which the mandrel extends.

3,447,971

NEUTRAL SECONDARY BATTERY

Frank E. Ammerman, Ann Arbor, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,969

Int. Cl. H01m *41/00*

U.S. Cl. 136—26 **7 Claims**

A neutral, secondary or chargeable zinc-lead oxide battery having an electrolyte which contains no free acid. The electrotrolyte in its simplest form is an aqueous solution of zinc sulfate. Beginning with such an aqueous solution the battery is charged which converts the positive plate to lead dioxide, deposits zinc at the negative plate and transforms the aqueous solution to a condition of substantial solvation energy.

3,447,972

PROCESS AND COMPOSITIONS FOR PRODUCING ALUMINUM SURFACE CONVERSION COATINGS

Arthur G. Wilde, Jr., Waukegan, Eugene F. Maisel, Palatine, and Floyd L. Mickelson, Chicago, Ill., assignors to The Diversey Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 9, 1966, Ser. No. 548,431

Int. Cl. C23f *7/26;* **C23c** *3/00, 7/00*

U.S. Cl. 148—6.2 **3 Claims**

Disclosed is a process and compositions for producing aluminum surface conversion coatings. The process uses aqueous acidic treating baths containing free halogen ions, hexavalent chromium-containing anions, nickel cations and nitrate anions, with advisably a ratio of 2.5 to 4.5 parts nickel to 1 part nitrate.

3,447,973

PROTECTIVE TREATMENT FOR MAGNESIUM

Herbert K. De Long and Donald E. Ritzema, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 17, 1966, Ser. No. 572,909

Int. Cl. B23c *3/04, 1/10*

U.S. Cl. 148—6.16 **7 Claims**

1. A process for providing a protective surface coating on magnesium which comprises:

(a) contacting a magnesium article at a temperature of from about 70° F. to about 220° F. for a period of from about 1 to about 60 minutes with an aqueous alkaline solution containing phosphate and chromate ion source materials, said solution comprising an alkali metal caustic, expressed as NaOH, of from about 5 to about 300 grams/liter, alkali metal phosphate, expressed as trisodium phosphate decahydrate, from about 1 to about 60 grams/liter, and, aqueous soluble chromate ion source material, expressed as sodium chromate tetrahydrate, from about 1 to about 50 grams/liter,

(b) separating the so-treated article from contact with said solution, and

(c) heating the so-treated article at a temperature of from about 300 to about 800° F. for a period of from about 2 minutes to about 8 hours or more in an oxidizing atmosphere.

3,447,974

COMPOSITION AND METHOD FOR BLACKENING METAL ARTICLE SURFACES

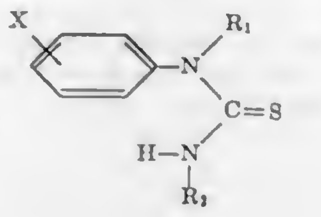
Edward B. Saubestre, Hamden, and Juan Hajdu, New Haven, Conn., assignors to Enthone, Inc., New Haven County, Conn., a corporation of Connecticut

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,864

Int. Cl. C23c *3/00;* **C23f** *11/16*

U.S. Cl. 148—6.24 **16 Claims**

Compositions and baths for the surface blackening of ferrous metal comprising an alkali metal hydroxide, an alkali metal nitrate and/or an alkali metal nitrite, preferably both such nitrate and nitrite, and as a red smut inhibitor a phenylthiourea of the formula



wherein R_1 and R_2 are hydrogen, phenyl or tolyl, and X is hydrogen or methyl, with the proviso that when R_1 is hydrogen, R_2 is hydrogen, phenyl or tolyl, and when R_1 is phenyl or tolyl, R_2 is hydrogen.

3,447,975

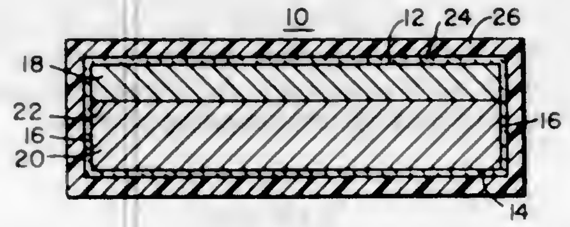
BILAYER PROTECTIVE COATING FOR EXPOSED P-N JUNCTION SURFACES

William J. Bilo, Irwin, and John F. Steinbach, Lewistown, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 13, 1965, Ser. No. 486,613

Int. Cl. H01l *7/34*

U.S. Cl. 148—33.3 **11 Claims**



The exposed surfaces of p-n junctions contained in a body of semiconductor material are protected by a first protective coating disposed on the exposed portions of the p-n junction and consisting of a reaction product of a halogenated organic silane, hydroxyl ions present in lattice sites on the surface of a body of semiconductor material, and semiconductor material comprising the body. A second protective coating consisting of essentially a water impervious material of a protective coating material selected from a group consisting of vulcanizing rubbers and perfluorohydrocarbons disposed on the first protective coating.

3,447,976

FORMATION OF HETEROJUNCTION DEVICES BY EPITAXIAL GROWTH FROM SOLUTION

John W. Faust, Jr., Forest Hills, Harold F. John, Wilkinsburg, and Martin S. Rubenstein, Pitcairn, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 17, 1966, Ser. No. 558,436

Int. Cl. B01j *17/04;* **H01l** *7/04, 7/34*

U.S. Cl. 148—1.5 **2 Claims**

1. A process of forming a heterojunction device by growing an epitaxial layer of a first semiconductor material upon a crystal of a second semiconductor material comprising the steps of:

(1) forming a charge consisting of a first semiconductor material, a second semiconductor material and a metal solvent, the lattice constant of the two semiconductor materials being within 25% of each other, the charge consisting of, by weight, from 1% to 30% of said second semiconductor material, from 0.1% to 5% of said first semiconductor material, the amount of said first semiconductor material in said charge not exceeding one-half the amount of said second semi-conductor material in said charge, and the remainder being the metal solvent,

(2) heating the charge to a first temperature whereby the first and second semiconductor materials are completely in solution in said solvent,

(3) cooling said charge at a rate not exceeding 10° C. per minute to a temperature whereby the first semiconductor material deposits epitaxially on precipitated crystal of said second semi-conductor material, and

(4) dissolving off the solvent metal, leaving crystals of said second semiconductor material with epitaxial layers of said first semiconductor material said crystals having rectifying properties.

3,447,977

METHOD OF PRODUCING SEMICONDUCTOR MEMBERS

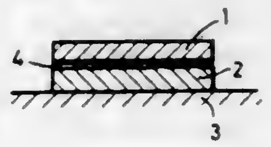
Erhard Sirtl, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Continuation of application Ser. No. 546,485, Apr. 28, 1966, which is a continuation of application Ser. No. 301,036, Aug. 9, 1963. This application Nov. 13, 1967, Ser. No. 682,673

Claims priority, application Germany, Aug. 23, 1962, S 81,056

Int. Cl. H01l *7/36*

U.S. Cl. 148—174 **3 Claims**



Method of producing a semiconductor member by precipitating layers of a substance consisting of high-ohmic p-conductive silicon on a monocrystalline carrier of high-doped silicon includes placing a surface of the carrier in contact engagement with a supporting surface of a heated support consisting of the substance to be precipitated as well as impurity substances whereby the carrier is heated by heat transfer from the heated support, subjecting the supporting surface of the support to a flowing gas atmosphere containing at least one gaseous substance selected from the group consisting of halogens and halides free of hydrogen and hydrogen halide impurities, and heating the support to a temperature at which a transport reaction occurs for causing transfer from the support to the carrier surface of only the substance to be precipitated, by forming a gaseous compound of the atmosphere with only the substance to be precipitated and then decomposing the gaseous compound and precipitating the substance in monocrystalline form on the surface of the carrier, a second surface of the support facing away from the surface of the carrier being provided with a coating for preventing undesired precipitation on the second surface of the support.

3,447,978

AMMONIUM NITRATE EMULSION BLASTING AGENT AND METHOD OF PREPARING SAME

Harold F. Bluhm, Tamaqua, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 3, 1967, Ser. No. 658,033

Int. Cl. C06b *1/04*

U.S. Cl. 149—2 **30 Claims**

An emulsion blasting agent is provided having an aqueous solution component forming a discontinuous emulsion phase; a carbonaceous fuel component forming a continuous emulsion phase and preferably characterized with a gas occlusion temperature between about 70° F. and about 190° F.; and an occluded gas component dispersed within the emulsion and forming a discontinuous emulsion phase. The emulsion is generally prepared with a prescribed carbonaceous fuel component, ammonium nitrate, water, occluded gas and an emulsifying agent. The formed emulsion, which may include added optional ingredients, is usually characterized with a pH in the range of about 2 to about 8 and is found to have unexpected stability and explosive performance characteristics.

3,447,979

GELLED NITRIC ACID BLASTING COMPOSITION AND METHOD OF PREPARING SAME

Harold F. Bluhm, Tamaqua, and Neil E. Gehrig, Schuylkill Haven, Pa., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 23, 1966, Ser. No. 604,166
Int. Cl. C06b *1/00*
U.S. Cl. 149—19 **36 Claims**

A chemical composition prepared from an aqueous nitric acid solution, an inorganic nitrate, a carbonaceous fuel, a nitric acid solution-soluble vinyl polymer stabilizer, and a gelation agent. The chemical composition is a blasting composition having improved stability which results by inclusion of a new stabilizer which may be formed solely of a copolymeric component which gels in the presence of a ferric-ion; or of a minor fraction of such a copolymerized component and/or a simple polymer component which gels in the presence of a ferric-ion, taken in combination with a major fraction of a copolymer of a vinyl monomer and an α-β unsaturated acid anhydride, or a copolymer of a vinyl monomer and a half, amide-half ammonium salt of the α-β unsaturated acid.

3,447,980

CASTABLE EXPLOSIVE CONTAINING TNT AND A REACTION PRODUCT OF A DIISOCYANATE AND 1,4-BUTYLENEOXIDE POLYGLYCOL

H. William Voigt, Jr., Stanhope, N.J., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Jan. 20, 1967, Ser. No. 610,697
Int. Cl. C06b *9/04*
U.S. Cl. 149—19 **5 Claims**

A polyurethane modified castable high explosive, such as TNT or Petrin Acrylate, whose solidified cast is essentially free of voids, cavities, or exuding oils.

3,447,981

SOLID PROPELLANT COMPOSITIONS AND METHOD OF MODIFYING PROPELLANT BURNING RATE USING FERROCENE DERIVATIVES

David C. Sayles, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Nov. 1, 1962, Ser. No. 235,601
Int. Cl. C06b *11/00*
U.S. Cl. 149—19 **11 Claims**

5. In solid propellant compositions employing bis(cyclopentadienyl)iron as the burning rate accelerator, the improvement in these compositions which comprises the substitution of a compound selected from the group consisting of cyclopentadienyl[2-(1-hydroxyethyl)-cyclopentadienyl]iron, 2 - carboxycyclopentadienyl(cyclopentadienyl)iron, 2 - isocyanatocyclopentadienyl(cyclopentadienyl)iron for said bis(cyclopentadienyl)iron.

3,447,982

AMMONIUM NITRATE HAVING DIATOMACEOUS EARTH DISPERSED THEREIN AND METHOD OF MAKING SAME

Joseph J. Minnick, Marion, Ill., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Apr. 14, 1967, Ser. No. 630,807
Int. Cl. C06b *1/04*
U.S. Cl. 149—46 **5 Claims**

A porous ammonium nitrate composition suitable for explosive use comprising ammonium nitrate having dispersed therein from 0.5% to about 4% by weight diatomaceous earth and from 0.0% to 1.0% by weight urea produced by dispersing the diatomaceous earth and urea, if any, in molten ammonium nitrate, followed by cooling of the mixture.

3,447,983

ACETONE TREATED NITROCELLULOSE-BASED PROPELLANT AND PROCESS

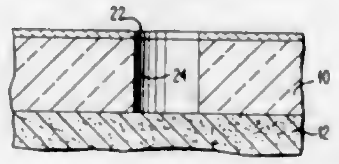
Albert T. Camp, Indian Head, Md., Elmer R. Csanady, Washington, D.C., and Leonard Danziger, Indian Head, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed July 31, 1967, Ser. No. 657,728
Int. Cl. C06b *5/04*
U.S. Cl. 149—98 **10 Claims**

A process for strengthening homogeneous nitrocellulose type propellants, made by the "solventless" process, which includes treating said homogeneous propellants with the vapors of a solvent of the type ordinarily used in the "solvent" process for dissolving and colloiding nitrocellulose, such as acetone. A high strength solventless propellant prepared by the foregoing process.

3,447,984

METHOD FOR FORMING SHARPLY DEFINED APERTURES IN AN INSULATING LAYER

Paul P. Castrucci and Samuel S. Im, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 24, 1965, Ser. No. 466,623
Int. Cl. C23f *1/02*
U.S. Cl. 156—11 **6 Claims**

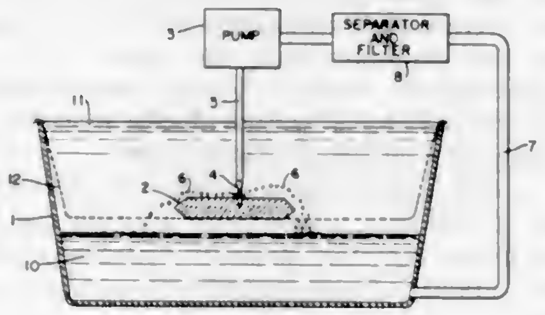


A method of forming an opening in an insulating layer which involves selectively removing a metal layer formed on the insulating layer to leave a metal plug over the area of the surface of the insulating layer through which an opening is to be formed. The insulating layer may be, for example, glass and the metal layer may be selected from the class of metals that adheres well to the insulating layer. A masking layer is formed over the exposed surface of the insulating layer and on the top surface of the metal plug. The metal plug and the portion of the insulating layer originally beneath the metal plug are etched away to leave an opening in the insulating layer.

3,447,985

METHOD FOR MACHINING FRAGILE CRYSTALS

Russell Seitz, Elberon, N.J., assignor, by direct and mesne assignments, of one-third to Elton Industries, Inc., Oyster Bay Cove, N.Y., a corporation of New York
Continuation of application Ser. No. 468,275, June 30, 1965. This application Sept. 24, 1965, Ser. No. 494,298
Int. Cl. C23f *1/04;* **B01j** *1/00;* **B01f** *1/00*
U.S. Cl. 156—12 **5 Claims**

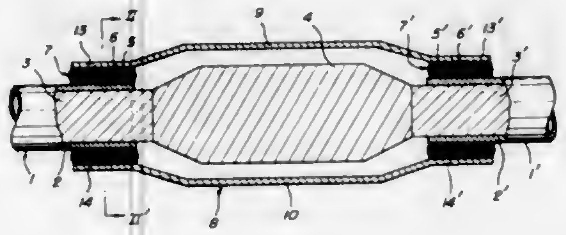


A body of a solid substance is shaped by supporting the body in a first fluid which is non-solvent with respect to the substance and directing a stream of a second fluid onto a surface of the body, the second fluid being a solvent for the substance and being immiscible with the first fluid.

3,447,986

METHOD OF JOINTING SHEATHS OF ALUMINUM-SHEATHED CABLES

Toshio Kasahara, Odawara-shi, Japan, assignor to Showa Electric Wire and Cable Co., Ltd., Kawasaki-shi, Japan
Continuation of application Ser. No. 238,894, Nov. 20, 1962. This application Jan. 20, 1967, Ser. No. 610,716
Claims priority, application Japan, Nov. 25, 1961, 36/42,055; Apr. 21, 1962, 37/15,489; Sept. 28, 1962, 37/41,879
Int. Cl. H01r *43/00;* **H02g** *1/14*
U.S. Cl. 156—49 **10 Claims**

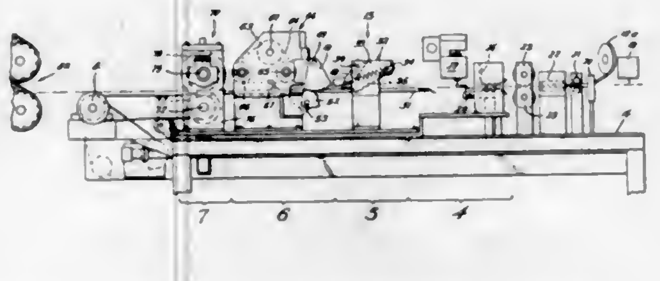


10. A method of jointing sheaths of metal-sheathed cables in gas- and liquid-tight fashion comprising the steps of removing the metal sheaths of the cables to be jointed adjacent to the ends thereof to expose the cable cores, splicing the cable cores to form a core joint, wrapping the end portions of the cable sheaths remaining on respective cables with metal tapes coated with a cold-setting synthetic resin adhesive to form a plurality of composite adhesive layers, coating the inner surface of sleeves of a junction box with said resin adhesive, positioning said junction box with the sleeves adjacent respective composite layers on the cable end portions, contracting said sleeves into contact with the respective composite layers, and allowing said adhesive to harden.

3,447,987

METHOD AND APPARATUS FOR SEALING BAGS

Quentin H. Williams, 3109 Delaney St., Dayton, Ohio 45420
Filed Feb. 2, 1966, Ser. No. 524,415
Int. Cl. B32b *7/14;* **B65b** *7/06*
U.S. Cl. 156—93 **11 Claims**

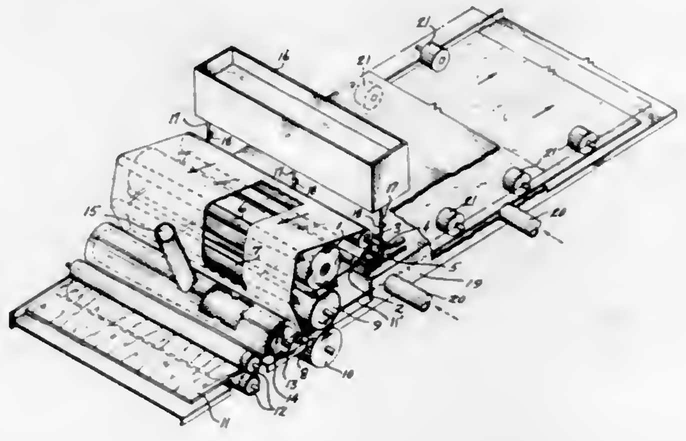


A method and apparatus for sealing the ends of multiwall bags. An adhesive closure tape is continuously applied over the end of each bag. The tape is severed between adjacent bags so as to provide a leading tape tab and a trailing tape tab extending outward from the respective side edge of each bag. An adhesive spray is applied sequentially to the upper surface of each of the tape tabs. The leading tape tab is first folded backward and the trailing tape tab is folded forward and both are pressed into firm contact with the bag.

3,447,988

FILM-SURFACED PANEL AND METHOD FOR MANUFACTURING THE SAME

Henry W. Salo, Seattle, Bruce H. Salo, Poulsbo, and William R. Salo, Winslow, Wash., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,339
Int. Cl. B32b *31/08, 31/12*
U.S. Cl. 156—229 **5 Claims**

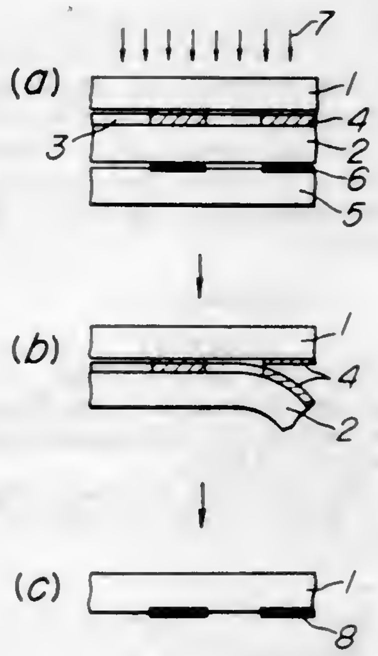


A method in which a transparent regenerated cellulose film is adhesively bonded, while in a swollen and stretched condition, to a structural panel containing natural wood.

3,447,989

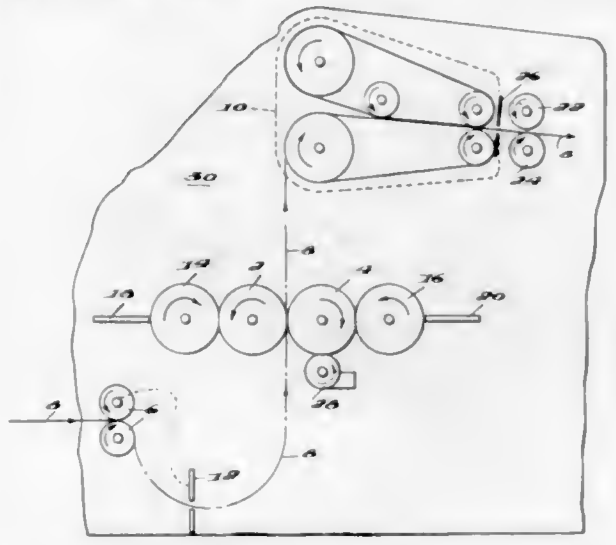
METHOD OF THERMOGRAPHIC REPRODUCTION

Akio Yamashita and Takashi Suzuki, Ikeda-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Dec. 20, 1965, Ser. No. 515,082
Int. Cl. B44c *1/06;* **B41m** *5/26;* **B41c** *1/06*
U.S. Cl. 156—230 **7 Claims**



A method of thermographic reproduction comprising the steps of preparing a heat-sensitive sheet having solid fine particles of a stable supercoolable monomer uniformly dispersed on a support, exposing the sheet and an original to heat to produce a latent image formed from the solid fine particles of the supercoolable material kept at its supercooled state, transferring the latent image to the surface of a transfer material and effecting development of the transfer material.

3,447,990
METHOD FOR MAKING BAGS FROM TUBULAR NETTING
Robert E. Fogg, Lynn, Mass., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 30, 1964, Ser. No. 379,313
Int. Cl. B65b *43/02;* **B32b** *31/18*
U.S. Cl. 156—269 **1 Claim**

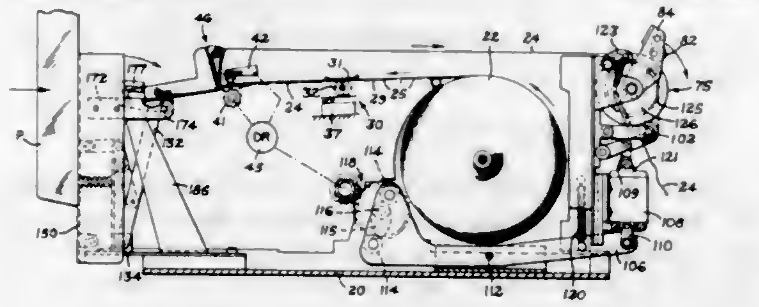


An improved method for fabricating labeled open-ended bags which comprises feeding a tubular web in a continuous flattened band, applying labels to the web, essentially simultaneously forming transversely weakened lanes across the web by the co-action of a flat bar and a transversely serrated land, each located on a rotatable nip roll, and separating the bag sections at the weakened lanes.

3,447,991
METHOD OF USING IMPROVED ASPHALTIC ADHESIVE
Russell E. Koons, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed July 22, 1964, Ser. No. 384,541
Int. Cl. C09j *3/00;* **B32b** *13/10*
U.S. Cl. 156—337 **9 Claims**

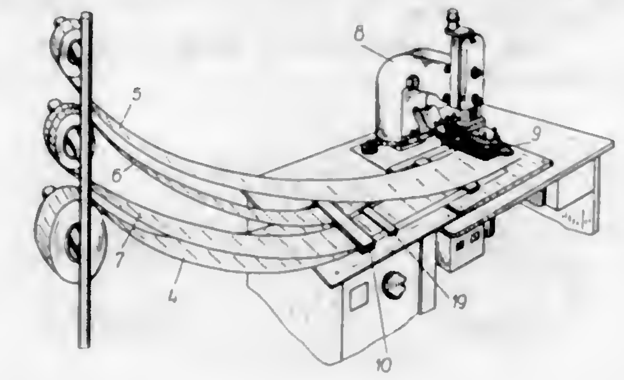
An improved adhesive composition for adhering wooden surfaces to concrete surfaces which comprises 30 to 60 percent by weight of an asphalt having a penetration at 77° F. of 60 to 160 mm./10, 5 to 30 percent by weight of a solvent comprising a hydrocarbon of 6 to 9 carbon atoms, 20 to 60 percent by weight of an unexpanded vermiculite and 1 to 10 percent by weight of asbestos fibres.

3,447,992
LABEL DISPENSER
Kenneth C. Allen and Helmut A. Vauk, Dayton, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed Aug. 11, 1965, Ser. No. 478,868
Int. Cl. B65c *9/36, 9/42;* **B41f** *19/00*
U.S. Cl. 156—361 **19 Claims**



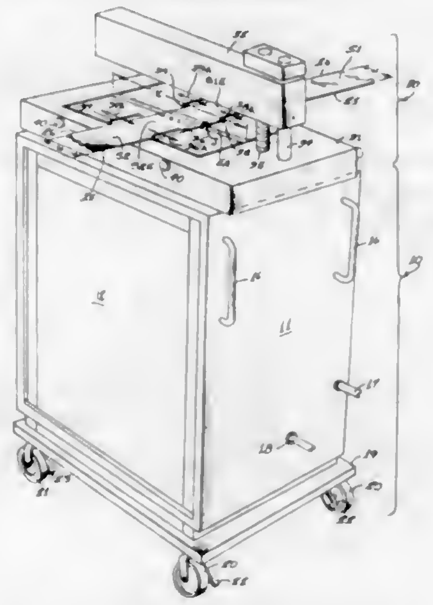
A series of pressure sensitive adhesive labels carried by a tape are successively printed with different information, and each label is stripped from the tape immediately after it is printed and delivered to an application station spaced from the stripping station by a transfer member which engages the adhesive side of the label.

3,447,993
APPARATUS FOR CONTINUOUS PRODUCTION OF MULTI-LAYER WATCHBANDS
Hilmar Herzog, Nottingen, near Pforzheim, Germany, assignor to Gustav Bauer, KG Guba-Uhrenrohwerke, Ellmendingen, Germany, a corporation of Germany
Filed Apr. 28, 1965, Ser. No. 451,474
Int. Cl. B32b *31/18, 31/26*
U.S. Cl. 156—461 **6 Claims**



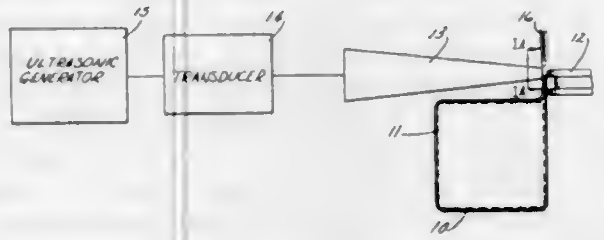
A watch band is produced from a plurality of layers of sheet material by seaming the edges of the band in a sealing station. The layers are fed to the sealing station in the form of flat tapes, one or more of the layers being folded over, before seaming, to form a loop at one or both ends of the band. A loop is formed by being folded over a string, or similar elongated object, which is fixed to the seaming apparatus.

3,447,994
MACHINE ALIGNMENT IN STRIP JOINING
Andrew E. Abramson and Andrew F. Kitchar, Excelsior, Minn., assignors, by mesne assignments, to Research, Incorporated, a corporation of Minnesota
Filed Jan. 24, 1966, Ser. No. 522,751
Int. Cl. B65h *21/00, 23/02*
U.S. Cl. 156—502 **5 Claims**



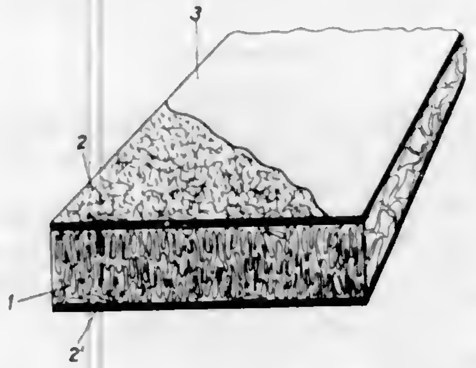
In the lap joining of tenuous strip materials it is essential to achieve and preserve accurate alignment. The invention accomplishes this by mounting the joint forming device for rotation relative to a wheeled machine frame. The whole wheel frame is moved into an approximately correct position for the lap, after which the joint forming device is rotated on the frame to orient the lap joint as desired with reference to the aligned strips. Locks for the frame wheels and rotational adjustments and strip edge guides are provided.

3,447,995
ANVIL CONSTRUCTION FOR ULTRASONIC SEALING DEVICE
Harry S. Dankert and Henry J. Geverink, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
Filed Nov. 12, 1965, Ser. No. 507,287
Int. Cl. B29c *27/08;* **B65d** *53/06*
U.S. Cl. 156—580 **10 Claims**



An ultrasonic sealing machine having an ultrasonic transducer mounted on a frame and having an elongated tool projecting away therefrom. The tool has a transverse working face at the remote end thereof. An anvil is mounted on the frame and has a working face thereon opposed to the working face of the tool. The anvil is constructed from an essentially nonmetallic, nonplastic material having a high degree of compressive strength and hardness yet a slight capacity for deformation together with a low heat conductivity.

3,447,996
STRATIFIED WOOD COMPOSITION PANEL
Max Himmelheber, 7 Saarstrasse, 7292 Baiersbronn, Black Forest, Germany, and Klaus Steiner, 1 Auf dem Krebet, 34 Gottingen-Nikolausberg, Germany
Filed June 7, 1966, Ser. No. 555,854
Claims priority, application Germany, June 10, 1965, H 56,264
Int. Cl. B32b *21/10*
U.S. Cl. 161—55 **8 Claims**



A stratified wood panel including at least one covering layer of bonded wood fibers, oriented substantially parallel to the panel plane, secured to a core of bonded wood chips oriented substantially perpendicular to the panel plane.

3,447,997
WEATHERABLE HIGH IMPACT RESISTANT LAMINATES
Musa Rasim Kamal, Hamden, Conn., assignor to Formica Corp., Cincinnati, Ohio, a corporation of Delaware
No Drawing. Filed Nov. 30, 1965, Ser. No. 510,673
Int. Cl. B32b *27/06*
U.S. Cl. 161—165 **6 Claims**

A high impact strength, weatherable, mar and craze resistant unitary, heat and pressure consolidated laminated article comprising (1) a thermoplastic polymer substrate, having a thickness of from $\frac{1}{16}$ inch to about $\frac{1}{2}$ inch, selected from the group consisting of polymers of vinyl chloride, styrene, an acrylate ester and a methacrylate ester, (2) an exterior layer, having a thickness ranging from about 5 to about 20 mils of a mixture of polymethylmethacrylate and from about 10% to about 20%, by weight, based on the total weight of the mixture, of polytetrafluoroethylene.

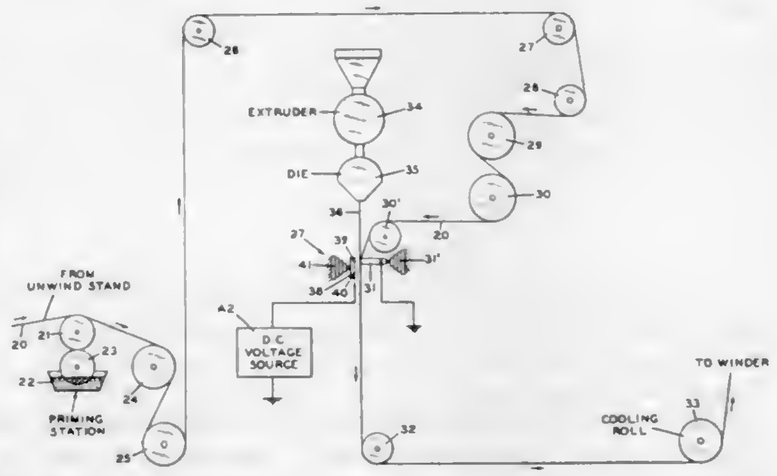
3,447,998
MONO-COMPONENT SELF-CRIMPING ACRYLIC FIBERS AND PROCESS FOR MAKING THE SAME
Warren E. Fitzgerald and John P. Knudsen, Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed July 2, 1965, Ser. No. 469,155
Int. Cl. D01f *7/02*
U.S. Cl. 161—173 **10 Claims**

Mono-component, self-crimping acrylic fibers are prepared by spinning acrylonitrile polymers into a non-diffusion coagulating bath to form fibers having skin properties sufficiently different from core properties to create the eccentric distribution of skin and core necessary for permanent crimp development.

3,447,999
HIGH MOLECULAR POLYAMIDE SAFETY GLASS LAMINATE AND METHOD OF MANUFACTURE
Edgar R. Rogier, Minnetonka, Minn., and Fred E. Wiley, Longmeadow, Mass., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,237
Int. Cl. B32b *17/10;* **C03c** *27/06;* **C09j** *3/00*
U.S. Cl. 161—197 **16 Claims**

1. A glass unit comprising at least two sheets of glass and an interposed layer of a thermoplastic polymeric fat acid polyamide resin, said polymeric fat acid having a dimeric fat acid content greater than 90% by weight.

3,448,000
COATED PAPER AND METHOD OF PRODUCING THE SAME
Leon J. Paquin and Owen D. Mosher, Glens Falls, and Glenn M. Violette, Greenwich, N.Y., assignors to International Paper Company, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 183,340, Mar. 28, 1962. This application June 10, 1964, Ser. No. 373,993
The portion of the term of the patent subsequent to July 20, 1982, has been disclaimed
Int. Cl. B32b *27/10, 29/00;* **B29d** *7/04*
U.S. Cl. 161—250 **9 Claims**



A method of apparatus for coating a paper substrate with a film of polyethylene, or other lower olefin polymer or copolymer, in which the paper is passed over a stationary, non-rotatable backing element and in which the extruded film is urged into bonding contact with the paper as the latter passes over the backing element by means of an electric field acting on the extruded film in the region of convergence thereof with the paper. Preferably the arc of contact of the paper and backing element is in the range of about 1/16" to 1/8". The back side of the paper may be contacted with a liquid coolant. The backing element may have a narrow elongated slot positioned so that the liquid coolant supplied through the backing element is directed into contact with the back side of the paper web.

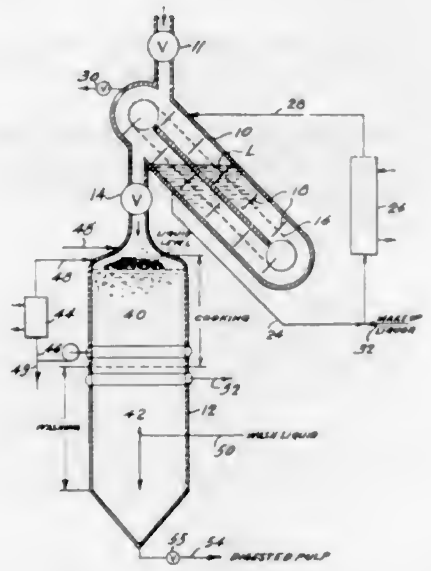
3,448,001
WOOD PANEL OVERLAY AND METHOD AND MANUFACTURE

Reino A. Jarvi, Bellevue, Wash., assignor to Simpson Timber Company, Seattle, Wash., a corporation of Washington
No Drawing. Filed May 31, 1966, Ser. No. 553,664
Int. Cl. B32b *21/08, 21/06*
U.S. Cl. 161—261 **19 Claims**

High density paper overlaid plywood panels are produced by hot press bonding of resin impregnated paper onto the wood substrate without caul sticking. Caul sticking during hot press bonding is eliminated by employing a paper impregnated with a condensation polymer formed from the co-reaction of the phenol with an aliphatic chain para-substituted phenol and formaldehyde in the presence of an alkali hydroxide catalyst.

3,448,002
PULPING PROCESS

John R. G. Bryce and Theodor N. Kleinert, Pointe Claire, Quebec, Canada, assignors to Domtar Limited, Montreal, Quebec, and Pulp & Paper Research Institute of Canada, Pointe Claire, Quebec, Canada
Filed June 14, 1965, Ser. No. 463,594
Claims priority, application Canada, June 20, 1964, 905,578
Int. Cl. D21c *3/24, 3/02*
U.S. Cl. 162—19 **1 Claim**



The present invention relates to a method of digesting cellulosic material by impregnating the material with an impregnation liquor to pick up the required amount of chemical for subsequent cooking, separating the material from the impregnation liquor, rapidly heating the impregnated material to cooking temperature and cooking said material in an aqueous heating medium devoid of chemical for replacement of chemical consumed during cooking.

3,448,003
ON-STREAM CLEANING OF WOOD CHIP DIGESTERS USING CHELATING AGENTS

Wayne R. Merriman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,983
Int. Cl. D21c *7/00, 3/20*
U.S. Cl. 162—38 **11 Claims**

A continuous pulp digester, such as a Kamyr digester, using hot, highly alkaline aqueous pulping liquor under pressure and having one or more heating-mixing cycles carried out continuously in the upper half of the digester, which has accumulated substantial deposits of hardness in the heating-mixing cycle equipment substantially restricting the flow of liquor through such equipment, is restored to proper operation by continuously feeding an aqueous solution of chelating agent into the digester along with the white liquor in sufficient concentration and for a long enough time to substantially remove the hardness deposits from the heating-mixing section. Such treatment is carried out while the digester remains on-stream although it is generally preferred to reduce the throughput of the digester to about one-half during the treatment period, thus increasing the residence time of the chelating agent.

3,448,004
PREPARATION OF CHEMICAL PULP FROM WOOD CHIPS

Stanley J. Buckman and Charles P. Kirchen, Memphis, Tenn., and Claude G. Gendron, Riverbend, Quebec, Canada, assignors to Buckman Laboratories, Inc., Memphis, Tenn., a corporation of Tennessee
No Drawing. Continuation-in-part of application Ser. No. 544,396, Apr. 22, 1966. This application June 27, 1966, Ser. No. 560,876
Int. Cl. D21c *3/20*
U.S. Cl. 162—75 **12 Claims**

The addition of an N,N-dimethylamide of a straight chain 18 carbon atom carboxylic acid to the cooking chemicals used in the preparation of chemical pulp from wood chips reduces the amount of cooking chemicals required in the process accompanied by increased yield and improved quality of the chemical pulp.

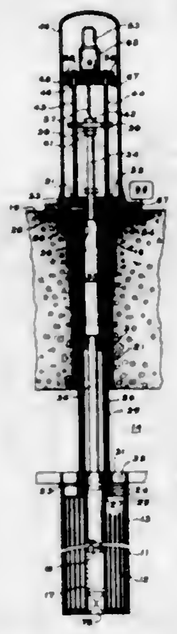
3,448,005
PROCESS OF FORMING WET STRENGTH PAPER CONTAINING A CATIONIC RESIN AND FUMARATED UNSATURATED OIL

Cecil Jay Allison, Jr., Paul Y. Jone, and Paul E. Jacobson, Seattle, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Jan. 4, 1965, Ser. No. 423,371
Int. Cl. D21h *3/58;* **D21d** *3/00*
U.S. Cl. 162—164 **3 Claims**

Wet strength paper and a method of making the same wherein a water-soluble, cationic, thermosetting resin is first added to an aqueous suspension of cellulosic fibers followed by the addition of an anionic material which contains reactive carboxyl or sulfonic acid groups. The suspension is then formed into a paper sheet and the sheet dried at elevated temperatures to partially cure the cationic resin.

3,448,006
CONTROL ROD DRIVE SYSTEM

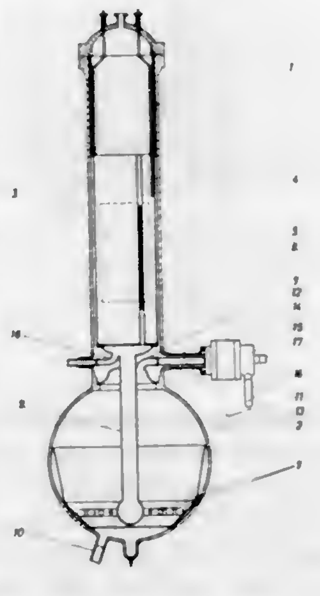
Peter Fortescue, Rancho Santa Fe, Richard J. Ringsmuth, Solana Beach, and George M. Schultz, La Jolla, Calif., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,251
Int. Cl. G21c *7/14*
U.S. Cl. 176—36 **6 Claims**



A control rod drive system for a nuclear reactor is described which utilizes a differential piston with a constant fluid pressure bias thereon. The piston immediately drives the control rod into the core upon release of a latch in response to a scram signal. During normal control rod drive operation, the piston and control rod are coupled by the latch to a normal drive mechanism. An enlarged section or snubbing device on the piston rod cooperates with a tapered portion of the cylinder to brake the control rod at the end of its scram travel.

3,448,007
STEAM-COOLED NUCLEAR REACTOR

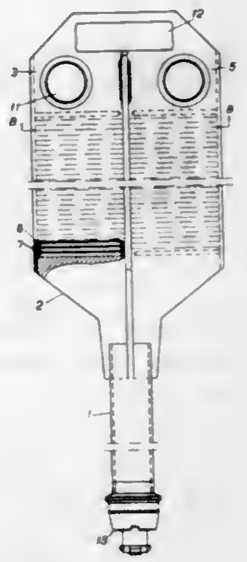
Ludolf Ritz, Karlsruhe-Waldstadt, Germany, assignor to Gesellschaft fur Kernforschung m.b.H., a corporation of Germany
Filed Aug. 19, 1965, Ser. No. 481,013
Claims priority, application Germany, Aug. 19, 1964, G 41,351
Int. Cl. G21c *15/02*
U.S. Cl. 176—59 **7 Claims**



A steam-cooled nuclear reactor with a cooling steam generator arranged in a common pressure vessel with the reactor core and therebelow, the pressure vessel having an internal vertically extending duct for passing superheated steam into the steam generator to evaporate condensate introduced therein, the steam generator and core being separated by a steam distribution header through which the superheated steam duct passes to feed superheated steam to the bottom of the steam generator, the saturated steam generated by interaction of superheated steam with condensate being delivered from the steam generator through the distribution header and fed back into the core for cooling same.

3,448,008
CONTROL RODS FOR NUCLEAR REACTORS

Erik Hellman, Irsta, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Sept. 7, 1967, Ser. No. 666,026
Claims priority, application Sweden, Sept. 16, 1966, 12,468/66
Int. Cl. G21c *7/10*
U.S. Cl. 176—86 **8 Claims**



A control rod for nuclear reactors comprising absorber plates with a plurality of hollow spaces containing neutron absorbing material. Each plate is built up of one or a small number of plate-shaped pieces of material in which the hollow spaces are drilled. The spaces extend substantially perpendicular to the longitudinal direction of the rod and are in communication with each other through pressure equalizing channels.

3,448,009
STABILIZATION OF ENZYMES

Eugene Roberts, Pasadena, Calif., assignor to City of Hope Medical Center, a corporation of California
No Drawing. Filed Nov. 17, 1966, Ser. No. 595,043
Int. Cl. C07g *7/02*
U.S. Cl. 195—63 **20 Claims**

A process for stabilizing gamma-aminobutyric acid transaminase, or succinic semialdehyde dehydrogenase, or mixture thereof by lyophilizing the same in the presence of pyridoxal phosphate and a sulfhydryl-containing compound.

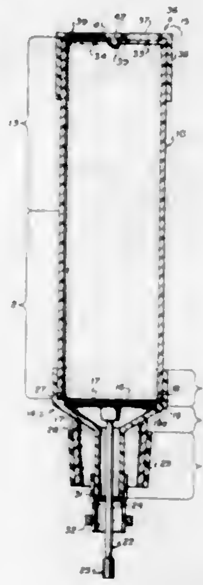
3,448,010
PREPARATION OF ACTIVE DRY YEAST

Seymour Pomper, Stamford, Conn., and Emanuel Akerman, Bronx, N.Y., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 18, 1965, Ser. No. 433,793
Int. Cl. C12c *11/30;* **C12k** *3/00*
U.S. Cl. 195—74 **16 Claims**

An active dry yeast having a high degree of storage stability may be produced by mixing a wet yeast cake and an antioxidant selected from the group consisting of butylated hydroxyanisole and butylated hydroxytoluene and drying the mixture to a low moisture content.

3,448,011
STERILE FILTER

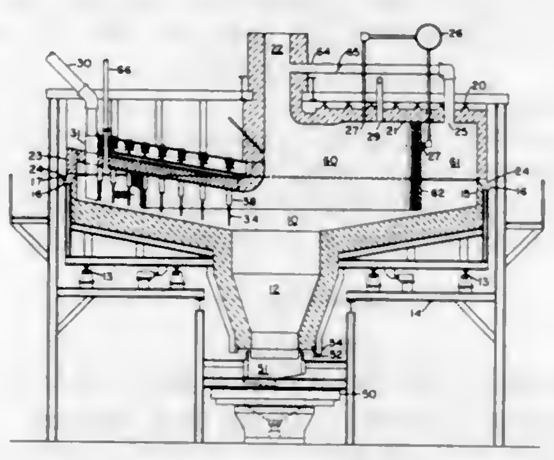
Rocco Joseph Russomanno, Wayne, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Continuation of application Ser. No. 531,489, Mar. 3, 1966. This application June 14, 1968, Ser. No. 737,243
Int. Cl. C12b *1/00;* **C12k** *1/04*
U.S. Cl. 195—139 13 Claims



A bacteriological filtration and incubation apparatus to test for a micro-organism comprising a container having a filter support bed upon which a filter membrane may be seated during a filtration process, where the filter membrane is adapted to collect a micro-organism from a fluid to be tested which is introduced to the container. A movable unit at the filter support bed enables the filter membrane to be displaced for suspension in the container and a nutrient medium introduced thereto, for growth of the micro-organism. Inlet and outlet ports are included along with means for closing and/or opening the port(s) depending on which one of the various stages of the filtration and incubation process one is at.

3,448,012
ROTARY CONCENTRIC PARTITION IN A COKE OVEN HEARTH

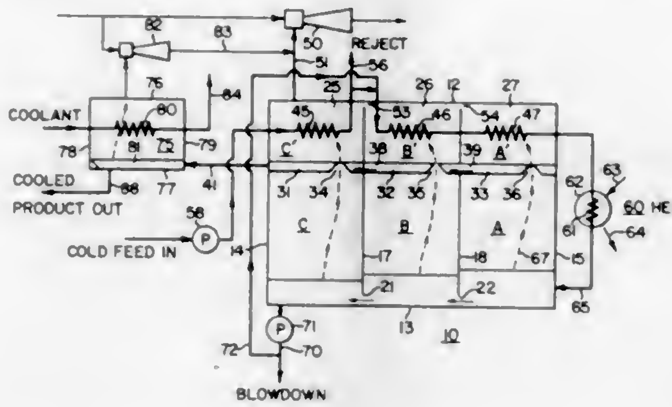
Victor D. Allred, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed Feb. 1, 1967, Ser. No. 613,145
Int. Cl. C10b *49/06, 37/00, 47/18*
U.S. Cl. 201—27 9 Claims



A coke oven chamber is comprised of a conical hearth with an outlet at the center and lowermost portion. An overlying rotary cap has spaced rabbles depending therefrom disposed to move material on the hearth progressively inwardly towards the material outlet. The cap is further provided with a cylindrical partition depending from it and coaxial with the outlet. The partition extends into a bed of material on the hearth.

3,448,013
DISTILLATE COOLING MEANS FOR FLASH EVAPORATORS

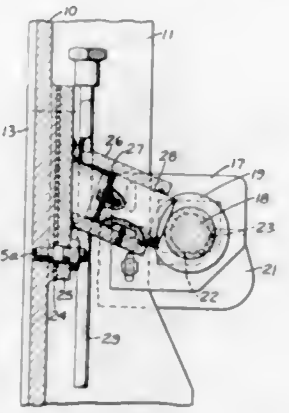
Robert E. Bailie, Media, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1966, Ser. No. 571,581
Int. Cl. B01d *3/06, 1/28*
U.S. Cl. 202—173 9 Claims



The invention comprises an evacuated flash chamber for cooling the product liquid condensate directed to said chamber from a multistage flash evaporator. At least a portion of the product liquid is flashed into vapor in the cooling chamber, the vapor being condensed and cooled therein by heat exchange tube structure provided in the chamber, the heat exchange structure absorbing heat from the vapor.

3,448,014
SELF-SEALING DOOR FOR HORIZONTAL COKE OVENS UTILIZING FLUID PRESSURE EQUALIZING CYLINDER-PISTON MEANS

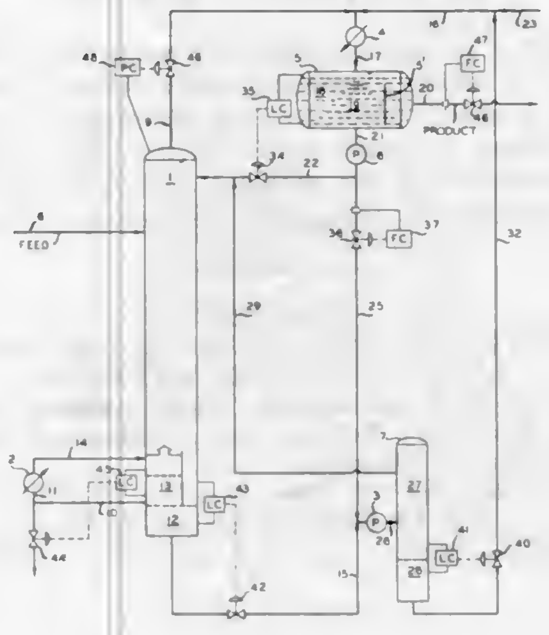
Heinz Wolff, Bochum, Germany, assignor to Dr. C. Otto & Comp. GmbH, Bochum, Germany
Filed June 22, 1967, Ser. No. 647,982
Int. Cl. C10b *25/06;* **F23m** *7/00*
U.S. Cl. 202—248 7 Claims



The present invention concerns a self-sealing door for horizontal coke ovens in which the contact pressure of the door against the frame of the oven is produced by the weight of the door itself in such a manner that horizontal locking beams arranged on the door at various heights abut against the inner side of the rear wall of hooks mounted on said frame. The self-sealing door according to the invention is characterized primarily in that pistons reciprocable in forwardly inclined hydraulic cylinders which are rigidly connected to the body of the door and which communicate with each other for hydraulic equalization, are operable to exert clamping action on the locking beams which loosely abut the body of the door when the latter is raised, and slide into recesses of said hooks as the door is lowered for clamping the door under the pressure exerted by said piston, against said frame.

3,448,015
DISTILLATION PROCESS WITH POLYMERIZATION INHIBITOR ADDITION AT SPECIFIC LOCATIONS FOR THE PURIFICATION OF POLYMERIZABLE ORGANIC COMPOUNDS

Ronald S. Rogers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,212
Int. Cl. B01d *3/00;* **C07c** *7/00*
U.S. Cl. 203—8 7 Claims

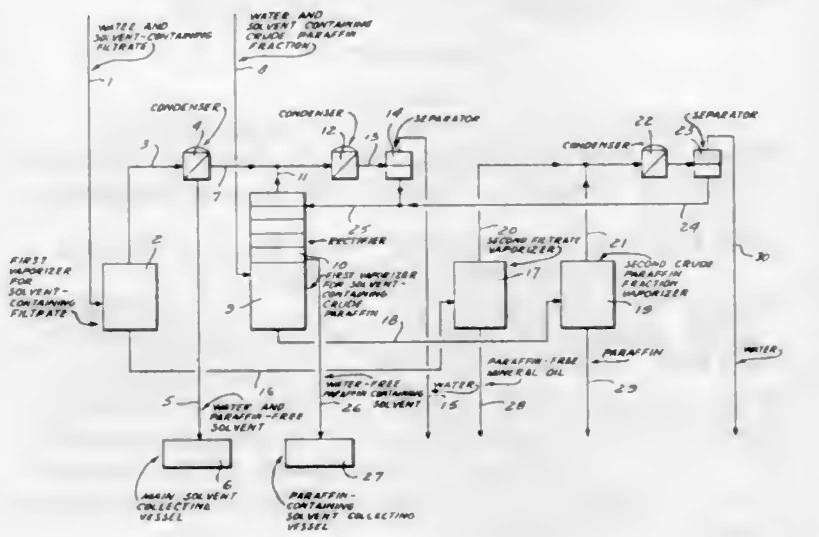


Organic monomers are fractionally distilled in association with a polymer inhibitor solution and the inhibitor solution separated from the kettle section of the distillation column contains a high concentration of impurities. Before being returned to the top of the column, the separated inhibitor solution is contacted with at least a portion of a liquid from the distillation system thereby decreasing the concentration of impurities in the inhibitor solution. Therefore, the amount of impurities extracted by the monomer product is substantially reduced.

3,448,016
METHOD OF RECOVERING PURE SOLVENTS USED IN DEWAXING MINERAL OILS AND THE LIKE BY MULTISTAGE DISTILLATION OF SEPARATE SOLVENT STREAMS

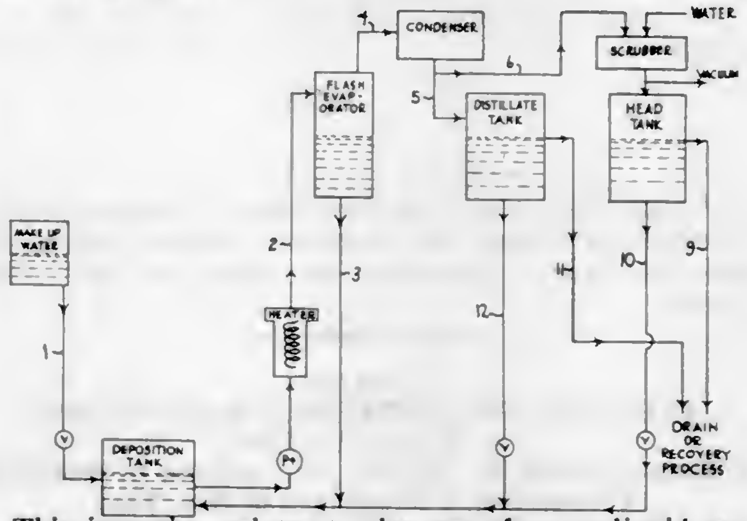
Alfred Hoppe, Frankfurt am Main, Germany, assignor to Edeleanu Gesellschaft m.b.H., Frankfurt am Main, Germany
Filed Feb. 1, 1967, Ser. No. 613,200
Claims priority, application Germany, Feb. 12, 1966, E 31,034
Int. Cl. B01d *3/38, 3/14;* **C07c** *17/38*
U.S. Cl. 203—76 5 Claims

Lower chlorinated hydrocarbons which had been used as solvents in the dewaxing of mineral oils and the like are recovered in water-free and paraffin-free form by diluting the mineral oils which are to be dewaxed with dichloroethane and/or dichloromethane or the like, cooling the thus-obtained solutions whereby paraffin will precipitate, and filtering the thus obtained mixture. Thereby a filtrate will be formed consisting of paraffin-free mineral oil and lower chlorinated hydrocarbon solvent. This filtrate will additionally contain water since the initial mineral oil always contains a small fraction of water. The filter residue or crude paraffin fraction will consist essentially of the precipitated paraffin, the latter containing solvent and some water also derived from the water content of the initial mineral oil or the like. Recovery of the solvent is carried out by separate evaporation of volatile constituents from the filtrate and the crude paraffin fraction. Evaporation of the filtrate will yield water-containing, paraffin-free chlorinated hydrocarbon vapors which are partially condensed. The thus-obtained condensate represents the major portion of the initially introduced chlorinated hydrocarbons in water-free and paraffin-free form. The uncondensed fraction of these vapors consists of the lower boiling azeotropic mixture of chlorinated hydrocarbons and water. This uncondensed portion is combined with the vapors obtained by evaporation of the crude paraffin fraction which latter evaporation is carried out in a rectifying column. The thus combined vapors are subjected to complete condensation. In the thus-obtained condensate separation of water from water-containing chlorinated hydrocarbons will take place. The water is removed and the still water-containing chlorinated hydrocarbons are introduced as reflux at the head of the above-mentioned rectifying column. At the bottom of the rectifying column accrue chlorinated hydrocarbons recovered from the crude paraffin fraction. This relatively small proportion of the originally introduced chlorinated hydrocarbons is free of water but not free of paraffin and may be recycled for the dewaxing of subsequent portions of mineral oils and the like.


WATER AND SOLVENT-CONTAINING FILTRATE
WATER AND SOLVENT CONTAINING CRUDE PARAFFIN FRACTION
CONDENSER
CONDENSER
SEPARATOR
CONDENSER
SEPARATOR
RECTIFIER
FIRST VAPORIZER FOR SOLVENT-CONTAINING FILTRATE
FIRST VAPORIZER FOR SOLVENT-CONTAINING CRUDE PARAFFIN
SECOND FILTRATE VAPORIZER
SECOND CRUDE PARAFFIN FRACTION VAPORIZER
PARAFFIN
WATER
PARAFFIN-FREE MINERAL OIL
WATER-FREE PARAFFIN CONTAINING SOLVENT
WATER
WATER AND PARAFFIN-FREE SOLVENT
MAIN SOLVENT COLLECTING VESSEL
PARAFFIN-CONTAINING SOLVENT COLLECTING VESSEL

3,448,017
VAPOR-LIQUID SEPARATION METHOD FOR REMOVING EXCESS AMINE FROM ELECTRO-DEPOSITION BATH

Wen-Hsuan Chang and Rostyslaw Dowbenko, Gibsonia, Pa., assignors to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 27, 1966, Ser. No. 523,397
Int. Cl. B01d *3/10, 3/06*
U.S. Cl. 203—92 8 Claims



This invention relates to the use of vapor-liquid separation methods such as distillation techniques, especially at reduced pressure, to remove excess amines from electro-deposition bath compositions comprising a solubilized polycarboxylic acid resin.

3,448,018

PREVENTING FOULING OF ELECTRODES

James A. Kelly and James L. Teal, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 17, 1966, Ser. No. 520,895
Int. Cl. C23f *15/00*
U.S. Cl. 204—1 2 Claims

In aqueous systems capable of supporting biological growths which cause fouling of sensor electrodes employed in such systems, fouling is prevented by cooling the aqueous system to a controlled temperature below about 42° F. but above its freezing point prior to contacting such electrodes.

3,448,019

PROCESS FOR MAKING CARBAMATES

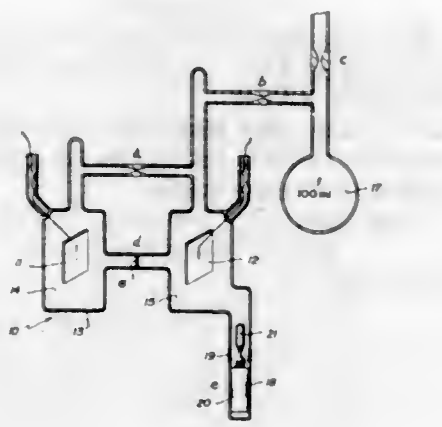
Vernon D. Parker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,076
Int. Cl. C07c *103/02;* **B01k** *1/00*
U.S. Cl. 204—59 8 Claims

1. The process for making a carbamate of the formula RNCOOR′, wherein R is an alkenyl, cycloalkenyl or aryl radical and R′ is a lower alkyl or alkenyl radical, comprising passing a direct electric current through a conductive mixture comprising a compound of the formula R—H, an alcohol of the formula R′OH and a compound providing NCO^- ions.

3,448,020

PROCESS FOR THE CONTROL OF ANIONIC POLYMERIZATION BY REGULATION OF THE CHARGE TRANSFERRED DURING ELECTROLYSIS OF SOLUTIONS

Boris Lionel Funt, Winnipeg, Manitoba, Canada (1153 Eyremount Drive, West Vancouver, British Columbia, Canada)
Filed Feb. 25, 1966, Ser. No. 530,090
Int. Cl. B01k *1/00*
U.S. Cl. 204—72 20 Claims



A method of controlling the progress of anionic polymerization by passing an electrolytic current through the solution thereby controlling the population of Living Ends.

3,448,021

ELECTROLYTIC PROCESS FOR SELECTIVE ACYLOXYLATION

William J. Koehl, Jr., Yardley, Pa., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Dec. 28, 1966, Ser. No. 605,225
Int. Cl. B01k *1/00;* **C07c** *67/00*
U.S. Cl. 204—72 10 Claims

A method for the electrochemical preparation of acyloxy derivatives of substituted benzene compounds. For example, in the electrochemical acetoxylation of toluene, xylenes, etc., the use of a cobalt acetate catalyst produces benzyl acetates to the exclusion of phenyl acetates.

3,448,022

ELECTROCHEMICAL ACYLOXYLATION OF OLEFINS

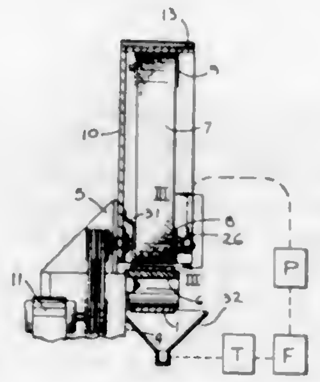
William J. Koehl, Jr., Yardley, Pa., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Dec. 28, 1966, Ser. No. 606,520
Int. Cl. C07c *45/02;* **B01k** *1/00*
U.S. Cl. 204—78 11 Claims

A method for electrochemically preparing acyloxy derivatives of allylic compounds from olefins in the presence of a metal promoter. For example, aliphatic or cyclic olefins, in acetic acid and its alkali metal salt, are electrolyzed in the presence of cobalt acetate; the allylic hydrogen is replaced by the acetoxy group.

3,448,023

BELT TYPE ELECTRO-CHEMICAL (OR ELECTROLYTIC) GRINDING MACHINE

Ramsay M. Bell, Schoolcraft, Mich., assignor to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Jan. 20, 1966, Ser. No. 521,987
Int. Cl. B23p *1/20, 1/16, 1/10*
U.S. Cl. 204—143 10 Claims



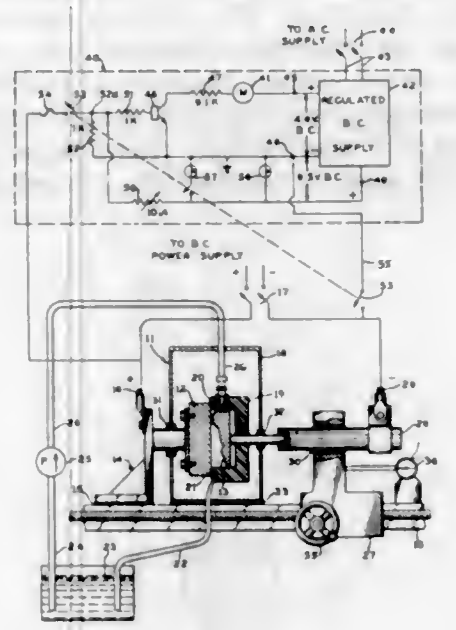
An electro-chemical (formerly called "electrolytic") grinding apparatus having a perforate, electrically conductive, abrasive belt supported on a pair of spaced pulleys with one of the pulleys being located such that a workpiece contacts the abrasive belt at a point whereby the one pulley constitutes a backing for the belt. A recess is provided in the one pulley and the one pulley is additionally provided with openings through the periphery thereof. An electrolyte is introduced into the recess of the one pulley and flows, impelled at least in part by centrifugal force, radially outwardly through the openings in the periphery of the one pulley and through the perforate abrasive belt against the workpiece. Means are provided for applying a unidirectional electrical potential difference between the workpiece and the abrasive belt.

3,448,024

PROXIMITY DETECTOR FOR ELECTROCHEMICAL MACHINING

Richard Dale Philpott, Cleveland Heights, Ohio, assignor to The Steel Improvement and Forge Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 18, 1966, Ser. No. 528,498
Int. Cl. B23p *1/12*
U.S. Cl. 204—143 12 Claims

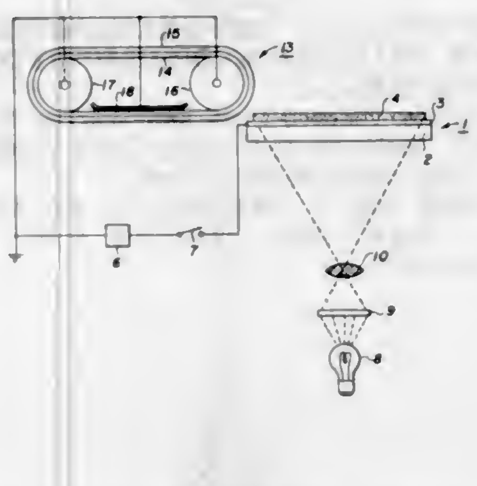
A proximity detector for use with electrochemical machining apparatus having a tool and workpiece adapted for relative movement toward and away from each other while jointly contacting an electrolyte, the detector being designed to indicate when a predetermined minimum spacing between the tool and workpiece is first reached without requiring contact between or among the tool, workpiece, or other attendant parts of the apparatus.



3,448,025

PHOTOELECTROPHORETIC IMAGING SYSTEM UTILIZING A PROGRAMMED POTENTIAL APPLICATION

Arthur L. Krieger, Webster, and Ira S. Stein and Vsevolod Tulagin, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 452,651, May 3, 1965. This application Oct. 31, 1966, Ser. No. 590,666
Int. Cl. C23b *13/00;* **B01k** *5/00*
U.S. Cl. 204—181 11 Claims



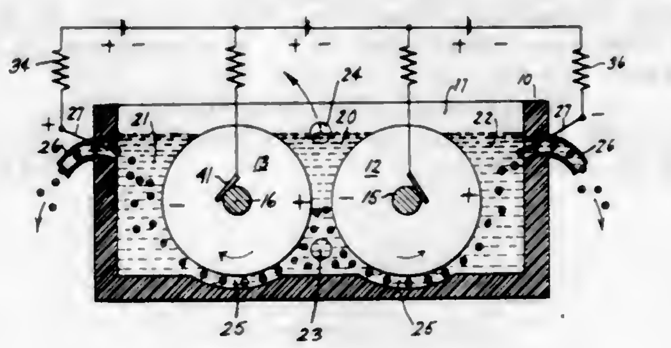
A method of photoelectrophoretic imaging utilizing a programmed potential application. Potential application is increased after the electrodes are brought into contact with the imaging layer eliminating striations and mottling of the final image.

3,448,026

REMOVAL OF IONS FROM AN IONIZED LIQUID

Philip E. Benner, 1739 Randolph Road, Schenectady, N.Y. 12308
Filed May 20, 1966, Ser. No. 551,754
Int. Cl. C02b *1/82;* **B01d** *13/02*
U.S. Cl. 204—180 14 Claims

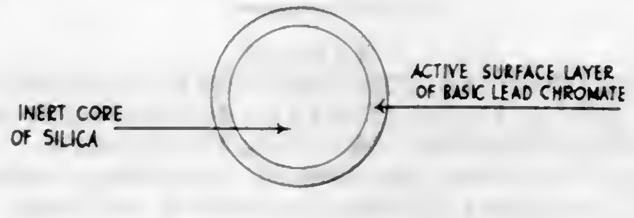
An ionized solution is passed in contact with rotating bipolar electrodes which adsorb ions on one side from a central chamber and repel these same ions into other chambers on opposite sides of the rotating electrodes. Stationary electrodes in the second chambers promote continuance of the ionic flow.



3,448,027

ELECTRODEPOSITION COMPOSITIONS AND METHODS USING A BASIC LEAD SILICO CHROMATE PIGMENT

Donald P. Hart, North Olmsted, Ohio, and Joseph E. Plasynski, Arnold, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 502,175
Int. Cl. B01k *5/00;* **C23b** *13/00*
U.S. Cl. 204—181 13 Claims

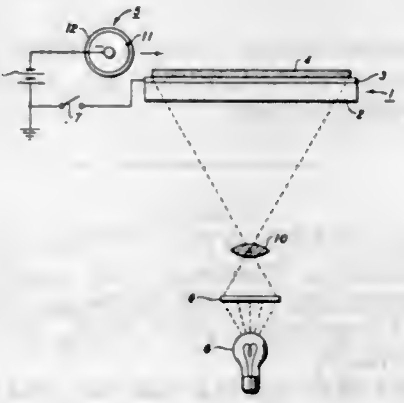


This invention relates to electrodepositable compositions having increased throw power, containing basic lead silico chromate, and the method of preparation which comprises aging under acid conditions to cause lead soap formation.

3,448,028

N-SUBSTITUTED - 8,13-DIOXODINAPHTHO (2,1-b; 2′,3′-d)-FURAN - 6 - CARBOXAMIDES AS ELECTRICALLY PHOTOSENSITIVE MATERIALS IN ELECTROPHOTOGRAPHIC PROCESSES

Lester Weinberger, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 28, 1964, Ser. No. 421,280
Int. Cl. B41m *5/20;* **C23b** *13/00;* **G03g** *7/00*
U.S. Cl. 204—181 18 Claims



N-substituted - 8,13 - dioxodinaphtho (2,1-b; 2′,3′-d)-furan-6-carboxamides are used as the electrically photosensitive material in photoelectrophoretic, xerographic, and deformation imaging systems.

3,448,029

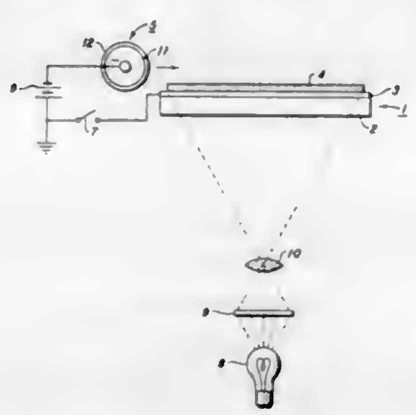
ELECTROPHORETIC IMAGING PROCESS USING 8,13-DIOXODINAPHTHO - (2,1 - b; 2′,3′-d) - Furan-6-CARBOXAMIDE PIGMENTS

Lester Weinberger, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,377

Int. Cl. B41m *5/20;* **C23b** *13/00;* **G03g** *7/00*

U.S. Cl. 204—181 **19 Claims**



N - substituted - 8,13-dioxodinaphtho (2,1-b; 2′, 3′-d)-furan-6-carboxamides as electrically photosensitive pigments useful in photoelectrophoretic imaging, in xerographic plates and in deformation imaging.

3,448,030

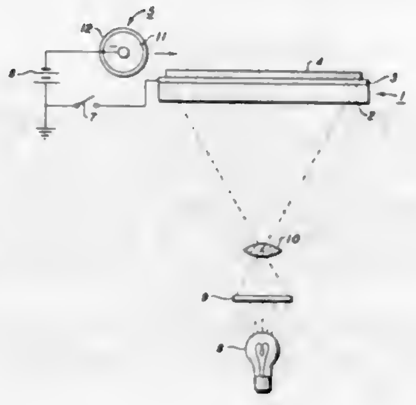
ELECTRICALLY PHOTOSENSITIVE PARTICLES USEFUL IN PHOTOELECTROPHORETIC AND XEROGRAPHIC IMAGING PROCESSES

Lester Weinberger and Basil M. Kyriakakis, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 28, 1965, Ser. No. 467,345

Int. Cl. B01k *5/00*

U.S. Cl. 204—181 **9 Claims**



N - substituted anthra - [2,1,β] - naphtho - [2,3 - d]-furan-9,14-dione-7-carboxamides as electrically photosensitive pigment particles.

3,448,031

ELECTROLYTIC TITRATOR

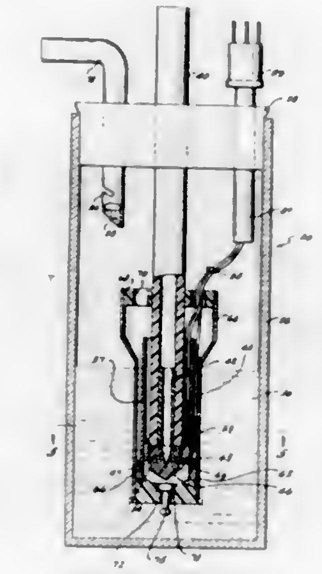
Myron L. Robinson, Monterey Park, Calif., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed May 4, 1964, Ser. No. 364,412

Int. Cl. B01k *3/02*

U.S. Cl. 204—195 **19 Claims**

Apparatus for the continuous electrolytic titration of a flowing fluid stream. The average of pulses of electric current generating the titrating agent serves as an indication of the instantaneous concentration of titratable reagent in the flowing stream. Means are provided to confine the flowing stream to movement past three in-line electrodes comprising, from the electrode furthest upstream, a reference electrode, a generating electrode, and a sensing electrode. The titrating agent generating electrode and the reference electrode are connected to a source of direct current through a switching means and the generator electrode and the sensing electrode are connected in a continuously operative sensing circuit connected to a control means. The control means controls the switching means in accordance with the concentration of titrating agent sensed by the sensing circuit. To prevent the generation of titrating agent in the switching circuit, the potential between the sensing electrode and the generating electrode is always below the potential necessary to generate the titrating agent. Alternative embodiments of a titration cell are provided to accommodate titratable reagents which are both non-hydrolyzing and those readily soluble in electrolytic solutions.



3,448,032

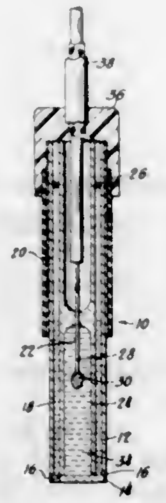
LIQUID ORGANIC ION-EXCHANGER ELECTRODE WITH ORGANOPHILIC-HYDROPHOBIC MEMBRANE

Robert J. Settzo, Painted Post, and Warren M. Wise, Big Flats, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 3, 1966, Ser. No. 547,253

Int. Cl. B01k *3/12, 3/04, 3/06*

U.S. Cl. 204—195 **16 Claims**



An electrode for measuring the concentration of an ionic species in an aqueous phase wherein the sensing portion is a liquid organic phase containing an organic ion exchange material capable of exchanging ions with the aqueous phase and being substantially immiscible with the aqueous phase, the organic phase being separated from the aqueous phase by a porous membrane coating with a treating agent to impart an organophilic-hydrophobic property.

3,448,033

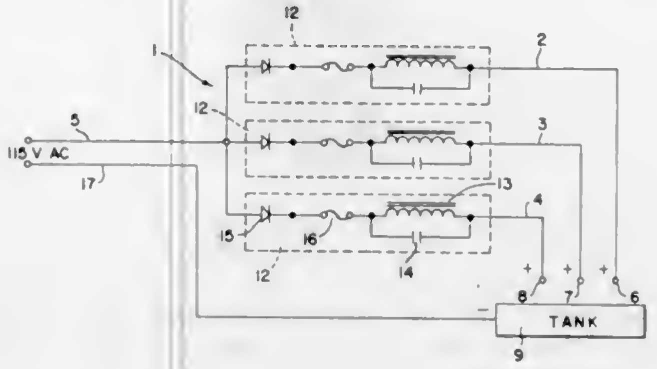
PROTECTIVE SYSTEM

Bernard Husock, South Euclid, Ohio, assignor to Harco Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 503,254

Int. Cl. C23f *13/00*

U.S. Cl. 204—196 **8 Claims**



A cathodic protection system for objects buried beneath the ground wherein a D.C. current is established between an anode array buried nearby and the object to be protected to nullify corrosive electrolytic action. Each anode is powered from an A.C. source by a semiconductor rectifier and parallel choke and capacitor circuit, the rectifier providing D.C. current flow and the choke and capacitor modifying the waveform and establishing a high impedance for regulation of the output current without excessive heating or power dissipation.

3,448,034

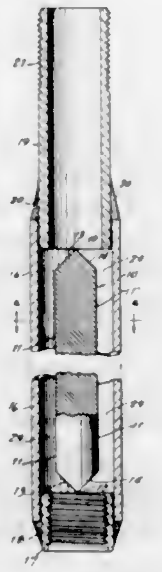
FLUID STABILIZER

Leonard F. Craft, Box 96, Andrews, Tex. 79714, and Frank E. Calvery, Box 25, Florey, Tex. 79732

Filed Aug. 24, 1966, Ser. No. 574,665

Int. Cl. C23f *13/00*

U.S. Cl. 204—197 **3 Claims**



A stabilizing element having a core comprised of a mixture of several metals which provides a crystalline structure of non-conductive characteristics, and which is substantially non-sacrificing when placed in use. The core is arranged centrally located along the longitudinal central axis of a suitable housing wherein the housing also provides a flow conduit for various liquids.

3,448,035

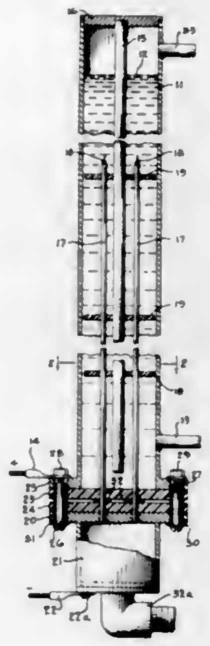
ACTIVATED SURFACES USEFUL IN THE PRODUCTION OF HYDROGEN

Earl J. Serfass, St. Petersburg, Fla., assignor to Milton Roy Company, St. Petersburg, Fla., a corporation of Pennsylvania

Filed Jan. 25, 1966, Ser. No. 522,934

Int. Cl. C01b *13/06;* **C23f** *7/02;* **B01k** *3/06*

U.S. Cl. 204—278 **15 Claims**



Method of activating palladium or palladium-alloy surfaces, and electrolytic hydrogen generating cells including such surfaces and an activated electrolyte. In prior art methods of electrolytic production of ultra-pure hydrogen involving the use of a cathode constructed of palladium alloy tubes, it has not been possible to cover substantially all of the hydrogen generated at the cathode surfaces. The invention provides a method for activating the surface of palladium or a hydrogen permeable palladium alloy involving the exposure of a clean, moisture-free surface to a molten hydroxide of an alkali or alkaline earth metal, and subsequently exposing the treated surface at a temperature of at least about 450° C. to an oxidizing atmosphere to provide an activated coating thereon. Electrolytic hydrogen producing cells including cathodes constructed of palladium or palladium alloy tubes whose surfaces include such an activated coating afford recovery in ultrapure form of substantially all of the hydrogen generated therein.

3,448,036

CONTINUOUS, LOW PRESSURE CATALYTIC REFORMING PROCESS WITH SULFUR AND HALOGEN INCLUSION AND WATER EXCLUSION

John C. Hayes, Palatine, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 560,903, June 27, 1966. This application July 26, 1968, Ser. No. 747,802

Int. Cl. C10g *35/08*

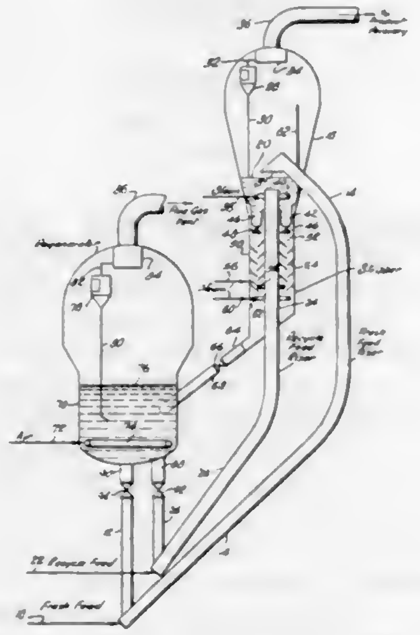
U.S. Cl. 208—139 **6 Claims**

A hydrocarbon charge stock boiling in the gasoline range is continuously reformed by contacting, in a substantially water-free reforming zone, the hydrocarbon charge stock, hydrogen, sulfur or a sulfur-containing compound, and halogen or a halogen-containing compound with a reforming catalyst containing a platinum group component at reforming conditions including a pressure of about 50 to 350 p.s.i.g. The sulfur or sulfur-containing compond and the halogen or halogen-containing compound is continuously introduced into the reforming zone, both during start-up and thereafter, in amounts calculated on an elemental basis, respectively equivalent to about 300 to about 3000 wt. p.p.m. of the hydrocarbon charge stock for sulfur and to about 1 to 25 p.p.m. of the hydrocarbon charge stock for the halogen. Furthermore, the amount of sulfur or sulfur-containing compound introduced into the reforming zone is not increased after start-up of the process. Key feature of the resulting improved process is the ability to continuously operate under this low pressure condition in a stable fashion for a catalyst life substantially greater than 15 barrels of charge per pound of catalyst without catalyst regeneration.

3,448,037

CRACKING WITH CRYSTALLINE ZEOLITE CATALYST

Dorrance P. Bunn, Jr., Henry B. Jones, and Richard E. Nagle, all ℅ Texaco Inc., P.O. Box 52332, Houston, Tex. 77052
Continuation-in-part of application Ser. No. 598,281, Dec. 1, 1966. This application June 18, 1968, Ser. No. 737,890
Int. Cl. C10g *25/06, 37/04*
U.S. Cl. 208—164 **14 Claims**



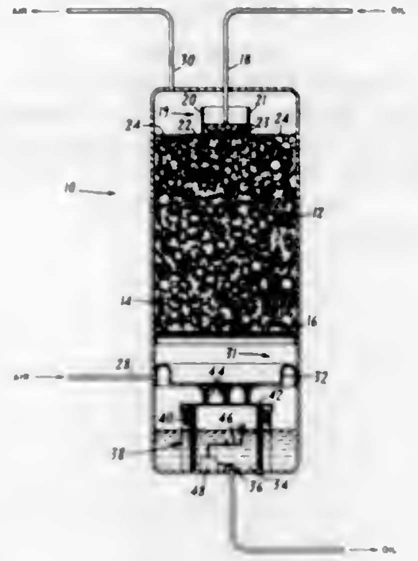
This invention relates to an improved method for the fluid catalytic cracking of hydrocarbon oils where a virgin gas oil and a cracked cycle gas oil are individually cracked through separate elongated reaction zones with a zeolite cracking catalyst under high conversion conditions, combining the zeolite catalysts from the individual elongated reaction zones into a dense phase fluidized bed and further converting the cracked cycle gas oil effluent in the bed. A particular advantage of the instant method resides in its higher gasoline and lower coke and dry gas yields.

3,448,038

METHOD AND APPARATUS FOR THE DEHYDRATION OF OIL

David B. Pall, Roslyn Estates, Klaus S. Feindler, Melville, and Arthur Vogel, Glen Cove, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Mar. 15, 1966, Ser. No. 534,363
Int. Cl. B01d *47/14, 3/16*
U.S. Cl. 208—187 **16 Claims**

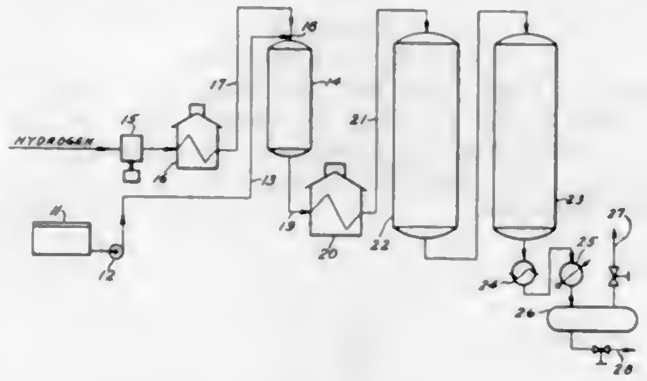
A method and apparatus are provided for removing a first volatile liquid from a mixture of that liquid with a second less volatile liquid. This is accomplished in the instant process and apparatus by passing the mixture of first and second liquids through a column of packing material to form a thin film on the packing material. A stripping gas whose partial pressure of the first liquid is at least as low as the vapor pressure of the first liquid over the desired second liquid product is passed countercurrently through the column at a flow rate of at least about 2.5 cubic feet per minute per square foot of cross section of the column. The stripping gas takes up first liquid dispersed and dissolved in the second liquid, leaving the second liquid substantially free of first liquid.



3,448,039

VAPORIZING AND PRETREATING AROMATIC HYDROCARBON FEED STOCK WITHOUT POLYMERIZATION

Mehmet Orhan Tarhan, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,582
Int. Cl. C10g *23/06, 31/14, 37/10*
U.S. Cl. 208—255 **8 Claims**



In a process of eliminating polymerizable impurities in aromatic hydrocarbon feed stock, the feed stock in unpreheated liquid form is completely vaporized by admixture with a preheated gas containing hydrogen in the presence of a hydrogenation catalyst, and the resultant gaseous mixture is reacted at a specified temperature in the presence of said catalyst whereby polymerizable impurities are converted to a non-polymerizable form.

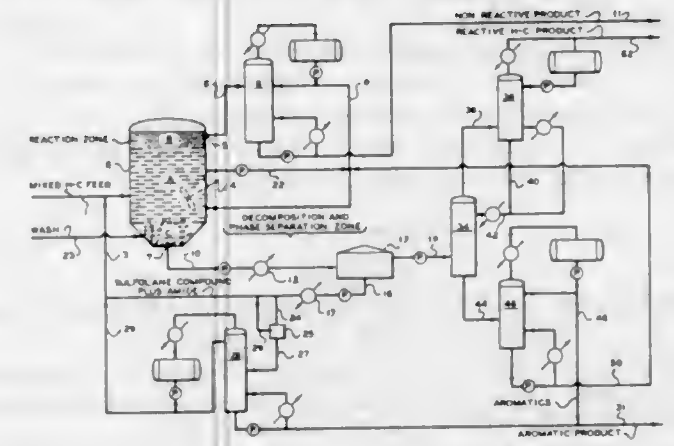
3,448,040

ADDUCT TYPE HYDROCARBON SEPARATION WITHOUT FILTRATION WITH A SULFOLANE SOLVENT

Donald M. Little and George R. Hettick, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 573,680, Aug. 19, 1966. This application Oct. 13, 1967, Ser. No. 675,203
Int. Cl. C10g *43/20, 43/18, 43/02*
U.S. Cl. 208—308 **17 Claims**

An amide capable of selectively forming a crystalline hydrocarbon adduct, a sulfolane compound, and a mixed

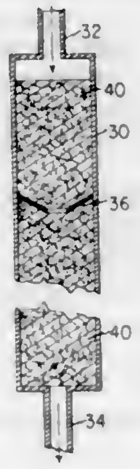
hydrocarbon feed are added to a reaction vessel. These reactants stratify into an unreacted hydrocarbon phase, an intermediate phase, and a sulfolane phase containing the adduct crystals. The unreactive hydrocarbon phase is withdrawn as a product; the sulfolane phase containing adduct crystals is withdrawn and heated to decompose the adduct, the amide thus recovered dissolving in the hot sulfolane and the reactive hydrocarbon forming a separate phase which is decanted to form the reactive hydrocarbon product.



3,448,041

METHOD AND APPARATUS FOR TREATING BLOOD PRELIMINARY TO ITS USE IN TRANSFUSIONS

Roy L. Swank, 4400 SW. Scholls Ferry Road, Portland, Oreg. 97225
Continuation-in-part of application Ser. No. 107,844, May 4, 1961. This application June 14, 1965, Ser. No. 469,033
Int. Cl. B01d *15/00*
U.S. Cl. 210—23 **11 Claims**



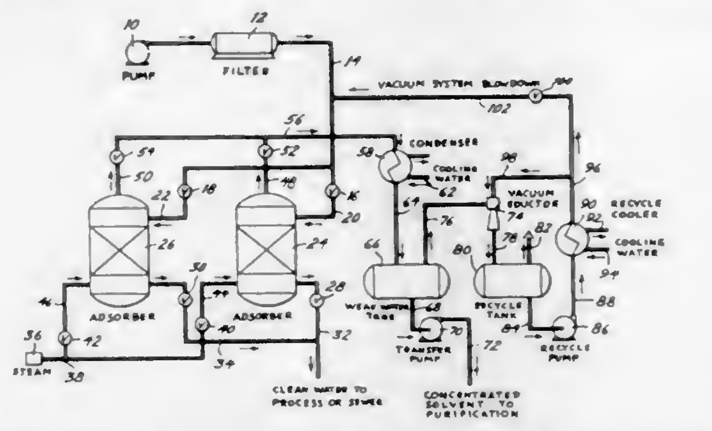
Stored, human blood is treated preliminary to blood transfusions by passing it through a mat of glass wool or other fibrous material. The fibrous material removes from the blood the storage-generated platelet-leucocyte aggregates present therein.

3,448,042

PROCESS FOR CONCENTRATING ORGANIC MATERIAL FROM AN AQUEOUS STREAM

Manlio M. Mattia, Upper Darby, and Bernard M. Weiss, Philadelphia, Pa., assignors to Day and Zimmermann, Inc., Philadelphia, Pa., a corporation of Maryland
Filed Mar. 28, 1966, Ser. No. 537,813
Int. Cl. C02b *1/04, 1/16, 1/46*
U.S. Cl. 210—26 **3 Claims**

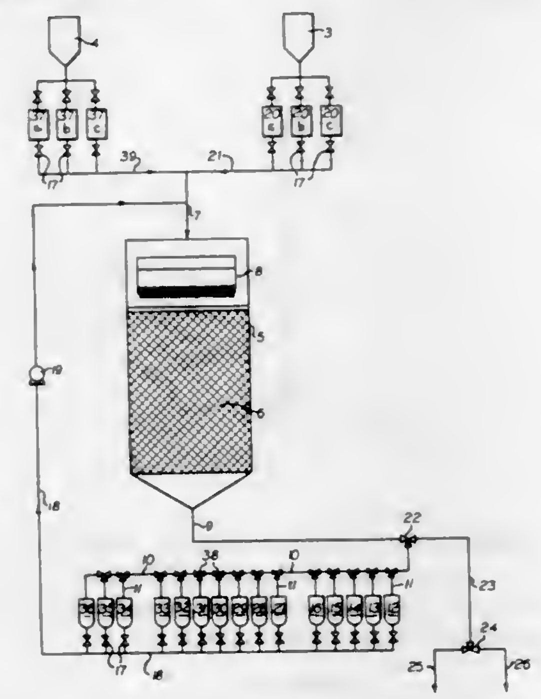
A process for removing organic materials from an aqueous stream comprises passing the aqueous stream through an adsorbent bed, stripping the adsorbent bed by simultaneously applying steam and a vacuum, and condensing the mixture of steam and organic materials removed from the bed. The condensed mixture is fed to a weak water tank where the organic materials may be recovered. The uncondensed vapor in the weak water tank is removed by a vacuum and recycled. A portion of the recycled vapor is fed to the adsorbent bed through a vacuum system blowdown. Two adsorbent beds are used in order that one can be regenerated while the other has the aqueous stream directed therethrough.



3,448,043

ION EXCHANGE PROCESS

Sandor Vajna, Rheinbreitbach, Germany, assignor to Dynamit Nobel Aktiengesellschaft Troisdorf, Bezirk Cologne, Germany, a corporation of Germany
Filed Feb. 9, 1965, Ser. No. 431,479
Claims priority, application Germany, Feb. 10, 1964, V 25,359
Int. Cl. C02b *1/76, 1/42;* **B01d** *15/06*
U.S. Cl. 210—32 **1 Claim**



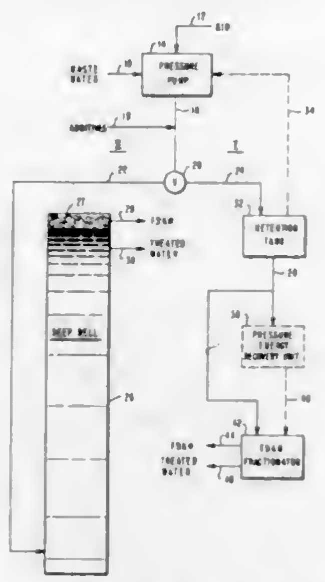
Ion exchange process in which series of liquid fractions are passed through a resin bed. The charging fractions vary in concentration to improve separation in the fractions displaced from the bed. Product solution is withdrawn when the concentration of the desired ion reaches its maximum. Other displacement fractions being collected separately to be subsequently used as charging fractions.

3,448,044

PRESSURE-FOAM FRACTIONATION

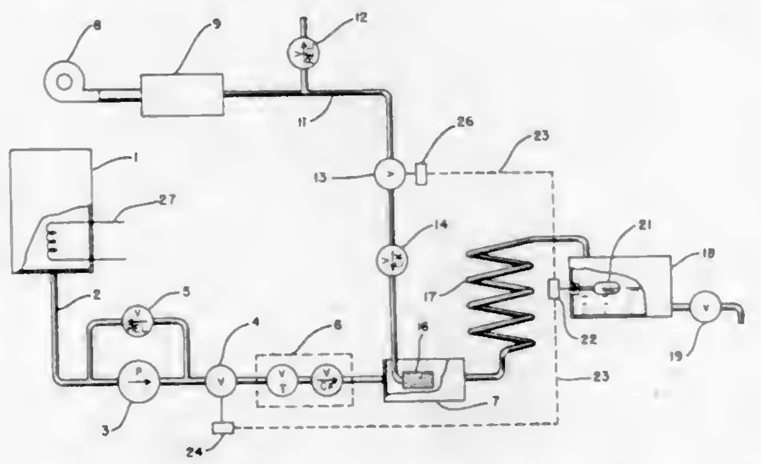
Donald E. Garrett, 505 W. 9th St., Claremont, Calif. 91711
Filed Feb. 15, 1968, Ser. No. 705,699
Int. Cl. C02b *1/20;* **C02c** *1/02;* **B01d** *21/00*
U.S. Cl. 210—44 **9 Claims**

A liquid treating process in which a pressurized admixture of liquid and gas is retained under superatmospheric pressure for a period of time sufficient to dissolve at least a portion of the gas in the liquid. The pressure is released from the pressurized admixture, and the resultant foam which is formed by the evolution of tiny bubbles of gas within the liquid carries impurities out of the body of liquid. The foam, containing the impurities, is separated from the body of liquid.



3,448,045
WATER TREATMENT WITH OZONE

Edwin Austin Hess, 938 Hillcrest Road, Akron, Pa. 17501, and Clarence Schwebel, Hopeland, Pa. 17533
Filed Jan. 24, 1967, Ser. No. 611,318
Int. Cl. C02b *1/18*
U.S. Cl. 210—63 **12 Claims**



A continuous system for disinfecting water with ozone is provided in which effective contact between water and ozone is achieved through controlled conditions of turbulence, temperature and contact time.

3,448,046
POLYOL CONTAINING CHLORINE AS A FLAME-RETARDING AGENT

Edmund Schalin, Mentor, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Apr. 19, 1965, Ser. No. 449,324
Int. Cl. C09k *3/28;* **C08g** *41/00*
U.S. Cl. 252—8.1 **7 Claims**

A polyol having a hydroxyl number ranging from 25 to 600 and having incorporated therein from 0.5 percent to about 25 percent, by weight, of at least chlorine as flame-retarding agent, is blended with from 0.5 percent up to 25 percent, based on the weight of the polyol, of a compound having at least one epoxide group in its structure, said epoxide group-containing compound serving to scavenge free acid from the polyol and reduce the acidity thereof. Polyols so treated when subsequently reacted with polyisocyanates, produce large polyurethane foam masses showing no thermal degradation, e.g., coloration, in center sections thereof.

3,448,047
LUBE OIL DISPERSANTS

Thornton P. Traise, Chicago Heights, and Edmund J. Piasek, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Apr. 5, 1967, Ser. No. 628,553
Int. Cl. C10m *1/32, 3/26;* **C07d** *31/42*
U.S. Cl. 252—51.5 **8 Claims**

Modified Mannich type condensation products from a polymer substituted phenol, an alkylene polyamine and formaldehyde wherein a portion of the alkylene polyamine is replaced with an alkyl-substituted pyridine. These products are useful as lubricating oil dispersants.

3,448,048
LUBRICANT CONTAINING A HIGH MOLECULAR WEIGHT ACYLATED AMINE

William M. Le Suer, Cleveland, and George R. Norman, Lyndhurst, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 523,244, Jan. 27, 1966, which is a continuation-in-part of application Ser. No. 468,948, July 1, 1965. This application Jan. 23, 1967, Ser. No. 610,777
The portion of the term of the patent subsequent to Sept. 13, 1983, has been disclaimed
Int. Cl. C10m *1/36;* **C08g** *33/00*
U.S. Cl. 252—51.5 **8 Claims**

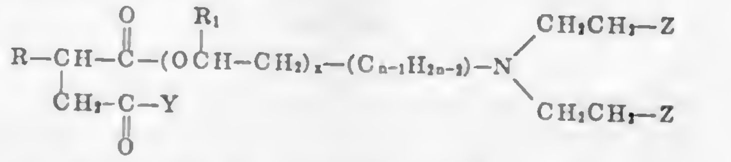
The present application relates to a lubricant containing an acylated amine formed by the reaction of an amine, such as polyethylene polyamine, with a carboxylic reactant which is prepared by the reaction of a halohydrocarbon and an olefinic carboxylic substance such as acrylic acid. The lubricant is particularly useful in the crankcase of automotive engines.

3,448,049
POLYOLEFINIC SUCCINATES

Albert F. Preuss, Willow Grove, Harry J. White, Maple Glen, and David H. Clemens, Willow Grove, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 22, 1967, Ser. No. 669,709
Int. Cl. C10m *1/32;* **C10l** *1/22;* **C07c** *69/40*
U.S. Cl. 252—51.5 **9 Claims**

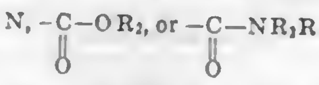
The polyolefinic succinates of this invention are particularly useful as dispersants, corrosion inhibitors and anti-wear agents in lubricating oil and fuel compositions. The novel polyolefinic succinates may be represented by the following formula:

(I)



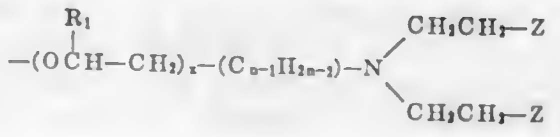
$$R-\underset{CH_2-\underset{O}{\underset{\|}{C}}-Y}{\underset{|}{CH}}-\overset{O}{\overset{\|}{C}}-(O\overset{R_1}{\overset{|}{C}}H-CH_2)_x-(C_{n-1}H_{2n-2})-N\begin{matrix}\diagup CH_2CH_2-Z\\ \diagdown CH_2CH_2-Z\end{matrix}$$

wherein R represents an alkenyl radical containing about 12 to 225 carbon atoms, R_1 represents hydrogen or methyl, *x* represents an integer from 1 to 10, *n* represents an integer from 1 to 9, Z represents



$$-CN,\ -\underset{O}{\underset{\|}{C}}-OR_2,\ \text{or}\ -\underset{O}{\underset{\|}{C}}-NR_3R_4$$

R_2 represents an alkyl radical of 1 to 18 carbon atoms, phenyl, benzyl, or an alkylphenyl in which the alkyl moiety contains from 1 to 10 carbon atoms, R_3, R_4 and R_5 independently represent hydrogen, an alkyl radical of 1 to 18 carbon atoms, phenyl, benzyl, or an alkylphenyl in which the alkyl moiety contains from 1 to 10 carbon atoms, and Y represents $—OR_5$, $—NR_3R_4$, and the formula



$$-(O\overset{R_1}{\overset{|}{C}}H-CH_2)_x-(C_{n-1}H_{2n-2})-N\begin{matrix}\diagup CH_2CH_2-Z\\ \diagdown CH_2CH_2-Z\end{matrix}$$

3,448,050
MINERAL OIL CONTAINING POLYMER OF STYRENE OR INDENE AND A HIGHER ALPHA OLEFIN, AS A POUR DEPRESSANT

David W. Young, Homewood, and Thomas J. Clough, Glenwood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 361,582, Apr. 21, 1964. This application Aug. 22, 1966, Ser. No. 574,253
Int. Cl. C10m *1/18;* **C10l** *1/16*
U.S. Cl. 252—59 **6 Claims**

A base oil-compatible polymer of styrene or indene, or their mixture, and a normal alpha-olefin of 10 to 24, preferably 14 to 20, carbon atoms having at least about 60% of normal alpha-olefins of 16 to 18 carbon atoms, which polymer is normally liquid and has a kinetic viscosity at 210° F. of at least about 20 to 35 centistokes, when added to a base mineral oil in small effective amounts, substantially reduces the pour point of the oil and in many cases the cloud point.

3,448,051
METHOD OF INSERTING MANGANESE INTO SEMICONDUCTORS SERVING TO PRODUCE ELECTRONIC SEMICONDUCTOR STRUCTURAL COMPONENTS

Kurt Raithel, Uttenreuth, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Nov. 8, 1966, Ser. No. 592,934
Claims priority, application Germany, Nov. 11, 1965, S 100,447
Int. Cl. H01l *7/00, 3/00*
U.S. Cl. 252—62.3 **3 Claims**

A method for introducing recombination centers into a semiconductive body by heating the semiconductive body in the presence of a vaporized manganese oxide.

3,448,052
MAGNETIC CARBON BLACKS

Wolfgang K. F. Otto, Spartanburg, S.C., assignor to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky
No Drawing. Filed Apr. 15, 1965, Ser. No. 448,252
Int. Cl. C04b *35/52;* **H01f** *1/00;* **C09c** *1/48*
U.S. Cl. 252—62.51 **5 Claims**

Magnetically permeable carbon black is prepared by injecting a feedstock solution of an hydrocarbon oil, an oil soluble heat-decomposable metallo-organic compound of iron, nickel, or cobalt, and an organic salt of barium or aluminum into a burning mixture of an hydrocarbon fuel and an oxygen-bearing gas.

3,448,053
NOVEL SINGLE PHASE QUATERNARY MAGNETIC COMPOUNDS

Gottfried Haacke, Stamford, and Lindley Clair Beegle, Darien, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Nov. 22, 1966, Ser. No. 596,073
Int. Cl. H01f *1/09;* **C04b** *35/24*
U.S. Cl. 252—62.51 **9 Claims**

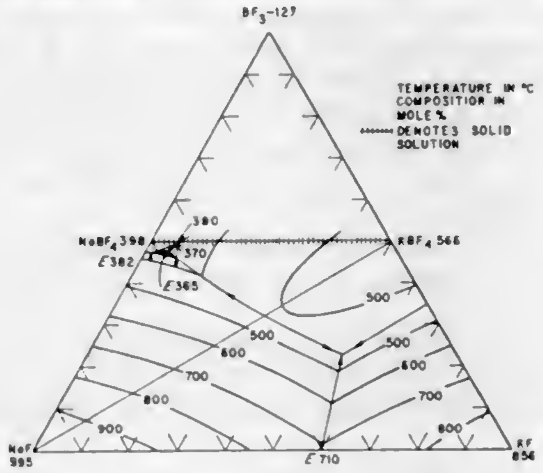
1. A semi-conducting, magnetic, single phase spinel structure having the formula:

$$Fe_{1-x}Cu_xCr_2D_4$$

wherein *x* is a value greater than 0 but less than 1 and D is an element selected from the group consisting of sulfur, selenium and mixtures thereof, said structure possessing a Curie temperature range between about −80° C. and +130° C. and a saturation magnetization between about 40 and about 90 gauss $cm.^3$/gram.

3,448,054
COOLANT SALT FOR A MOLTEN SALT BREEDER REACTOR

Roy E. Thoma, Jr., Oak Ridge, and Gordon M. Hebert, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 25, 1966, Ser. No. 597,145
Int. Cl. C09k *3/02*
U.S. Cl. 252—71 **2 Claims**



This invention relates to a ternary molten fluoride salt composition of $NaF—KF—BF_3$ suitable as a secondary coolant salt and/or heat transfer fluid for a breeder-type molten salt reactor.

3,448,055
ALUMINUM ALLOY DEOXIDIZING-DESMUTTING COMPOSITION AND METHOD

Floyd L. Mickelson, Chicago, and Arthur G. Wilde, Jr., Waukegan, Ill., assignors to The Diversey Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,404
Int. Cl. C23g *1/12*
U.S. Cl. 252—79.3 **22 Claims**

Disclosed are compositions for, and methods of, deoxidizing and desmutting aluminum based alloys. The compositions contain nitric acid, sulfuric acid, hydrofluoric acid and a fluorinated hydrophobic surfactant.

3,448,056
EUROPIUM ACTIVATED BARIUM AND STRONTIUM HALOALUMINATE PHOSPHORS

Charles F. Chenot, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 27, 1966, Ser. No. 545,732
Int. Cl. C09k *1/04, 1/06, 1/10*
U.S. Cl. 252—301.4 **3 Claims**

Blue emitting divalent europium activated barium and strontium haloaluminate phosphors for use in high or low pressure mercury vapor discharge devices.

3,448,057
CATALYST COMPOSITIONS FOR USE IN OXYCHLORINATION OF ETHYLENE

Yujiro Kosaka, Masaaki Hayata, and Yoshihiro Hisatomi, Yamaguchi-ken, Japan, assignors to Toyo Soda Manufacturing Co., Ltd., Yamaguchi-ken, Japan
No Drawing. Filed June 9, 1965, Ser. No. 462,736
Claims priority, application Japan, June 18, 1964, 39/34,555
Int. Cl. B01j *11/82*
U.S. Cl. 252—440 **3 Claims**

A highly active cupric sulphate or sodium sulphate/cupric sulphate catalyst composition is provided herein which composition is suitable for oxychlorination of ethylene at low temperatures by reacting ethylene with hydrochloric acid and oxygen or air in the gaseous phase, the molar ratio of sodium sulphate to cupric sulphate in said sodium sulphate/cupric sulphate catalyst combination being less than 1.5.

3,448,058
DEHYDROGENATION CATALYST

Melvin R. Arnold, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,553

Int. Cl. B01j *11/82*

U.S. Cl. 252—443 **6 Claims**

1. In a method of producing a dehydrogenation catalyst containing at least 35% by weight of iron oxide as the active catalytic agent, from about 1% to about 8% by weight of a matrix promoter of zinc or copper oxides and from about 0.5 to about 50% by weight of an alkali promoter, the step which comprises mulling said iron oxide and said matrix promoter with aqueous ammonia until the resulting composition has a magnetic susceptibility in the range from about 30×10^{-6} to about 300×10^{-6} c.g.s.u.

2. Method of claim **1** wherein the amount of matrix promoter is from about 2% to about 5% of the catalyst weight.

3. Method of claim **2** wherein an alkali promoter equivalent to about 5% to about 35% of the dry catalyst weight is subsequently incorporated in the catalyst composition.

4. Method of claim **3** wherein the alkali promoter is potassium carbonate.

3,448,059
REDUCED PALLADIUM METAL ON FERRIC COMPOUND SUBSTRATES HYDROGENATION CATALYSTS

Charles William Den Hollander, Midland Park, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Application May 1, 1964, Ser. No. 364,298, now Patent No. 3,352,877, which is a continuation-in-part of application Ser. No. 288,882, June 19, 1963. Divided and this application July 25, 1967, Ser. No. 655,745

Int. Cl. B01j *11/82*

U.S. Cl. 252—443 **2 Claims**

A novel hydrogenation catalyst system for converting 2-halo anthranils to halo-amino phenyl aryl ketones and a method of preparing said catalyst system. The said halo-2-amino phenyl aryl ketones are valuable intermediates in the preparation of therapeutically useful 1,4-benzodiazepines.

3,448,060
SUPPORTED SKELETAL NICKEL CATALYST

David McArthur Mason, Chicago, Ill., assignor to Institute of Gas Technology, a not-for-profit corporation of Illinois

No Drawing. Filed May 2, 1966, Ser. No. 547,041

Int. Cl. B01j *11/28*

U.S. Cl. 252—466 **14 Claims**

A method for making coated structures which are useful as a catalyst by coating a support with a slurry of pulverized aluminum-nickel alloy and then treating the coated form with water and optionally with an alkali hydroxide.

3,448,061
PROCESS FOR THE MANUFACTURE OF CATALYSTS SUPPORTED ON CARRIERS OF LARGE DIMENSIONS

Georg Mika, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,114

Claims priority, application Germany, Nov. 11, 1965, F 47,646

Int. Cl. B01j *11/06*

U.S. Cl. 252—456 **4 Claims**

A process for manufacturing improved catalysts for the oxidation of sulfur dioxide to sulfur trioxide is shown. Preshaped, porous carriers consisting substantially of silica are impregnated in a solution consisting essentially of vanadium and alkali and having a defined pH in order to improve the mechanical strength characteristics of the impregnated catalyst. The impregnating solution contains alkali in an amount exceeding the stoichiometric amount required for formation of metavanadate. The excess alkali above the molar ratio $V_2O_5:Me_I{}^+$ of 1:2 is a compound selected from the group consisting of alkali compounds of sodium, potassium, rubidium and cesium and the alkali compound is selected to maintain the pH of the impregnating solution within the range 6.5 to 9. Impregnated catalyst is then dried. In a preferred embodiment the carriers to be impregnated are arranged in upright position in the direction of their longitudinal axis and are impregnated in a circulating solution.

3,448,062
TYPE II SUPERCONDUCTORS CONTAINING MAGNETIC PARTICLES

Thomas H. Alden, Schenectady, and James D. Livingston, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed Jan. 24, 1966, Ser. No. 522,723

Int. Cl. H01b *1/02*

U.S. Cl. 252—513 **3 Claims**

A dispersed phase of magnetic particles such at metal ferrites, iron, cobalt, and nickel is provided in a type II superconductive matrix of a body so that the body will have directional response to applied magnetic fields or directional electrical conductivity.

3,448,063
CROSS-LINKED POLYMERS AND THE PROCESS FOR THEIR PREPARATION

David S. Breslow, Munich, Germany, assignor to Hercules Incorporated, a corporation of Delaware

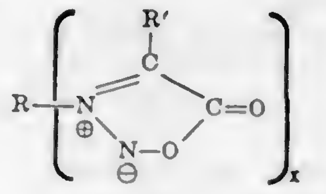
No Drawing. Filed May 17, 1965, Ser. No. 456,485

Int. Cl. C08f *45/72;* **C08g** *23/20, 51/84*

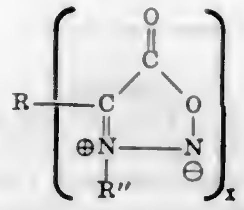
U.S. Cl. 260—2 **12 Claims**

Unsaturated polymers and epihalohydrin polymers can be cross-linked with poly-functional sydnones. The poly-functional sydnones are relatively new compounds having the formula

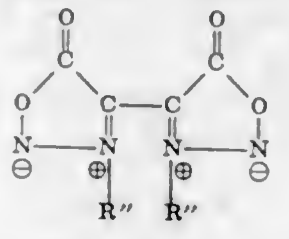
I.



II.



III.



where R is alkylene, cycloalkylene, arylene, arylene-dialkylene, alkylene-diarylene, or cycloalkylene-dialkylene; R' is hydrogen, alkyl, cycloalkyl, aryl, alkaryl, aralkyl, or hydrogen; R'' is hydrogen, alkyl, cycloalkyl, aryl, alkaryl, or aralkyl; and *x* is an integer greater than 1.

3,448,064
POLYMERIZATION OF ALKYLENE OXIDES USING A BINARY CATALYST SYSTEM CONTAINING AN ORGANOMETALLIC COMPOUND AND BORIC ACID

Hideo Tomomatsu, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,839

Int. Cl. C08g *23/14*

U.S. Cl. 260—2 **8 Claims**

High molecular weight polymers having a high degree of crystallinity are obtained from the polymerization of cyclic alkylene oxides employing a binary catalyst system consisting of an organometallic compound of the formula MZX_{y-1} and boric acid. Cyclic alkylene oxides employed are those containing oxygen-carbon rings consisting of one oxygen atom in a ring with two or three carbon atoms.

3,448,065
POLYURETHANE CATALYSIS EMPLOYING N-HYDROXYALKYL SUBSTITUTED IMIDAZOLE

Harold A. Green, Havertown, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,547

Int. Cl. C08g *22/48, 23/06*

U.S. Cl. 260—2.5 **10 Claims**

Methods of producing improved polyurethane foams are disclosed which utilize catalysts made by reacting from 1 to 20 mols of an epoxide-containing compound with 1 mol of a substituted or unsubstituted imidazole compound to obtain N-hydroxyalkyl substitution. The novel catalysts may be used alone or in conjunction with tertiary amines and/or tin salts.

3,448,066
AIR-DRYING UNSATURATED POLYESTER RESINS PREPARED FROM A POLYOL AND AN ADDUCT OF CYCLOPENTADIENE AND A DICARBOXYLIC ACID

Earl E. Parker, Allison Park, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 17, 1966, Ser. No. 595,012

Int. Cl. C08g *17/10, 17/12, 17/16*

U.S. Cl. 260—22 **12 Claims**

A polyester resin having excellent air-drying characteristics is prepared by the reaction of a polyol with an adduct of cyclopentadiene and a dicarboxylic acid where the adduct consists of from about 1.3 parts to about 4 parts of cyclopentadiene to 1 part of the acid member based on mole proportions. The polyester resins are useful as can coatings.

3,448,067
CHLORINE-CONTAINING POLYMERS STABILIZED WITH MIXTURES OF METAL SALTS OF MONO-ESTERS, A POLYOL AND AN EPOXY COMPOUND

Richard J. Penneck, Colchester, England, assignor to Bakelite Xylonite Limited, a British corporation

No Drawing. Filed Apr. 23, 1965, Ser. No. 450,528

Claims priority, application Great Britain, Apr. 25, 1964, 17,264/64

Int. Cl. C08f *45/62*

U.S. Cl. 260—23 **3 Claims**

A stabilizing composition for chlorine containing polymers which comprises at least three metal salts of mono esters of α,β-ethylenically unsaturated dicarboxylic acids in which the metals are different and selected from the group consisting of zinc, lithium, sodium, potassium, strontium, calcium and magnesium, and wherein the proportion by weight of each of the metal salts in relation to the weight of the chlorine containing polymer is present in an amount of at least 0.25 percent; a polyhydric alcohol containing from 4 to 36 carbon atoms in the hydrocarbon moiety and at least two hydroxyl substituents wherein the number of hydroxyl groups present is less than the number of carbon atoms and wherein the proportion by weight of polyhydric alcohol in relation to the weight of chlorine containing polymer is in the range 0.25 to 10 percent, and a stabilzing amount of an organic epoxide compound.

3,448,068
POLYMER SOLUTIONS AND METHODS FOR PREPARING AND USING THE SAME

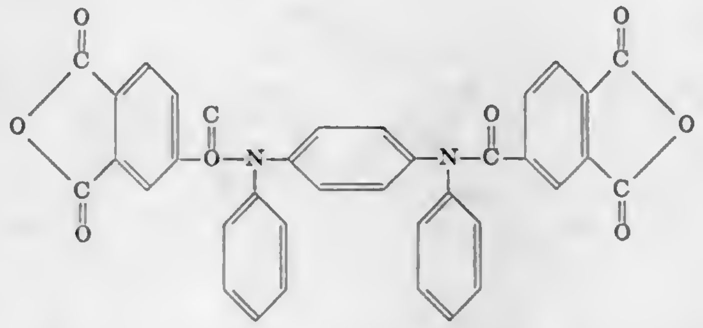
Fred F. Holub, Scotia, and Richard F. Gaertner, Rexford, N.Y., assignors to General Electric Company, a corporation of New York

Filed May 5, 1966, Ser. No. 547,889

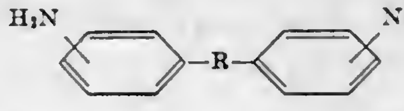
Int. Cl. C08g *41/00, 51/24*

U.S. Cl. 260—29.2 **15 Claims**

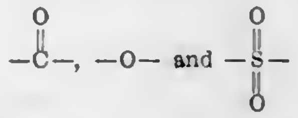
1. The process for making a polyamide acid solution which comprises dissolving a mixture of ingredients comprising (a) at least one dianhydride selected from the class consisting of benzophenone dianhydrides and a dianhydride of the formula



(b) at least one diamine selected from the group consisting of C_{2-8} alkylenediamines, m-phenylenediamine and diamines having the formula



where R is a divalent radical selected from the group consisting of C_{1-3} alkylene,



$$\overset{O}{\overset{\|}{-C-}},\ -O-\ \text{and}\ -\underset{\underset{O}{\|}}{\overset{\overset{O}{\|}}{S}}-$$

in a solvent mixture composed essentially of phenol and water in which the water is present in an amount equal to at least 12 percent, by weight, based on the total weight of the phenol and water, the amount of water being so employed as to maintain the solution in a liquid condition at ambient temperatures and causing the reactants to interact at a temperature below 40° C. to form the polyamide acid substantially free of any polyimide resin.

3,448,069
BASE CURING FURYLETHYLENEALDEHYDE CYCLOHEXANONE ADHESIVE COMPOSITION

Lloyd H. Brown, Crystal Lake, and David D. Watson, Barrington, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Jan. 20, 1966, Ser. No. 521,823

Int. Cl. C08g *51/04, 37/28*

U.S. Cl. 260—32.8 **6 Claims**

A liquid binder for refractory materials comprising cyclohexanone, a basic catalyst and a resin produced by an acidic resinification of a furylethylenealdehyde, with or without formaldehyde.

3,448,070

METHOD FOR PREPARING TRIOXANE-STYRENE AND/OR NORBORNYLENE COPOLYMERS AND STABILIZATION THEREOF

Kazuo Nakatsuka, Fumio Ide, and Masayoshi Takamura, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,167

Claims priority, application Japan, Dec. 28, 1965, 40/80,548

Int. Cl. C08g *1/20, 1/18*

U.S. Cl. 260—33.4 **16 Claims**

Trioxane can be copolymerized with styrene or norbornylene by a catalyst of copper tetrafluoroborate, magnesium tetrafluoroborate, zinc tetrafluoroborate, cadmium tetrafluoroborate, tin tetrafluoroborate, lead tetrafluoroborate, copper hexafluorosilicate, magnesium hexafluorosilicate, zinc hexafluorosilicate, cadmium hexafluorosilicate, tin hexafluorosilicate and lead hexafluorosilicate, and these copolymers can be stabilized by adding a neutral amino acid such as glycine, α-alanine, β-alanine and sarcosine and heating above the copolymer's melting point.

3,448,071

FRICTION ELEMENTS

Emil C. Keller, Mahwah, N.J., assignor to Abex Corporation, New York, N.Y., a corporation of Delaware

Filed July 10, 1967, Ser. No. 652,103

Int. Cl. C08g *51/04;* **C09k** *3/14, 3/18*

U.S. Cl. 260—38 **2 Claims**

Superior performance in an automotive or like brake is achieved by incorporating a chromate of an alkali metal in the friction composition.

3,448,072

SILYLURETHANE TERMINATED POLYESTER COMPOSITIONS

Bruce A. Ashby, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 463,877, June 14, 1965. This application May 2, 1966, Ser. No. 546,550

Int. Cl. C08g *51/04, 31/00*

U.S. Cl. 260—40 **18 Claims**

Curable compositions comprising a polyester having terminal silylurethane groups which have hydrolyzable radicals attached to silicon, and a method for making such curable compositions. A polyester and an isocyanate are initially contacted to provide for the introduction of aliphatic unsaturation into the polyester, which is thereafter contacted in the presence of a platinum catalyst with a silicon hydride having hydrolyzable radicals attached to silicon. The curable compositions are useful as sealants, encapsulants, caulking compounds, and other related uses.

3,448,073

VINYL POLYMERIZATION PROCESS

Robert J. McManimie, Glendale, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

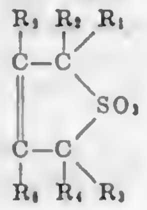
No Drawing. Filed Feb. 17, 1966, Ser. No. 528,089

Int. Cl. C08f *1/62, 3/68, 15/40*

U.S. Cl. 260—41 **12 Claims**

1. A process for polymerizing ethylenically unsaturated monomers by a free radical mechanism comprising

(a) mixing together an ethylenically unsaturated monomer capable of free-radical polymerization, a polymerization catalyst capable of decomposing to form free radicals, and an accelerator substance of the formula



where the R's are hydrogen, alkyl, aryl, or alkaryl groups,

(b) releasing sulfur dioxide from said accelerator substance and thereby accelerating the formation of free radicals from said polymerization catalyst, and

(c) polymerizing said ethylenically unsaturated monomer in the presence of said free radicals in a bulk polymerization.

3,448,074

POLYOLEFINS STABILIZED WITH SUBSTITUTED 4-OXOIMIDAZOLIDINE-1-OXIDES

Atsushi Kitaoka, Nobeoka, and Keisuke Murayama, Syoji Morimura, Toshimasa Toda, Saburo Akagi, Tomoyuki Kurumada, and Ichiro Watanabe, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan, and Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Osaka Prefecture, Japan

No Drawing. Filed Aug. 28, 1967, Ser. No. 663,492

Claims priority, application Japan, Aug. 31, 1966, 41/57,420

Int. Cl. C08f *45/60, 29/00;* **C08g** *51/60*

U.S. Cl. 260—45.8 **6 Claims**

Polyolefins, particularly polyethylene and polypropylene, are stabilized against photo-deterioration under the exposure to light by having incorporated therein at least one compound selected from the 2,2,5,5,-tetrasubstituted-4-oxoimidazolidine-1-oxides in a sufficient amount to inhibit such deterioration.

3,448,075

FIRE RETARDANT URETHANE COMPOSITIONS

Charles C. Clark, Kenmore, and Arthur J. Krawczyk Cheektowaga, N.Y., assignors to Textron, Inc., a corporation of Rhode Island

No Drawing. Continuation-in-part of applications Ser. No. 455,645, May 13, 1965, and Ser. No. 478,410, Aug. 9, 1965. This application Oct. 21, 1965, Ser. No. 500,310

The portion of the term of the patent subsequent to Jan. 23, 1985, has been disclaimed

Int. Cl. C08f *45/54;* **C08g** *51/54;* **C09d** *5/18*

U.S. Cl. 260—45.85 **11 Claims**

Intumescent fire retardant coating compositions are obtained. The coatings are moisture-curing urethanes of aromatic diisocyanates and one or more polyhydric alcohols. To provide the desired fire retardant and intumescent properties the coating compositions have incorporated therein a haloalkyl phosphate and an alkylene diamine tetra-acetic acid. For example, the coating compositions can contain ethylene diamine tetra-acetic acid and 2-chloroethyl phosphate.

3,448,076

METHOD FOR MAKING CYANOALKYL-SUBSTITUTED ORGANOPOLYSILOXANES

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 1, 1967, Ser. No. 679,663

Int. Cl. C08g *47/04, 31/22*

U.S. Cl. 260—46.5 **9 Claims**

A method is provided for making organopolysiloxane polymers having cyanoalkyl radicals attached to silicon by carbon-silicon linkages. Organosilicon materials, such as organocyanoalkylcyclopolysiloxanes, are equilibrated

with barium hydroxide, and the resulting cyanoalkyl-substituted organosiloxane polymers are decatalyzed. The decatalyzed cyanoalkyl-substituted organopolysiloxanes which are produced have improved hydrolytic stability, as shown by the ability to resist change resulting from exposure to moisture.

3,448,077

THERMALLY CRYSTALLIZABLE POLY(BIS-PHENOL ESTERS) OF 3,5-DICHLORO SUBSTITUTED BISPHENOL AND ADIPIC OR SUCCINIC ACID

André Jan Conix, Antwerp, and Leonard Marie Dohmen, Berchem, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Original application Sept. 23, 1963, Ser. No. 310,916. Divided and this application Jan. 18, 1968, Ser. No. 698,723

Claims priority, application Belgium, Sept. 26, 1962, 41,991, Patent 622,858

Int. Cl. C08g *17/08, 53/00*

U.S. Cl. 260—47 **1 Claim**

Crystallization of a resinous poly(bisphenol ester) of 2,2-bis(4-hydroxy-3,5-dichlorophenyl)-propane and adipic acid or succinic acid by heating said poly(bisphenol ester) to a temperature at least about ten degrees above its second order transition temperature but not higher than about ten degrees below its crystalline melting point.

3,448,078

HALOGENATED PHENOL-FORMALDEHYDE RESIN

Harold P. Higginbottom, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 17, 1967, Ser. No. 653,643

Int. Cl. C08g *37/08, 51/56, 51/58*

U.S. Cl. 260—53 **12 Claims**

Light-colored phenol-aldehyde resins and process for making same by polymerizing in the presence of an inorganic phosphorous-radical-containing compound.

3,448,079

PHENOLIC RESINS CONTAINING CYANIC ESTER GROUPS

Ernst Grigat, Cologne-Stammheim, Hans-Dieter Schminke, Cologne, and Rolf Pütter, Dusseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 24, 1966, Ser. No. 552,392

Claims priority, application Germany, May 26, 1965, F 46,164

Int. Cl. C08g *5/06, 5/18, 37/14*

U.S. Cl. 260—59 **2 Claims**

Aromatic cyanic acid esters produced by the reaction of phenols with cyanogen halide, phenol-formaldehyde resins having hydroxyl groups thereof replaced with cyanic acid ester groups and process of producing the same.

3,448,080

POLYIMIDES PREPARED FROM 2,6-DIAMINO-BENZO[1,2-D:5,4'-D]BISTHIAZOLE

Stephen S. Hirsch, Raleigh, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 9, 1967, Ser. No. 607,911

Int. Cl. C08g *20/32*

U.S. Cl. 260—65 **7 Claims**

High molecular weight thermally stable polyimides are prepared by reacting aromatic dianhydrides with 2,6-diaminobenzo[1,2-d:5,4-d']bisthiazole, a diamine containing only two nuclear substituted hydrogen atoms, which results in the polyimides having less than 2 percent hydrogen.

3,448,081

PROCESS FOR PREPARING THERMOSTABILIZED TRIOXANE-CYCLIC ETHER COPOLYMERS

Karl-Heinz Hafner, Bad Orb, and Edgar Fischer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 464,198, June 15, 1965. This application Sept. 29, 1967, Ser. No. 671,608

Claims priority, application Germany, June 26, 1964, F 43,265

Int. Cl. C08f *45/58, 45/60*

U.S. Cl. 260—67 **8 Claims**

There is disclosed herein a process for stabilizing a copolymer of trioxane and a cyclic ether by treating the copolymer in an aqueous buffered solution having a pH within the range of about 10.0 to about 10.5 at a temperature within the range of about 100° to about 160° C., the buffered solution containing, per 100 parts by weight of water, about 0.05 to about 1 part by weight of an aliphatic or a hydroxy-aliphatic amine, about 0.25 to about 2 parts by weight of urea or melamine and about 0.1 to about 1 part by weight of a weak organic acid or a weak inorganic acid.

3,448,082

DICYCLOPENTADIENYLIRON-PHTHALALDEHYDE CONDENSATION PRODUCT

Joseph J. McGrath and Ilgvars J. Spilners, Monroeville, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Sept. 20, 1966, Ser. No. 580,619

Int. Cl. C08g *13/00*

U.S. Cl. 260—67 **8 Claims**

Cross-linked condensation products which are pressure-moldable are obtained by condensing a dicyclopentadienyliron compound and a phthalaldehyde at about 100° to about 200° C. in the presence of an acidic condensing agent. Ferrocene, alkyl ferrocenes and aralkyl ferrocenes are exemplary of the dicyclopentadienyliron compounds. Phthalaldehyde, isophthalaldehyde, terephthalaldehyde and their alkyl derivatives are exemplary of the phthalaldehydes.

3,448,083

PRODUCTION OF HIGH MOLECULAR WEIGHT ACETALDEHYDE FORMALDEHYDE POLYMERS

Giulio Natta, Paolo Chini, Giorgio Mazzanti, and Amelia Brizi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

Filed Nov. 21, 1960, Ser. No. 70,620

Claims priority, application Italy, Nov. 24, 1959, 19,565/59

Int. Cl. C08g *1/10*

U.S. Cl. 260—67 **11 Claims**

High molecular weight, linear homopolymers of acetaldehyde and copolymers of acetaldehyde with formaldehyde are produced by polymerizing the monomer or mixed monomers in contact with catalysts comprising organometallic compounds or hydride of Group II or Group III metals.

3,448,084

POLYESTERS FROM TRIS(2-HYDROXYETHYL) ISOCYANURATE

Donald L. Burdick and William C. Francis, Overland Park, and Joseph W. Jones, Jr., Leawood, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 109,017, May 10, 1961. This application June 10, 1964, Ser. No. 374,185

Int. Cl. C08g *17/06, 20/32*

U.S. Cl. 260—75 **3 Claims**

1. A polymeric ester of a mixture consisting of tris (2-hydroxyethyl) isocyanurate, propylene glycol and adipic acid.

3,448,085

ANIONIC POLYMERIZATION OF LACTAMS WITH SYMMETRICAL TRIAZINE AS COCATALYST

Edward W. Pietrusza, Morris Township, Morris County, and Rudolph Pinter and Jack R. Pedersen, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 20, 1961, Ser. No. 146,449

Int. Cl. C08g *20/12*

U.S. Cl. 260—78 **9 Claims**

1. In a process of polymerizing a lactam having at least 7 atoms in the lactam ring under anionic polymerization conditions, the improvement which comprises providing in the reaction mixture an N-(sym. triazino) lactam as promoter.

3,448,086

ANIONIC POLYMERIZATION OF LACTAMS WITH PHOSPHONITRILIC COMPOUND AS COCATALYST

Gustave Bryant Bachman and Brage Golding, West Lafayette, and Thomas P. Murphy, Evansville, Ind., assignors, by mesne assignments, to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed July 2, 1965, Ser. No. 469,341

Int. Cl. C08g *20/18, 33/16*

U.S. Cl. 260—78 **8 Claims**

Polymerizing lactams to polylactams at temperatures from 125° C.–300° C. in an anionic, substantially anhydrous system having therein a phosphonitrilic compound capable of reacting with the lactam, for example, (1) a cyclic phosphonitrilic dihalide trimer, (2) a cyclic phosphonitrilic dihalide tetramer, or (3) a mixture of (1) and (2), and polyamides stabilized against degradation and discolorization at elevated temperatures in the presence of air formed by so polymerizing lactams.

3,448,087

MODIFIED POLYCARBONAMIDES

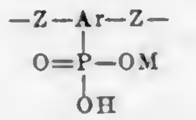
James B. Ballentine, Chapel Hill, and Lawrence W. Crovatt, Jr., Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 25, 1967, Ser. No. 663,227

Int. Cl. C08g *20/20*

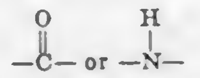
U.S. Cl. 260—78 **5 Claims**

Polycarbonamides (nylon) having acid dye resistance are produced by incorporating into the polymer chain, from 0.1 to 2.0 weight percent of a compound of the formula



$$\begin{array}{c}-\mathrm{Z}-\mathrm{Ar}-\mathrm{Z}-\\ |\\ \mathrm{O}=\mathrm{P}-\mathrm{OM}\\ |\\ \mathrm{OH}\end{array}$$

wherein Ar is an aromatic nucleus, Z is a



$$\overset{\mathrm{O}}{\overset{\|}{-\mathrm{C}-}}\ \text{or}\ \overset{\mathrm{H}}{\overset{|}{-\mathrm{N}-}}$$

radical and M is an alkali metal. These polycarbonamides are particularly useful in the production of textile fibers.

3,448,088

CROSSLINKED INTERPOLYMERS

Julian Louis Azorlosa, Dover, Del., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 14, 1966, Ser. No. 557,363

Int. Cl. C08f *15/40, 15/14*

U.S. Cl. 260—78.5 **5 Claims**

A water-soluble crosslinked interpolymer comprising substantially equi-molar quantities of maleic anhydride and a monovinyl alkyl ether and 0.001 to 0.2 mole percent of a crosslinking agent comprising a divinyl ether of an aliphatic diol. Such water-soluble crosslinked interpolymers are useful as viscosity improvers.

3,448,089

PHOTOPOLYMERIZABLE POLYMERS CONTAINING FREE ACID OR ACID ANHYDRIDE GROUPS REACTED WITH GLYCIDYL ACRYLATE OR GLYCIDYL METHACRYLATE

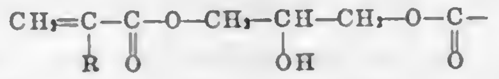
Jack Richard Celeste, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,817

Int. Cl. C08f *27/12;* **G03c** *1/68*

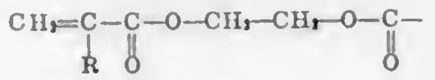
U.S. Cl. 260—78.5 **6 Claims**

The addition-polymerizable (crosslinkable) polymeric compounds are copolymers containing recurring units from vinyl or vinylidene monomers having at least one of the extralinear radicals:



$$\mathrm{CH_2{=}\underset{R}{C}-\underset{\overset{\|}{O}}{C}-O-CH_2-\underset{OH}{CH}-CH_2-O-\underset{\overset{\|}{O}}{C}-}$$

and



$$\mathrm{CH_2{=}\underset{R}{C}-\underset{\overset{\|}{O}}{C}-O-CH_2-CH_2-O-\underset{\overset{\|}{O}}{C}-}$$

attached to an intralinear unit and an extralinear radical Y attached to an adjacent intralinear unit or adjacent carbon atom and comprising a carboxyl function; R is —H or methyl.

3,448,090

METHOD FOR PREPARING COPOLYMERS OF SULFUR DIOXIDE AND A VINYL AROMATIC COMPOUND

Georgette Steinbach-Van Gaver, Paris, France, assignor to Produits Chimiques Pechiney-Saint-Gobain, Paris, France

No Drawing. Filed Nov. 12, 1965, Ser. No. 513,144

Claims priority, application France, Nov. 17, 1964, 995,232

Int. Cl. C08g *25/00*

U.S. Cl. 260—79.3 **5 Claims**

The invention is concerned with the method for the preparation of copolymers of SO_2 and a vinyl aromatic compound such as styrene with or without another polymerizable unsaturated monomer such as acrylonitrile in which the copolymerization reaction is carried out at a temperature below 100° C. in the presence of a catalyst and in which the improvement comprises the copolymerization of the materials in the presence of a compound selected from the group consisting of an aliphatic organic compound of a non-metal in Groups VI and VII of the Periodic Table, such as a mercaptan or thioether having the formula R—SH and R—S—R in which R is an alkyl group having from 3 to 20 carbon atoms and preferably 10 to 20 carbon atoms, or an organic halogenated compound such as allyl bromide.

3,448,091

MOLECULAR WEIGHT CONTROL IN THE POLYMERIZATION OF VICINAL EPISULFIDES

Riad H. Gobran, Levittown, Pa., and Anthony F. Santaniello, Trenton, and Roy Larsen, Lambertville, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Feb. 21, 1966, Ser. No. 528,823

Int. Cl. C08g *23/00*

U.S. Cl. 260—79 **13 Claims**

By incorporating in the polymerization reaction mixture a small amount of certain compounds containing one or more "active" hydrogens during the polymerization of vicinal episulfides, it is possible to control the molecular weight of the resultant normally solid poly(vicinal episulfides). Among the various active hydrogen-containing compounds which may be used to control the molecular weight of the polymer during the polymerization of vicinal episulfides are water, hydrogen sulfide, lower alkanols, glycols, amines, amides, mercaptans, and carboxylic acids.

3,448,092

POLYMERIZATION PROCESS AND PRODUCT

Robert Chiang, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 355,937, Mar. 30, 1964, and Ser. No. 152,021, Nov. 13, 1961. This application Nov. 17, 1966, Ser. No. 595,042

Int. Cl. C08f *1/28, 1/08, 1/78*

U.S. Cl. 260—79.3 **10 Claims**

This application discloses the formation of novel polymers of acrylonitrile and small amounts of comonomers which have a reduced tendency to yellow upon heating because the polymers possess less than 5μ eq./gm. of chromophoric weak acid groups identifiable by titration with a base when hydrolyzed in the presence of a mineral acid. The novel polymers are formed by non-aqueous solution polymerization in the presence of a polymerization initiator having the formula

$$M[M'''R_{4-i}(OR')_i]_m$$

wherein M is an alkali metal or an alkaline earth metal, M''' is a Group III–A metal, aluminum being preferred, R and R' are the same or different monovalent hydrocarbon radicals having up to about 12 carbon atoms, *i* is an integer from 1 to 4 and *m* is an integer of 1 to 2 which corresponds to the valence of M. The polymers can be spun from the polymerization solution to provide white textile fibers.

3,448,093

MOLECULAR WEIGHT CONTROL PROCESS FOR POLYMERS

Lowell D. Grinninger and Lawrence A. Meeks, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,784

Int. Cl. C08f *1/56, 1/28;* **C08d** *1/36*

U.S. Cl. 260—80.7 **16 Claims**

Polymerization of unsaturated organic monomers in the presence of an alfin catalyst and a molecular weight control agent comprising a halogenated aromatic compound.

3,448,094

POLYMERS OF ALKYL METHACRYLATES AND IMIDES

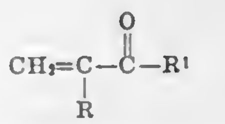
Morris Zief and Charles H. Schramm, Easton, Pa., assignors to J. T. Baker Chemical Company, Phillipsburg, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 17, 1965, Ser. No. 508,362

Int. Cl. C08f *19/00, 27/00*

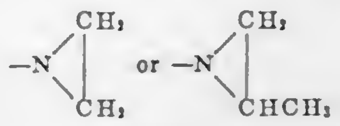
U.S. Cl. 260—86.1 **3 Claims**

Discloses novel polymers and method of preparation by: (a) heating, in the presence of a free radical producing catalyst, at a temperature of about 40° C. to 75° C. a mixture of an alkyl methacrylate and an imide of the formula



$$\mathrm{CH_2{=}\underset{R}{C}-\overset{O}{\overset{\|}{C}}-R^1}$$

wherein R is hydrogen or methyl and R^1 is a cyclic imino group of the formula



to polymerize said alkyl methacrylate and imide through the vinyl groups thereof while a major portion of the cyclic imino groups remain unreacted; and (b) further heating said polymer having free imino groups either alone or with a carboxylic acid at a temperature above 75° C. to further cause reaction and polymerization through the cyclic imino groups.

3,448,095

PROCESS AND CATALYTIC COMPOSITIONS FOR THE POLYMERIZATION AND COPOLYMERIZATION OF CONJUGATED DIENES AND THE PRODUCTS THEREOF

Francois Dawans, Bougival, Yvelines, and Philippe Teyssie, Le Vesinet, Yvelines, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

No Drawing. Filed Oct. 19, 1966, Ser. No. 587,692

Claims priority, application France, Oct. 22, 1965, 36,006

Int. Cl. C08c *1/14, 3/10, 3/12*

U.S. Cl. 260—94.3 **15 Claims**

A polymer of a conjugated diolefin, particularly isoprene, having a substantially regular chain of vinyl and cis-1,4 units, comprising about 40–60% cis-1,4 units, about 60–40% vinyl units, and less than about 10% trans-1,4 units, is produced by polymerizing isoprene with a catalyst system consisting essentially of an organic magnesium compound such as phenylmagnesium bromide, and a cobalt compound such as the hexahydrate of cobalt silicofluoride, in the optional presence of an accelerator such as water or an alcohol.

3,448,096

LIGNOSULFONATE DISPERSING AGENTS AND PROCESS FOR PRODUCING SAME

Dale W. Read, West Vancouver, British Columbia, Canada, assignor to Canadian International Paper Company, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,804

Int. Cl. C04b *7/56;* **C07g** *1/00;* **C11d** *15/00*

U.S. Cl. 260—124 **8 Claims**

1. A dispersing agent produced by the process comprising a first step of mixing (a) a solution of spent sulphite liquor containing up to about 18% solids and (b) caustic equivalent to about 4 to to 10 g. NaOH per litre of the spent sulphite liquor and a second step of heating the mixture of the first step to a temperature of from about 200° C. to 250° C. until a reaction evidenced by precipitation ensues.

3,448,097
LINCOMYCIN COMPLEXES AND PROCESS FOR PREPARING THE SAME

Alexander D. Argoudelis, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 622,324, Mar. 10, 1967. This application Apr. 25, 1967, Ser. No. 642,620

Int. Cl. C08b *19/00*

U.S. Cl. 260—210 **8 Claims**

Novel complexes consisting of one mole of a lincomycin compound and one mole of a tetraalkylammonium halide which are produced by contacting a lincomycin compound free base with a tetraalkylammonium halide, for example; tetramethylammonium chloride. These lincomycin-tetraalkylammonium halide complexes are useful as antibacterials and for upgrading impure lincomycin free base.

3,448,098
PRODUCTION OF GUANYLIC ACID

Walter A. Gaines, Rahway, and Donald F. Reinhold, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,239

Int. Cl. C07d *51/52*

U.S. Cl. 260—211.5 **3 Claims**

A process for preparing guanylic acid comprising phosphorylating 2′,3′-O-alkylidene guanosine with tetrachloropyrophosphate in the presence of phosphorous oxychloride and hydrolyzing the reaction product with water.

3,448,099
PROCESS FOR THE INDUSTRIAL MANUFACTURE OF HYDROXOCOBALAMIN

Jean Boige, 53 Ave. Vercingetorix, Aulnay-sous-Bois, Seine-St. Denis, France

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,044

Claims priority, application France, Mar. 7, 1966, 52,303

Int. Cl. C07d *55/62*

U.S. Cl. 260—211.7 **9 Claims**

A continuous process for the production of hydroxocobalamin from an aqueous solution of cyanocobalamin, in which the solution is initially at a pH of 1.5–3, preferably 2–2.5, and is passed through a column of granulated zinc where hydrogen is generated in situ. The hydrogenated liquid is then oxidized by bubbling an oxidizing gas through it. A water-miscible organic solvent is added to the solution of cyanocobalamin prior to its contact with the zinc, and this greatly reduces what would otherwise be the tendency of the process to give progressively lower yields and also improves the quality of the product.

3,448,100
MANUFACTURE OF CARBOXYMETHYL HYDROALKYL MIXED CELLULOSE ETHERS

Clayton D. Callihan, Baton Rouge, Joseph R. Boudreaux, Plaquemine, and Cecil L. Smith, Baton Rouge, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 452,846, May 3, 1965. This application Apr. 18, 1968, Ser. No. 722,160

Int. Cl. C08b *11/02, 11/08*

U.S. Cl. 260—231 **9 Claims**

A mixed carboxymethyl hydroxyalkyl cellulose ether is obtained in a substantially pure form according to a reaction sequence involving preparing a carboxymethyl derivative of cellulose, acidifying the derivative, and washing the acidified ether with water to remove reaction byproducts. The washed ether is then dried to a residual moisture content sufficiently low that upon reaction with an alkylene oxide, the product retains a particulate, form, e.g., a fibrous physical state. Sufficient alkylene oxide is reacted with the ether in the presence of a catalytic amount of alkali to introduce the desired hydroxyalkyl substitution. The ether prepared according to the invention will have a carboxymethyl D.S. within the range from about 0.2 up to about 1, and a hydroxyalkyl M.S. within the range from about 0.2 to about 5. The improved process avoids the need for organic solvents to remove by-product salt in purification steps.

3,448,101
DRY HEAT PROCESS FOR THE PREPARATION OF CATIONIC STARCH ETHERS

Jean-Marc Billy and Judith Ann Seguin, nee Martens, Montreal, Quebec, Canada, assignors to The Ogilvie Flour Mills Company, Limited, Montreal, Quebec, Canada

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,984

Claims priority, application Canada, July 11, 1964, 907,061

Int. Cl. C08b *19/06;* **D21h** *3/20*

U.S. Cl. 260—233.3 **16 Claims**

Gelatinizable nitrogen containing cationic starch ethers in unswollen granule form are prepared by blending granular starch with a non-volatile epoxide containing a tertiary or quaternary ammonium salt group and heating the blend in essentially dry state and in the absence of catalysts at a temperature of about 200 to 300° F.

3,448,102
DIHYDRODIBENZAZOCINES

Harry Louis Yale, New Brunswick, and Francis A. Sowinski, Edison, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Mar. 18, 1963, Ser. No. 266,011. Divided and this application Jan. 22, 1965, Ser. No. 432,932

Int. Cl. C07d *41/00, 87/34*

U.S. Cl. 260—239 **11 Claims**

5-[substituted amino-lower alkanoyl]-5,6-dihydrodibenz[b,f]azocines are prepared by treating a 5,6-dihydrodibenz[b,f]azocine with a substituted amino-lower alkanoyl halide or a halo-lower alkanoyl halide and then an amine. The azocine is prepared by treating a 10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-one with a brominating agent, the resulting product with an organic base, the resulting product with a salt of hydroxylamine to yield the corresponding oxime, and then subjecting the oxime to a Beckmann rearrangement. The 5-[substituted amino-lower alkanoyl]-5,6-dihydrodibenz[b,f]azocine are useful, inter alia, as intermediates for preparing the corresponding 5-[substituted amino-lower alkyl]-5,6-dihydrodibenz[b,f]azocines by reduction.

3,448,103
PREPARATION OF α-NITRO-ω-LACTAMS

Johan T. Semeyns de Vries van Doesburgh and Henny Verbrugge, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

Filed Feb. 16, 1966, Ser. No. 527,837

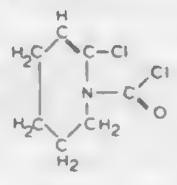
Claims priority, application Netherlands, Feb. 16, 1965, 6501881

Int. Cl. C07d *41/06*

U.S. Cl. 260—239 **19 Claims**

A process is provided for the preparation of α-nitro-ω - lactams comprising treating a 2 - chloro - azacyclo-2,3 - alkene - 1 - carbochloride having 4 to 8 carbon atoms in the alkene group with a nitrating mixture comprising nitric acid and sulphuric acid and/or sulphur trioxide or mixtures thereof or nitryl ions, the proportions being so chosen that substantially no free sulphur trioxide exists in the said mixture when sulphur trioxide is used. The reaction product obtained is a sulphuric ester of 3 - nitro - 2 - chloro - 2 - hydroxy - azacycloalkane - 1 - carbochloride. This intermediate product is reacted with free sulphur trioxide and thereafter hydrolyzed with water to obtain a α-nitro-ω-lactam.

A



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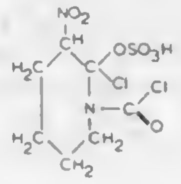

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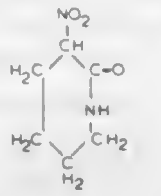


3,448,104
BETAINE PENICILLIN DERIVATIVES

Kenneth David Hardy, Horsham, John Herbert Charles Nayler, Dorking, and Edward Raymond Stove, Redhill, England, assignors to Beecham Group Limited, Brentford, England, a British company

No Drawing. Filed May 18, 1966, Ser. No. 550,913

Claims priority, application Great Britain, May 29, 1965, 22,955/65

Int. Cl. C07d *99/20, 99/16;* **A61k** *21/00*

U.S. Cl. 260—239.1 **7 Claims**

New betaine penicillins are provided which contain a quaternary ammonium group derived from a tertiary amine such as trialkylamines or their heterocyclic tertiary amines, the new penicillins being derivatives of 6-aminopenicillanic acid and having use as anti-bacterial agents. Representative compounds are α-trimethylaminobenzylpenicillin betaine and α-(pyridinacetamindo)benzylpenicillin betaine.

3,448,105
BASIC ESTERS OF MALONIC ACID

Rudolf G. Griot, Florham Park, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Filed June 7, 1966, Ser. No. 555,822

Int. Cl. A61k *27/00;* **C07d** *87/50, 31/34*

U.S. Cl. 260—246 **6 Claims**

The compounds are basic di-esters of bis-(p-chlorophenoxy)malonic acid, e.g., bis-(p-chlorophenoxy)malonic acid β-diethylaminoethyl di-ester, and are useful as hypocholesteremics/hypolipemics.

3,448,106
NOVEL 2-AMINO-BENZYLAMINES AND SALTS THEREOF

Josef Nickl, Johannes Keck, and Robert Engelhorn, Biberach an der Riss, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Filed Mar. 31, 1966, Ser. No. 538,965

Claims priority, application Germany, Apr. 9, 1965, T 28,357

Int. Cl. C07d *87/26, 11/00, 51/66*

U.S. Cl. 260—247.5 **5 Claims**

The compounds are 2-amino-benzylamines and nontoxic acid addition salts thereof, useful as secretolytics and antitussives in warm-blooded animals.

3,448,107
TETRAZOLE DERIVATIVES

Gerald F. Holland, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,526

Int. Cl. C07d *57/12, 57/24;* **A61k** *25/00*

U.S. Cl. 260—250 **6 Claims**

Novel 5-pyrazinyl, pyrimidinyl and pyridazinyl tetrazoles and N-oxides thereof useful as lipid regulating agents.

3,448,108
SUBSTITUTED PHENETHYL HETEROCYCLES AND THEIR DERIVATIVES

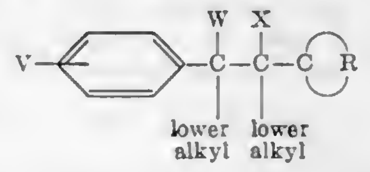
Frank J. Villani, West Caldwell, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 29,786, May 18, 1960. This application Apr. 16, 1965, Ser. No. 448,860

Int. Cl. C07d *49/00, 51/00, 91/30*

U.S. Cl. 260—250 **19 Claims**

1. A compound of the formula:



wherein $\overset{\frown}{\underset{\smile}{CR}}$ is a member of the group consisting of piperidyl, piperazyl, pyrazyl, thiazyl and imidazyl, V is a member of the group consisting of hydrogen, hydroxy, lower alkoxy, lower alkyl and halogen, W and X are members of the group consisting of hydrogen and hydroxy with the proviso that at least one of W and X is hydrogen, and when W and X are taken together they form an additional double bond between the carbon atoms to which they are attached.

3,448,109
CERTAIN AMINO-SUBSTITUTED 2-METHYL-3-PHENYL-4(3H)-QUINAZOLINONES

Alex Heusner and Karl Zeile, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Continuation-in-part of applications Ser. No. 391,766, Aug. 24, 1964, and Ser. No. 470,238, July 7, 1965. This application Aug. 1, 1966, Ser. No. 569,040

Int. Cl. C07d *51/42;* **A61k** *27/00*

U.S. Cl. 260—256.4 **3 Claims**

The compounds are 2-methyl-3-aminophenylamino-4(3H)-quinazolinones and acid addition salts thereof, useful as sedatives, tranquilizers and anticonvulsives in warm-blooded animals.

3,448,110
DERIVATIVES OF ISOBUTYRIC ACID

Rudolf G. Griot, Florham Park, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,975

Int. Cl. C07d *29/24, 29/18;* **A61k** *27/00*

U.S. Cl. 260—294.3 **4 Claims**

α-(p-Chlorophenoxy)isobutyric acid 1-lower alkyl-4-piperidyl esters and non-toxic acid addition salts thereof, e.g., α - (p - chlorophenoxy)isobutyric acid 1-methyl-4-piperidyl ester hydrochloride, are useful as hypocholesteremic/hypolipemic agents.

3,448,111

PROCESS FOR THE PRODUCTION OF ARYL-SUBSTITUTED SULFONES

Hanswilli von Brachel, Offenbach (Main), and Karl Hintermeier, Frankfurt am Main-Fechenheim, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a company of Germany
No Drawing. Filed Aug. 26, 1966, Ser. No. 575,229
Claims priority, application Germany, Sept. 7, 1965, C 36,819
Int. Cl. C07d *31/48;* **C07c** *149/00, 15/10*
U.S. Cl. 260—294.8 3 Claims

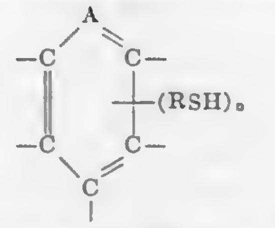
Alpha phenethyl sulfolane and similar aryl-substituted sulfones are made by condensing styrene or similarly conjugated aryl-substituted olefin with the appropriate sulfone that has an alpha hydrogen. The products so made are used for separating aromatic and aliphatic hydrocarbons and are also chemical intermediates.

3,448,112

CERTAIN SUBSTITUTED POLYMERCAPTAN DERIVATIVES OF PYRIDINE AND BENZENE

William De Acetis, New York, N.Y., and Herbert A. Newey, Lafayette, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application May 31, 1963, Ser. No. 284,322, now Patent No. 3,310,527, dated Mar. 21, 1967. Divided and this application Oct. 31, 1966, Ser. No. 590,475
Int. Cl. C07d *31/50;* **C07c** *149/34*
U.S. Cl. 260—294.8 2 Claims

Polymercaptans of the general formula:



wherein A is nitrogen or —CH, R is an alkylene radical of 1 to 6 carbon atoms, *n* is an integer of 3 to 4, and the ring carbon atoms not attached to the —RSH groups are attached to a hydrogen, halogen or alkyl radical of up to 4 carbons atoms are useful for curing polyepoxides.

3,448,113

CERTAIN 2-HALO-3-PYRIDYL ANTHRANILS

Charles William Den Hollander, Midland Park, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Original application May 1, 1964, Ser. No. 364,298, now Patent No. 3,352,877, dated Nov. 14, 1967, which is a continuation-in-part of application Ser. No. 288,882, June 19, 1963. Divided and this application July 25, 1967, Ser. No. 655,773
Int. Cl. C07d *85/06*
U.S. Cl. 260—296 4 Claims

2-halo-3-aryl anthranils and a method of preparing these compounds including intermediates in this process. The 2-halo-3-aryl anthranils are valuable intermediates in the preparation of therapeutically useful 1,4-benzodiazepines.

3,448,114

AROYLALKYL DERIVATIVES OF 1,2,3,4-TETRAHYDRO-5H-PYRIDO[4,3b]INDOLES

Robert Phillip Johnson and John Paul Oswald, Waukegan, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No drawing. Filed Dec. 7, 1966, Ser. No. 599,748
The portion of the term of the patent subsequent to May 7, 1985, has been disclaimed
Int. Cl. C07d *57/06*
U.S. Cl. 260—296 6 Claims

Aroylalkyl derivatives of 1,2,3,4-tetrahydro-5H-pyrido[4,3b]indoles, which are useful chemotherapeutic agents primarily through effects on the central nervous system of mammals.

3,448,115

2-TRI- (MIXED) HALOMETHYL BENZIMIDAZOLES

George Holan, Brighton, Victoria, and Eva L. Samuel, Bentleigh, Victoria, Australia, assignors to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Victoria, Australia
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,599
Claims priority, application Australia, Dec. 29, 1965, 68,371/65
Int. Cl. C07d *49/38*
U.S. Cl. 260—309.2 9 Claims

Monofluorodichloromethylbenzimidazoles and monochlorodifluoromethylbenzimidazoles having utility as herbicides and intermediates for anthelmintic compounds.

3,448,116

PREPARATION OF 1-HYDROXYHYDANTOINS AND 1-HYDROXYTHIOHYDANTOINS

Ronald J. McCaully, Malvern, Stanley C. Bell, Philadelphia, and Peter B. Russell, Villanova, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 25, 1966, Ser. No. 544,813
Int. Cl. C07d *49/32*
U.S. Cl. 260—309.5 8 Claims

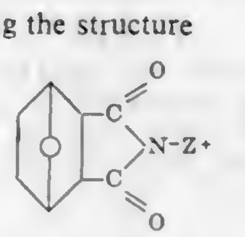
1-hydroxyhydantoin and 1-hydroxythiohydantoins may be prepared by the condensation of a phenyl isocyanate with N-hydroxyaminoacetic acid, cyclizing the adduct with a mineral acid and then acylating the resulting product. The products have known pharmaceutical properties which render them useful as synthetic medicinals, such as anticonvulsants.

3,448,117

3,6-ENDOXOHEXAHYDROPHTHALIMIDES

Ivan C. Popoff, Ambler, and Bernard Buchholz, Flourtown, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application June 12, 1964, Ser. No. 374,844, now Patent No. 3,343,940, dated Sept. 26, 1967. Divided and this application July 13, 1966, Ser. No. 615,857
Int. Cl. C07f *9/80, 9/54;* **C07d** *27/52*
U.S. Cl. 260—326 5 Claims

Compounds having the structure



where Z is a cation selected from the group consisting of tetra-lower alkyl ammonium, benzyl tri-lower alkyl ammonium, tri-lower alkyl sulfonium, tetra-lower alkyl phosphonium, tetra-lower alkyl arsenonium, and tri-lower alkyl selenonium.

3,448,118

PREPARATION OF N-SUBSTITUTED α-PYRROLIDONES

Guy Chichery, Pierre-Benite, and Philippe Perras, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,618
Claims priority, application France, Apr. 7, 1965, 12,310; Feb. 10, 1966, 49,168
Int. Cl. C07d *27/08*
U.S. Cl. 260—326.5 5 Claims

N-substituted-α-pyrrolidones are made by heating a succinic acid with a primary amine and hydrogen under pressure in the presence of a catalyst.

3,448,119

PRODUCING TETRAMETHYLISOINDOLENINE BY HEATING ACETONYLACETONE IN AQUEOUS AMMONIUM SALT

Henry Fletcher, Moston, Manchester, England, assignor, by mesne assignments, to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware
No Drawing. Original application Nov. 16, 1964, Ser. No. 411,597, now Patent No. 3,322,785, dated May 30, 1967. Divided and this application Jan. 20, 1967, Ser. No. 627,575
Claims priority, application Great Britain, Nov. 19, 1963, 45,548/63, 45,549/63, 45,550/63
Int. Cl. C07d *27/56*
U.S. Cl. 260—326.1 2 Claims

1,3,4,7-tetramethylisoindolenine, and salts thereof with acids are produced by reacting acetonylacetone with an ammonium salt, the pH of a molar solution of which is less than 7.0, the reaction being carried out substantially in the absence of molecular oxygen.

3,448,120

PROCESS FOR THE PREPARATION OF ALKYLENE DITHIOCARBONATES

Genevieve Lebrasseur, born Nicoud, Bully-les-Mines, France, assignor to Ethylene-Plastique, Paris, France, a French society
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,125
Claims priority, application Great Britain, Dec. 23, 1965, 54,569/65
Int. Cl. C07d *95/00*
U.S. Cl. 260—327 9 Claims

A process is provided for the preparation of alkylene dithiocarbonates wherein carbon disulfide is reacted with an alkylene oxide at a temperature of from 10 to 70° C. in the presence of at a catalytic system. The catalytic system contains an alkali metal halide such as lithium, sodium or potassium iodide, lithium or sodium bromide or lithium chloride, between 2 and 12% by weight water based on the amount of alkali metal halide present and a co-catalyst. The co-catalyst may be a compound such as a sulfonium halide, a xanthate, hydrogen sulfide, an alkali metal sulfide, a thiocarbonate or an alcohol.

3,448,121

FLUORINATED OXETANES

Cyril Woolf, Morristown, N.J., and Gary Lee Gard, Beaverton, Oreg., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 7, 1967, Ser. No. 658,653
Int. Cl. C07d *3/00;* **B01j** *1/10*
U.S. Cl. 260—333 3 Claims

This specification discloses novel fluorinated oxetanes having a pentafluorothio substituent. These oxetanes are prepared by reacting a perhalogenated acetone wherein at least one fluorine atom is attached to each carbon atom adjacent to the carbonyl group with a pentafluorothio-substituted olefin compound in the presence of actinic radiation. These compounds are thermally stable and are chemically inert to strong acids and bases. They are useful as heat transfer media, functional fluids and when added to known gaseous dielectrics, enhance their dielectric strength.

3,448,122

LACTONE STABILIZATION

Arie Klootwijk, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,632
Claims priority, application Netherlands, Apr. 29, 1966, 6605772
Int. Cl. C07d *3/00*
U.S. Cl. 260—343.9 1 Claim

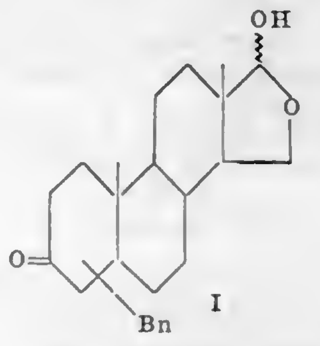
1. A stabilized composition consisting essentially of (a) α,α-dimethyl-β-propiolactone and (b) as stabilizer from about 0.001% mole to about 0.05% mole based on the total composition of an addition compound of boron trifluoride and an organic compound selected from triphenylphosphine and triphenylamine.

3,448,123

16-OXASTEROIDS

Richard Wightman Kierstead, North Caldwell, N.J., assignor to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 15, 1965, Ser. No. 496,649
Int. Cl. C07d *101/00;* **A61k** *27/00;* **C07c** *69/74*
U.S. Cl. 260—346.2 3 Claims

This invention relates to a novel class of endocrinologically active compounds, intermediates therefor and processes for making the same. The endocrinologically active compounds are 16-oxasteroids of the formula



I

wherein B is an olefinic unsaturated bond between carbon atoms 4 and 5 and *n* is a whole integer of value from 0 to 1.

These compounds can be prepared from corresponding D-ring lactones wherein the 3-carbonyl substituent is protected, i.e., 16-oxa-androstan-17-ones. The compounds of Formula I are pharmacologically useful as anti-androgens.

3,448,124

PRODUCTION OF PROPYLENE OXIDE

Edward J. Buyalos, Hopewell, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 6, 1965, Ser. No. 446,113
Int. Cl. C07d *1/02, 1/12*
U.S. Cl. 260—348.5 4 Claims

A method of non-catalytically oxidizing propylene which includes passing propylene and an oxygen-containing gas through a reaction zone containing dimethyl phthalate liquid heated to within the range of 160°–250° C., maintaining a pressure of 150–250 p.s.i.g. above said liquid, withdrawing dimethyl phthalate from the reaction zone, and adding fresh dimethyl phthalate to the reaction zone.

3,448,125

METHOD OF EPOXIDATION USING PHOSPHORIC ACID CATALYST

Ellington M. Beavers, Meadowbrook, and Joseph E. Koroly, Drexel Hill, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 409,272, Feb. 9, 1954. This application Sept. 28, 1965, Ser. No. 491,043
Int. Cl. C07d *1/06, 1/08, 1/02*
U.S. Cl. 260—348.5 8 Claims

A process for preparing an epoxidized ester of water-insoluble, unsaturated, unsubstituted aliphatic acids is provided. The process comprises reacting these esters with an aqueous mixture of hydrogen peroxide, formic acid, and phosphoric acid having a pH of 0.0 to −1.5.

3,448,126

3-OXYGENATED 19-NORPREGNA-1,3,5(10),17(20)-TETRAEN-21-ALS AND ENOL ESTERS THEREOF

Walter R. Benn, Deerfield, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Feb. 27, 1967, Ser. No. 619,019
Int. Cl. C07c *169/34*
U.S. Cl. 260—397.47 **10 Claims**

3-oxygenated 19 - norpregna - 1,3,5(10),17(20)-tetraen-21-als and enol esters thereof useful as pharmacological agents, as evidenced by their hypocholesterolemic, estrogenic, anti-fertility, anti-inflammatory, progestational and anti-hypertensive properties, and preparable by the silver ion catalyzed rearrangement of the corresponding 3-oxygenated 17α-ethynylestra-1,3,5(10)-trien-17β-ol 17-esters followed by hydrolysis of the resulting enol esters.

3,448,127

METHOD OF PRODUCING ONIUM-SALT COMPLEX COMPOUNDS

Richard Dötzer, Nuremberg, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Mar. 27, 1964, Ser. No. 355,222
Claims priority, application Germany, Mar. 30, 1963, S 84,477
Int. Cl. C07f *9/90*
U.S. Cl. 260—429 **7 Claims**

Described is a method of producing onium-salt complex compounds, which comprises reacting three components in substantially stoichiometric ratios:

(a) an electron donor compound, $R'_nH_{m-n}Y$;
(b) an electron acceptor compound, $MeR''_nX'_{m-n}$; and
(c) an organyl compound RX.

R, R′, R″ denote radicals chosen from the group consisting of alkyl and aryl radicals which may be the same. H is hydrogen. X is chosen from the group consisting of halogen and pseudo-halogen radicals. X′ is chosen from the group consisting of halogen and hydrogen. Y is chosen from the group consisting of elements from N, P, As, Sb, Se and Te. Me is chosen from the group consisting of elements from Be, Zn. Al, Ga, In, B and Sn; *m* denotes the valence of the respective elements Y and Me, the index *n* assuming the values above zero to *m*.

Some specific onium salt complexes are:

$$[(C_2H_5)_4Sb][(C_2H_5)_3AlCl]$$

$$[(C_2H_5)_4Sb][(C_2H_5)_3AlBr]$$

$$[(C_2H_5)_4Sb][(C_2H_5)_3AlI]$$

The onium-salt complex compounds of the invention are useful as electrolytes for producing highly pure metals.

3,448,128

PREPARATION OF METAL SALTS OF AMPHOTERIC SURFACE ACTIVE AGENT

Hideo Marumo, Tokyo, and Minoru Saitoh, Saitama-ken, Japan, assignors to Lion Fat & Oil Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Nov. 28, 1966, Ser. No. 597,230
Int. Cl. C07f *1/02, 1/06, 1/04*
U.S. Cl. 260—429 **7 Claims**

A method for preparing a non-alkali metal salt of a betaine-type amphoteric surface active agent containing polyoxyethylene radicals, in which an alkali metal salt of the surface active agent is dissolved in an organic solvent which is capable of forming an azeotropic mixture with water, an aqueous solution of a non-alkali metal salt is added to the first solution, then the resulting mixture is heated to the azeotropic boiling temperature to distill water and the solvent from the mixture, following which the solvent is separated from the water and is recycled to the reaction mixture whereby the non-alkali metal salt of the surface active agent is formed.

3,448,129

π-ALLYLDINITROSYLIRON COMPLEXES OF GERMANIUM, TIN AND LEAD

Perry L. Maxfield, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,821
Int. Cl. C07f *15/02, 7/24, 7/22*
U.S. Cl. 260—429 **2 Claims**

1. A composition of matter comprising a compound having the formula:

$$[\underline{(CHR—CR—CH_2)}(NO)_2Fe]_2MX_2$$

wherein $\underline{(CHR—CR—CH_2)}$ is an allylic radical π-bonded to the iron atom and in which R is selected from hydrogen and a methyl radical, M is selected from tin, lead, and germanium, and X is selected from chloride, bromide, iodide, and a σ-bonded hydrocarbon radical.

3,448,130

PROCESS FOR PREPARING DIALKYLTIN OXIDES AND HYDROXIDES

Vincent Oakes, St. Helens, Ronald Eric Hutton, Bootle, and Brian Lawrence Tonge, London, England, assignors to Pure Chemicals Limited, Liverpool, England, a British company
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,342
Int. Cl. C07f *7/22*
U.S. Cl. 260—429.7 **4 Claims**

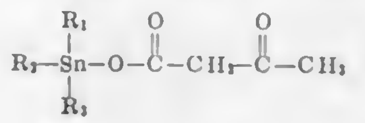
A process for preparing polymeric dialkylin oxides and hydroxides, which comprises reacting tin in the presence of a catalyst with alkyl or alkenyl halides having at least two halogen atoms, or a halogen atom and another substituent group, and hydrolysing the halide compounds so obtained.

3,448,131

PROCESS FOR PREPARING TRIHYDROCARBYLTIN ACETOACETATES

John K. Chan and Erich Marcus, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,586
Int. Cl. C07f *7/22*
U.S. Cl. 260—429.7 **6 Claims**

Acetoacetic esters of organotin compounds are prepared by the reaction of a trihydrocarbyltin hydroxide with diketene. These esters have the following formula:



$$R_2—\overset{\displaystyle R_1}{\underset{\displaystyle R_3}{Sn}}—O—\overset{O}{\overset{\|}{C}}—CH_2—\overset{O}{\overset{\|}{C}}—CH_3$$

wherein each of the R_1, R_2 and R_3 groups is a hydrocarbon radical containing from 1 to about 20 carbon atoms, preferably from 1 to 10 carbon atoms.

3,448,132

STANNOUS HYDROXYETHYLNITRILODIACETATE

William J. Griebstein, Mount Healthy, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed May 2, 1966, Ser. No. 546,535
Int. Cl. C07g *7/22;* **A61k** *7/16*
U.S. Cl. 260—429.7 **1 Claim**

As a new composition of matter, the compound stannous hydroxyethylnitrilodiacetate is disclosed, said compound being useful in oral compositions for caries prophylaxis as a stable and dental enamel reactive source of stannous tin.

3,448,133

BENZOPHENONE STABILIZERS, STABILIZED COMPOSITIONS AND METHODS FOR MAKING SAME

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,660
Int. Cl. C07f *15/04*
U.S. Cl. 260—439 **1 Claim**

A nickel complex of a 2-hydroxy-4-higher alkoxy benzophenone compound, useful as a UV absorber. Stabilized polymeric compositions containing such absorber.

3,448,134

ORGANIC ALUMINUM COMPLEXES

Leslie D. McGraw, Weirton, W. Va., assignor, by mesne assignments, to National Steel Corporation, Pittsburgh, Pa., a corporation of Delaware
Application June 1, 1966, Ser. No. 560,947, which is a division of application Ser. No. 156,996, Dec. 4, 1961, now Patent No. 3,268,421, dated Aug. 23, 1966. Divided and this application July 3, 1967, Ser. No. 650,620
The portion of the term of the patent subsequent to Aug. 23, 1983, has been disclaimed
Int. Cl. C07f *5/06*
U.S. Cl. 260—448 **3 Claims**

The complexes ethoxyethyl-trimethyl ammonium chloride·aluminum halide and ethoxyethyltrimethyl ammonium chloride·aluminum halohydride are disclosed. The complexes are useful in the electrodeposition of aluminum from fused baths.

3,448,135

PROCESS FOR THE PREPARATION OF β-CYANOETHYLTRICHLOROSILANE EMPLOYING PYRAZOLONE CATALYSTS

Paul Alfred Eugene Guinet and Robert Raphael Puthet, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Dec. 5, 1966, Ser. No. 598,932
Claims priority, application France, Dec. 9, 1965, 41,618
Int. Cl. C07f *7/16*
U.S. Cl. 260—448.2 **7 Claims**

1. Process for the manufacture of β-cyanoethyltrichlorosilane which comprises contacting trichlorosilane with at least a stoichiometric preparation of acrylonitrile at elevated temperature in the presence of, as catalyst, a pyrazolone.

3,448,136

AMINOXYSILANES

Kailash Chandra Pande, Adrian, Mich., and Richard Eugene Ridenour, Sylvania, Ohio, assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,747
Int. Cl. C07f *7/10*
U.S. Cl. 260—448.2 **5 Claims**

Aminoxysilanes of the formula $R_nSi(ON—R'_2)_{4-n}$ are disclosed. In the above formula R and R′ may be H, 1 to 4 C aliphatic radicals, monoalicyclic hydrocarbon radicals, monocyclic aromatic hydrocarbon radicals, the foregoing radicals when halo or cyano-substituted, alkoxy and acyloxy groups; one R must always be acyloxy; *n* is 1 to 3. The novel compounds are useful as endblockers in silicone chemistry.

3,448,137

METHOD OF PREPARING 4-ALKYL-2,2-DIMETHYL-2-SILAMORPHOLINES

Hans Niederprüm, Monheim, and Walter Simmler, Odenthal-Schlinghofen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 24, 1966, Ser. No. 536,985
Claims priority, application Germany, Apr. 3, 1965, F 45,715
Int. Cl. C07f *7/10*
U.S. Cl. 260—448.8 **2 Claims**

Process of recovering 4-alkyl-2,2-dimethyl-2-silamorpholines from the mixture of reaction products formed by reacting a corresponding halomethyl-dimethyl-silane with a corresponding β-(alkylamino)ethanol and a tertiary nitrogen base in an inert solvent, in which the unseparated mixture of reaction products is mixed with alkali metal hydroxide in aqueous solution (optionally with prior intermediate dissolution of such reaction products in aqueous hydrochloric acid and separation from the solvent thus precipitated), and the nonaqueous phase which contains the tertiary nitrogen bases is removed and such nonaqueous phase decomposed by fractional distillation, whereby to obtain the corresponding silamorpholine formed, such silamorpholines being useful as stable surfactants.

3,448,138

PRODUCTION OF HYDROCARBONOXY SILANES

Nicolaas P. M. de Wit, Tecumseh, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,899
Int. Cl. C07f *7/14*
U.S. Cl. 260—448.8 **10 Claims**

1. Process for the production of hydrocarbonoxy silanes which comprises (a) reacting, adibatically, a halo-substituted silane and a compound of the group consisting of phenols and alcohols in the presence of a solvent adapted to reduce the solubility in the reaction mixture of the hydrogen halide produced incident to the reaction, the reactants being employed in relative amounts yielding a mixture of halo-hydrocarbonoxy silanes and (b) reacting said last mixture in the presence of a solvent as defined with additional phenol or alcohol to convert the halo-hydrocarbonoxy silanes to the corresponding completely esterified product.

3,448,139

PROCESS FOR THE PREPARATION OF γ-(NITROPHENYL)BUTYRONITRILES

William J. Farrissey, Jr., North Branford, Francesco P. Recchia, New Haven, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed May 19, 1965, Ser. No. 457,157
Int. Cl. C07c *121/66, 79/10*
U.S. Cl. 260—465 **4 Claims**

γ-(nitrophenyl)butyric acid alkyl esters and the corresponding nitriles are prepared by condensing the appropriate nitrophenylalkane and the appropriate (optionally alkyl or aryl-substituted) acrylonitrile or alkyl acrylate in the presence of a base (alkali metal hydroxide, alkali metal alkoxide of tetraalkyl ammonium hydroxide) and an aprotic polar solvent (N,N-dialkyl-alkanoamide, tetralkylurea, hexamethylphosphoramide, N-acetylmorpholine or N-acetylpiperidine). Typical is the condensation of p-nitrotoluene and acrylonitrile in the presence of sodium hydroxide and dimethylformamide to yield 4-(p-nitrophenyl)butyronitrile. Advantages of the novel process are simplicity of synthesis, from readily available starting materials, of compounds hitherto only available by more complex routes.

3,448,140
PROCESS FOR MANUFACTURING URETHANES FROM ALCOHOLS AND PHENOLS, CARBON MONOXIDE AND NITRO COMPOUNDS IN THE PRESENCE OF TRANSITION METAL COMPLEXES

George Albert Gamlen, Runcorn, and Arthur Ibbotson, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,808

Claims priority, application Great Britain, Mar. 18, 1965, 11,565/65; Sept. 17, 1965, 39,723/65

Int. Cl. C07c *101/00, 101/02*

U.S. Cl. 260—471 **12 Claims**

A process for the manufacture of urethanes by reacting an organic compound containing at least one hydroxyl group with carbon monoxide and a nitrogenous organic compound containing at least one non-cyclic group in which a nitrogen atom is directly attached to a single carbon atom and is also attached through a double bond to an oxygen or another nitrogen atom, in the presence of a complex compound of a transition metal having an atomic number in the ranges 21–29, 39–47 and 71–79 inclusive characterized by the presence in the molecule of one or more mono- or poly-dentate ligands in which at least one of the electron-donating atoms is an atom of phosphorus, arsenic or antimony containing a lone pair of electrons. Preferably, the nitrogenous compound is a nitro compound and the process is carried out in the presence of a salt of a transition metal.

3,448,141
UNSYMMETRICAL DERIVATIVES OF DJENKOLIC ACID

Bernard Marinier, Laval des Rapides, Quebec, Canada, assignor to Frank W. Horner Limited, Mount Royal, Quebec, Canada, a Canadian company

No Drawing. Filed Apr. 19, 1967, Ser. No. 631,855

Int. Cl. C07c *149/20;* **A61k** *27/00*

U.S. Cl. 260—481 **5 Claims**

A class of compounds derived from djenkolic acid, useful as anti-inflammatory and anti-edema agents. Representative compounds include monocarbobenzoxy djenkolic acid, its dimethyl ester and the non-toxic acid salts thereof.

3,448,142
UNSYMMETRICAL DJENKOLIC ACID DERIVATIVES

Bernard Marinier, Laval des Rapides, Quebec, Canada, assignor to Frank W. Horner Limited, Mount Royal, Quebec, Canada, a Canadian company

No Drawing. Filed Apr. 19, 1967, Ser. No. 631,863

Int. Cl. C07c *149/20;* **A61k** *27/00*

U.S. Cl. 260—481 **2 Claims**

A class of compounds derived from djenkolic acid, useful as anti-inflammatory and anti-edema agents. Chemically, the compounds are methylenedithio-3-[benzyloxycarbonylalanyl-hydrazide]-3′-[methyl alaninate] and non-toxic acid salts thereof.

3,448,143
DERIVATIVES OF DJENKOLIC ACID

Bernard Marinier, Laval des Rapides, Quebec, Canada, assignor to Frank W. Horner Limited, Mount Royal, Quebec, Canada, a Canadian company

No Drawing. Filed Apr. 19, 1967, Ser. No. 631,873

Int. Cl. C07c *149/20;* **A61k** *27/00*

U.S. Cl. 260—481 **5 Claims**

A class of compounds derived from djenkolic acid, useful as anti-inflammatory and anti-edema agents. Representative compounds include dicarbobenzoxy djenkolic acid, its alkyl esters and its dihydrazide.

3,448,144
PREPARATION OF TRANS-4-AMINOMETHYLCYCLOHEXANE-1-CARBOXYLIC ACID

Atsuji Okano and Reimei Moroi, Tokyo, and Takeo Naito, Ichikawa-shi, Japan, assignors to Daiichi Seiyaku Company Limited of Japan, and Mitsubishi Chemical Industries Limited of Japan, both corporations of Japan

No Drawing. Filed Mar. 24, 1966, Ser. No. 536,992

Claims priority, application Japan, Apr. 13, 1965, 40/21,401

Int. Cl. C07c *99/12*

U.S. Cl. 260—514 **7 Claims**

A process for separation of the trans-isomer from the cis-isomer of 4-aminomethylcyclohexane-1-carboxylic acid from a mixture thereof which comprises treating the mixture in water with p-toluenesulfonic acid to form sulfonates of the isomers, separating the two p-toluenesulfonates from each other by solubility differences thereof and liberating trans-4-aminomethylcyclohexane-1-carboxylic acid from the separated p-toluenesulfonate of the trans isomer.

3,448,145
PROCESS FOR THE PRODUCTION OF 2,5-DIHYDROXYTEREPHTHALIC ACID

Hermann Zorn, Vienna, and Heinrich Till, Schaftenau, Austria, assignors to Alpine Chemische Aktiengesellschaft, Kufstein, Tyrol, Austria

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,800

Claims priority, application Austria, Sept. 2, 1964, A 7,551/64; July 9, 1965, A 6,606/65

Int. Cl. C07c *65/04, 51/00*

U.S. Cl. 260—521 **7 Claims**

An improved process, for the production of 2,5-dihydroxyterephthalic acid according to the Kolbe-Schmitt synthesis is effected by reacting hydroquinone with carbon dioxide in the presence of 1.2 to 2.8 moles of water per mole of hydroquinone.

3,448,146
PROCESS FOR PURIFYING TEREPHTHALIC ACID

Henri K. Lese, McKeesport, John H. McCracken, Pitcairn, and Johann G. D. Schulz, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 376,586, June 19, 1964. This application Dec. 13, 1965, Ser. No. 513,528

Int. Cl. C07c *51/20, 51/48, 51/16*

U.S. Cl. 260—525 **7 Claims**

A processs for purifying terephthalic acid in a mixture obtained as a result of the oxidation of para xylene with oxygen or nitric acid which involves treating such mixtures with a mixture of a lower alcohol and a carbonyl-containing compound or a diether.

3,448,147
PROCESS FOR WORKING UP AQUEOUS SOLUTIONS CONTAINING A GLYCOL ETHER AND HEXADIENIC ACIDS

Lothar Hörnig, Frankfurt am Main, and Hermann Neu, Neu-Isenburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,496

Claims priority, application Germany, Apr. 24, 1965, F 45,897

Int. Cl. C07c *57/02, 43/10*

U.S. Cl. 260—526 **6 Claims**

A process for working up an aqueous solution containing a glycol ether and a hexadienic acid is shown. The glycol ethers are of the formula:

$$R_1(\text{—}OCH_2\text{—}CH_2\text{—})_nOR_2$$

in which *n* is a whole number within the range of 1 to 3, R_1 and R_2 each represent an alkyl radical of the formula

C_xH_{2x+1} and *x* is a whole number within the range of 1 to 4. The aqueous solution consisting essentially of glycol ether and hexadienic acid is heated for 0.5 to 5 hours at a temperature within the range of 70° to 150° C. The organic phase thereupon separates from the remaining aqueous phase and may be separated with ease.

3,448,148
PRODUCT PREPARED BY REDUCTION OF HEXAFLUOROGLUTARYL CHLORIDE

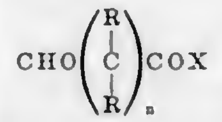
Charles F. Baranauckas, Niagara Falls, N.Y., Donald H. Campbell, Niagara-on-the-Lake, Ontario, Canada, and Russell L. K. Carr, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 178,229, Mar. 8, 1962. This application Oct. 19, 1966, Ser. No. 587,937

Int. Cl. C07c *51/58, 53/34*

U.S. Cl. 260—544 **1 Claim**

There are described novel compositions of the formula:



$$CHO\left(\begin{array}{c}R\\ |\\ C\\ |\\ R\end{array}\right)_n COX$$

wherein *n* is a number from two to three inclusive, and R is selected from the group consisting of hydrogen, perfluoroalkyl, fluorine, perfluorocycloalkyl, perfluoroaryl, alkyl, cycloalkyl, aryl and mixtures thereof, wherein at least one of the R's contains fluorine, and X is selected from the group consisting of bromine, chlorine and fluorine. There is also described a process for preparing said compositions.

3,448,149
BENZENESULFONYL UREAS

Walter Aumüller, Kelkheim, Taunus, Rudi Weyer and Helmut Weber, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, and Felix Helmut Schmidt, Mannheim-Neuostheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

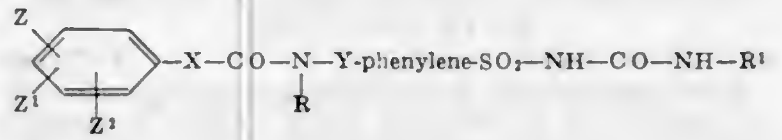
No Drawing. Filed Oct. 18, 1965, Ser. No. 497,553

Claims priority, application Germany, Oct. 30, 1964, F 44,342

Int. Cl. C07c *147/06*

U.S. Cl. 260—553 **19 Claims**

Benzenesulfonyl ureas and physiologically tolerable salts thereof with hypoglycemic properties having the formula



in which

R is hydrogen, lower alkyl or lower phenylalkyl;

R¹ is (a) alkyl or alkenyl of 2 to 8 carbon atoms; (b) lower phenylalkyl or phenylcyclopropyl; (c) lower cyclohexylalkyl, cycloheptylmethyl, cycloheptylethyl or cyclooctylmethyl; (d) endoalkylene-cyclohexyl, endoalkylene - cyclohexenyl, endoalkylene-cyclohexylmethyl or endoalkylene-cyclohexenylmethyl with 1 to 2 endoalkylene-carbon atoms; (e) lower alkylcyclohexyl or lower alkoxycyclohexyl; (f) cycloalkyl of 5 to 8 carbon atoms; or (g) cyclohexenyl or cyclohexenylmethyl;

X is a saturated or mono-olefinically unsaturated hydrocarbon chain of 1 to 6 carbon atoms that is unsubstituted or substituted by halogen, hydroxy, oxo, lower alkanoyloxy or lower alkoxy;

Y is a saturated hydrocarbon chain containing 1 to 4 carbon atoms;

Z is hydrogen, lower alkyl, lower alkoxy, halogen, cycloalkoxy of 5 to 6 carbon atoms, cyclohexyl, lower alkylmercapto, lower alkylsulfinyl, lower alkylsulfonyl, phenylsulfonyl, phenyl, lower phenylalkyl, lower alkanoyl, benzoyl, trifluoromethyl, hydroxy, lower alkanoyloxy, benzyloxy, carboxy, lower carbalkoxy, nitrile, carbamyl, lower alkylcarbamyl, lower dialkylcarbamyl or nitro; and

Z¹ and Z² are hydrogen, lower alkyl, lower alkoxy or halogen when Z is hydrogen, hydroxy, carboxy, alkyl, alkoxy or halogen, or Z¹ and Z² together are

$$\text{—}O\text{—}CH_2O\text{—}$$

when Z is hydrogen.

3,448,150
N-HYDROXYALKYL DERIVATIVES OF DIPHENYLSULFONE POLYCARBOXAMIDES

William J. Farrissey, Jr., North Branford, James S. Rose, Guilford, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 25, 1967, Ser. No. 641,121

Int. Cl. C07c *103/24;* **C08g** *17/18;* **C07d** *27/52*

U.S. Cl. 260—559 **2 Claims**

Novel N-hydroxyalkyl derivatives of diphenylsulfone polycarboxamides (tetra-N-hydroxyethyl derivative of diphenylsulfone-3,3′,4,4′-tetracarboxamide is typical) are provided. These polyols are intermediates for cellular and non-cellular polyurethanes. The novel compounds are prepared from the corresponding polycarboxylic acids by conventional methods for amide formation.

3,448,151
11 - METHYLAMINO - 9,10 - ETHANO - 9,10 - DIHYDROANTHRACENE AND ITS ACID-ADDITION SALTS, AND PRODUCTION THEREOF

Keizo Kitahonoki, Nara, and Ryonosuke Kido, Osaka, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Original application Jan. 22, 1965, Ser. No. 427,458, now Patent No. 3,385,885, dated May 28, 1968. Divided and this application Oct. 6, 1967, Ser. No. 688,287

Claims priority, application Japan, Jan. 27, 1964, 39/3,893, 39/3,895

Int. Cl. C07c *103/12, 103/58*

U.S. Cl. 260—562 **1 Claim**

This invention concerns 11-formylamino-9,10-ethano-9,10, dihydroanthracene and its use as an intermediate to anti-depressant compounds.

3,448,152
AMINE RECOVERY

John G. Milligan and Thomas H. Cour, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex.

No Drawing. Filed Nov. 3, 1966, Ser. No. 591,718

Int. Cl. C07c *87/04, 87/16, 87/10*

U.S. Cl. 260—583 **7 Claims**

Amines are recovered in a process wherein ethylene dichloride is reacted with ammonia and the mixture is stripped of unreacted ammonia. Sodium hydroxide equivalent to the chloride present is added to the mixture, a solvent is added, water is removed by distillation, the sodium chloride is removed by filtration or centrifugation and the solvent and amine products are separated by a suitable means, such as azeotropic distillation or solvent extraction.

3,448,153

METHOD FOR THE PREPARATION OF 2-AMINO-1-ALKANOLS

Stanley B. Cavitt and George P. Speranza, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed May 31, 1966, Ser. No. 553,726

Int. Cl. C07c *91/02, 95/02, 97/02*

U.S. Cl. 260—584 4 Claims

The reductive amination of 2-keto-1-alkanols produces 2-amino-1-alkanols. The products prepared in accordance with the invention are emulsifying agents that find application in the preparation of floor polishes, shoe polishes, automobile cleansers-polishes, emulsion paste waxes, and substituted piperazines by means of a cyclic reductive amination reaction. Further, alkylene oxides may be reacted with the amino-alkanols to yield nitrogen-containing polyether polyols useful in the preparation of polyurethanes.

3,448,154

POLYAMINES CONTAINING ETHER OXYGEN LINKAGES

Ronald L. Broadhead, Addison, Ill., and Frederick D. Timmons, Alliance, Ohio, assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,628

Int. Cl. C07c *97/02, 141/08*

U.S. Cl. 260—584 4 Claims

Process for preparing secondary diamines with at least one internal ether oxygen by reacting a polyalkylene glycol with a sulfating agent such as sulfur trioxide to form a disulfate product and reacting the disulfate product with a primary amine in the presence of a base catalyst such as calcium hydroxide to produce the amine. The use of calcium hydroxide enables the conversion of the sulfate to an insoluble product during the formation of the diamine product.

3,448,155

PROCESS FOR THE HYDROLYSIS OF 7,7-DIHALOBICYCLO - [3.2.0] - 2 - HEPTENE - 6 - ONES TO TROPOLONES

Paul D. Bartlett, Weston, Mass., assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,761

Int. Cl. C07c *49/60*

U.S. Cl. 260—586 10 Claims

Tropolone and substituted tropolones are provided by aqueous liquid phase hydrolysis of α,α-dihalobicycloheptenones.

3,448,156

PREPARATION OF NAPHTHALENE POLYALDEHYDES

Peter R. Taussig, Mountainside, N.J., and Phillip W. Storms, Dickinson, Tex., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 411,562, Nov. 16, 1964. This application Feb. 21, 1968, Ser. No. 707,284

Int. Cl. C07c *47/52, 63/36, 25/14*

U.S. Cl. 260—599 4 Claims

The present invention comprises a process for the preparation of naphthalene polyaldehydes from the corresponding polymethyl naphthalenes comprising liquid phase bromination of polymethyl naphthalenes where the concentration of the polymethyl naphthalenes is from about 1 to 30% by weight of the reaction mixture with elemental bromine at from 0 to about 300° C. in non-polar inert reaction media in the presence of a free radical initiator with removal of HBr as it is formed and with the concentration of unreacted bromine in the reaction mixture being maintained at below about 10% by weight based on the weight of the unreacted polymethyl naphthalenes to form poly(dibromomethyl) naphthalenes and thereafter dissolving said poly(dibromomethyl) naphthalenes in water-ionizable solvent which is liquid at the reaction conditions, and which substantially dissolves said poly(dibromomethyl) naphthalene, treating with at least a stoichiometric amount of dilute aqueous mineral acid and recovering the naphthalene polyaldehydes thus formed.

3,448,157

HYDROFORMYLATION OF OLEFINS

Lynn H. Slaugh, Lafayette, Calif., and Richard D. Mullineaux, Florissant, Mo., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 280,132, May 13, 1963. This application Sept. 27, 1965, Ser. No. 490,635

The portion of the term of the patent subsequent to Mar. 8, 1983, has been disclaimed

Int. Cl. C07c *45/10, 29/16, 47/02*

U.S. Cl. 260—604 20 Claims

The process for the production of primary alcohols by reacting a monoolefinic hydrocarbon with carbon monoxide and hydrogen in the presence of a catalyst consisting of cobalt in complex combination with carbon monoxide and a tertiary-phosphine containing only hydrocarbon radicals and having both aliphatic and aromatic carbons attached directly to the phosphorus atom.

3,448,158

HYDROFORMYLATION OF OLEFINS

Lynn H. Slaugh, Lafayette, Calif., and Richard D. Mullineaux, Florissant, Mo., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 280,132, May 13, 1963. This application Jan. 28, 1966, Ser. No. 523,546

The portion of the term of the patent subsequent to Mar. 8, 1983, has been disclaimed

Int. Cl. C07c *45/04, 29/04, 45/10*

U.S. Cl. 260—604 8 Claims

Aldehydes and alcohols are produced by reacting a monoolefinic hydrocarbon with carbon monoxide and hydrogen, in the presence of cobalt-carbonyl-trialkylphosphite, at 100 to 250° C. and a pressure below 1500 pounds.

3,448,159

ETHYL VINYL SULFONE PRODUCTION

Harvey S. Klein, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 23, 1967, Ser. No. 625,325

Int. Cl. C07c *151/00*

U.S. Cl. 260—607 8 Claims

Ethyl vinyl sulfone is produced as a major product by the reaction of ethylene and sulfur dioxide in aqueous solution in the presence of a palladium halide catalyst and an added inorganic halide compound co-catalyst.

3,448,160

METHOD OF SEPARATING LIQUID POLYMERS OF LOW ASH CONTENT FROM ZIEGLER POLYMERIZATION MIXTURES

Bernhard Schleimer, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, a corporation of Germany

No Drawing. Filed Aug. 29, 1966, Ser. No. 575,562

Claims priority, application Germany, Oct. 21, 1965, C 37,218

Int. Cl. C07c *11/12, 7/10, 15/10*

U.S. Cl. 260—669 6 Claims

Liquid diolefin polymers or copolymers are conventionally washed free of catalyst with methanol or isopropanol because troublesome aqueous emulsions form unless the water washing is done above 50° C. A solution of 33% liquid polybutadiene in benzene made with Ziegler catalyst was cleaned at 80° C. to .005% ash in 10 washings (1:1) with water or 4 washings with dilute aqueous acetic acid.

3,448,161

ALKYLATION PROCESS

Bartolome Garcia, Lake Jackson, and Billy D. Head, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 12, 1968, Ser. No. 704,512

Int. Cl. C07c *3/56*

U.S. Cl. 260—671 10 Claims

Ethylbenzene is produced by a process comprising simultaneously contacting ethylene, benzene and an aluminum chloride catalyst complex in a reaction zone which is maintained at a temperature between 90° and 250° C. and a pressure of at least 280 pounds per square inch, gauge, wherein the reaction time is not greater than two minutes, the molar ratio of benzene to ethylene is at least one to one and the molar ratio of aluminum chloride, added to the catalyst complex, to benzene is between 0.01 to one and one to one.

3,448,162

PROCESS FOR REMOVING HYDROGEN FROM THE EFFLUENT STREAM OF A VACUUM DEHYDROGENATION UNIT

Glenn O. Michaels, South Holland, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 19, 1966, Ser. No. 580,176

Int. Cl. C07c *11/00, 5/18, 7/00*

U.S. Cl. 260—680 9 Claims

There is disclosed a method for selectively removing hydrogen from a vacuum dehydrogenation system. An aliphatic hydrocarbon containing about 3 to 20 carbon atoms is contacted with a dehydrogenation catalyst at dehydrogenation conditions including an elevated temperature of about 900–1200° F. The effluent, which contains an appreciable amount of hydrogen, is then contacted with an oxidation catalyst which serves to oxidize the hydrogen to water. The oxidation catalyst is a crystalline aluminosilicate having a uniform pore size of about 3 to 4 A. cation-exchanged with an oxidizing amount of a reducible metal oxide. The surface of the crystalline aluminosilicate is essentially free of the catalytically-active metal.

3,448,163

DISPROPORTIONATION OF OLEFINS

Eric James Howman, Crowthorne, and Leonard Turner, Woking, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Apr. 7, 1966, Ser. No. 540,823

Claims priority, application Great Britain, Apr. 23, 1965, 17,221/65

Int. Cl. C07c *3/62*

U.S. Cl. 260—683 9 Claims

A process for disproportionating acyclic olefins is provided which comprises contacting an acylic olefin with a catalyst which has been prepared by impregnating alumina with a solution of rhenium heptoxide in an organic solvent and removing the solvent, said solvent being selected from the group consisting of aliphatic alcohols having 1 to 4 carbon atoms per molecule, aliphatic ketones and ethers having up to 4 carbon atoms per molecule, dioxan and tetrahydropyran.

3,448,164

OLEFIN SKELETAL ISOMERIZATION AND CATALYST

Vernon C. F. Holm and George J. Nolan, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,414

Int. Cl. C07c *3/16*

U.S. Cl. 260—683.2 5 Claims

Olefins are isomerized by contacting with an aluminum phosphate and titanium-containing catalyst.

3,448,165

CATALYTIC DEHYDROGENATION OF PARAFFINIC HYDROCARBONS AT HIGH SPACE VELOCITY

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 26, 1966, Ser. No. 567,822

Int. Cl. C07c *3/34;* **B01j** *11/40*

U.S. Cl. 260—683.3 5 Claims

Production of the mono-olefin from C_{10}–C_{18} n-paraffin without skeletal rearrangement is accomplished at LHSV of at least 12.0 thru fixed bed of arsenic-attenuated platinum on lithiated alumina at 15–20% once-thru conversion levels in temperature range 400–600° C., pressures of 10 p.s.i.g. or higher, and 8:1 H_2/hydrocarbon mole ratio. Catalyst stability is silghtly better when processing the lower homologs but they require slightly more intense treatment for same conversion level.

3,448,166

PROCESS FOR THE PREPARATION OF NORMAL MONO-OLEFINS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,676

Int. Cl. C07c *5/18;* **B01j** *11/08*

U.S. Cl. 260—683.3 9 Claims

A process for the preparation of a normal monoolefin having about 6 to about 20 carbon atoms from the corresponding normal paraffin hydrocarbon involving the use of non-acid, alumina-supported, platinum metal-containing catalyst is improved by the use of a high LHSV in conjunction with a superficial linear gas velocity of at least 1 ft./sec. during the contacting of a gaseous mixture of hydrogen and the normal paraffin with the catalyst.

3,448,167

SPECIFIC OLEFIN SYNTHESIS VIA REACTION OF YLIDE AND ONIUM SALT INTERMEDIATES

Isaac Dvoretzky, Moraga, and Frank D. Mango, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 16, 1964, Ser. No. 383,250

Int. Cl. C07c *3/10, 11/00*

U.S. Cl. 260—683.15 13 Claims

Specific olefins are synthesized by reaction of an olefin with an acid, contacting the product with a basic heteroatom compound to form a heteroatom onium salt which in the presence of a base is converted to an ylide intermediate which reacts with additional salt to form a new or expanded onium salt. Decomposition of the thus produced onium salt yields an olefin and a heteroatom-acid salt.

3,448,168

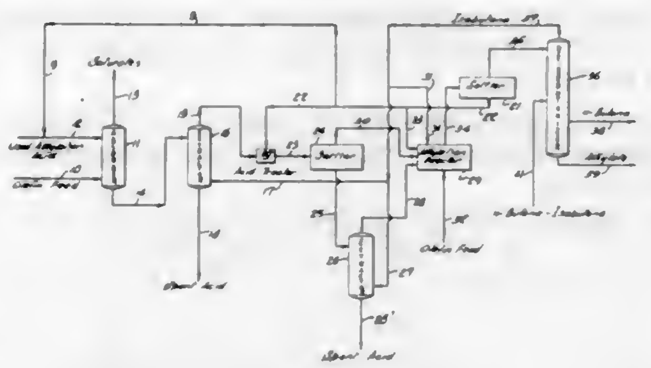
DIALKYL ESTER EXTRACTIONS IN AN ALKYLATION PROCESS

Arthur R. Goldsby, Chappaqua, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of applications Ser. No. 510,904, Dec. 1, 1965, and Ser. No. 516,448, Dec. 27, 1965. This application Dec. 7, 1966, Ser. No. 599,880

Int. Cl. C07c *3/54, 141/00*

U.S. Cl. 260—683.61 10 Claims



Used alkylation acid catalyst from the alkylation of an isoparaffin and an olefin with sulfuric acid catalyst is contacted with an olefin-containing hydrocarbon feed to form a rich acid reaction mixture containing dialkyl sulfates and alkylation reaction contaminants. The reaction mixture is extracted with an isoparaffin hydrocarbon solvent to yield a hydrocarbon phase comprising a major portion of the dialkyl sulfates in the isoparaffin solvent and a spent acid phase containing the remainder of the dialkyl sulfates and the alkylation contaminants. The hydrocarbon phase is treated with sulfuric acid to produce a treated dialkyl sulfate solution which is sent to the alkylation reaction zone and an acid phase. This acid phase is further extracted with isobutane to recover dialkyl sulfates which are also sent to the alkylation reaction zone. In a second embodiment the acid phase separated from the treated dialkyl sulfate solution is mixed with the rich acid reaction mixture and extracted simultaneously therewith with isoparaffin hydrocarbon solvent.

3,448,169

STABILIZATION OF ACYLATED OR ALKYLATED POLYOXYMETHYLENES

Kuno Wagner, Leverkusen, Hans Scheurlen, Burscheid, and Helmuth Kritzler, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Application June 2, 1966, Ser. No. 554,667, which is a division of application Ser. No. 31,259, May 24, 1960, now Patent No. 3,296,194, dated Jan. 3, 1967. Divided and this application July 12, 1967, Ser. No. 661,489

Claims priority, application Germany, June 4, 1959, F 28,611

Int. Cl. C08g *37/02, 41/04, 51/60*

U.S. Cl. 260—858 1 Claim

Thermal stability obtained by the addition of groups of compounds including amines and hydrazines, salts of inorganic or organic bases and dithiocarbamic acids, aromatic and cycloaliphatic diamines alkylated in the ortho positions to the amino group, aldehydes of tertiary aromatic amines and their functional derivatives, 1,6-tetra-substituted hydrazodicarbonamides, esters of hydrazodicarboxylic acid, 1-substituted hydrazine mono-carboxylic acid esters, 1-substituted semi-carbazide and thio-semi-carbazide mono-carboxylic acid esters, 1,4-substituted semi-carbazides and thio-semi-carbazides, mono-substituted urethanes and thiourethanes, allophanic acid esters, biuret derivatives, N-substituted melamines containing NH groups, substituted guanidines, formamidines, and amidines as well as iminoethers.

3,448,170

PROCESS FOR THE PREPARATION OF POLYMERS BY REACTING GLYCINE DERIVATIVES AND POLYISOCYANATES

Rudolf Merten, Leverkusen, and Wilfried Zecher, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,858

Claims priority, application Germany, June 18, 1966, F 49,504

Int. Cl. C08g *20/32, 41/00*

U.S. Cl. 260—858 13 Claims

Heat resistant polymer may be prepared by heating glycine derivatives and polyisocyanates or polythioisocyanates to temperatures between 80° C. and 500° C. In an example 307 pts. of 1,4-bis-(alpha-methylamino-carbethoxymethyl)-benzene is condensed with 236 pts. of bis-(4-isocyanato-phenyl)-ether at 200° C. for 12 hours.

3,448,171

HIGH MOLECULAR WEIGHT URETHANE POLYMERS HAVING AN ORDERED ARRANGEMENT OF PENDANT UNSATURATION AND PROCESS FOR THEIR PRODUCTION

Adolfas Damusis, Detroit, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Sept. 6, 1966, Ser. No. 577,169

Int. Cl. C08g *22/06, 41/04*

U.S. Cl. 260—859 14 Claims

Urethane polymers may be prepared from the reaction of an isocyanate terminated polyether with an ethylenically unsaturated compound having a functional group capable of reacting with the isocyanate. The functional group is exemplified by carboxy, amino and mercapto. A chain extender is required, as exemplified by difunctional hydroxy, carboxy, amino and mercapto terminated polyethers.

3,448,172

FLEXIBILIZED POLYESTER RESIN COMPOSITIONS CONTAINING POLYURETHANES MODIFIED WITH VINYL MONOMERS AND PROCESS THEREFOR

Adolfas Damusis, Detroit, and Kurt C. Frisch, Grosse Ile, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Dec. 8, 1966, Ser. No. 600,050

Int. Cl. C08g *41/00*

U.S. Cl. 260—859 15 Claims

A flexibilized polyester resin composition is provided which consists of a mixture of an unsaturated polyester resin and a urethane polymer having an ordered arrangement of pendant unsaturation. The urethane polymer component provides flexibility and low shrinking properties to the cured composition. The product is useful in preparing hoses, footwear, and a wide variety of coated or molded articles.

3,448,173

ACRYLIC MODIFIERS WHICH IMPART IMPACT RESISTANCE AND TRANSPARENCY TO VINYL CHLORIDE POLYMERS

Charles Francis Ryan, Warminster, and Raymond John Grochowski, Feasterville, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 482,603, Aug. 25, 1965. This application Feb. 18, 1966, Ser. No. 528,406

Int. Cl. C08f *29/24, 7/02, 3/68*

U.S. Cl. 260—876 14 Claims

This invention relates to solid, thermoplastic polymeric products resulting from the sequential polymerization of (1) alkyl or alkoxyethyl esters of acrylic acid, (2) styrene or ring substituted styrenes and (3) lower alkyl esters of methacrylic acid. It also relates to high-impact-resistant and transparent materials which result from blending such products with other polymeric materials, particularly homopolymers and copolymers of vinyl chloride. The copolymers which are used in such blends typically comprise at least 80% by weight of a polyvinyl halide with up to 20% by weight of another monovinylidene compound copolymerizable therewith, such as vinyl acetate, methyl methacrylate, styrene, or the like.

3,448,174

EPOXIDIZED, HYDROXYLATED AND MALEATED EPDM

Frederick C. Loveless, Oakland, and Robert J. Kelly, Montville, N.J., assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,278

Int. Cl. C08f *1/60, 15/40, 29/50*

U.S. Cl. 260—878 6 Claims

EPDM terpolymer rubber is reacted with a peroxy acid to produce epoxidized polymer (EEP) which can be cured with BF_3 etc. Treatment of EEP with strong mineral acid yields hydroxylated polymer (HEP) which is curable with diisocyanates. HEP treated with maleic anhydride yields maleated polymer (MEP), cross-linkable with metal oxides. Useful casting systems are made by mixing MEP with styrene or other copolymerizable monomer, and curing with peroxide.

3,448,175

PROCESS OF POLYMERIZING STYRENE AND ACRYLONITRILE WITH A DIOLEFIN RUBBER

Kenneth W. Doak and Frederick E. Carrock, Wyckoff, N.J., assignors to Dart Industries Inc., Los Angeles, Calif, a corporation of Delaware

No Drawing. Filed Aug. 16, 1963, Ser. No. 302,716

Int. Cl. C08f *19/02, 19/00*

U.S. Cl. 260—880 6 Claims

A process is disclosed for copolymerization of a mono-vinyl aromatic hydrocarbon such as styrene and acrylonitrile with a rubbery polymer which comprises dissolving the rubber in the monomeric mixture wherein the aromatic hydrocarbon and acrylonitrile are in a weight ratio of 40/60 to 60/40, partially polymerizing to a conversion of 10 to 45% and completing polymerization in aqueous suspension. To insure that the final product has an overall weight ratio of aromatic hydrocarbon to acrylonitrile of 60/40 to 74/26, at least one portion of the aromatic monomer is added during the polymerization. Preferably, one portion is added during the bulk prepolymerization and another portion during suspension polymerization.

3,448,176

STILBENE-CONJUGATED DIENE BLOCK COPOLYMERS

Jaroslav G. Balas, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,202

Int. Cl. C08d *3/02, 1/14*

U.S. Cl. 260—880 2 Claims

Random and block copolymers of diphenylethylenes (e.g., stilbene) and conjugated dienes in a molar ratio of 0.05–1.0 are provided. An equimolar copolymer has been found to have an alternating monomer structure. The polymers are prepared by copolymerizing the diphenylethylene and conjugated diene in the presence of a hydrocarbon-substituted lithium catalyst and an ether, thioether or tertiary amine at a temperature between −75° C. and 100° C.

3,448,177

PROCESS FOR THE MANUFACTURE OF CONDUCTING POLYMERS BY TREATING POLYMERIC COMPOUND CONTAINING BASIC GROUPS WITH MIXTURE OF 7,7,8,8-TETRACYANOQUINODIMETHANE AND $\alpha,\alpha,\alpha',\alpha'$-TETRACYANO-p-XYLENE

Eric Paul Goodings and John Graham Allen, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,248

Claims priority, application Great Britain, Oct. 19, 1965, 44,268/65

Int. Cl. C08f *33/08, 7/12, 15/02*

U.S. Cl. 260—895 10 Claims

A process for the preparation of electrically conducting polymers, wherein a polymeric material containing a plurality of basic groups in or on the polymer chain, or a salt thereof, is treated with a mixture of 7,7,8,8-tetracyanoquinodimethane and $\alpha,\alpha,\alpha',\alpha'$-tetracyano-p-xylene.

3,448,178

HOT MELT ADHESIVES COMPRISING ETHYLENE/VINYL ACETATE COPOLYMERS AND ALPHA-PINENE/PHENOL CONDENSATION PRODUCTS

Thomas P. Flanagan, Greenbrook, N.J., assignor to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 421,099, Dec. 24, 1964. This application Sept. 22, 1967, Ser. No. 669,729

Int. Cl. C08f *29/42, 43/00;* **C08g** *37/00*

U.S. Cl. 260—897 2 Claims

Hot-melt adhesive compositions comprising a mixture of specified proportions of: (1) an ethylene/vinyl acetate copolymer and (2) a non-thermosetting, phenolic modified terpene resin consisting of the product resulting from the acid catalyzed condensation between essentially equimolar proportions of alpha-pinene and phenol. The latter hot-melt adhesive compositions are applicable for the bonding, to one another, of a wide variety of similar and dissimilar substrates.

3,448,179

PROCESS FOR PREPARING BISPHOSPHITE ESTERS OF ALKYLIDENE DIPHENOL

Irving Gordon, Niagara Falls, James J. Hodan, Williamsville, and James L. Dever, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed June 23, 1965, Ser. No. 466,466

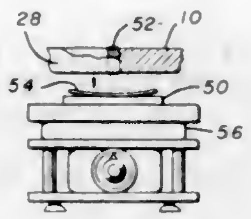
Int. Cl. C07f *9/12;* **C08d** *11/04*

U.S. Cl. 260—976 3 Claims

Bisphosphite esters of Bisphenol F are made by reacting an aryl hydroxy compound with formaldehyde in the presence of an acid catalyst, to form a dihydroxy compound condensation product, providing a mixture of such condensation product and an aryl hydroxy compound, and reacting phosphorus trihalide with the mixture to produce the desired bisphosphite. The bisphosphites made are useful for stabilizing rubber compositions against the adverse effect of heat.

3,448,180
METHOD OF MAKING A FIBER OPTIC MOSAIC WITH OPTICAL SURFACES

Robert E. Opferkuch, Jr., and Bobby R. Thrasher, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 24, 1965, Ser. No. 457,952
Int. Cl. B29d *11/00;* **G02b** *5/16*
U.S. Cl. 264—1 1 Claim



A method for producing fiber optical mosaics for cathode tubes and the like includes the forming of a bundle of axially aligned fibers from a continuous filament and the holding of a portion of the fibers together while that portion is removed by a cutting operation from the bundle and while the ends of the fibers comprising the bundle are pressed against a polished heated surface to provide a mirror-smooth fused-end surface.

3,448,181
METHOD OF PREPARATION OF COMPRESSED VERMICULAR GRAPHITE

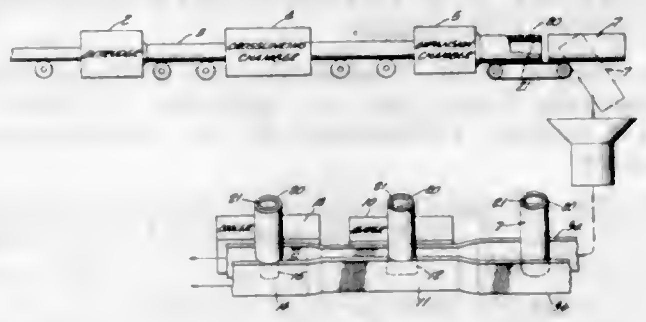
Franciszek Olstowski, Freeport, Tex., and Kenneth W. Guebert, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,589
Int. Cl. C01b *31/04*
U.S. Cl. 264—120 6 Claims

This invention relates to a new compressed graphite flake having a density of between about 0.025 and about 1.5 gm./cc. and to a process for the preparation of compressed graphite articles which comprises compressing low density vermicular graphite into compressed graphite particles or flakes having a density of between about 0.25 and about 1.5 gm./cc. and subsequently compressing a mass of such particles or flakes into a cohered monolithic article having a density of between about 1.0 and 2.1 gm./cc.

3,448,182
METHOD FOR MAKING HEAT-SHRINKABLE CAP

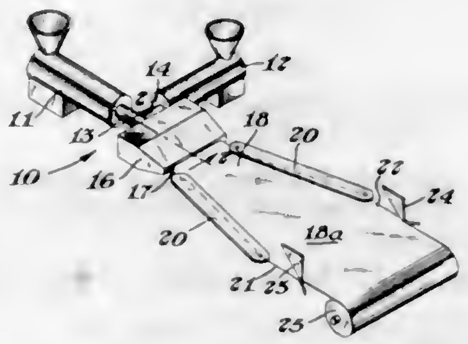
Rodney L. Derbyshire, Menlo Park, and Roland K. Griffith, Redwood City, Calif., assignors to Raychem Corp., Redwood City, Calif., a corporation of California
Filed Nov. 10, 1965, Ser. No. 507,163
Int. Cl. B29c *27/12*
U.S. Cl. 264—22 10 Claims

Heat-shrinkable end caps are prepared by forming a dual walled tube of polymeric material, the outer wall comprising an infusible elastic memory material and the inner wall comprising a fusible thermoplastic polymer, expanding and setting the tube under conditions to produce a heat-shrinkable tube, applying heat and pressure to one end of said tube whereby the end of the tube is crimped and the inner wall of plastic material is caused to melt and flow thus sealing the end of the tube and cooling the tube to obtain a heat recoverable end cap which will not reopen at its end when heat is applied to cause the cap to heat recover.



3,448,183
METHOD FOR THE PREPARATION OF MULTILAYER FILM

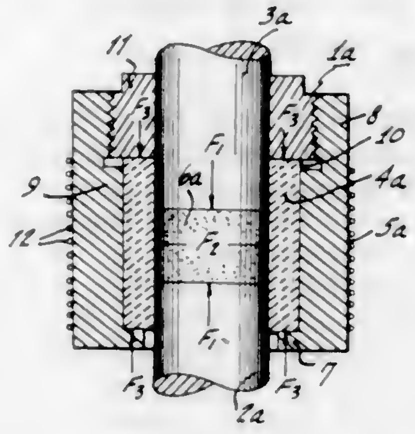
Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 5, 1966, Ser. No. 570,650
Int. Cl. B29c *29/00*
U.S. Cl. 264—37 4 Claims



Multilayer or simultaneously intruded plastic sheet is tentered. The sheet is extruded in such a manner that beaded edges are provided of only one of the resinous components of the sheet. This permits recycling of the edge trim without the necessity of either discarding or attempting to separate two resinous materials.

3,448,184
METHOD FOR PRESSING PARTICULATE MATERIAL

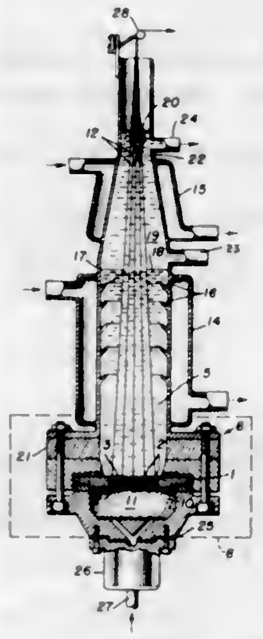
Herbert Irwin Moss, Yardley, Pa., and William Porter Stollar, Edison, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 8, 1966, Ser. No. 541,325
Int. Cl. B29f *5/02*
U.S. Cl. 264—125 5 Claims



In a method for pressing solid particulate material, the material to be pressed is placed in a die comprising a support sleeve, which supports a liner within the sleeve. Pressure rams are adapted to move axially within the die so as to compress the material therein. Prior to and during compression of the material within the die, a force is applied to the die liner in the axial direction. This axial force permits the application of increased pressure upon the material to be compressed without failure of the die liner.

3,448,185
MELT-SPINNING OF FILAMENTS

James G. Sims, Lincolnton, Ga., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 28, 1967, Ser. No. 626,517
Int. Cl. D01d *5/08*
U.S. Cl. 264—178 10 Claims

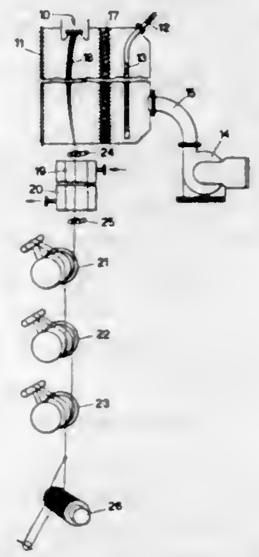


Melt-spun filaments, particularly of highly viscous materials, are produced by extruding molten fiber-forming polymeric material through a spinneret vertically upward through a layer of liquid metal that is in direct contact wtih the spinneret. A second or third stratum of other immiscible liquid may float on the liquid metal. Heat is transferred from the extruded streams of molten polymer to the liquid metal primarily by conduction to solidify the streams into textile filaments.

3,448,186
SPINNING PROCESS WITH CONTEMPORANEOUS STRETCHING OF SYNTHETIC FIBRES

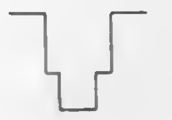
Domenico Nicita, Cesano Maderno, Paolo Parmeggiani, Seveso, and Pierluigi Perazzoni, Palazzolo Milanese, Italy, and Piero Giacobone, deceased, late of Milan, Italy, by Emilia Manfredini Giacobone, administratrix, Milan, Italy, assignors to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy
Filed Apr. 13, 1964, Ser. No. 365,546
Claims priority, application Italy, Apr. 17, 1963, 7,964/63
Int. Cl. D01d *5/10;* **D02j** *1/22*
U.S. Cl. 264—210 9 Claims

Melt-spun filaments of polyamide and polyesters are extruded from the spinneret into a chamber containing steam at a temperature of from 30° to 200° C. and subjected for at least one second to treatment by steam and air, the proportion of air to steam being such that the air has a relative moisture of at least 85%, are then passed into a heated space in which every portion of the yarn remains for at least one second, then the yarn is stretched mechanically immediately after its issuance from the heated space, with a stretching ratio between 1:3.5 and 1:5.



3,448,187
PROCESS FOR PREPARING FILAMENTARY MICROTAPES OF LABYRINTHIAN CROSS SECTION

John R. Frost, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,281
Int. Cl. B29c *17/02*
U.S. Cl. 264—285 5 Claims



This invention involves a process for preparing filamentary microtapes of labyrinthian cross-section whereby a microporous coagulum of a thermoplastic polymer is subjected to laterally applied stresses in increments of increasing magnitude to cause the edges of the coagulum to roll inwardly and provide a microtape having a width equal to the width of the restricting means while at the same time applying sufficient heat to fuse the coagulum into a continuous film following which the so-formed microtape is subjected to a longitudinal stress to induce orientation therein.

3,448,188
METHOD AND COMPOSITION FOR USE AS AN X-RAY CONTRAST MATERIAL IN THE DIAGNOSIS OF REFLUX PEPTIC ESOPHAGITIS

Perry Hookman, Greenbelt, Md., assignor to Clinical Research Institute, Inc., Washington, D.C., a corporation of Washington, D.C.
No Drawing. Continuation-in-part of application Ser. No. 537,312, Mar. 25, 1965. This application Aug. 19, 1968, Ser. No. 753,701
Int. Cl. A61k *27/08*
U.S. Cl. 424—4 7 Claims

A method is provided for diagnosing reflux peptic esophagitis by orally administering an X-ray contrast composition having a pH of from 1.5 to 2.7 and simultaneously taking an X-ray or fluoroscopic examination of the esophagus of the patient.

3,448,189
ORGANO-ALUMINUM ANTIPERSPIRANT COMPOSITIONS AND ANTIPERSPIRANT METHOD

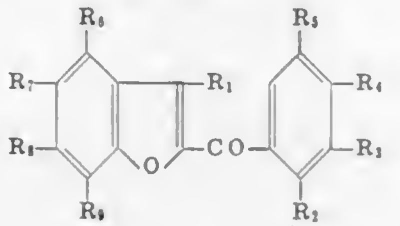
Joseph M. Icken, Freeport, N.Y., and Eugene J. Jahren, Wilmington, Del., assignors to International Playtex Corporation, Dover, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 122,645, July 10, 1961. This application Jan. 12, 1966, Ser. No. 520,095
Int. Cl. A61k *7/00*
U.S. Cl. 424—47 **17 Claims**

Organo-aluminum compositions containing compounds with no ionic bonds are effective deodorants and antiperspirants. They comprise at least one aluminum nitrilo compound and one aluminum alkoxy alkoxide compound. A representative composition is a mixture of aluminum nitrilotriethoxide and aluminum bis (beta-ethoxyethoxide) isopropoxide. Aerosols of these compositions are especially advantageous.

3,448,190
UV ABSORBENT COMPOSITIONS CONTAINING BENZOYL-BENZOFURANS

Karl Heinrich Baron and Rainer Klink, Darmstadt-Eberstadt, and Fritz Reiff, Darmstadt, Germany, assignors to E.A.G., Merck, Darmstadt, Germany
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,565
Claims priority, application Germany, Mar. 30, 1965, M 64,705
Int. Cl. A61l *23/00*
U.S. Cl. 424—59 **8 Claims**

For protection against UV-radiation, particularly against radiation being in the range responsible for sunburn, compositions comprising compounds of the following formula as well as salts thereof:



wherein

R_1 represents H, CH_3 or C_6H_5,

R_2 and R_3 each represents H, alkyl of 1–12 carbon atoms, or together an alkylene chain of 3–4 carbon atoms,

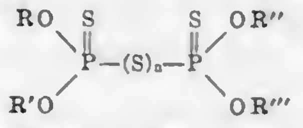
R_4 and R_5 each represents H, alkyl of 1–12 carbon atoms, or together an alkylene chain of 3–4 carbon atoms,

R_6 to R_9 are the same or different and each represents H, SO_3H, alkyl of 1–12 carbon atoms; and the salts thereof, said salts being selected from the group consisting of sodium, potassium, mono-, di-, and triethanolammonium salts. Particularly effective compounds are 2-benzoyl-3-methyl-benzofuran, and 2 - (2,4-dimethyl-benzoyl)-benzofuran.

3,448,191
TETRATHIODIPHOSPHONOTHIOATES AS FUNGICIDES

Glentworth Lamb, Trenton, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 17, 1968, Ser. No. 698,408
Int. Cl. A01n *9/36;* **C07f** *9/02*
U.S. Cl. 424—204 **5 Claims**

A novel method for the control of fungi is disclosed employing a diphosphonothioate of the formula:



wherein R, R′, R″ and R‴ are lower alkyl substituents, i.e., methyl, ethyl and propyl and *n* is 3 or 4. The novel method contemplates the use of mixtures of such diphosphonothioates.

3,448,192
PHARMACEUTICAL COMPOSITIONS CONTAINING PHENYL ETHYL PIPERAZINES

Roland Yves Mauvernay, 13 Rue Eugene Gilbert, 63 Riom, France
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,841
Claims priority, application Great Britain, Mar. 9, 1965, 9,981/65
Int. Cl. A61k *17/04;* **C07d** *51/70*
U.S. Cl. 424—250 **8 Claims**

Therapeutic compositions of phenyl ethyl piperazines.

3,448,193
ANTICOCCIDIAL COMPOSITION CONTAINING 6,7 - DISUBSTITUTED-QUINOLINE - 3-CARBOXYLATES

Arthur A. Patchett, Cranford, Robert L. Clark, Woodbridge, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application July 1, 1966, Ser. No. 562,134, now Patent No. 3,399,203, dated Aug. 27, 1968. Divided and this application May 25, 1967, Ser. No. 651,080
Int. Cl. A61k *27/00*
U.S. Cl. 424—258 **5 Claims**

Anticoccidial composition containing loweralkyl-4-hydroxy-quinoline-3-carboxylate having a loweralkoxy radical at the 6-position and a loweralkyl radical at the 7-position.

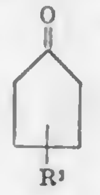
3,448,194
COMBATTING GRAM-POSITIVE BACTERIA WITH DODECACHLOROOCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA (cd) PENTALENE; DECACHLOROOCTAHYDRO - 1,3,4 - METHENO - 2H-CYCLOBUTA (cd) PENTALEN-2-ONE, AND CERTAIN OF THEIR DERIVATIVES

Seymour S. Block, Gainesville, Fla., and Merrill M. Darley, Basking Ridge, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed May 4, 1966, Ser. No. 547,426
Int. Cl. A61k *27/00*
U.S. Cl. 424—313 **13 Claims**

1. The process of combatting gram-positive bacteria microorganisms which comprises treating the microorganisms with an effective amount of a compound selected from the group consisting of: dodecachlorooctahydro-1,3,4-metheno-2H-cyclobuta (cd) pentalene; decachlorooctahydro - 1,3,4 - metheno-2H-cyclobuta (cd) pentalen-2-one; the alcohol obtained by reduction of decachlorooctahydro - 1,3,4-metheno-2H-cyclobuta (cd) pentalen-2-one; and an adduct of decachlorooctahydro-1,3,4-metheno-2H-cylobuta (cd) pentalen-2-one and a member of the group consisting of (I) aliphatic, cycloaliphatic and aromatic primary and secondary monoamines; (II) aliphatic, cycloaliphatic and aromatic primary and secondary monohydric alcohols; (III) a ketone having a formula selected from the group consisting of

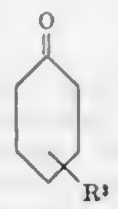
(1) RCH_2COR^1 in which R is a member of the group consisting of hydrogen and methyl and R^1 is a member of the group consisting of alkyl, aryl and acyl radicals,

(2)



in which R^2 is a member of the group consisting of hydrogen and alkyl radicals and

(3)



in which R^3 is a member of the group consisting of hydrogen and alkyl radicals; and

(IV) a malonic acid derivative selected from the group consisting of dialkyl malonates, diaryl malonates and anilino malonates.

3,448,195
INSECTICIDAL COMPOSITIONS AND METHODS EMPLOYING NAPHTHYL FLUOROACETAMIDES

Saburo Kano, Toyama-ken, Kanji Taniguchi, Kanagawa-ken, Aritsune Kaji, Toyama-ken, Mitsuo Asada, Kanagawa-ken, Daigaku Takiguchi, Toyama-ken, Nobuo Sato, Tokyo-to, and Teruhisa Noguchi, Kanagawa-ken, Japan, assignors to Nippon Soda Kabushiki Kaisha, Tokyo-to, Japan, a company of Japan
No Drawing. Continuation of application Ser. No. 422,523, Dec. 31, 1964. This application Aug. 16, 1966, Ser. No. 572,861
Claims priority, application Japan, Nov. 4, 1964, 39/6,224; May 2, 1964, 39/28,623; Feb. 19, 1964, 39/8,578, 39/8,571, 39/8,569
Int. Cl. A01n *9/20;* **C07c** *103/32*
U.S. Cl. 424—324 **5 Claims**

This invention relates to certain novel N-substituted fluoroacetamides valuable as insecticides and suitable in particular for use as plant-protecting agents, and relates to certain new processes for preparing them.

3,448,196
METHOD AND COMPOSITION FOR INDUCING LOCAL ANESTHESIA WITH MONO-(BETA-DIETHYLAMINOETHYL)AMIDE OF PARACHLOROPHENOXYACETIC ACID

Paul Rumpf and Germaine Thuillier born Nachmias, Paris, France, assignors to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France
No Drawing. Continuation-in-part of application Ser. No. 21,606, Apr. 12, 1960. This application Sept. 16, 1964, Ser. No. 397,009
Claims priority, application France, Apr. 15, 1959, 792,163; July 30, 1959, 801,561
Int. Cl. A61k *27/00;* **A61m** *19/00;* **C07c** *13/30*
U.S. Cl. 424—324 **2 Claims**

1. A method for inducing local anesthesia which comprises locally administering to a subject selected from the group consisting of animals and humans to be anesthetized an effective amount of a compound selected from the group consisting of mono - (beta - dimethylaminoethyl)-amide of parachlorophenoxyacetic acid and its non-toxic, pharmaceutically acceptable acid addition salts.

3,448,197
BENZAMIDOALKYLTHIOPSEUDOUREAS AS ANESTHETIC AGENTS

Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 663,950, Aug. 29, 1967, which is a division of application Ser. No. 372,673, June 4, 1964. This application May 8, 1968, Ser. No. 727,683
Int. Cl. A61k *27/00*
U.S. Cl. 424—324 **14 Claims**

A method of inducing local anesthesia by administering to animals a benzamidoalkylthiopseudourea of the class shown in the second paragraph of the specification, for example, 2-(2′-benzamidoethylthio) - 1 - cyclohexylpseudourea.

3,448,198
PHENYLCARBAMOYLETHYLTHIOPSEUDOUREAS AS ANESTHETIC AGENTS

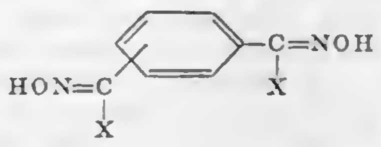
Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 639,618, May 19, 1967, which is a division of application Ser. No. 395,286, Sept. 9, 1964. This application Apr. 11, 1968, Ser. No. 720,450
Int. Cl. A61k *27/00*
U.S. Cl. 424—324 **10 Claims**

A method of inducing local anesthesia by administering to animals a phenylcarbamoylethylthiopseudourea of the class shown in the second paragraph of the specification, for example, 2-(2′-phenylcarbamoylethylthio)-1-cyclohexylpseudourea.

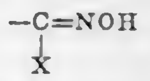
3,448,199
PHTHALALDEHYDE DIOXIMES AS MICROBIOCIDES

Glentworth Lamb, Trenton, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 20, 1966, Ser. No. 521,802
Int. Cl. A61k *27/00;* **A01n; C07c** *131/00*
U.S. Cl. 424—327 **3 Claims**

A method for controlling bacteria and fungi is described in which the bacteria and fungi are contacted with a compound selected from the group consisting of



wherein X is chlorine and bromine and the



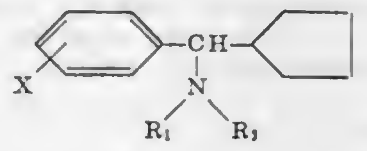
$$-\underset{X}{\underset{|}{C}}=NOH$$

are meta or para to each other.

3,448,200
PROCESS FOR OBTAINING AN ANOREXIGENIC EFFECT

Willy G. Stoll, Bottmingen, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 12, 1963, Ser. No. 308,344
Int. Cl. A61k *27/00*
U.S. Cl. 424—329 **3 Claims**

1. A process for obtaining an anorexigenic effect in mammals which comprises administering internally to mammals for their weight or appetite control a member selected from the group consisting of a compound of the formula



wherein R_1 and R_2 are lower alkyl and X is a member of the group consisting of chlorine and bromine and non-toxic water-soluble acid addition and quaternary ammonium salts thereof, in an amount ranging from about 25 to 300 milligrams of said compound.

ELECTRICAL

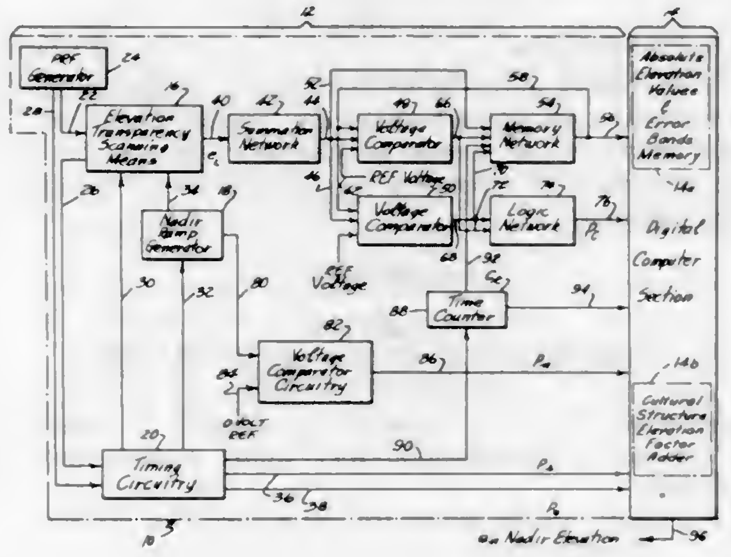
3,448,201
NADIR ELEVATION COMPUTER

Francis C. Hannon, Jr., San Jose, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 12, 1967, Ser. No. 674,991

Int. Cl. G09b *9/00*

U.S. Cl. 35—10.4 **6 Claims**



A nadir elevation computer for use in association with an aircraft landmass radar simulator of the factored transparency type. The nadir elevation computer comprises means for effecting a nadir scan from a point on the transparency corresponding to a predetermined distance behind a simulated aircraft, forward through the nadir of the aircraft to a point corresponding to a predetermined distance ahead of the aircraft, summation means for converting the scanner output to an elevation signal having voltage levels corresponding to the profile of elevation levels represented by the transparency and traversed by the scan, voltage comparator means, logic means, memory means, and digital computer means cooperative to provide by interpolation, a value for the terrain elevation below the aircraft at the time the scan passes through the point of nadir.

ERRATUM

For Class 174—12 see:
Patent No. 3,448,219

3,448,202
ENCLOSED ELECTRIC POWER TRANSMISSION CONDUCTORS

Daniel L. Whitehead, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

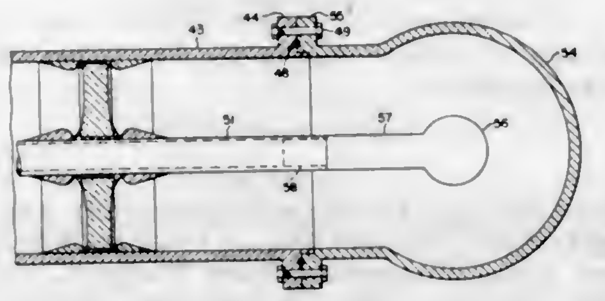
Original application July 26, 1965, Ser. No. 474,779, now Patent No. 3,378,731, dated Apr. 16, 1968. Divided and this application Dec. 11, 1967, Ser. No. 689,473

Int. Cl. *9/04, 9/06, 11/18*

U.S. Cl. 174—28 **7 Claims**

A joint construction for pressurized coaxial sections of pipe enclosing high-voltage conductors, in a power transmission system, to enable ready access thereto, uses overlapping end flanges and longitudinal split halves. A three-part T-shaped jointing section may be used for lateral feed lines.

A bonnet may be provided to terminate a pressurized conductor, under maintenance conditions, with an internal spherical member or ball attached to the high-voltage conductor. The insulators supporting the high-voltage conductor within the outer grounded pipe may have plastic at their center portions to avoid gaps or separations at the conductor; or slightly conducting rubber grommets may be used at the central high-voltage conductor, as well as at the outer pipe-supporting portion. Shielding members at the high voltage conductor, as well as at the outer pipe, may be used to reduce the intense electrical gradient.



ERRATA

For Class 174—42 see:
Patent No. 3,448,222

For Class 174—87 see:
Patent No. 3,448,223

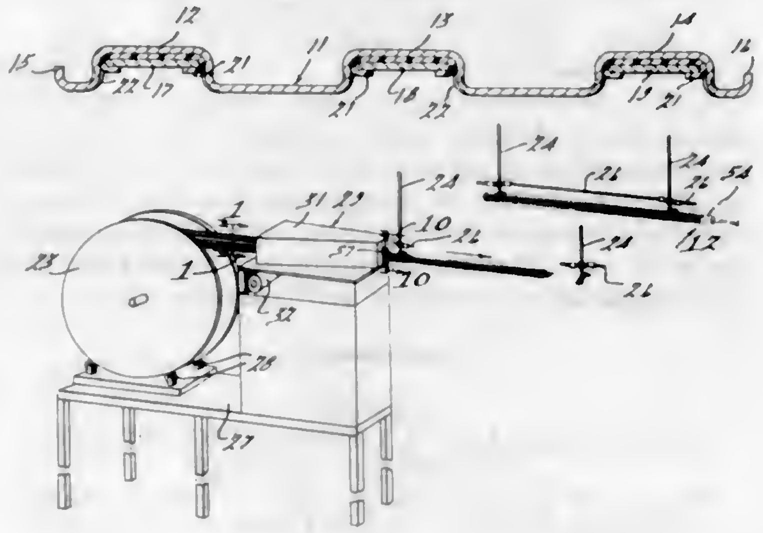
3,448,203
ELECTRICAL SYSTEM, EQUIPMENT FOR FORMING SAME, AND METHOD OF INSTALLATION

Frederick J. Somes, Jr., 85 Duval, Grosse Pointe Shores, Mich. 48236

Filed Mar. 28, 1967, Ser. No. 626,577

Int. Cl. H02g *3/04, 7/00;* **B21d** *5/08*

U.S. Cl. 174—99 **13 Claims**



A metal strip having electrical conductors therealong is coiled on a reel. Desired lengths of said strip are pulled off the reel by a mechanism which also bends down the sides of the strip, thus forming a continuous housing which is fed through hangers to form a busway in an overhead electrical power distribution system.

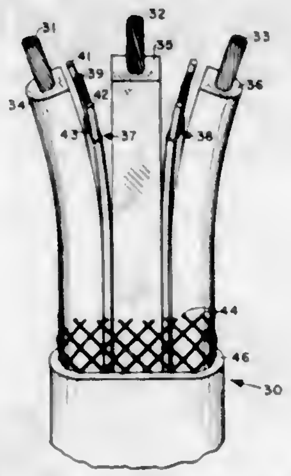
3,448,204
ELECTRIC POWER CABLE

Rosario J. Perrone and Olav E. Jore, Marion, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 712,016

Int. Cl. H01b *7/08*

U.S. Cl. 174—115 **5 Claims**



Flat power cables, used in hard service, such as powering mining machines, have flat, grounding-conductor, spacer assemblies, with extruded coverings, between the insulated conductors.

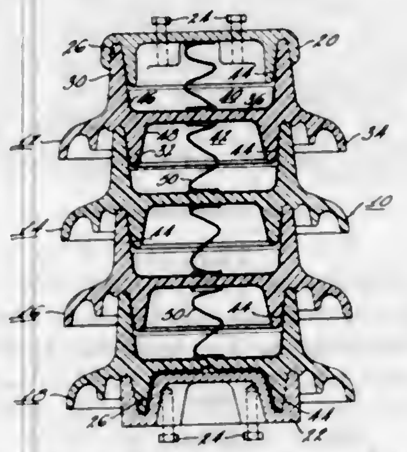
3,448,205
VOLTAGE GRADED ELECTRICAL INSULATOR

Albert M. Frey and Joseph W. Griffith, Portland, Oreg., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 29, 1967, Ser. No. 686,498

Int. Cl. H01b *17/48*

U.S. Cl. 174—141 **2 Claims**



A post type linear voltage graded electrical insulator comprises a plurality of modules made of insulating material which are stacked along an axis. Each module comprises a cylindrical top flange concentric with the axis, a cylindrical bottom flange concentric with the axis, an outwardly extending skirt concentric with the axis, and an internal diaphragm which is perpendicular to and intersects the axis. The bottom flange of one module nests inside the top flange of another adjacent module to define a cavity. Portions of the cavity wall are coated with film of electrically conductive material to provide a capacitive effect.

3,448,206
TELETYPEWRITER SYSTEM WITH AT LEAST ONE SHEET TELETYPEWRITER MACHINE

Ehrhard Rossberg, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

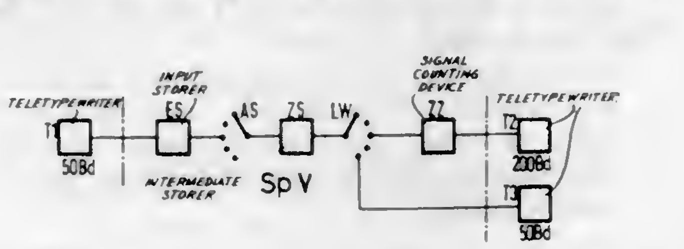
Filed Oct. 23, 1965, Ser. No. 505,315

Claims priority, application Germany, Aug. 4, 1965, S 98,628

Int. Cl. H04l *15/24, 15/34*

U.S. Cl. 178—2 **5 Claims**

A teletypewriter system which returns automatically the carriage to the start of the line when a carriage-return signal is received and in which system means are provided for interrupting the information portion of the message ahead of the input to the receiver of a receiving teletypewriter machine each time a carriage-return and line shift-command is received.



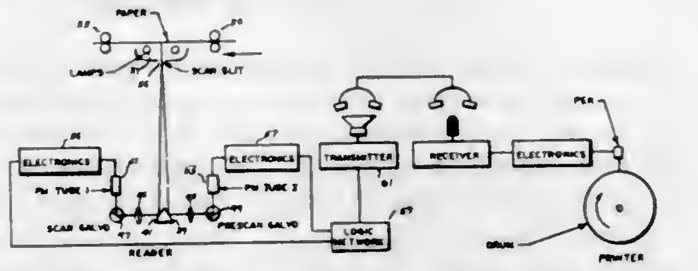
3,448,207
METHOD AND APPARATUS FOR ACCOMPLISHING LINE SKIPPING IN A FACSIMILE SYSTEM

Leland D. Green, Pasadena, Robert W. Reynolds, Los Angeles, Waldemar Saeger, La Canada, and Armand R. Tanguay, Pasadena, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 14, 1965, Ser. No. 471,874

Int. Cl. H04n *7/00*

U.S. Cl. 178—6 **8 Claims**



A facsimile transmission system in which a plurality of distinct adjacent areas of a document to be transmitted are simultaneously scanned to detect the presence of blank lines forward of the normal scan detector in the direction of normal scan. In response to the detection of a blank line forward of the normal scan head, logic circuitry is actuated to control the rapid incremental advancement of the scan head at the transmitter and the print or write head at the receiver to the next appropriate non-blank line.

3,448,208
SYNTHETIC THREE-D DISPLAY

Thomas C. Chisnell, Arlington, and Robert E. Winter, Falls Church, Va., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 11, 1966, Ser. No. 564,327

Int. Cl. H04n *9/58;* **G06f** *3/14*

U.S. Cl. 178—6.5 **9 Claims**

6. Apparatus for synthesizing a stereo display from three-dimensional data defined by data points located in Cartesian Coordinates xyz comprising:

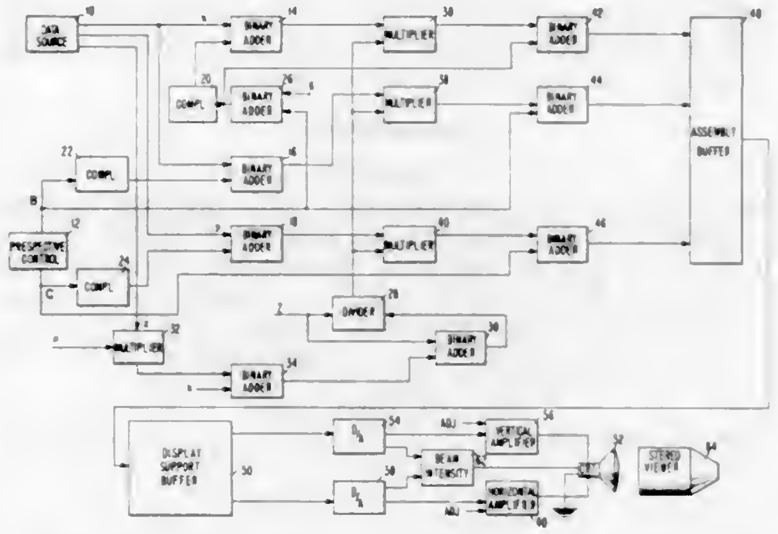
an x–y display plane;
a data source for supplying the xyz coordinates of points being displayed;
positioning means for positioning the left and right vanishing points on said display plane;
first calculating means responsive to said data source and said positioning means for calculating the right and left line-of-sight x–y distances from the right and left vanishing points to a data point;
second calculating means for calculating a depth perspective ratio

$$Z/Z+Z$$

where Z is the distance along either vanishing line from an effective viewing point to said display plane and z is the depth coordinate of the data point;

multiplying means responsive to said first and second calculating means for multiplying the right and left line-of-sight *x–y* distances by the depth perspective ratio to obtain right and left apportioned distances;

first adding means responsive to said multiplying means for adding the left *x–y* apportioned distances to the *x–y* coordinates of the left vanishing point respectively to obtain the *x–y* coordinates of a left point representing the left view of the data point on said display plane;



second adding means responsive to said multiplying means for adding the right *x–y* apportioned distances to the *x–y* coordinates of the right vanishing point respectively to obtain the *x–y* coordinates of a right point representing the right view of the data point on said display plane;

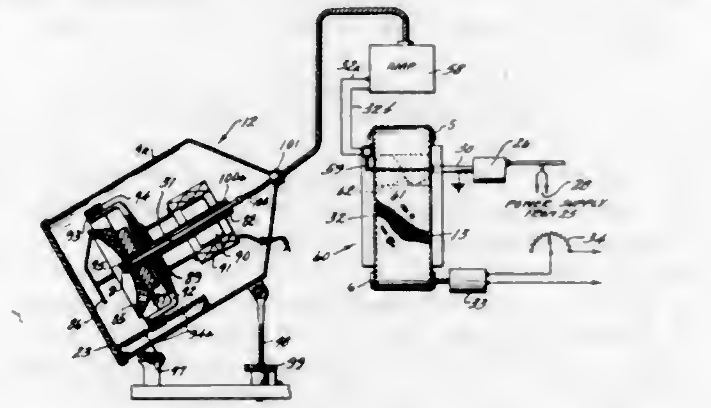
displaying means responsive to said first and said second adding means for displaying the left and right points on said *x–y* display plane;

stereo viewing apparatus for conveying separately the left and right points on said *x–y* display plane to respectively the left and right eyes of the viewer.

3,448,209

STABILIZED AUTOMATIC MAPPER

Alexander Nyman, Box 14, Dover, Mass. 02030
Continuation-in-part of application Ser. No. 716,593, Dec. 16, 1946. This application Feb. 19, 1947, Ser. No. 729,644
Int. Cl. H04n *5/76;* **G01n** *21/22;* **H01j** *37/22*
U.S. Cl. 178—6.6 **6 Claims**

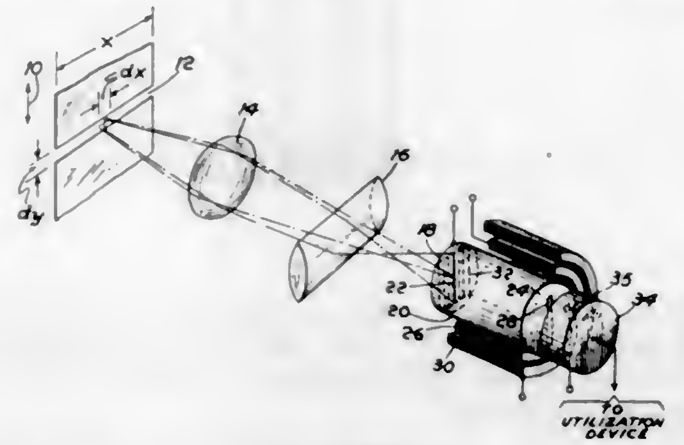


1. In an automatic mapper, as oscillatable scanning head, an amplifier and a recorder; said scanning head comprising an optical system and a gyroscopic system combined, a common shaft upon which the two systems are mounted, a motor arranged to drive said shaft, said optical system including a concave mirror, a secondary mirror carried by the concave mirror and arranged to receive signal reflected by the concave mirror, a detector arranged to receive signal reflected by said secondary mirror, an amplifier for signal received from said detector and a recorder for signal received from said amplifier and means for driving said recorder in synchronism with the oscillations of said oscillatable scanning head.

3,448,210

IMAGE DISSECTOR TUBE AND OPTICAL SYSTEM THEREFOR

Robert H. Clayton, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 19, 1966, Ser. No. 551,437
Int. Cl. H04n *5/38, 3/00*
U.S. Cl. 178—7.2 **6 Claims**

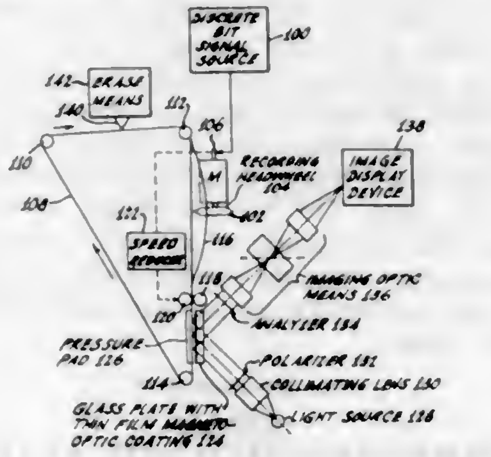


An image dissector tube includes a horizontal scanning structure with vertical scanning provided externally by movement of a scene relative to a horizontal slit which projects the image onto the face of the tube. A lens arrangement focuses the elemental horizontal line information onto the photocathode while defocusing and spreading the vertical line passing through the slit. This more efficiently distributes the current over the photocathode. A corresponding vertical slit forms the scanning aperture. Use of a light dispersing arrangement provides spectral radiation bands such as various colors in the vertical line, with the aperture plate having a corresponding plurality of smaller aligned vertical slits for scanning the different portions of the spectrum.

3,448,211

MAGNETO-OPTIC DISPLAY SYSTEM

Harold E. Haynes, Haddonfield, N.J., and Kenneth C. Hudson, Philadelphia, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,458
Int. Cl. H04n *3/16, 5/38*
U.S. Cl. 178—7.3 **7 Claims**

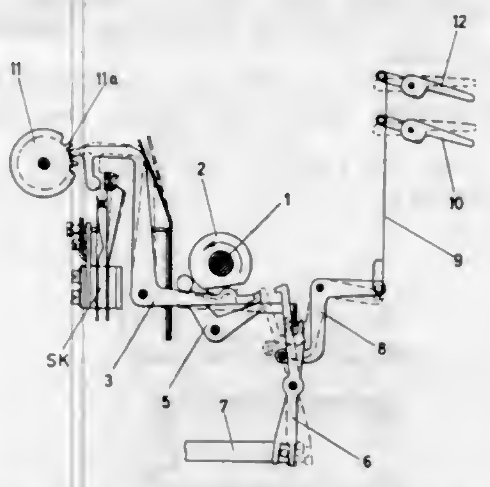


A technique utilizing a rotating headwheel with head gaps oriented to produce magnetomotive force parallel to the direction of movement of a recording medium in recording bit information pictorially or otherwise on a loop of the magnetic recording medium in nearly real time. The bit information is transferred to a magnetic thin film for read out by magneto-optic image display means. Amplitude and width modulation of the signal applied to the recoding head may be utilized to obtain virtual gray scale in the displayed image.

3,448,212

TELEPRINTER TAPE SENSING ATTACHMENT

Heinz Delmling, Singen, near Karlsruhe, Otto Holstein, Pforzheim, and Ernst Heger, Ispringen, near Pforzheim, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 25, 1965, Ser. No. 466,920
Claims priority, application Germany, July 31, 1964, St 22,478
Int. Cl. H04l *15/18*
U.S. Cl. 178—17 **3 Claims**

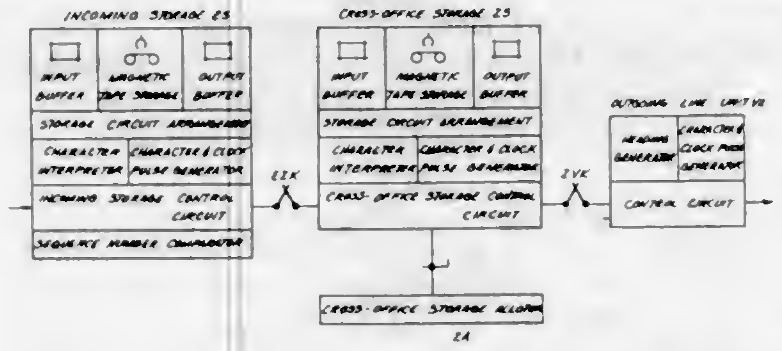


A teleprinter tape sensing attachment primarily for use with printing telegraphic apparatus employing transmitting equipment capable of being randomly switched over to key-board, answer-back or tape operation. In place of formerly employed mechanical setting and transmitting elements, are used switchover contacts for electrically influencing the transmitting equipment. The switchover contacts are governed by mechanical means which have as their mechanical power source the transmitting equipment drive shaft, through convenient attachment thereto of the sensing attachment drive shaft. The switchover contacts are connected in series with the transmitting equipment contacts through plug-in connectors, and through the attachment be in the inoperative mode, the potential at the transmitting contacts, required in the other operations, is supplied through the sensing attachment contacts.

3,448,213

CIRCUIT ARRANGEMENT FOR THE TRANSMISSION OF TELEGRAPH MESSAGES OVER STORAGE COMMUNICATION SYSTEMS

Winfried Graf, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Jan. 18, 1965, Ser. No. 426,123
Claims priority, application Germany, Jan. 20, 1964, S 89,140
Int. Cl. H04l *11/04, 17/16*
U.S. Cl. 178—17.5 **7 Claims**

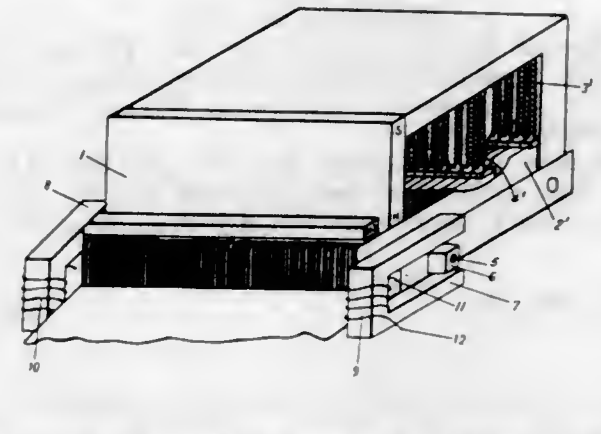


A circuit arrangement for the transmission of telegraph messages over storage units including temporary storage units which have different transmitting speeds. The respective transmitting speed of the temporary storage unit is determined by a timing pulse generator which is permanently associated with the outgoing transmission line.

3,448,214

STORAGE DEVICE

Gerhard Dirks, 12120 Edgecliff Place, Los Altos Hills, Calif. 94022
Original application Oct. 27, 1960, Ser. No. 65,440, now Patent No. 3,205,483, dated Sept. 7, 1965. Divided and this application Aug. 24, 1965, Ser. No. 482,075
Claims priority, application Great Britain, June 23, 1950, 15,773/50; Dec. 23, 1954, 37,208/54; Germany, Oct. 1, 1948, D 11,464
Int. Cl. H04l *15/18, 15/12, 15/24*
U.S. Cl. 178—17.5 **14 Claims**

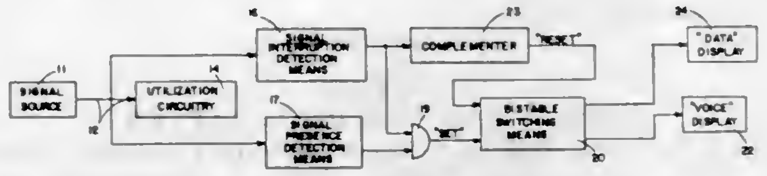


A control and operating means for printing, indicating and other representation of data, comprising input means, storage means, including a plurality of groups of conductors and storage elements, energizing means, including switching means and output means. This arrangement also includes actuating means for making the output elements selectively operative.

3,448,215

MONITORING DEVICE FOR DISTINGUISHING BETWEEN VOICE AND DATA SIGNALS

Joel E. Engel, Bethesda, Md., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Aug. 22, 1966, Ser. No. 574,197
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 **8 Claims**



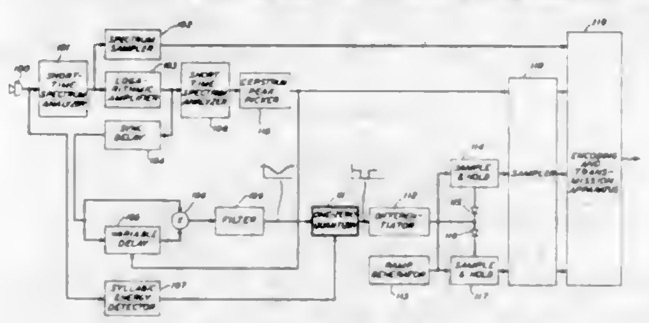
A communication channel is monitored for the presence of either voice or data signals by detecting both signal presence and signal interruption. The output of both is used to trigger a flip-flop to an output indicating data, while the absence of signal interruption will trigger the flip-flop to its other output indicating voice.

3,448,216

VOCODER SYSTEM

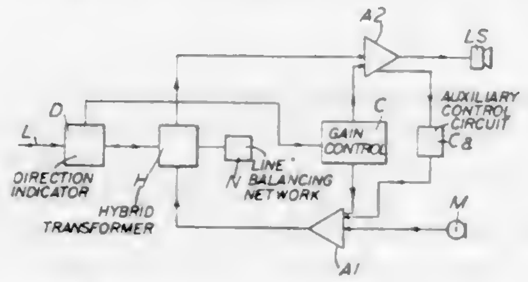
James M. Kelly, Morris Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Aug. 3, 1966, Ser. No. 569,898
Int. Cl. H04m *1/24;* **H04b** *1/66*
U.S. Cl. 179—1 **9 Claims**

In a channel vocoder, the excitation signals are more accurately characterized as voiced or unvoiced by developing auxiliary control signals responsive to the frequencies at which the speech signals shift from voiced to unvoiced and conversely, and using the control signals to control the pass bands of the channels which transmit the periodic and aperiodic signals, respectively.



3,448,217
TELEPHONE SETS

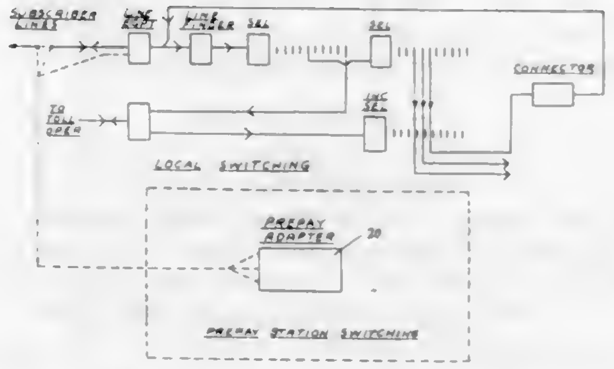
Hugh Spence Leman and George John Preston Barnes, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 456,703, May 18, 1965. This application Aug. 14, 1968, Ser. No. 754,110
Claims priority, application Great Britain, May 29, 1964, 22,299/64
Int. Cl. H04m *1/21*
U.S. Cl. 179—81 **6 Claims**



A hands-free loudspeaker set is provided. The gain of respective microphone and loudspeaker amplifiers is controlled by direction indicator equipment according to the direction of speech to or from a telephone line so that the appropriate amplifier is set to high gain while the other amplifier is set to reduced gain. A setting, once established, is held until there is a reversal of speech direction. If both parties talk at once, the fast operation of the direction indicator circuit makes it possible to switch syllables of one party between syllables of the other party giving a close approach to continuous two-way communication.

3,448,218
PREPAY PAY STATION ADAPTER

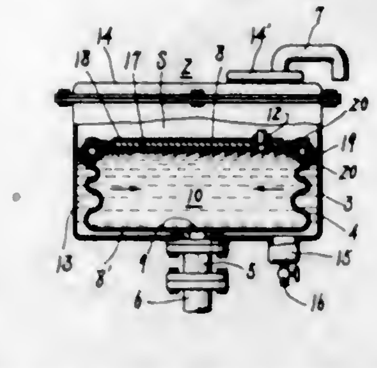
Glen F. Long, Dallas, Tex., assignor to Universal Controls Corporation, Dallas, Tex., a corporation of Texas
Filed June 8, 1965, Ser. No. 462,271
Int. Cl. H04m *17/02*
U.S. Cl. 179—6.3 **18 Claims**



An adapter for converting existing pay stations and standardizing them to a prepay condition. The adapter is connected between the pay telephone line and the line equipment at the local switchboard to provide all normal prepay features and convert postpay and local prepay to the prepay condition. The adapter comprises means for providing a dial tone when an initial coin is deposited in the pay station, with means to refund the coin on unanswered calls, and circuitry for answer supervision and for collecting or refunding additional coins, including operator controlled separate tone sources communicating with means in the pay station for collecting and refunding additional coins.

3,448,219
PRESSURE BALANCING CONSERVATOR FOR A TRANSFORMER

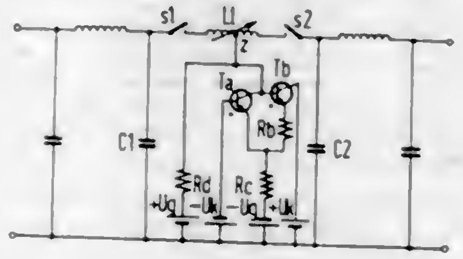
Shinji Nakazawa and Tohru Nakazawa, both of No. 5—36, 6-chome, Hatanodai, Shinagawa-ku, Tokyo, Japan
Filed Dec. 5, 1967, Ser. No. 688,115
Claims priority, application Japan, Dec. 26, 1966, 41/117,425
Int. Cl. H02g *15/26;* **H01f** *27/14*
U.S. Cl. 174—12 **11 Claims**



A conservator for an oil-filled transformer includes an outer housing with a gas-tight expansible cell located within the housing and is surrounded on the sides and bottom by a balancing liquid. The top wall of the cell is made either of a buoyant material or includes buoyant elements so that it floats on a liquid surrounding the cell within the housing. The bottom wall of the cell is also substantially flat when expanded and the bottom and side walls are made of a flexible material. The construction is such that the top wall will always float at the level of the balancing liquid and the collapsing of the side walls forms a space for the liquid surrounding the cells so that the liquid is always at the same level as the top wall during all conditions of all transformer operations. The space above the top wall is an air space which is vented to atmosphere.

3,448,220
TRANSFER CIRCUIT INCLUDING A PARAMETRIC AMPLIFIER

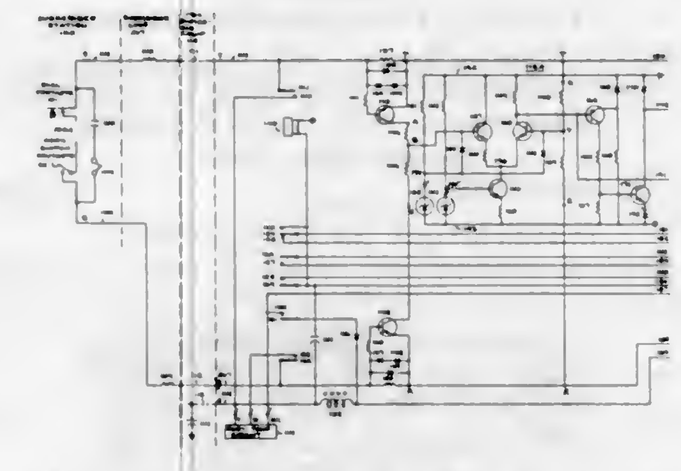
Max Schlichte, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed July 12, 1965, Ser. No. 471,088
Claims priority, application Germany, July 14, 1964, S 92,045
Int. Cl. H04j *1/00;* **H03f** *7/00*
U.S. Cl. 179—15 **11 Claims**



A transfer circuit including a parametric amplifier comprising a parametric flywheel reactance which is mounted between input and output scanning switches that are actuated at a scanning frequency and with a tap formed on the flywheel reactance to which a compensating circuit is connected. An input capacitor is connected to the input scanning switch and an output capacitor is connected to the output scanning switch. In a first embodiment the compensating circuit comprises a voltage divider in circuit with transistors and in the second embodiment the compensating network comprises a second inductive coil.

3,448,221
LOW LOSS SIGNAL DETECTOR CIRCUIT FOR TELEPHONE SYSTEM

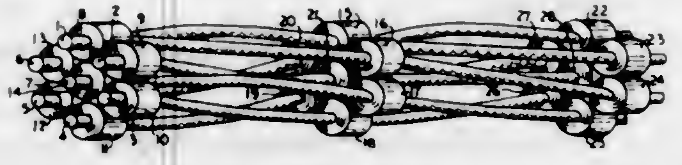
Carl Gunnar Svala, Galion, Ohio, assignor, by mesne assignments, to New North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Mar. 14, 1966, Ser. No. 533,879
Int. Cl. H04m *3/00*
U.S. Cl. 179—18 **13 Claims**



A PBX restrictor circuit comprising a low-loss current sensing control circuit for actuating the restrictor apparatus. The low-loss service demand detector circuit consists of a four arm bridge circuit connected to the two lines of a trunk circuit. The bridge circuit has a transistor switch in each of two of the arms connecting the two trunk lines together, one of which transistor switches is sensitive to the current flow in its respective line under one polarity condition of the trunk and the other of which is sensitive to the current flow in its respective line under the other polarity condition of the trunk so as to cause a balanced or unbalanced condition in the bridge circuit which is detected and amplified by a differential amplifier. The amplifier output is utilized to provide control signals for the restrictor apparatus.

3,448,222
AERIAL CONDUCTOR

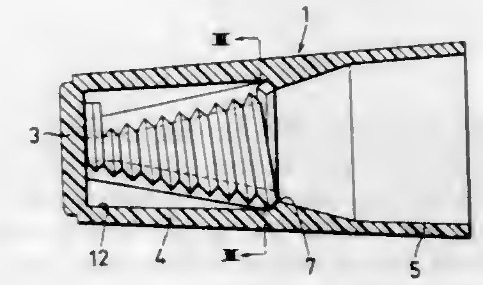
Henry Greber, 225 W. 80th St., Apt. 8–D, New York, N.Y. 10024
Filed Dec. 7, 1967, Ser. No. 688,870
Int. Cl. H01b *11/02;* **H02g** *7/14*
U.S. Cl. 174—42 **4 Claims**



This invention relates to an aerial conductor whose strands are separated from each other so that interstices are created between them. This simple means improves the mechanical properties of the conductor, in that it makes it resistance to wind smaller than that of ordinary corresponding conductors, and makes it practically vibration-proof, and also improves the electrical properties of the conductor by increasing its current carrying capacity, through its increased cooling, decreases its inductance, as well as its corona losses, skin effect, and radio and television interference. The separation of the strand wires of the aerial conductor is achieved by means of insulating tapes, preferably of glass braid, or metallic insulated or non-insulated straps wrapped on them. The strand wires are transposed between the spacers for achievement of an even distribution of the current over them.

3,448,223
CLAMP FOR CONNECTING ELECTRIC WIRES

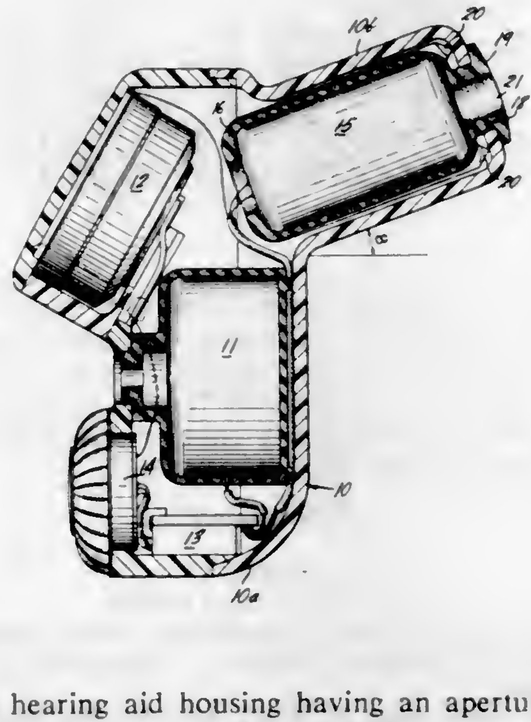
Oswald Willy Thorsman, Nykoping, Sweden
Filed Dec. 29, 1967, Ser. No. 694,468
Int. Cl. H02q *15/08;* **H01r** *11/25*
U.S. Cl. 174—87 **1 Claim**



An insulating connector for electric wires includes a plastic cap closed at one end and a tapered coiled spring inserted in the cap. The last interior turn of the spring is substantially closed and the end of the spring extends diametrically across and projects outwardly from the last coil turn. The projecting end engages a recess in the inner wall of the cap.

3,448,224
RIGID IN-THE-EAR HEARING AID

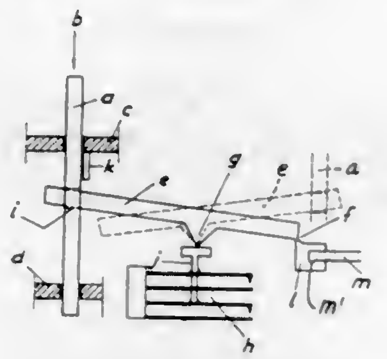
Ronald R. Giller, Danbury, Conn., assignor to Dictograph Products Inc., Danbury, Conn., a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 590,011
Int. Cl. H04r *25/02*
U.S. Cl. 179—107 **3 Claims**



A rigid hearing aid housing having an aperture in its outermost extremity adapted to receive in locking engagement an apertured locking protrusion of a flexible resilient suspension means for enclosing and being the sole mounting of the receiver interiorly of the unitary housing.

3,448,225
TELEPHONE HOOK SWITCH MECHANISM

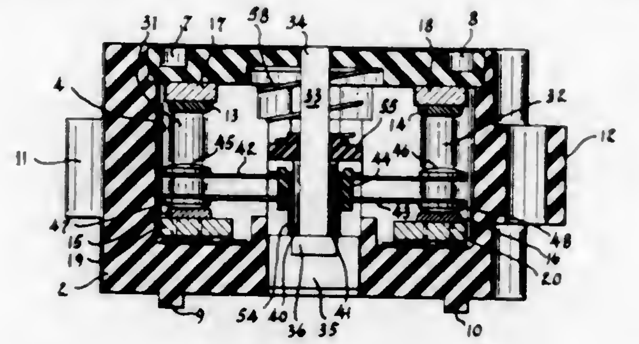
Carl-Axel Strömer, Bromma, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Dec. 8, 1965, Ser. No. 512,430
Claims priority, application Sweden, Feb. 5, 1965, 1,486/65
Int. Cl. H04m *1/08*
U.S. Cl. 179—159 **7 Claims**



A hook switch mechanism for the contact spring assembly of a telephone instrument operates the spring assembly by a joined up and down movement respectively of two posts each of which has hinged thereto one end of a lever, the other end of which is hingedly connected to a stationary part of the instrument. The levers intersect with each other and coact with the spring assembly to operate the assembly in response to a downward or upward movement of the posts as respectively caused by replacement of the handset of the instrument or lifting of the same for making a call.

3,448,226
COMPACT ELECTRICAL CONTACT BLOCK WITH ELECTRICALLY ISOLATED BRIDGING CONTACTS

James E. Mading, Milwaukee, and Joseph F. Waldorf, New Berlin, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,639
Int. Cl. H01k *15/04*
U.S. Cl. 200—16 **2 Claims**

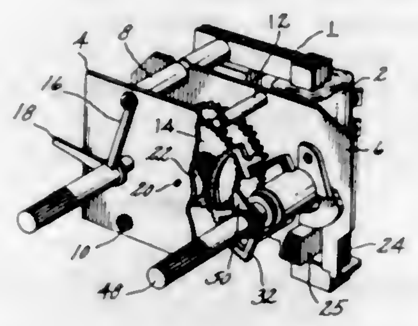


An electrical contact block of the type used in manually operable pushbutton assemblies. The block includes an insulating housing and a reciprocally actuable plunger which supports two electrically isolated bridging contacts. Spring means and a sliding contact support provide for wear allowance and contact pressure.

3,448,227
INTERVAL TIMER

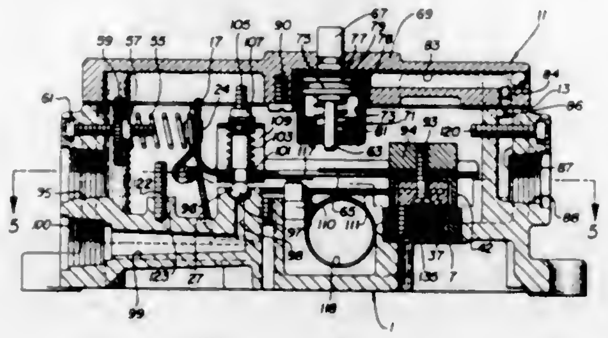
Charles A. Balchunas, Hopkinton, Mass., assignor to General Electric Company, a corporation of New York
Filed Aug. 23, 1967, Ser. No. 662,644
Int. Cl. H01h *7/08, 43/10*
U.S. Cl. 200—39 **6 Claims**

An interval timer having an output actuator for a device to be controlled, a timing motor, a gear continuously rotated by the timing motor, and a unique timing control and interval setting gear member which is manually movable into mesh with the continuously rotatable gear.



3,448,228
ACCELERATION SENSING DEVICE

William O. Munroe, Rodeo, Calif., assignor to Amot Controls Corporation, a corporation of California
Filed Feb. 8, 1967, Ser. No. 614,610
Int. Cl. H01h *35/14*
U.S. Cl. 200—61.45 **12 Claims**

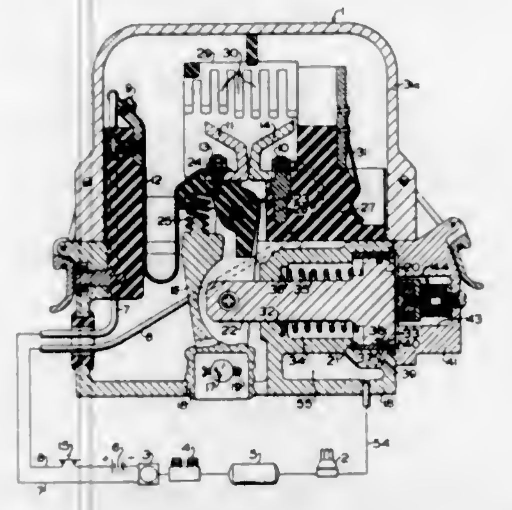


An acceleration sensing device for use with engines, compressors, fan drives and various machinery for signalling and/or automatically shutting down the equipment consisting of a spring-loaded lever assembly held by a potted magnet which controls a valve or switch. The lever snaps to a tripped position when the inertia of the lever assembly plus the force of the loading springs exceeds the holding force of the magnet upon a predetermined shock (acceleration).

3,448,229
SNAP-ACTING PRESSURE OPERATED SWITCH DEVICE WITH MAGNET CONTROL

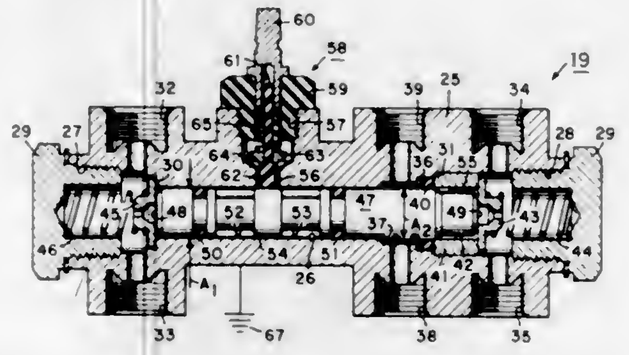
Mortimer D. Wilson, Turtle Creek, and William H. Glass, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 24, 1967, Ser. No. 625,658
Int. Cl. H01h *35/24, 35/38*
U.S. Cl. 200—82 **11 Claims**

A switch device having a contact member actuated by a fluid pressure controlled piston into and out of contact with a stationary contact member, wherein permanent magnet means resiliently mounted in coaxial alignment with the face of the piston exerts magnetic attraction on the piston in a switch-opening direction and in a switch-closing direction such that snap-action movement of the movable contact member occurs responsively to increasing and decreasing fluid pressure forces acting on the piston. The permanent magnet means is mounted in coaxial alignment with the piston by resilient mounting means, attached to the body of the switch device. The resilient mounting means enables self-alignment of the magnet means to insure coplanor contact of the face of the magnet means with the face of the piston and consequent maximum magnetic attraction force thereon.



3,448,230
CONTROL VALVE AND SYSTEM

Richard C. Bueler, Glendale, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed Mar. 28, 1967, Ser. No. 626,515
Int. Cl. H01h *35/38*
U.S. Cl. 200—82 **23 Claims**



A system having a dual master cylinder for normally transmitting actuating fluid pressure directly to front vehicle brakes and also transmitting another actuating fluid pressure through a proportioning valve to predeterminately reduce the magnitude thereof to rear vehicle brakes, and a control valve responsive to failure of said first named actuating fluid pressure to by-pass said other actuating fluid pressure directly to said rear vehicle brakes and obviate the predetermined reduction in the magnitude thereof.

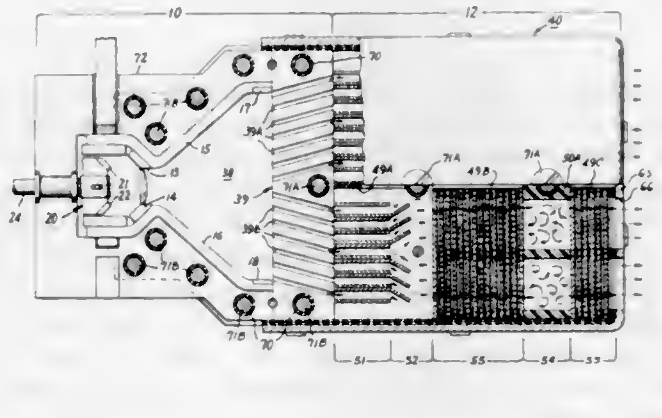
3,448,231
ELECTRIC CIRCUIT BREAKER ARC CHUTE WITH ARC DISCHARGE FILTER

Eldon B. Heft, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1966, Ser. No. 594,048
Int. Cl. H01h *9/30, 33/58, 33/04*
U.S. Cl. 200—144 **13 Claims**

1. An electric circuit interrupter comprising means for establishing an arc and arc discharge muffle means, said arc discharge muffle means comprising:

(a) a first heat exchange portion comprising a plurality of relatively closely spaced flat metallic plates extending parallel to each other in closely spaced relation in a row, each of said plates extending parallel to the direction of flow of gases from said arc whereby said arc gases are constrained to pass between said plates in close thermal contact with adjacent side surfaces of said plates;

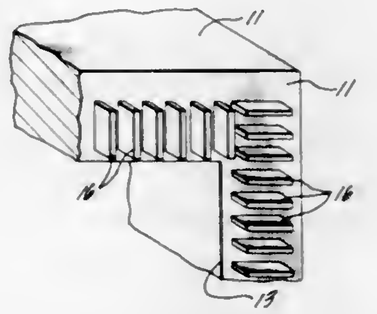
(b) a plurality of arc diffuser plate portions, said arc diffuser portions comprising a series of flat sheet metallic members extending at an angle to said plates of said first heat exchange portion and closely adjacent the exit point for gases passing between said first heat exchange plates whereby gases passing between said heat exchange plates strike said diffuser plate members and are caused to assume a turbulent condition for intermixing cool portions of said gas with more heated portions thereof, and



(c) a combined cooling and muffling portion in the path of movement of said arc gases adjacent said arc diffuser plates, said combined cooling and muffling portion comprising a series of generally planar metallic plates each having a large number of relatively small holes therethrough and means supporting said plates in parallel closely-spaced relation in a row, said plates each extending transversely of said arc gas exit path, said holes in adjacent ones of said cooling and muffling plates being out of alignment with each other, said means supporting said plates in spaced relation providing spaces between said plates for expansion of said arc gases and for absorbing and dispersing sound and shock waves.

3,448,232
MICROWAVE UNIT SEAL

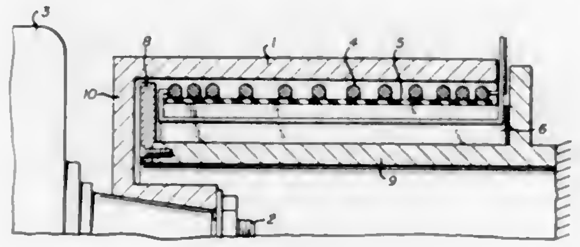
James H. Kluck, Altadena, Calif., assignor to Hammtronics Systems, Inc., Pasadena, Calif., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,521
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **9 Claims**



A seal for microwave chambers comprises a plurality of spaced apart electrically conductive elements mounted on the two surfaces to be sealed and completely encircling the leakage opening. The elements are constructed and defined to coact for effectively short circuiting the components of the field pattern of any microwave energy tending to leak from the chamber.

3,448,233
INDUCTION HEATING ASSEMBLY

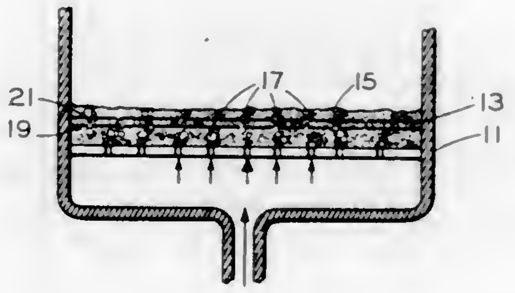
James P. Landis, Wauwatosa, Wis., assignor to Pillar Corporation, West Allis, Wis., a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,725
Int. Cl. H05b *5/08, 9/02*
U.S. Cl. 219—10.61 **17 Claims**



A hollow, rotating roller is heated by induction by means of a stationary coil mounted within the roller and wound helically along but spaced from the inner surface of the roller. The pitch and/or the spacing between the coil and roller is varied along the length of the coil to compensate for unequal heat losses at different portions of the roller. A magnetic core is located inside the coil to provide a low reluctance return path for the magnetic flux within the coil and thus divert flux from other nearby structures. A highly conductive shield member is located adjacent and generally within the core and acts as a barrier to the penetration of alternating magnetic flux.

3,448,234
ELECTRICAL RESISTIVITY CONTROL OF FLUIDIZED BEDS

William M. Goldberger, Allan K. Reed, and Cloyd A. Snavely, Columbus, Ohio, assignors to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed Aug. 31, 1966, Ser. No. 576,328
Int. Cl. H05b *1/00, 3/10*
U.S. Cl. 219—50 **8 Claims**

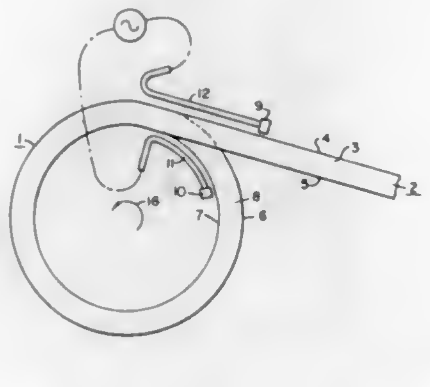


A method for altering or controlling the electrical resistivity of a fluidized bed of electrically conductive particles which consists of inducing vibrations into the bed. The resistivity of the bed varies with the amplitude of vibration so that the resistivity can be accurately controlled by controlling the amplitude.

3,448,235
CONDUCTIVE SPIRAL TUBE WELDING APPARATUS

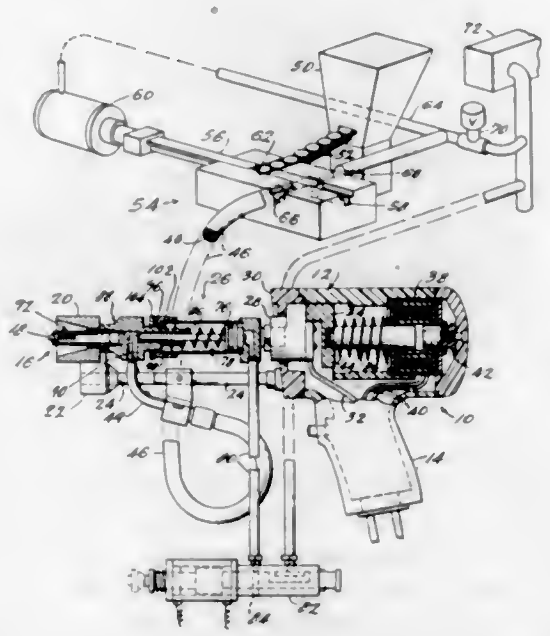
Karl Schmidt, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Nov. 7, 1966, Ser. No. 592,646
Int. Cl. B23k *11/08, 1/16*
U.S. Cl. 219—62 **2 Claims**

Helical or spiral seam tube welding apparatus in which high frequency contacts are located in advance of the weld point at the inner surface of the spiral-seam tube and the outer surface of the tangentially-advanced metal strip being formed into such tube; with the leads for such contacts extending between the weld point and the contacts near the edges of the strip and tube to be joined by welding.



3,448,236
APPARATUS FOR FEEDING STUDS SEQUENTIALLY TO A WELDING TOOL

Steve Spisak, Elyria, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed Jan. 18, 1965, Ser. No. 426,274
Int. Cl. B23k *11/04;* **B65g** *59/04, 11/20*
U.S. Cl. 219—98 **2 Claims**

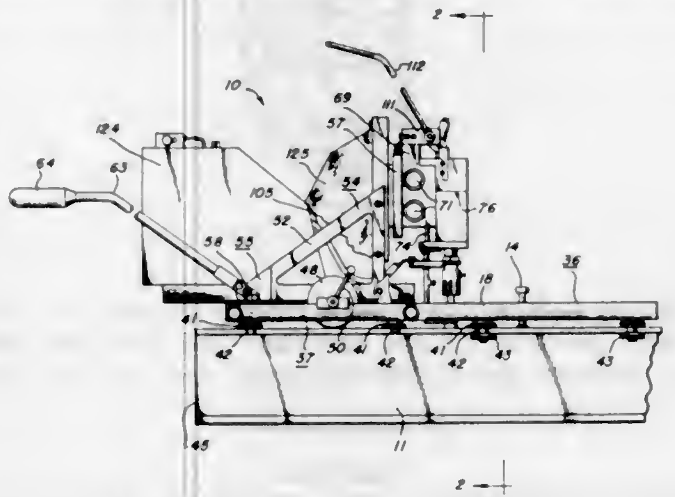


1. A stud welding tool having a plunger, means for reciprocating said plunger, a loading body having a loading chamber for receiving studs, said body being connected to said tool with said chamber being aligned with said plunger and located in the path thereof, said body having a transverse inlet in the shape of the studs and said chamber having an inwardly extending projection immediately behind said inlet to prevent rearward movement of studs in said chamber, said projection being forward of said piston when in a retracted position, said loading chamber having a longitudinal axis lying in a plane which also extends centrally through said inlet, and means for feeding studs to said chamber one at a time including a supply tube communicating with said transverse inlet, said supply tube being located in said plane and directed rearwardly toward said projection at an angle of 2–8° to a line perpendicular to the axis of said chamber.

3,448,237
WELDING HEAD FOR A STUD WELDING GUN

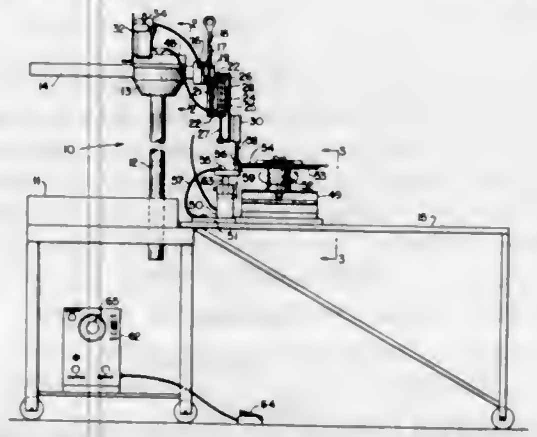
Lewis J. Logan, 11820 Edgewater Drive, Lakewood, Ohio 44107
Original application July 28, 1965, Ser. No. 477,652. Divided and this application Sept. 26, 1967, Ser. No. 670,621
Int. Cl. B23k *9/20, 11/02*
U.S. Cl. 219—98 **6 Claims**

A welding head for use in a stud welding gun or machine which comprises a housing with an adjustment shell movably mounted therein which carries an electrical coil as well as a lift abutment and a plunge abutment spaced therefrom. The shell has a portion which extends exteriorly of the housing to enable an operator to adjust the axial position of the shell within the housing. An axially movable armature having stop portions to engage the referred to abutments is provided and a stud chuck is connected thereto. A spring constantly urges the armature in one axial direction and electrical energization of the coil causes movement of the armature in the other axial direction. A rod is connected to the armature and extends exteriorly of the housing and its position relative to the housing gives a visual indication of the distance between the abutments and the stop portions of the armature.



3,448,238
STUD WELDING TOOL WITH INDEXING MECHANISM

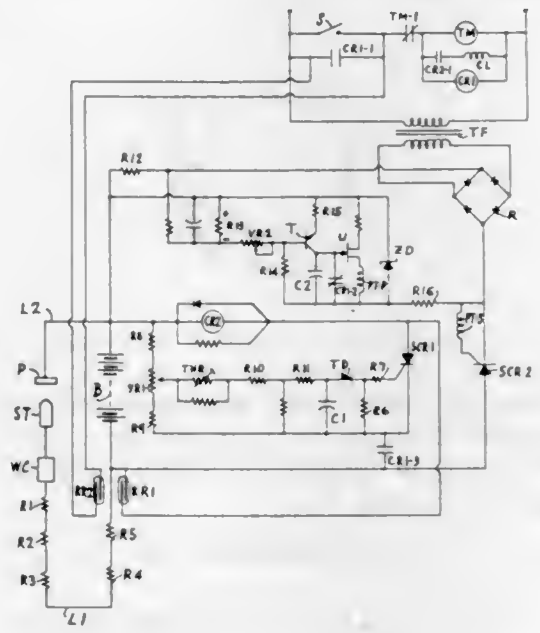
Christian W. Savitz, East Cleveland, Ohio, assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 442,899
Int. Cl. B23k *9/20, 9/12, 11/14*
U.S. Cl. 219—107 **6 Claims**



Apparatus for successively welding a number of studs or like attachments to a disc-like workpiece. The workpiece is carried by a rotatable carriage which is automatically indexed to bring the parts into proper position for welding. The welding head and carriage are fully adjustable to accommodate a variety of workpieces. A ground path is provided which protects the carriage against current flow and includes an element for supporting the workpiece to prevent distortion.

3,448,239
BATTERY CHARGING CIRCUIT

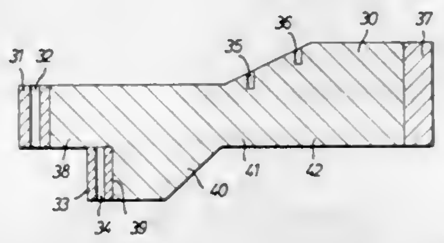
Arthur Hill, North Olmsted, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed Apr. 6, 1966, Ser. No. 540,760
Int. Cl. B23k *9/10, 11/24*
U.S. Cl. 219—108 **2 Claims**



A battery charging circuit is provided in which a battery is charged until it reaches a predetermined voltage, after which charging is continued for a predetermined period of time. The charging current for the predetermined period is maintained at a constant rate even though the charge on the battery continues to increase. This increases the charging effectiveness of the circuit in contrast to the usual charging circuit in which the charging current drops as the battery charge increases. The battery charging circuit also has a unique reset feature. With this arrangement, a timer controlling the time for the charging current will begin to time out the final full period of constant charging only after the last use of the battery.

3,448,240
METHOD OF PROCESSING WORKPIECES BY MEANS OF ENERGY-CARRYING RAYS

Karl Heinz Steigerwald, Haderunstr. 1a, Munich, Germany
Filed May 9, 1967, Ser. No. 637,251
Claims priority, application Germany, May 14, 1966, St 25,390
Int. Cl. B23k *15/00*
U.S. Cl. 219—121 **32 Claims**

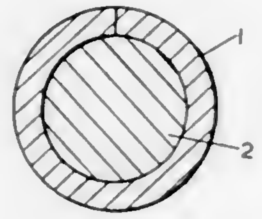


The method of welding includes the step of first forming an entrance or inlet opening to substantially the depth of the desired weld seam, introducing a high energy ray into the opening and moving the ray from the entrance opening along the weld seam to weld the material. Various welding details to overcome change of hole size as the weld progresses is described.

3,448,241

SUBMERGED ARC WELDING OF NICKEL STEELS

Herbert Charles Buckingham, St. Albans, and Michael Penson, Harpenden, England, assignors to The British Oxygen Company Limited, a British company
Filed May 2, 1966, Ser. No. 551,811
Claims priority, application Great Britain, May 4, 1965, 18,756/65
Int. Cl. B23K *35/22, 9/18, 25/00*
U.S. Cl. 219—146 **5 Claims**

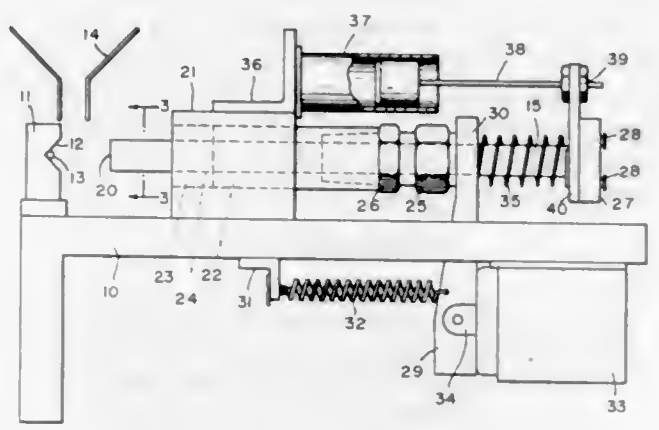


Welds in 9% nickel steel are made by means of a nickel-sheathed tubular electrode having a core containing molybdenum, in conjunction with a molybdenum-rich submerged arc welding flux.

3,448,242

WIRE HEATER TEMPERATURE CONTROL DEVICE

Myron R. Waldman, Providence, and Colin W. Leath, Centredale, R.I., assignors to Walco Electric Company, Providence, R.I., a corporation of Rhode Island
Filed June 13, 1966, Ser. No. 556,944
Int. Cl. G01k *1/16;* **C21d** *9/62*
U.S. Cl. 219—155 **7 Claims**



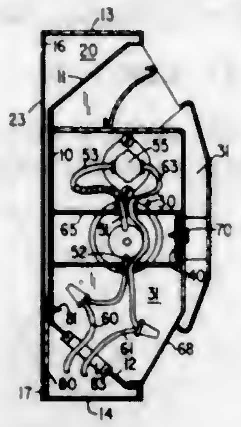
This device is applicable to wire heating devices. The electrically heated wire is passed across a base having spaced guides. A thermocouple is horizontally mounted on a support and is biased toward the wire in contact therewith. This allows for the frictional erosion of the thermocouple. A solenoid is used to withdraw the thermocouple from contact and to allow contact when the thermocouple is deactivated.

3,448,243

BASEBOARD HEATER

Ellis C. Ripple, Syracuse, N.Y., assignor, by mesne assignments, to Space Conditioning, Inc., Harrisonburg, Va., a corporation of Maryland
Filed Feb. 10, 1967, Ser. No. 615,142
Int. Cl. F24h *9/02*
U.S. Cl. 219—366 **3 Claims**

An integral elongated frame piece shaped to form a rear wall connecting with top and bottom walls by diverging walls. End closures are fixed to the end of the frame piece. Supporting plates are fixed to the back wall for supporting a straight line radiator tube at its ends. A thermal limit switch is mounted on a support plate with a heat sensing element thermally connected to the radiator tube.

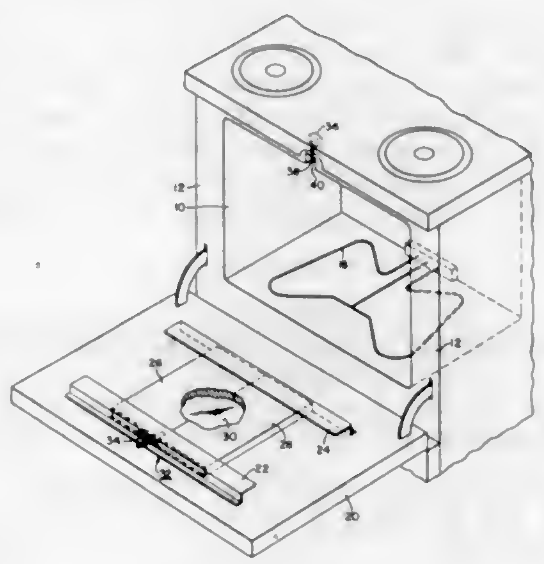


Resiliently deformable annular sleeves encircle the opposite end portions of the radiator tube and are interposed between the supporting plates and the tube ends.

3,448,244

HEAT CLEANING OVEN WITH SHUTTERED OVEN DOOR WINDOW

Edmund H. Filipak, Lexington, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1967, Ser. No. 618,806
Int. Cl. F21d *11/00*
U.S. Cl. 219—412 **4 Claims**



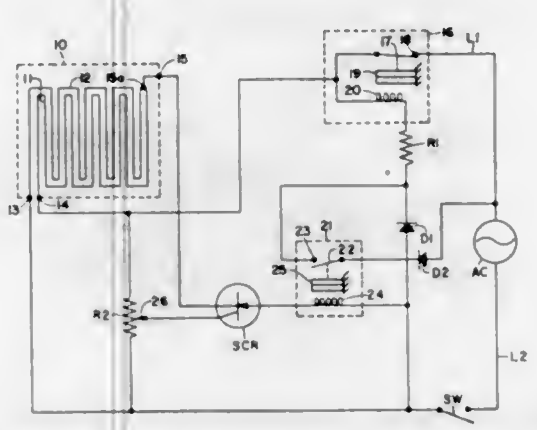
Heat-cleaning oven structure provided with a door having a viewing window therein, the door being provided with movable shutters on its inner face adapted to be positioned to shield the viewing window from the intense heat of the oven during a heat-cleaning operation, and with interlock means being provided to prevent operation of the oven in a heat-cleaning cycle except when the shutters are in a position shielding the window.

3,448,245

TEMPERATURE LIMITING CIRCUIT ARRANGEMENT

Harold A. Brouneus, Painted Post, and Lloyd G. Sprague, Bath, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 28, 1967, Ser. No. 671,327
Int. Cl. H05b *1/02, 3/00*
U.S. Cl. 219—505 **8 Claims**

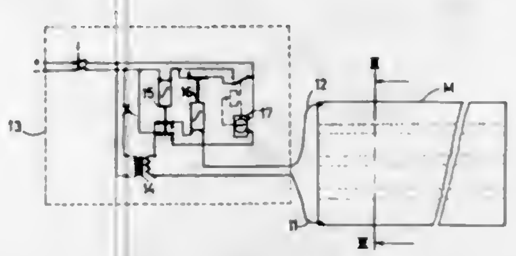
A circuit arrangement for limiting the temperature of a pair of cooperative electrical resistance heating elements to a preselected maximum temperature, such elements having dissimilar temperature coefficients of resistance and being included in a voltage divider or Wheatstone bridge network which triggers a silicon controlled rectifier to conducting when the temperature of said elements attains or exceeds said maximum temperature. Said triggering of said rectifier modifies time cycles of supply of electrical energy to said heating elements to maintain the average temperature of such elements at or below said preselected maximum temperature.



3,448,246

ELECTRICAL HEATING MAT WITH AUTOMATIC TEMPERATURE CONTROL

Fritz Armbruster, 23 Korntaler Strasse, 7000 Stuttgart-Stammheim, Germany
Filed Oct. 9, 1967, Ser. No. 673,565
Int. Cl. H05b *3/36*
U.S. Cl. 219—528 **4 Claims**



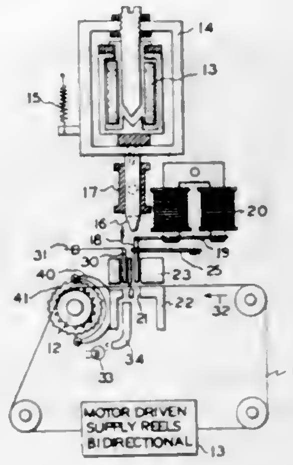
An electrical heating mat with automatic temperature control including electrical resistor means having a high electrical resistance and a temperature coefficient of resistance increasing steeply in the region between 0 and 100° C. so that current passing through the resistor means decreases as the temperature of the heating mat rises, a minimum current relay in circuit with the heating mat and disconnecting the same from a current supply when the current passing through the resistor means reaches a predetermined minimum, and time relay means in circuit with the minimum current relay for reclosing the latter after a predetermined time.

3,448,247

FAST SCAN PAPER TAPE PUNCH-READERS AND CONTROL SYSTEMS THEREFOR

John Paul Jones, Jr., Wynnewood, Pa., assignor to Navigation Computer Corporation, a corporation of Pennsylvania
Filed June 18, 1965, Ser. No. 465,010
Int. Cl. G06k *7/14, 1/20*
U.S. Cl. 235—61.1 **14 Claims**

A punch paper tape system provides for a reversible direction selective ratchet detent mechanism convertible into rapid continuous advance, so that addressed tape having data in code block form can be searched rapidly by continuous scan to locate blocks for updating by punching new codes in unused code positions in a slower

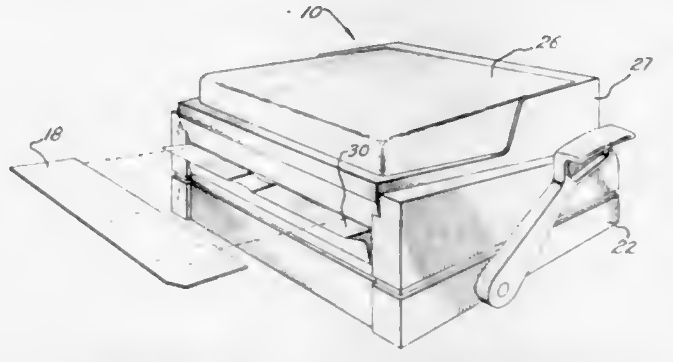


step-by-step punching mode. Verification of punching is provided by reading and proofing the punched tape codes before initiating a following punch operation.

3,448,248

CARD READER IMPROVEMENT

Roy Chester Jarrett, Harrisburg, and Richard William Patrick, New Cumberland, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Sept. 29, 1964, Ser. No. 400,011
Int. Cl. G06c *7/00*
U.S. Cl. 235—61.11 **10 Claims**



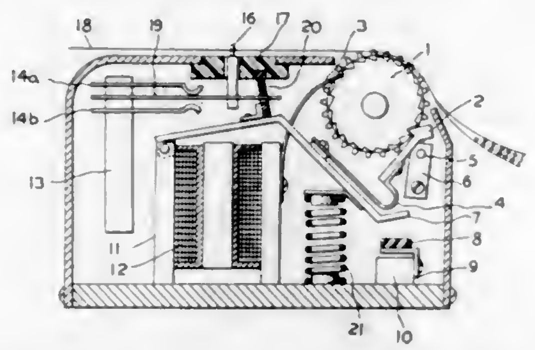
A data card reader is disclosed featuring an array of contact springs having the ends thereof disposed in a plane. A drawer having printed circuit conductive paths on the upper surface is mounted for sliding movement inwardly of a housing to carry a card to be read into engagement with the array of contact springs; the contact springs extending through holes in the data card to wipe against conductive paths on the upper surface of the drawer. Drawer movement is limited by a stop containing a leaf spring which is loaded by the last portion of drawer travel inwardly of the reader housing, which spring operates upon cessation of inward movement to displace the drawer a very slight amount in an opposite direction to provide a rewipe of the contact springs against conductive paths, leaving such contacts in a prewiped area.

3,448,249

ASYNCHRONOUS PAPER TAPE READER

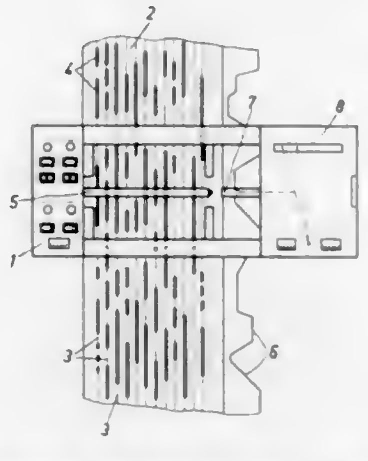
John Paul Jones, Jr., Wynnewood, Pa., assignor to Navigation Computer Corporation, a corporation of Pennsylvania
Filed Apr. 12, 1965, Ser. No. 447,381
Int. Cl. G06k *19/00*
U.S. Cl. 235—61.11 **11 Claims**

A punch paper tape reader uses an electromagnetic armature to operate a pawl-ratchet paper advance mechanism by means of a spring link member coupling the armature to the pawl to store energy for advance after the armature is closed. The tape holes are sensed by movable pins which operate an electrical circuit to indicate punched holes, either by moving switch contacts or by placing a shutter in a photoelectric circuit.



3,448,250
CODED CARRIER WITH PNEUMATIC AND CAM ACTUATED READOUT

Kurt Monkewitz, Winterthur, Switzerland, assignor to Hans Muller, Erlenbach, Zurich, Switzerland
Filed Feb. 12, 1965, Ser. No. 432,161
Claims priority, application Switzerland, Feb. 27, 1964, 2,554/64
Int. Cl. G06c *23/08*
U.S. Cl. 235—61.12 **8 Claims**

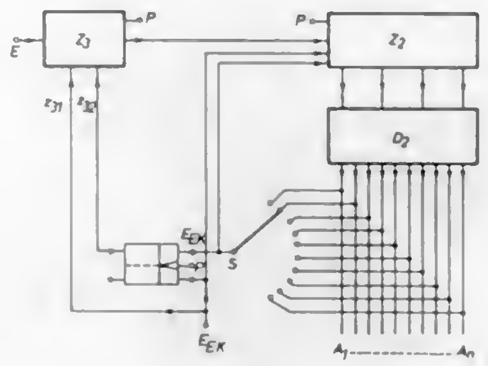


An arrangement in which control information is contained or stored in the pattern of openings through a carrier member. The openings may be in the form of slots of different lengths, and the information represented by these openings and the pattern of their locations, is read from the carrier member through a pneumatic system. A cam is integrally constructed with the carrier member and is situated at one edge of this carrier. Th cam contains regulating information by which the control information may be further regulated as a function of a predetermined parameter. A follower in contact with the cam reads the information stored by it. The combined information derived from the pneumatic system and the cam follower are transmitted to a regulator which correlates the information and provides the desired controlling and regulating signals.

3,448,251
DEVICE FOR CLASSIFYING MEASURED VALUES BY COUNTING

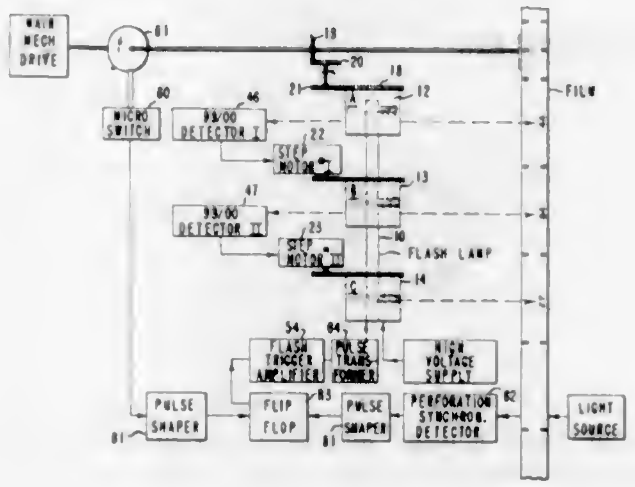
Gerhard Kaps, Hamburg-Lokstedt, and Winfried Schott, Garstedt, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,005
Claims priority, application Germany, Oct. 12, 1964, P 35,259
Int. Cl. G06g *7/14*
U.S. Cl. 235—92 **6 Claims**

Apparatus for determining whether the number of pulses in a pulse series is between predetermined upper and lower limits using a divider with a signal adjustable division ratio, an adder connected to the output of the divider and a feedback circuit between the counter and the divider to switch the divider to an alternate division ratio after a number of pulses representing the lower limit has been counted.



3,448,252
ELECTRICAL COUNTING APPARATUS

James Stephens Linderman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application June 18, 1963, Ser. No. 288,767, now Patent No. 3,263,581, dated Aug. 2, 1966. Divided and this application Dec. 23, 1965, Ser. No. 515,861
Int. Cl. G06m *1/22, 1/27*
U.S. Cl. 235—92 **4 Claims**

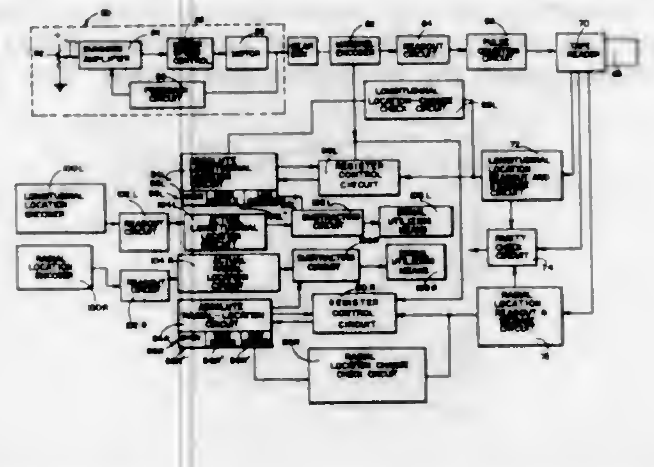


1. A counter comprising first and second drums, the surfaces of which have a circumferential series of translucent symbols located thereon said first drum having a specific translucent aperture in addition to said symbols, a light source located within said drums, means for driving said first drum, a step motor for driving said second drum and means for actuating said step motor upon receipt of a light beam emanating from said light source through said aperture on the first drum.

3,448,253
"QUASI-ABSOLUTE" DIGITAL CONTROL SYSTEM FOR WINDING FILAMENT ON MANDREL

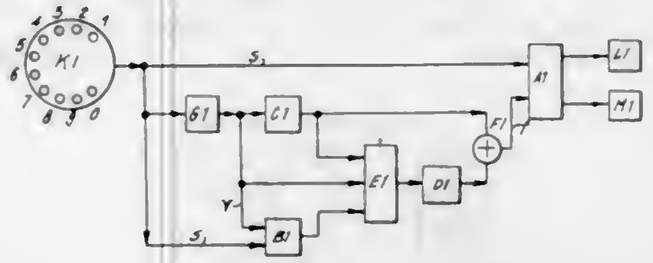
Ernest K. Bramblett II, Canoga Park, and Richard W. Clapp, Tarzana, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,621
Int. Cl. G06f *15/46, 7/48*
U.S. Cl. 235—151.1 **12 Claims**

Apparatus, comprising a digital control system for winding a filament on a mandrel—thus strengthening the mandrel, forming a shell after the mandrel is removed, etc. The digital control system comprises a "quasi-absolute" system of taped data that shortens the tape to practicable lengths and still provides the accurate positioning of the filament. Linear interpolation permits still further shortening of the control tape. Since the winding operation cannot be stopped, unacceptable information is ignored, and only valid information is used.



3,448,254
DATA CHECKING SYSTEM

Jacobus Verhoeff, The Hague, Netherlands, assignor to Anker-Werke Aktiengesellschaft, Bielefeld, Germany, a German corporation
Filed July 28, 1965, Ser. No. 475,417
Int. Cl. G06f *11/00*
U.S. Cl. 235—153 **14 Claims**

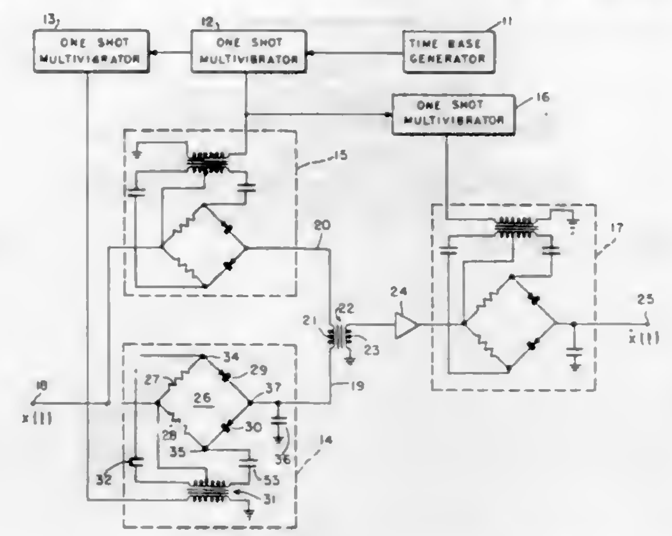


Apparatus for checking a digital group of the characters selected from a total of $4m+2$ different characters comprises a modulo-2 circuit for determining the relation c/d wherein c is the modulo-2 sum of the number of entered digit positions independent of the value of the digit positions and d is indicative of the modulo-2 sum of the number of entered digit positions whose number value is at least $2m+2$. A modulo-$(2m+2)$ alegbraic adding circuit responds to all digit values of the entered characters. The modulo-2 logic circuit is in controlling connection with the adding circuit for controlling its algebraic sense in dependence upon a given condition of the c/d relation whereby when a character group is entered, the result of the algebraic addition and the c/d relation then reached are conjointly indicative of a singular check symbol from among the $4m+2$ characters. The check symbol, when digitally added to the entered group, causes the result of the algebraic addition and the c/d relation to be in accordance with a predetermined checking condition.

3,448,255
TIME DERIVATIVE COMPUTER

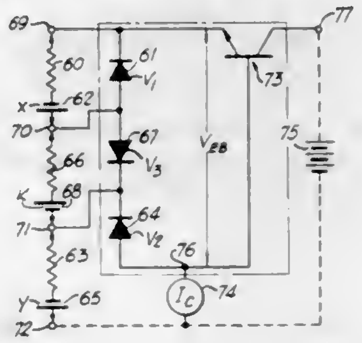
Milford R. Murphy, Arlington, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 6, 1965, Ser. No. 493,596
Int. Cl. G06g *7/18*
U.S. Cl. 235—183 **7 Claims**

A time derivative computer consisting essentially of a sampling circuit for periodically sampling the electrical analog of a time-variable signal, a holding circuit for storing the sampled value and a comparator for comparing the stored value with a value occurring a predetermined period of time after said sample is taken. The resultant output represents the change in the variable that has occurred during the increment of time.



3,448,256
SEMICONDUCTOR POTENTIOMETRIC DEVICE FOR MULTIPLICATION AND DIVISION

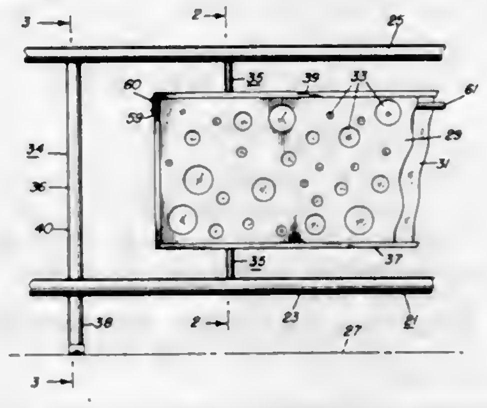
Hung C. Lin, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Original application Oct. 28, 1960, Ser. No. 65,672, now Patent No. 3,206,619, dated Sept. 14, 1965. Divided and this application Jan. 21, 1965, Ser. No. 426,755
Int. Cl. G06g *7/16*
U.S. Cl. 235—195 **15 Claims**



Electronic multiplication and division circuits are provided using the logarithmic characteristics of rectifying junctions of solid state elements that may be contained within a unitary body of semiconductor material.

3,448,257
ILLUMINATED RAILING

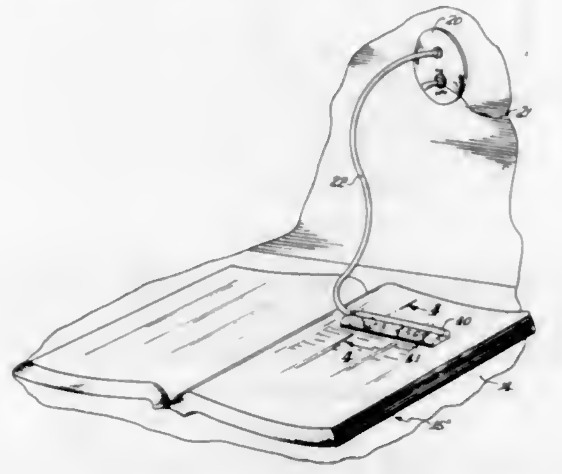
Charles E. Sackett, Jr., 6374 Tooley St., San Diego, Calif. 92114
Filed Dec. 13, 1965, Ser. No. 513,213
Int. Cl. F21v *33/00*
U.S. Cl. 240—2 **3 Claims**



A railing for lighting a walking surface has two horizontally extending superimposed rails carrying between them an opaque box in which a lamp is mounted. One panel of the box has transparent or translucent sections for transmitting light to the walking surface.

3,448,258
TELEPHONE LIGHT

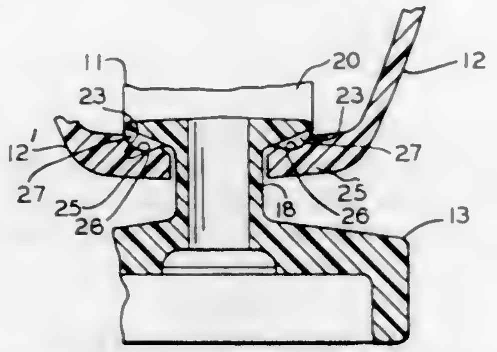
Theodore L. Vallas, 3202 Vista Way,
Oceanside, Calif. 92054
Filed Sept. 16, 1966, Ser. No. 579,937
Int. Cl. F21v *33/00*
U.S. Cl. 240—2 1 Claim



A telephone book magnifying light attached to a telephone booth. An alignment device is incorporated with the magnifying glass of the light. A page of the book is scanned and retained in proper alignment under the magnifier for reference while dialing a number from a telephone booth.

3,448,259
VEHICLE LAMP DRAIN

Edward J. Nitsch, Camillus, and Alfred G. Tienken, Syracuse, N.Y., assignors to R. E. Dietz Company, Syracuse, N.Y., a corporation of New York
Filed June 21, 1967, Ser. No. 647,673
Int. Cl. B60q *1/02*
U.S. Cl. 240—7.1 3 Claims

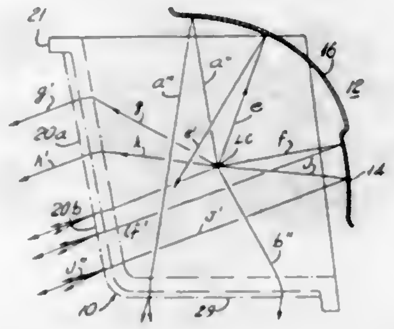


A lamp adapted to be secured to a vehicle and having a snap type lens. The lamp body has a radially projecting bead around its edge and the cupped lens has an interior groove around its edge which snaps over the bead to secure the lens to the body. The body is provided with a slot across the bead at the bottom of the lamp so that moisture within the lens can drain out through the slot.

3,448,260
LUMINAIRE

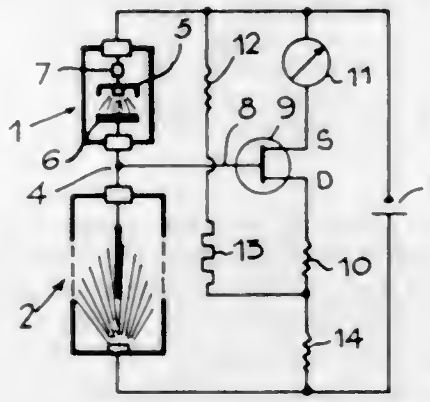
Vearl S. Wince and Herbert A. Odle, Newark, Ohio, assignors to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,579
Int. Cl. F21v *5/02, 7/09*
U.S. Cl. 240—93 14 Claims

A luminaire for mounting upon a wall and having a refractor providing front, bottom and end panels for redirecting light from a light source within the luminaire and from a reflector positioned behind the light source. The prismatic elements of the panels include curvilinear prisms and flutes on the front panel, these being concentric and formed about a center below the panel, curvilinear prisms on the side panels intermediatte horizontal and vertical prisms thereon, and curvilinear prisms on the bottom panel for exploding down light. The side panels also include a fluted lower section. The reflector in vertical section provides parabolic contours and in horizontal section arcuate sections, the inner ends of which lie along a common arc of a circle. The inner surfaces of said panels being provided with prisms and flutes to assist in the efficient redistribution of light from the luminaire.



3,448,261
SIGNAL DETECTION AND MEASURING CIRCUIT

Boris Abel Amiragoff, 21 Rue Vilain XIV,
Brussels, Belgium
Filed Mar. 4, 1966, Ser. No. 531,939
Claims priority, application Luxembourg, Mar. 11, 1965, 48,167; Feb. 4, 1966, 50,399
Int. Cl. G01n *21/26, 23/12;* **H01j** *37/00*
U.S. Cl. 250—43.5 4 Claims

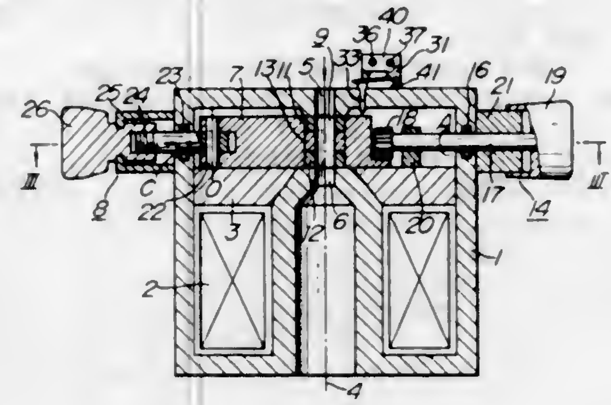


An apparatus for detecting and measuring signals derived from the ionization of a gaseous medium wherein the reference element comprises an ionization chamber which is provided with two electrodes and an ionizing source, the interior of said chamber being in direct connection with the ambient medium, said chamber being adapted to operate in the region of its response characteristic where the recombination rate of the gas ions is high such that the variation of the internal resistance thereof depends substantially only on the gas pressure variations.

3,448,262
DEVICE FOR EXCHANGING POLE PIECE ASSEMBLIES OF AN ELECTRON LENS IN AN ELECTRON MICROSCOPE

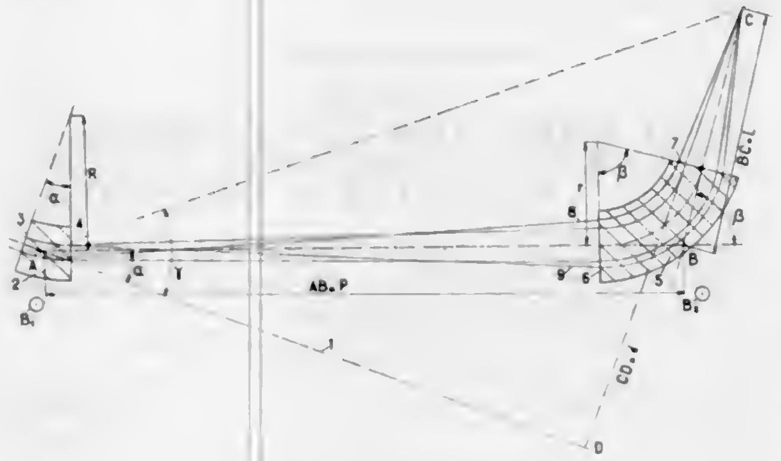
Hiroshi Akahori, Katsuta-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Mar. 11, 1966, Ser. No. 533,507
Claims priority, application Japan, Mar. 15, 1965, 40/19,820
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 11 Claims

Device for exchanging pole piece assemblies of an electron lens in an electron microscope including a rotatable sector carrying the pole piece assemblies for pivoting movement into alignment with the electron beam passage with means for adjusting the position of the sector with respect to its pivot point both radially and angularly.



3,448,263
DEVICE FOR DERIVING A BEAM FROM A PARTICLE ACCELERATOR UTILIZING TRIPLE FOCUSING MEANS

Hubert Le Boutet and Jacques Pinel, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Mar. 15, 1966, Ser. No. 534,505
Claims priority, application France, Mar. 24, 1965, 10,461
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 7 Claims

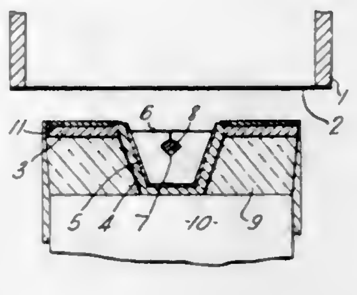


A device for deriving an accelerated beam from a particle accelerator and directing it toward a target off the axis of the accelerator using only two sectoral magnets. The invention relates to the selection of the parameters of the magnets to obtain a triple focusing of the beam on the target, i.e., a focusing with respect to the various energy levels of the particles in the beam and a focusing along the path to the target in two mutually perpendicular planes.

3,448,264
X-RAY SOURCE AND MEASURING MEANS FOR BACKSCATTER ANALYSIS OF SAMPLES

John Rathbone Rhodes, Wallingford, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Sept. 8, 1965, Ser. No. 485,773
Int. Cl. G01n *23/20;* **H01j** *37/20*
U.S. Cl. 250—51.5 13 Claims

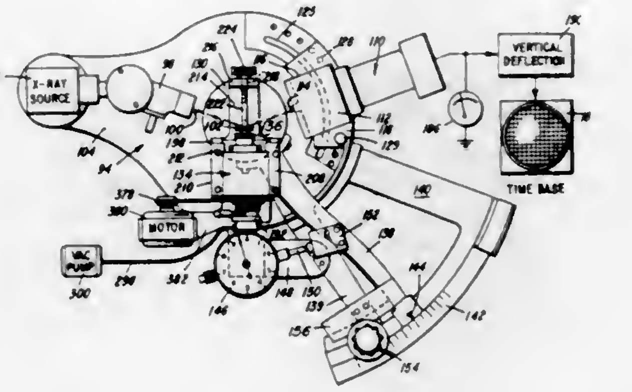
Apparatus for X-ray analysis using backscatter geometry comprises a radioisotope source and a generally concave target for X-rays from such source to generate secondary X-rays. Radiation measuring means and shaped



filters surround the target and shields are provided to prevent primary and secondary radiation reaching the radiation measuring means.

3,448,265
PIEZO-ELECTRIC CRYSTAL MANUFACTURING APPARATUS AND METHOD FOR LOCATION OF ATOMIC PLANES RELATIVE TO THE CRYSTAL SURFACE

Wallace H. Samuelson, 240 Division St.,
Harrisburg, Pa. 17110
Filed June 1, 1966, Ser. No. 554,512
Int. Cl. G01n *23/20*
U.S. Cl. 250—51.5 48 Claims

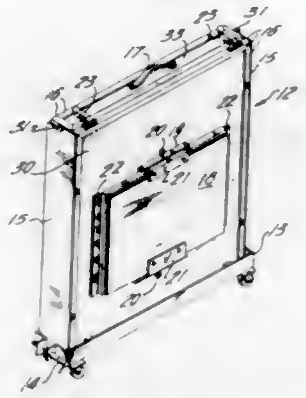


There is disclosed herein an apparatus and method for rapid and accurate location of atomic planes relative to an external surface of a specimen of a crystalline material by X-ray diffraction techniques. The apparatus includes an X-ray source, and X-ray detector, a specimen mounting fixture for continuously rotating the specimen about a line normal to an external surface in a constant plane relative to the incident X-ray, an adjustable supporting structure for the mounting fixture to permit adjustment of the angle between the axis of rotation of the specimen and the incident X-ray, independent of the rotation, and visual display means for the value of the adjusted angle and the pattern of X-ray diffraction from the crystalline specimen.

3,448,266
PORTABLE X-RAY ADJUSTABLY MOUNTED IN A CARRYING CASE LINED WITH LEAD

Peter A. Bucky, New York, and Albert W. Gleason, Albertson, N.Y., assignors to Bucky X-ray International, Inc., New York, N.Y., a corporation of New York
Filed Dec. 15, 1966, Ser. No. 602,053
Int. Cl. G01n *23/00, 23/04;* **G21f** *5/00*
U.S. Cl. 250—71 7 Claims

A portable X-ray detector in which the carrying case is an integral part of the detector. The inside of the case includes a mounting assembly for holding an X-ray generator. The X-ray detector, e.g., a fluorescent screen, is attached to a wall of the case. The case itself is lined with

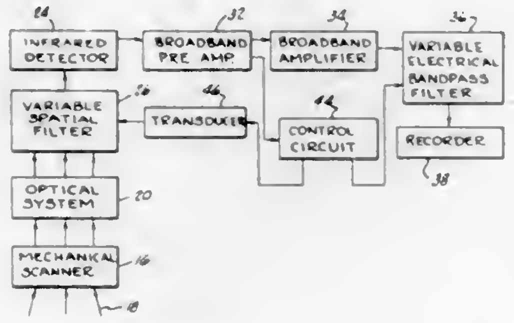


lead so that when the case is opened and the apparatus is set up, the case itself blocks secondary radiation.

3,448,267
APPARATUS FOR INFRARED SCANNING HAVING A VARIABLE DETECTOR APERTURE AND A VARIABLE BANDWIDTH AMPLIFIER

Richard Blythe, Alvin E. Marshall, Claybourne Mitchell, Jr., George T. Oser, and Gerald C. Scott, Ann Arbor, Mich., assignors to The Bendix Corporation, a corporation of Delaware

Filed Oct. 27, 1965, Ser. No. 505,381
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 10 Claims

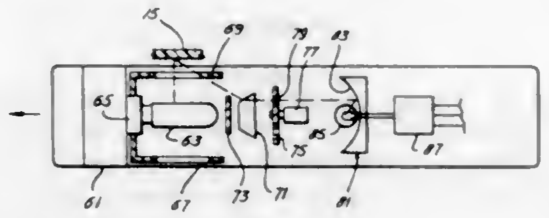


An infrared scanning apparatus having a detector aperture being variable in response to variations in radiation level and an amplifier connected to the detector output having a bandwidth which is also a variable response to radiation level.

3,448,268
COATING INSPECTION METHOD AND APPARATUS USING INFRARED RADIATION

Noel B. Proctor, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 10, 1966, Ser. No. 526,501
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 14 Claims

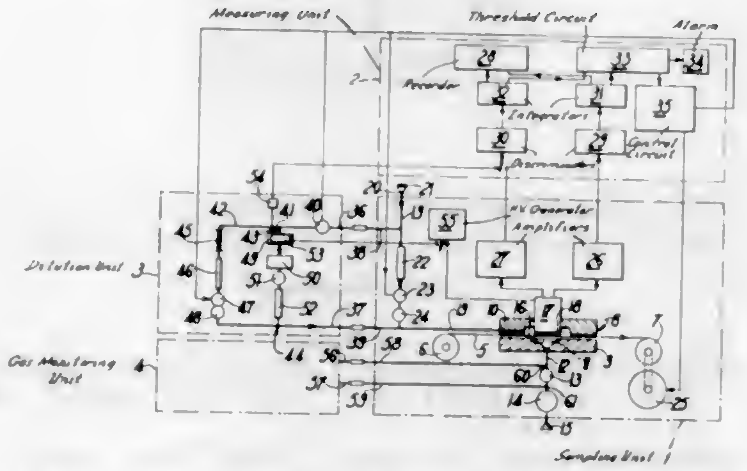


Inspection of polymer coatings for properties of curing, bonding or thickness, by directing infrared radiation at the coating and detecting the reflection from the underlying abstrate. The frequencies reflected or absorbed in the coating provide indicia of the properties of interest.

3,448,269
METHOD AND APPARATUS FOR ANALYSING RADIOACTIVE AEROSOLS

Michel Dieval, Antony, Jean Dupoux, Meudon, Henri Joffre, Bourg-la-Reine, and Jacques Pradel, Malakoff, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed June 21, 1966, Ser. No. 559,129
Claims priority, application France, June 28, 1965, 22,494
Int. Cl. G01t *1/18*
U.S. Cl. 250—83.6 13 Claims

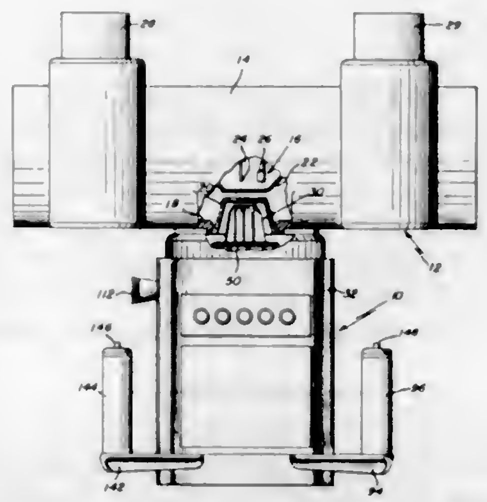


The radioactivity of air is measured using a moving filter strip on which the aerosols are deposited. At a first measured activity threshold the exposure time of the filter strip is reduced by a known ratio. At a second measured activity threshold, the aerosol concentration of the air flowing through the filter is reduced by a known ratio and above a third measured activity threshold all of the aerosols are removed from the air before the air passes through the filter.

3,448,270
X-RAY COLLIMATING DEVICE WHEREIN A PLURALITY OF ADJUSTABLE OVERLAPPING LEAVES DEFINE A COLLIMATING CONE

Leonard F. Peyser, Briarcliff Manor, N.Y., assignor to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut

Filed Nov. 23, 1966, Ser. No. 596,491
Int. Cl. H01j *1/52*
U.S. Cl. 250—105 11 Claims

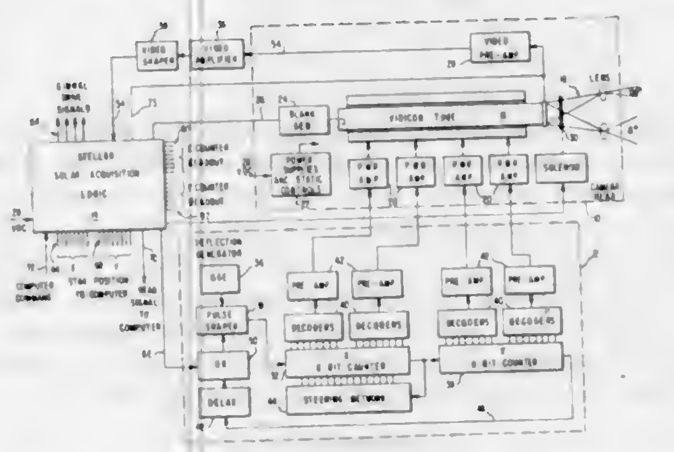


A collimator for X-ray devices which embodies three separate shutter systems one of which is shaped to extend within the port close to the window of an X-ray tube or housing for interception of undesired off-focus radiation, a second thereof being comprised of a number of pivotally movable shutter elements arranged in a pyramidal fashion for controlling the cross-sectional size of a beam of X-radiation and consequently the size of an area of an object being irradiated, and the third thereof being movable plate disposed between the first and second shutters for defining other cross-sectional dimensional aspects of the beam of X-radiation.

3,448,271
OBJECT TRACKING AND IMAGING SYSTEM HAVING ERROR SIGNAL DURATION PROPORTIONAL TO OFF-CENTER DISTANCE

Douglas H. Aldrich, Vestal, Richard F. Bombard, Endwell, Doyle C. Gibbs, Owego, and Robert J. Orrange, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 21, 1965, Ser. No. 488,863
Int. Cl. G01j *1/20*
U.S. Cl. 250—203 18 Claims

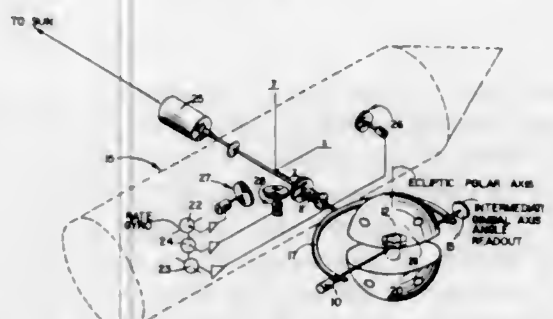


A star or sun tracker for nominally centering acquired celestial images on the face of a vidicon tube and digitally reading out their X and Y coordinates to a computer. Cycled counters generate deflection signals for the tube scan and the coordinates of all encountered images are fed to a logic section by stopping the counters and reading out their values. In the stellar mode, the logic section determines whether an image is being viewed in superimposed wide or narrow fields of view, or both, ignores any image signals due to the presence of undesired stars, and generates gimbal drive signals to center the desired star image on the tube face. In the solar mode, the logic section generates gimbal drive signals to center the outline of the solar disk within the narrow viewing field and read out the X and Y thicknesses of the annular ring between the edges of the field and the disk to the computer.

3,448,272
OPTICAL REFERENCE APPARATUS UTILIZING A CLUSTER OF TELESCOPES AIMED AT A SELECTED GROUP OF STARS

John M. Slater, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,936
Int. Cl. G01j *1/20*
U.S. Cl. 250—203 5 Claims

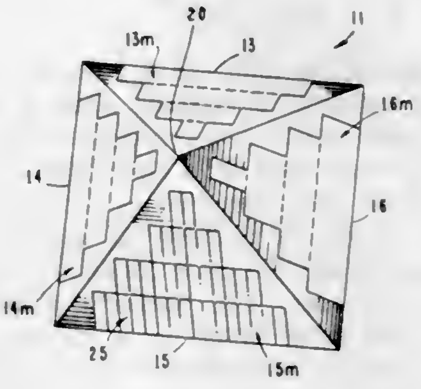


Optical means for establishing and continuously maintaining a three-axis space reference in a craft for any attitude of the craft relative to the stellar sphere in which a gimbaled, cluster of telescopes is aimed at a selected group of stars, spaced all over the sky, such that at least two of the stars are visible in any orientation of the craft. A null type servosystem keeps the cluster aligned with the stars.

3,448,273
PLURALITY OF PHOTOSENSITIVE CELLS ON A PYRAMIDICAL BASE FOR PLANETARY TRACKERS

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Robert Y. Wong, Glendale, Calif.

Filed Apr. 20, 1966, Ser. No. 545,228
Int. Cl. G01j *1/20*
U.S. Cl. 250—203 3 Claims

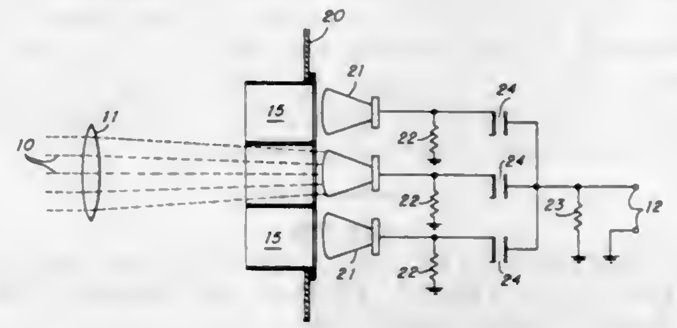


A planetary tracker defining a foresighted pyramid structure having four triangular sides which support light sensitive photocells. The cell on each pair of opposite sides are connected to a separate comparator, with the outputs of the two comparators used to provide signals indicative of the relative orientation of the vertex of the structure with respect to the direction or orientation of a planet which radiates light received by the photocells.

3,448,274
STRONGEST PHOTOSIGNAL SELECTION BY AN INHIBITING OR GATE

Daniel E. Altman, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 6, 1965, Ser. No. 477,986
Int. Cl. H01j *39/12, 5/16;* **G01j** *1/20*
U.S. Cl. 250—209 1 Claim

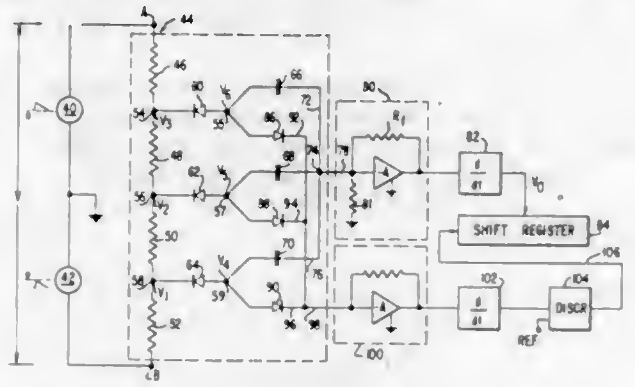


To improve the signal-to-noise ratio at the receiver of a laser beam point-to-point communication system, a number of apertures, each the size of the beam cross-section, are placed side-by-side in a grid as large as the greatest excursion of the beam. An inhibiting OR gate couples the photocell in each aperature to the ouput circuit to exclude all cell signals except the strongest signal.

3,448,275

ELECTRO-OPTICAL SCANNER WITH A PHOTOCELL AND A BLOCKING DIODE IN SERIES

Richard E. Hall, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 7, 1967, Ser. No. 644,178
Int. Cl. H01j *39/12*
U.S. Cl. 250—209 **8 Claims**



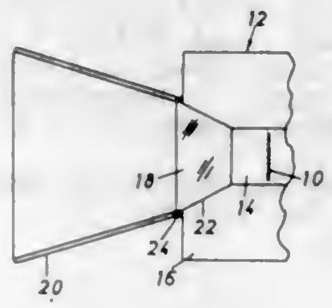
An electro-optical scanner scans a light intensity pattern. The light pattern is directed upon a plurality of spaced photodiodes which are non-conducting when dark and conducting when light falls upon them. The outputs of the photodiodes are connected in common to a summing amplifier circuit. A plurality of normally non-conducting blocking diodes are each connected to a different one of the photodiodes. The blocking diodes are each connected to a different point on a voltage divider. A positive ramp voltage is applied to one end of the divider and a negative ramp voltage, in-phase with the positive ramp voltage, is applied to the other end of the divider. The common node of each blocking diode and photodiode is connected through a capacitor to a common point which is connected to the input of an operational amplifier having a resistive feedback path. The two ramp voltages combine to form a voltage null which sweeps from one end of the voltage divider to the other. Each time the null occurs at a point to which a blocking diode is connected, that diode becomes conducting through its associated capacitor to cause an increase in current flowing to the common point. The operational amplifier and capacitors function to differentiate the total current signal and produce a staircase voltage waveform wherein each step corresponds in time to the switching of a corresponding diode to its conducting state. These steps are then differentiated to provide a synchronizing pulse each time the null point occurs at a blocking diode whether or not the associated photodiode is conducting. If a photodiode is lighted when the null point sweeps past its associated blocking diode, a current path is completed to increase the level of current at the input of the summing amplifier. Each increase or step of photodiode current is also differentiated to provide a data pulse which corresponds in time with the sync pulse. If a photodiode is dark when the null point sweeps past its associated blocking diode, then no data pulse is produced even though the synchronizing pulse is produced.

3,448,276

CONDENSER-TYPE OPTICAL SYSTEM WITH CONICAL LIGHT PIPING MEMBER FOR RADIATION DETECTOR

Wolfgang Witte, Uberlingen (Bodensee), Germany, assignor of one-half to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Uberlingen (Bodensee), Germany
Filed Feb. 7, 1966, Ser. No. 525,629
Claims priority, application Germany, Feb. 9, 1965, B 80,434
Int. Cl. H01j *3/14*
U.S. Cl. 250—216 **10 Claims**

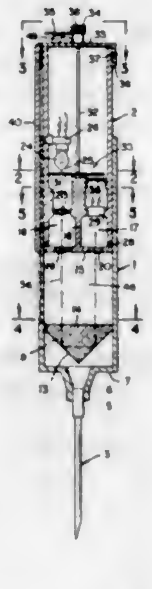
It has already been proposed to utilize a conical light pipe member (having its narrower end toward the detector) for concentrating incoming radiant energy onto a radiation detector. Where the detector is of the type in which the element actually receiving and responding to the radiant energy is deep within the detector (for example, well within an enclosure, sealed by a transparent window), an efficient conical light pipe cannot be directly coupled to the detector. In particular, the image reduction ability of light pipe must be compromised (i.e., by utilizing a very slowly tapering cone) if much of the radiation is not to miss the detector element. The present improvement provides reflective means surrounding the window (and preferably also the other internal surfaces of the detector) so as to provide an auxilliary or coupling light pipe between the original conical light pipe member and the element. This auxilliary reflective means may be generally conical (i.e., tapering), cylindrical, or a combination of both tapering and non-tapering sections.



3,448,277

PHOTOELECTRIC ABSORPTION MEASURER HAVING PLUNGER FOR ENCLOSING VARIABLE BEAM PATH LENGTHS

Michael E. Jayko, Alamo, Calif., assignor to Charles A. Crete, Marysville, Calif.
Filed Jan. 16, 1967, Ser. No. 609,511
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 **8 Claims**

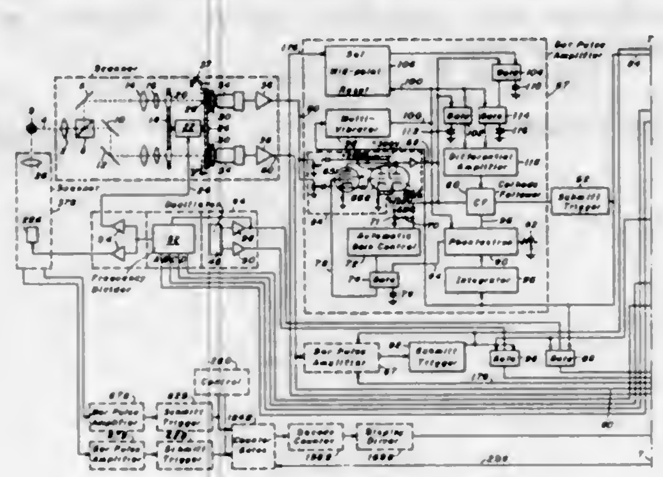


A device for photoelectric absorption measurements having means for producing and directing a beam of light along an enclosed path of travel and onto a sensing device responsive for indicating absorption of said light by a fluid, and also providing means for enclosing a progressively increasing section of said beam along said path with the fluid to be measured for optical density to measure and visibly indicate the degree of absorption of said section when the length of said section extending through said fluid is within a measurable range.

3,448,278

PHOTOELECTRIC DIAMETER MEASURER WHEREIN PULSE WIDTH IS A MEASURE OF DIAMETER

Francis E. O'Brien, Churchill Borough, Pa., and Alexander H. Kuhnel, Berkeley Heights, N.J., assignors to United States Steel Corporation, a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,121
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **13 Claims**

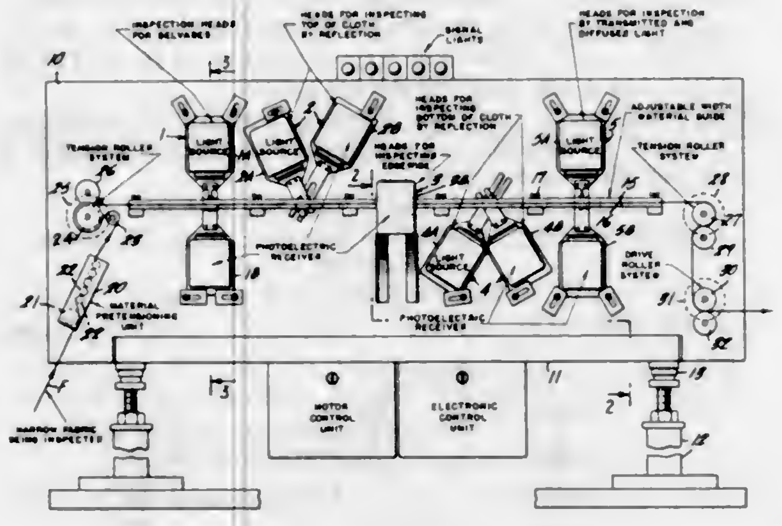


A non-contact precision gage for measuring the diameter of a moving hot bar has an optical system which simultaneously scans the bar in opposite directions and focuses radiant energy from the bar as shaped pulses on two photomultiplier tubes. The output pulses of the tubes are amplified, shaped, and the pulse width, a measure of the hot bar diameter, is determined by a digital counter. Provision is made for averaging the totals from a series of pulses and correcting the measurement to ambient temperature.

3,448,279

PHOTOELECTRIC DEFECT DETECTOR HAVING REFLECTION TEST TRANSMISSION TEST AND EDGEWISE TEST

Howard C. Lindemann, Westbury, and Willie A. Busch, New Rochelle, N.Y., assignors to Lindly & Company, Inc., Mineola, N.Y., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,091
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **8 Claims**

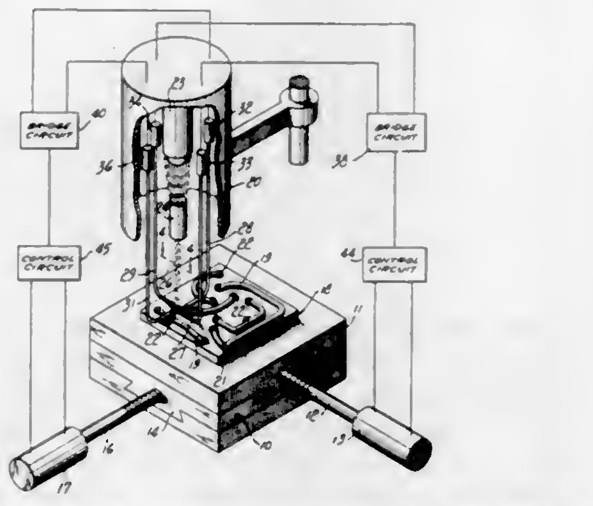

INSPECTION HEADS FOR SELVAGES
HEADS FOR INSPECTING TOP OF CLOTH BY REFLECTION
SIGNAL LIGHTS
HEADS FOR INSPECTION BY TRANSMITTED AND DIFFUSED LIGHT
HEADS FOR INSPECTING BOTTOM OF CLOTH BY REFLECTION
HEADS FOR INSPECTING EDGEWISE
ADJUSTABLE WIDTH MATERIAL GUIDE
TENSION ROLLER SYSTEM
TENSION ROLLER SYSTEM
LIGHT SOURCE
PHOTOELECTRIC RECEIVER
DRIVE ROLLER SYSTEM
MOTOR CONTROL UNIT
ELECTRONIC CONTROL UNIT

Narrow material such as tapes and ribbons is inspected as it moves between two pulleys by photoelectric units arranged to view both sides of the material and also to view the material edgewise in order to detect concurrently all defects which are likely to occur in the material. All of the photoelectric units are supplied from a common power source and their outputs are fed to a common logic circuit with individual lamps for indicating the nature of the defect.

3,448,280

APPARATUS FOR POSITIONING WORKPIECE TO ALINE A CAVITY THEREIN WITH A LIGHT BEAM

Frank H. Blitchington, Jr., Greensboro, and Richard A. Harris, High Point, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 2, 1966, Ser. No. 591,512
Int. Cl. H01j *5/16;* **B22q** *17/00*
U.S. Cl. 250—227 **4 Claims**

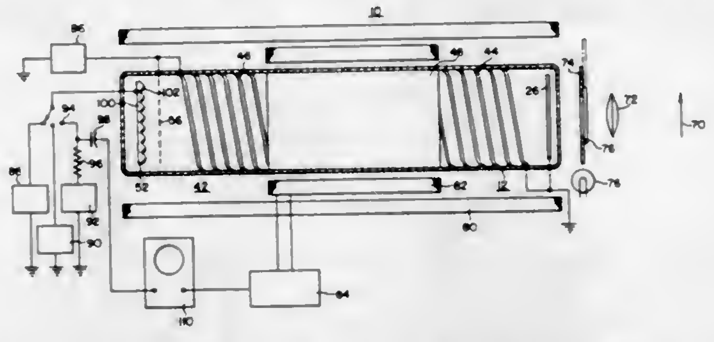


1. An apparatus for positioning a cavity in a workpiece at a preselected location comprising:
    means for projecting a beam of light having a cross sectional shape substantially corresponding to but slightly smaller than the shape of said cavity against said workpiece;
    photoelectric means for detecting light reflected from said workpiece at an angle less than a predetermined angle and for producing electrical signals varying with the amount of light detected; and
    means responsive to said electrical signals for moving said workpiece perpendicularly with respect to said beam of light to center said light beam within said cavity whereupon no light is reflected at less than the predetermined angle indicating that the cavity is positioned at the preselected location.

3,448,281

APPARATUS FOR PERFORMING IMAGE CORRELATION

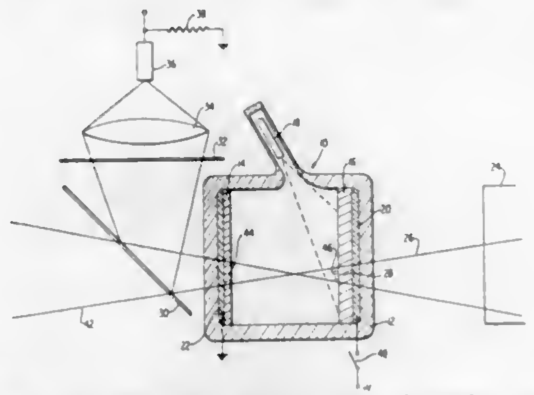
Arthur S. Jensen, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 7, 1965, Ser. No. 470,108
Int. Cl. H01j *39/12*
U.S. Cl. 250—220 **4 Claims**



An apparatus for electronically correlating a first and second radiation image by converting the first and second radiation images into corresponding electron images, storing the first electron image on a target element and imposing the second image on said target element so as to derive a signal which is a function of the product of the first stored electron image and the second electron image. Further, the electron image corresponding to the second radiation image is manipulated electronically so as to determine the variation of this signal with respect to their mutual displacement.

3,448,282
OPTICAL AND GATE

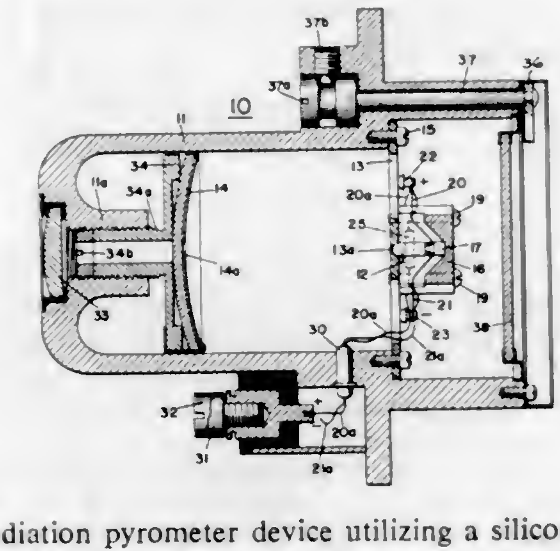
Harold Fleisher and Thomas J. Harris, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 12, 1968, Ser. No. 697,407
Int. Cl. H01j *39/12;* **G02f** *1/18*
U.S. Cl. 250—225 **8 Claims**



An optical AND gate employing linearly polarized light and a tube having a photocathode. An optical image illuminates the photocathode to produce a field of secondarily emitted electrons which charge an electro-optical crystal to form a charge image thereon corresponding to the optical image. A linearly polarized light beam scans the crystal and passes through uncharged areas substantially unchanged. However, in passing through a charged area, the polarization of the light beam is changed from its original state. An analyzer is positioned in the path of the light passing through the crystal and is oriented to block light linearly polarized in the original direction. Consequently, light passing through an uncharged area of the crystal is blocked by the analyzer, but light passing through a charged area has its polarization state changed so that a portion of the light beam passes through the analyzer to provide an optical output signal indicating coincidence of an image light spot with the position of the polarized scanning light beam. The optical output signal is applied to a photomultiplier tube to produce a corresponding electrical output signal.

3,448,283
RADIATION PYROMETER SYSTEM SUBSTANTIALLY INDEPENDENT OF AMBIENT TEMPERATURE CHANGES

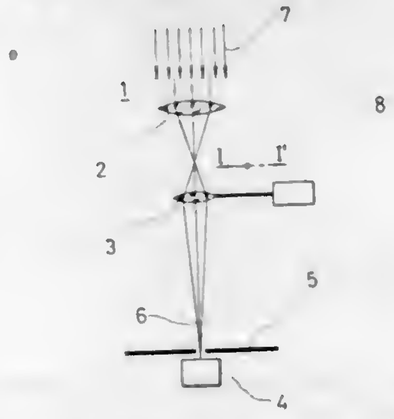
Joseph B. Higley, Philadelphia, Donald Robertson, Ambler, and Franklin K. Schroyer, Oreland, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 28, 1965, Ser. No. 451,539
Int. Cl. G01j *3/50;* **H01j** *39/00*
U.S. Cl. 250—226 **5 Claims**



A radiation pyrometer device utilizing a silicon photovoltaic light sensitive element having an output whose magnitude changes with changes in temperature of a hot body under measurement and also with changes in ambient temperature, together with a narrow band-width filter which not only restricts the response of the radiation pyrometer to a narrow spectral passband, but also renders the pyrometer insensitive to changes in ambient temperature.

3,448,284
LIGHT BEAM DIRECTION DETECTOR WITH RECIPROCATING LENS

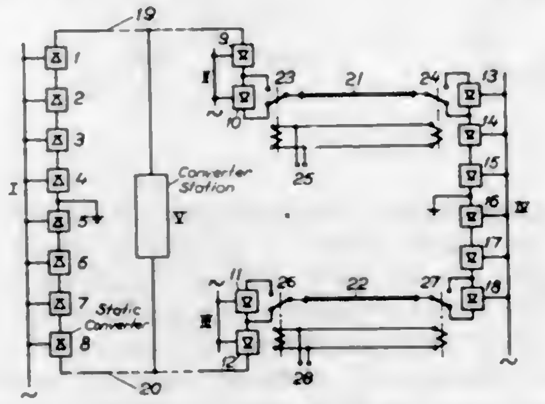
Klaus Friesecke, Munich, Germany, assignor to Bolkow Gesellschaft mit beshrankter Haftung, Ottobrunn, near Munich, Germany
Filed June 28, 1966, Ser. No. 561,191
Int. Cl. H01j *3/14*
U.S. Cl. 250—234 **10 Claims**



An instrument for measuring the deviation of the direction of a radiation source, such as the sun, from a predetermined reference direction includes a device for converting a variable angular value into electric pulses having variable time intervals. The device includes a photoelectric converter, a multiple lens optical system for producing an image of the source at infinity on the converter, oscillator means reciprocating a lens cyclically transversely of the optical axis of the system with reciprocations of substantially constant amplitude, and slit stop means stationarily interposed between the reciprocated lens and the converter and extending transversely of the direction of lens reciprocation. When the optical axis coincides with the direction of the source, the output pulses of the converter are spaced at equal time intervals and, when the optical axis deviates from the direction of the source, the output pulses have unequal time intervals.

3,448,285
POWER TRANSMISSION PLANT FOR HIGH VOLTAGE DIRECT CURRENT COMPRISING AT LEAST THREE CONVERTER STATIONS WITH SWITCHING MEANS THEREBETWEEN

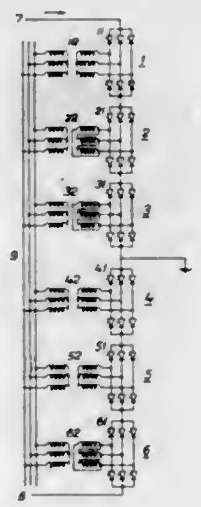
Hans Stackegärd, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 14, 1967, Ser. No. 646,018
Claims priority, application Sweden, June 15, 1966, 8,140/66
Int. Cl. H02j *3/38*
U.S. Cl. 307—18 **5 Claims**



A power transmisson plant for high voltage direct current comprises at least three converter stations, two of which are connected in series. Said two stations comprise each a number of series-connected converters and switching means for connection and disconnection of some of the converters in the stations and said switching means of the two stations are connected together so upon their operation the number of series-connected converters in the two stations together remains unchanged.

3,448,286
BALANCING OF HARMONICS AT CONVERTER STATIONS IN ASYMMETRICAL WORKING

Hans A. Stackegard, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Oct. 22, 1964, Ser. No. 405,740
Claims priority, application Sweden, Oct. 31, 1963, 11,989/63
Int. Cl. H02j *1/14*
U.S. Cl. 307—82 **2 Claims**



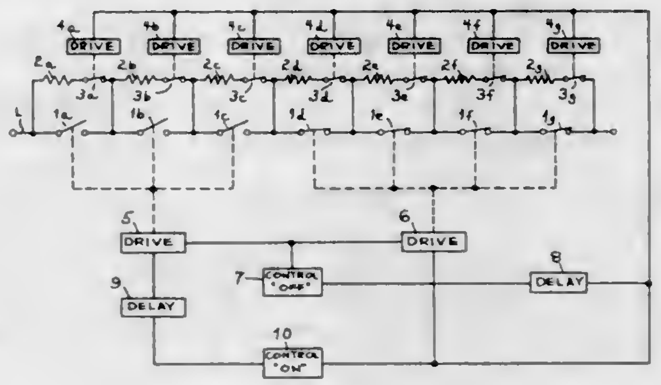
In a static converter station comprising a plurality of converters, the converters are arranged with different phase positions in relation to an A.C. network connected to the station. The converters are divided in groups each with its own phase position. The total power is summed up within the different groups and the difference between the totals of power influences the controlling means of the converters of the different groups so that said totals of power for the different groups are equalized as much as possible.

It is a further object of the invention to limit said harmonics even in the case of asymmetric operation in such a converter station.

3,448,287
ELECTRICAL SWITCHING ARRANGEMENT WITH MULTIPLE INTERRUPTION

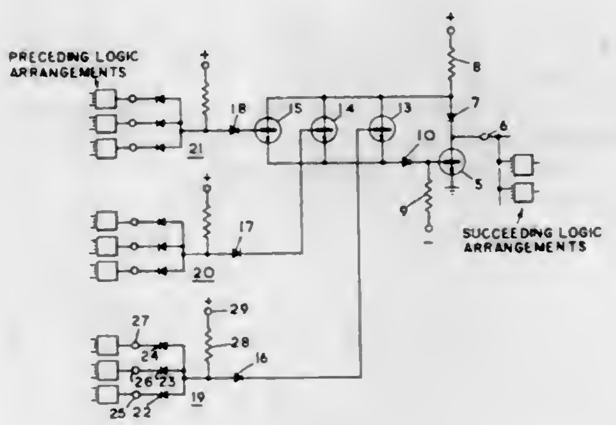
Salvatore Glammona, Sao Paulo, Brazil, assignor to Aktiengesellschaft Brown Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Aug. 23, 1966, Ser. No. 574,454
Claims priority, application Switzerland, Sept. 29, 1965, 13,449/65
Int. Cl. H01h *9/40*
U.S. Cl. 307—136 **1 Claim**

An electrical power switching arrangement comprises a plurality of main power switching points connected electrically in series. Each main switching point formed by a pair of switch contacts is bridged by a series circuit arrangement of a resistor and an auxiliary switching point established also by a pair of auxiliary switch contacts. The operating sequence is such that when switching off, all of the main switching points disconnect simultaneously and all of the auxiliary switching points also disconnect simultaneously but with a delayed action so as to follow disconnection of the main switching points. When switching on, a first group of the main switching points close simultaneously, and all of the auxiliary switching points also close simultaneously and at the same time as the main switching points of the first group. The remaining main switching points then close simultaneously but with a delayed action after the first group.



3,448,288
TRANSISTOR LOGICAL CIRCUIT ARRANGEMENTS

Reginald Hugh Allmark, Kidsgrove, Stoke-on-Trent, England, assignor to English Electric Computers Limited, London, England, a British company
Filed Nov. 22, 1965, Ser. No. 509,084
Claims priority, application Great Britain, Nov. 27, 1964, 48,377/64
Int. Cl. H03k *19/22*
U.S. Cl. 307—215 **7 Claims**



The specification describes an electric transistor logical circuit arrangement for use in a logical system, in which arrangement (in FIG. 1 and in each half of FIG. 2) an output transistor **5** is controlled by an input control circuit which includes a plurality of input transistors **13** to **15** having their respective collector-emitter paths connected in parallel with one another across the base-collector path of the output transistor. The input transistors are supplied with control signals by AND gate circuits **19** to **21**, respectively.

The output transistor **5** is biased off through resistor **9**, and is rendered rapidly conductive by a suitable AND gate output signal applied to any of the input transistors. The circuit is such that the output transisor **5** when conducting remains unsaturated regardless of the output load, whilst the condcting input transistor(s) is only slightly saturated.

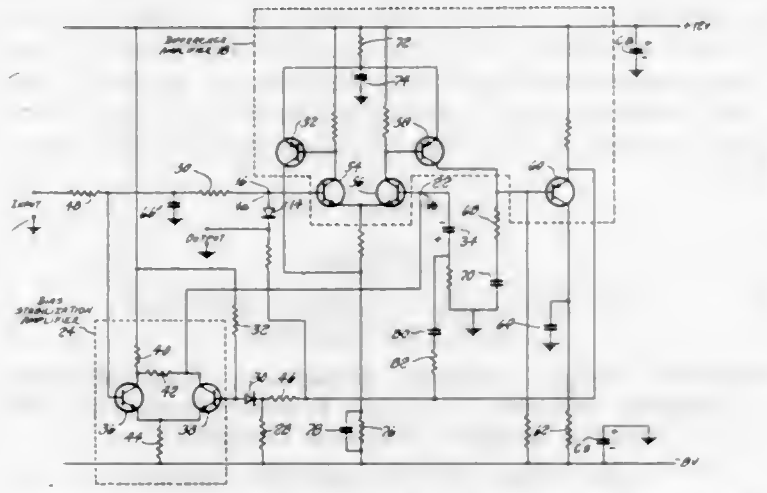
A diode **10** gives input noise immunity by setting a specific threshold level, and a matched diode **7** is included in the collector circuit of the output transistor so as to compensate for the inclusion of diode **10** in the feedback circuit.

The circuit arrangement has low output impedance, high gain and high fanout capability.

FIG. 2 shows the use of two circuit arrangements of FIG. 1 combined to form a bistable device.

3,448,289
LOGARITHMIC AMPLIFIER

Paul E. Harris, Syracuse, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 20, 1966, Ser. No. 551,775
Int. Cl. G06g *7/24*
U.S. Cl. 307—230 **2 Claims**



1. In a logarithmic amplifier circuit of the type in which the input voltage is placed across a series resistor-logging diode combination, the signal input terminal and the output terminal of a first differential operational amplifier are connected across the logging diode, and the logarithmic output voltage of the circuit is derived from the current through said diode, the improvement comprising a circuit for the automatic stabilization of the bias of the logging diode comprising:

a second differential operational amplifier connected across said logging diode to receive at its input terminals a voltage proportional to the bias existing across said diode, the output terminal of said second differential operational amplifier being connected to the reference-bias input terminal of said first differential operational amplifier, whereby any change in bias across said diode results in a change in reference-bias voltage at the input of said first differential operational amplifier which compensates for said change in bias across said diode;

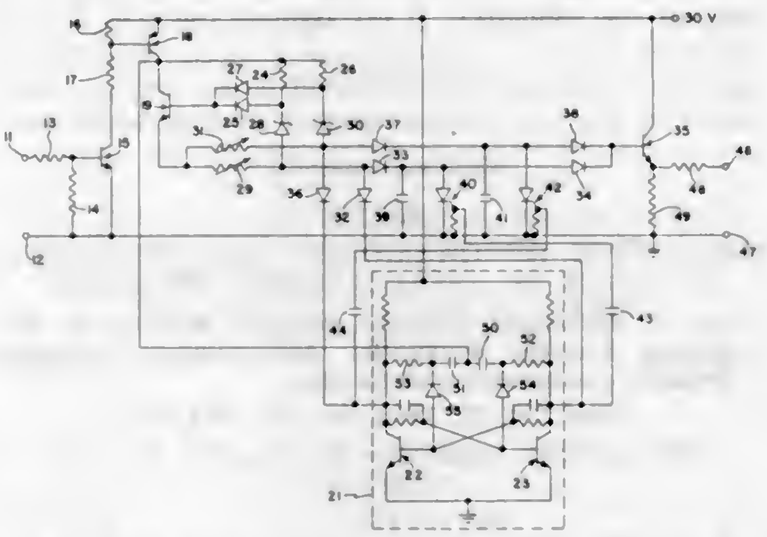
a bias-error integrating capacitor connected to the output terminal of said second differential amplifier; and

reference-bias source means connected to the reference-bias terminal of said second differential amplifier.

3,448,290
VARIABLE-WIDTH PULSE INTEGRATOR

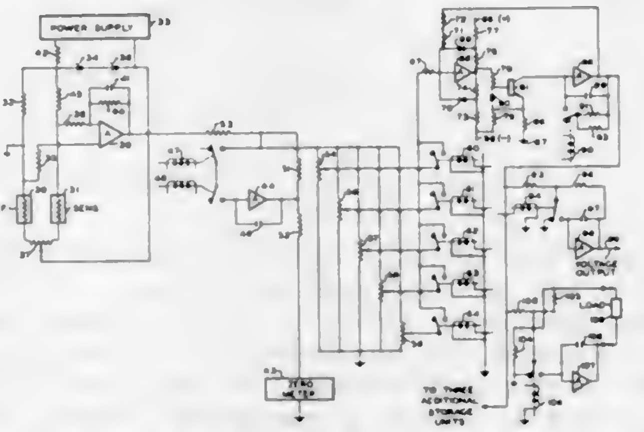
Arthur L. Newcomb, Jr., Newport News, Va., assignor to the United States of America as represented by the National Aeronautics and Space Administration
Filed Mar. 15, 1966, Ser. No. 536,216
Int. Cl. H03k *5/20*
U.S. Cl. 307—234 **9 Claims**

A solid state device for converting variable-width pulses into an analog voltage. Two capacitors are alternately charged with a constant current during the durations of said variable-width pulses. The two capacitors are discharged during the times that they are not being charged. The charged capacitors are selectively applied to the output of the device to provide the desired output analog voltage.



3,448,291
CHROMATOGRAPHIC ANALYZER SIGNAL HEIGHT READER AND STORAGE SYSTEM

Marvin C. Burk and Harold M. Neer, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 24, 1965, Ser. No. 458,278
Int. Cl. H03k *5/20, 5/08, 15/18*
U.S. Cl. 307—235 **7 Claims**



The pulse output of a chromatographic bridge detector is zero-biased and attenuated and the resulting signals are applied to the input of a peak reader. The peak reader comprises first and second amplifiers with a transistor connected between the output of the first amplifier and the input of the second amplifier to provide polarity reversal and rectification. A resistance feedback circuit is connected between the output of the second amplifier and the input of the first amplifier. A capacitor is connected between the input and output of the second amplifier, and means for discharging the capacitor after each peak is associated therewith. Storage circuits are provided to store the output signal of the second amplifier.

3,448,292
WIDEBAND AGC CIRCUIT

Francis Edward Mueller, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 1, 1966, Ser. No. 569,284
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **10 Claims**

1. In a phase shift oscillator, means for stabilizing the amplitude of the feedback voltage, comprising:

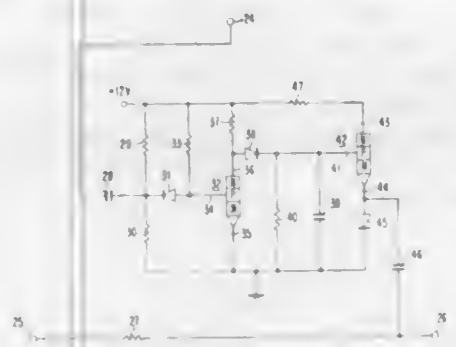
means for sensing the amplitude of the feedback voltage and deriving current pulses having a width proportional to said amplitude;

means including first capacitor means, for integrating said current pulses to provide a control signal;

transistor means having a control electrode, connected to said first capacitor means, and output terminals;

means connecting a first of said output terminals to a power source;

diode means connected to a second of said output terminals;



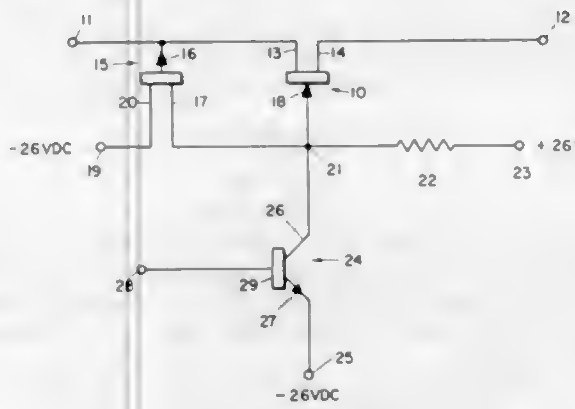
said power source, said transistor and said diode having a polarity of connection to provide a current flow, between said output terminals and through said diode, proportional to the signal at said base;

impedance means in series with an intermediate path traversed by the signal to be stabilized; and

second capacitor means connecting said impedance means to a point intermediate said diode means and said transistor means, whereby the impedance presented to said capacitor by the transistor-diode combination varies as a function of the control signal to regulate the signal drop across said impedance means.

3,448,293
FIELD EFFECT SWITCHING CIRCUIT

Douglas D. Russell, Wrentham, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Oct. 7, 1966, Ser. No. 585,166
Int. Cl. H03k *17/60*
U.S. Cl. 307—251 **10 Claims**



1. A field effect transistor switching circuit for analog signals comprising:

a signal input terminal and a signal output terminal,

a first electrical potential and a second electrical potential,

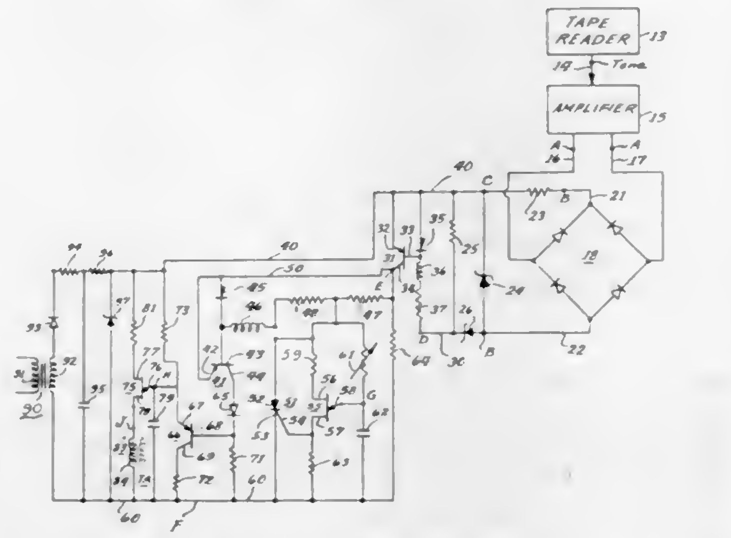
a first field effect transistor of a first channel type having its source and drain elements interconnected in series between said signal input terminal and said signal output terminal,

a second field effect transistor having an opposite type to that of said first transistor having its gate element responsive to said signal input terminal and having its source and drain elements interconnected between said first electrical potential and the gate of said first transistor, and

a resistance interconnected between said second electrical potential and said gate of said first transistor.

3,448,294
MULTIPHASE POWER SWITCHING CIRCUIT

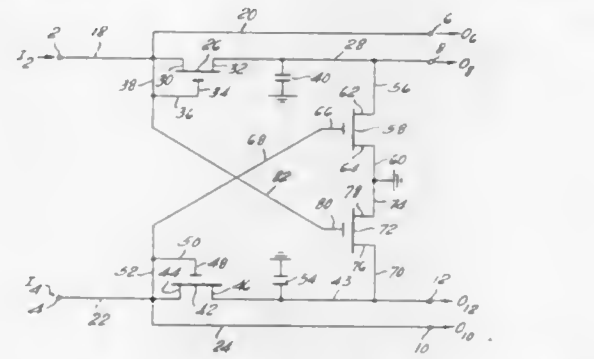
Robert M. Henderson, Williams Bay, and Richard Zechlin, Beloit, Wis., assignors to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 15, 1965, Ser. No. 487,439
Int. Cl. H03k *17/02*
U.S. Cl. 307—252 **7 Claims**



A load switching system is disclosed including a control circuit responsive to input signals for controlling the operation of a multiphase power switching circuit.

3,448,295
FOUR PHASE CLOCK CIRCUIT

Frank M. Wanlass, Huntington, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of Delaware
Filed July 26, 1966, Ser. No. 567,954
Int. Cl. H03k *5/156*
U.S. Cl. 307—260 **20 Claims**

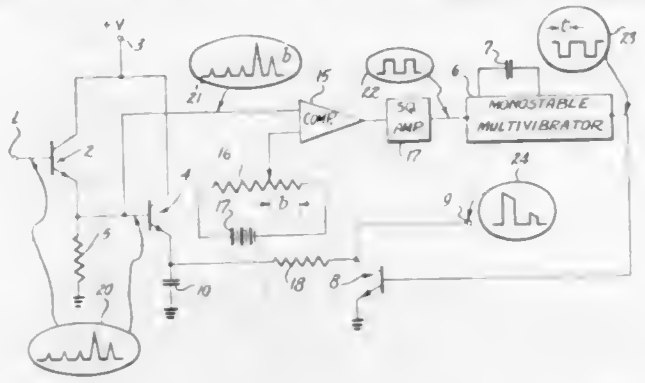


A circuit having two input ports and four output ports interconnected so that two sequential inputs are converted into four sequential outputs, this being accomplished by connecting each input port directly to a respective one of a first pair of output ports, the input ports being operatively connected in opposite sense respectively to another pair of output ports, those operative connections being effective to produce appropriate signals at the output ports of said other pair.

3,448,296
APPARATUS FOR STRETCHING PULSES EXCEEDING PREDETERMINED AMPLITUDE

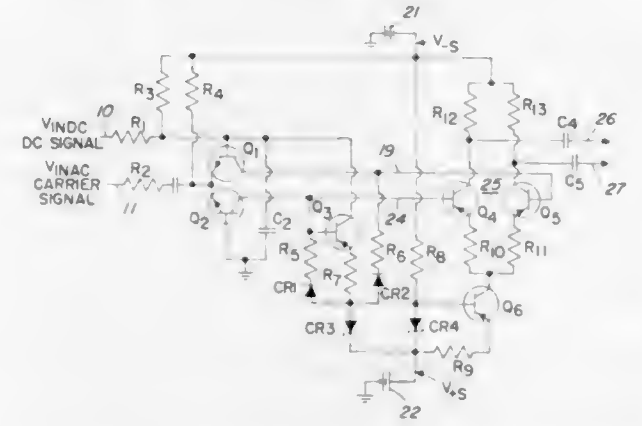
Claude L. Schwaninger, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 8, 1966, Ser. No. 600,199
Int. Cl. H03k *1/14, 5/04, 5/20*
U.S. Cl. 307—267 **7 Claims**

This application discloses a pulse stretching apparatus including a capacitor; a charging circuit for the capacitor including two transistors connected in emitter-follower configuration; a timing circuit; and a switchable discharge circuit comprising the emitter-collector circuit of another transistor. Input pulses of short duration are applied through the charging circuit to the capacitor and to the timing circuit. The timing circuit opens the discharge path for a predetermined time in response to each input pulse, allowing the capacitor to accumulate a charge. At the end of the predetermined time the discharge path is restored, discharging the capacitor. The output signal is the capacitor voltage. In a second embodiment, a comparator circuit precedes the timing circuit, preventing the timing circuit from responding to input pulses the amplitudes of which are less than a predetermined voltage level.



3,448,297
ANALOG MULTIPLIER

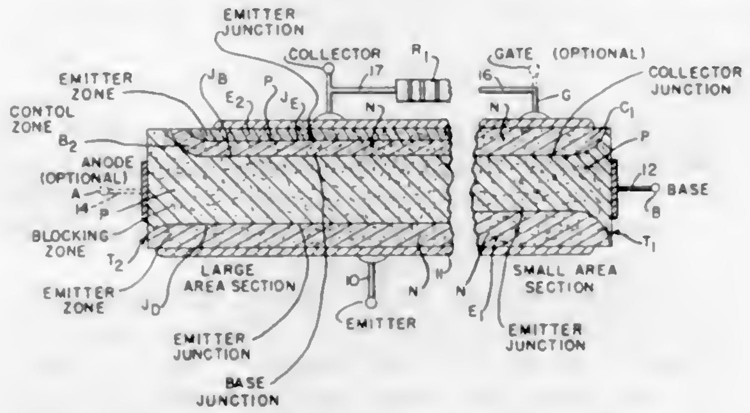
Melvin H. Rhodes, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 6, 1966, Ser. No. 577,444
Int. Cl. G06g *7/16*
U.S. Cl. 307—229 **11 Claims**



1. Circuit means for effecting linear multiplication of first and second input signals, said first signal comprising a direct current signal, said second signal comprising an alternating current carrier signal, the outputs from said circuitry comprising a carrier signal the magnitude of which is a linear function of said direct current input signal; said circuitry comprising first and second transistors each connected in a common base amplifier configuration, the emitters of each of said transistors being connected in common to a constant current source, carrier current bypass means connected between the respective bases of said first and second transistors, the collectors of each of said transistors connected respectively through first and second load resistors to a supply voltage source, said direct current input signal being applied to the base of said first transistor, said alternating current carrier input signal being connected in common to the emitters of each of said first and second transistors, direct current feedback means connected between the collector of said second transistor to the base of said first transistor whereby the collector current of said second transistor is a linear function of said input direct current signal, means for biasing said first transistor for zero carrier component collector current when said input direct current signal is zero, an output taken from the collector of one of said first and second transistors, said output being proportional to the product of said alternating current carrier input signal and said direct current input signal.

3,448,298
SEMICONDUCTOR CONTROLLED SWITCH CIRCUIT COMPONENT

Donovan F. Peterson, Elm Grove, Wis., assignor to U.S. Automatics Corporation, Pewaukee, Wis., a corporation of Delaware
Filed Sept. 24, 1965, Ser. No. 489,985
Int. Cl. K03k *17/72;* **H02b** *9/00;* **H01l** *11/10*
U.S. Cl. 307—303 **10 Claims**

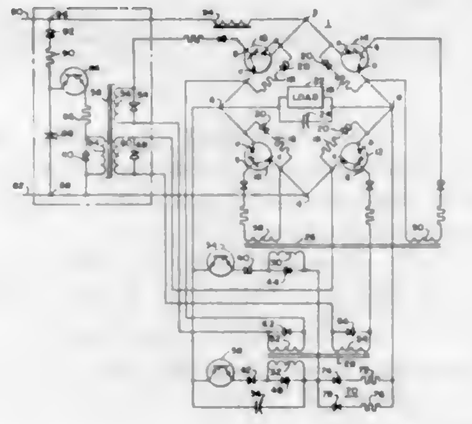


The specification discloses a semiconductor controlled switch highly sensitive to low power control signals for controlling both high and low currents. The switch circuit comprises a heavy current silicon rectifier and a heavy current silicon transistor connected in series with the power source and load. The silicon transistor is connected with a low power germanium transistor of high signal sensitivity which provides the relative large biasing signal required to switch it and the two transistors are coupled in a positive feedback configuration to assure optimum switching characteristics. The diode provides heavy current carrying capacity protection for the transistor, and a stable and accurate bias reference for control signal comparison purposes.

An integrated circuit embodiment as well as modifications and several applications are disclosed.

3,448,299
INVERTER

Frank J. Hierholzer, Jr., Westport, Conn., Gordon L. Metcalf, La Puente, Calif., and Edmund A. Karcher, Fort Monmouth, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1962, Ser. No. 234,572
Int. Cl. H03k *3/26, 15/18, 23/08*
U.S. Cl. 307—305 **19 Claims**

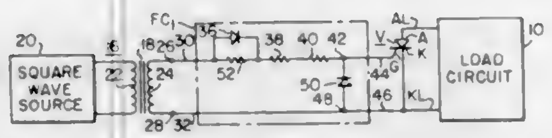


A solid state network for inverting unidirectional potential electrical energy into alternating potential energy in

which a saturating core transformer is energized and becomes saturated upon the initial connection of the network to the unidirectional potential and thereby initiate oscillation of the inverting network which thereafter oscillates independently of the transformer and which transformer remains saturated as long as the network remains connected to the source.

3,448,300
FIRING CIRCUIT FOR SOLID STATE CONTROLLABLE VALVES IN HIGH dI/dt APPLICATIONS

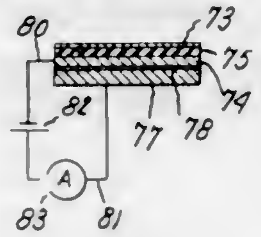
Laszlo Gyugyi, Penn Hills, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1965, Ser. No. 515,371
Int. Cl. H03k *3/26*
U.S. Cl. 307—252 **8 Claims**



Firing circuitry is disclosed for controlled switching devices such as silicon controlled rectifiers wherein a capacitor is charged during the OFF time of the switching device and is discharged into the gate electrode of the switching device at the same time that a conventional firing pulse is applied thereto, thereby providing a composite firing signal having a high initial amplitude which decays to the level of the conventional pulse.

3,448,301
ELECTRON TUNNEL EMISSION APPARATUS AND METHODS

Ivar Giaever, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Application Oct. 1, 1965, Ser. No. 492,141, now Patent No. 3,356,864, dated Dec. 5, 1967, which is a division of application Ser. No. 309,806, Sept. 18, 1963, now Patent No. 3,259,759, dated July 5, 1966, which is a division of application Ser. No. 70,074, Nov. 17, 1960, now Patent No. 3,116,427, dated Dec. 31, 1963, which in turn is a continuation-in-part of application Ser. No. 40,621, July 5, 1960. This application Dec. 9, 1966, Ser. No. 600,526
Int. Cl. H03k *3/38, 3/315*
U.S. Cl. 307—306 **3 Claims**

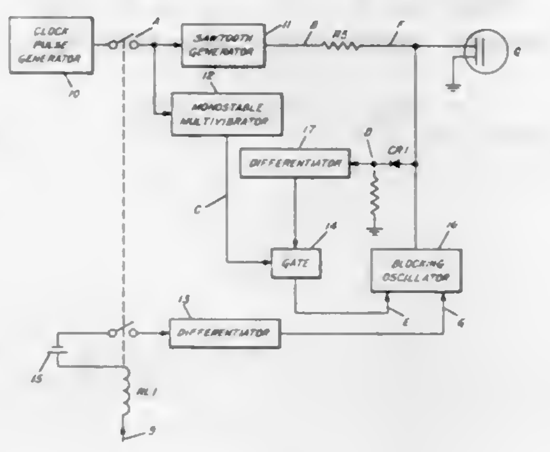


This specification discloses devices including triodes and cryotrons which in their operation involve superconducting tunneling, and also discloses a method by which such devices can be made.

3,448,302
OPERATING CIRCUIT FOR PHASE CHANGE MEMORY DEVICES

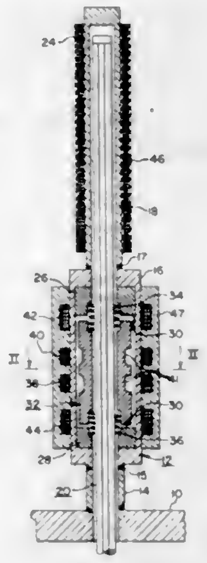
Daniel J. Shanefield, New York, N.Y., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 16, 1966, Ser. No. 557,944
Int. Cl. H03k *3/284*
U.S. Cl. 307—318 **20 Claims**

This is an operating circuit for controlling and correcting for the deviation in a turn-on voltage of a phase change memory device having two stable states. The circuit applies a control signal to sense the level of the turn-on voltage of the device. The circuit then responds to the sensed condition by delivering a required number of turn-off current pulses to the device to cause the turn-on voltage to fall within an acceptable range of values.



3,448,303
LINEAR MOTOR STRUCTURE

John P. Thorel, Northridge, and Chia Huan Lee, Torrance, Calif., and Donald G. Sherwood, Squirrel Hill, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 8, 1965, Ser. No. 431,026
Int. Cl. H02h *41/02*
U.S. Cl. 310—14 **15 Claims**



15. A motive device comprising, a driven member mounted for reciprocal movement, an actuating member also mounted for reciprocal movement adjacent said driven member, spaced fixed abutments mounted in the path of movement of said actuating member for limiting movement thereof, means for frictionally coupling said actuating and driven members for limited movement together, biasing means for normally maintaining said actuating member at one position spaced from at least one of said abutments, and means for intermittently driving said actuating device in a direction toward said one abutment with a force such that a predetermined overtravel of said driven member occurs due to its kinetic inertia beyond the point where said actuating member engages said one abutment.

3,448,304

VIBRATOR DEVICE

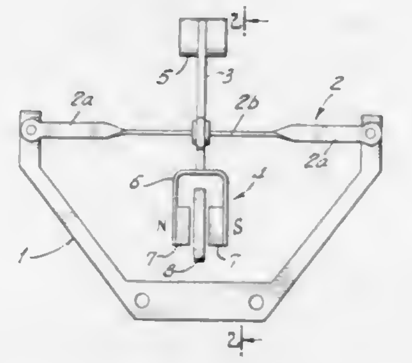
Fritz Marti, La Chaux-de-Fonds, Switzerland, assignor to Portescap, Le Porte-Echappement Universel S.A., La Chaux-de-Fonds, Switzerland

Filed Oct. 7, 1966, Ser. No. 585,095

Claims priority, application Switzerland, Oct. 7, 1965, 13,858/65

Int. Cl. H02k *33/06*

U.S. Cl. 310—15 **8 Claims**



A vibrator device which is particularly useful in timepiece driving mechanisms. An oscillation arm is secured to a flat metal spring blade, and an electrically-energized magnetic oscillator arrangement is provided to produce sustained oscillation of the arm about the axis of the blade. The blade has a central portion which is twisted by about 90° with respect to the plane of the remainder of the blade, so as to minimize undesired flexing of the blade.

3,448,305

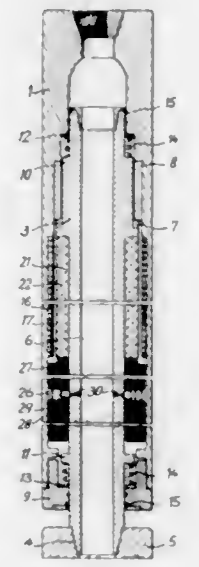
APPARATUS FOR PRODUCING AND UTILISING ELECTRICAL ENERGY FOR USE IN DRILLING OPERATIONS

Jean Raynal and Serge Gstalder, Pau, and Claude Quichaud, Billiere, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

Filed Oct. 11, 1966, Ser. No. 585,955

Int. Cl. H02k *7/00, 33/00, 35/00*

U.S. Cl. 310—17 **5 Claims**



An apparatus for producing and utilising electrical energy associated with a well drilling rig in which a rotary drilling stem drives a rotary drilling tool that is subjected in the course of drilling to axial vibrations. The connection between the drilling stem and the drilling tool includes a hollow housing and a cylindrical member axially movable in the housing. The housing and cylindrical member comprise a generator system including an inductor and an armature. The output of the generator is supplied to a means capable of utilising the electrical energy developed by the housing and cylindrical member.

3,448,306

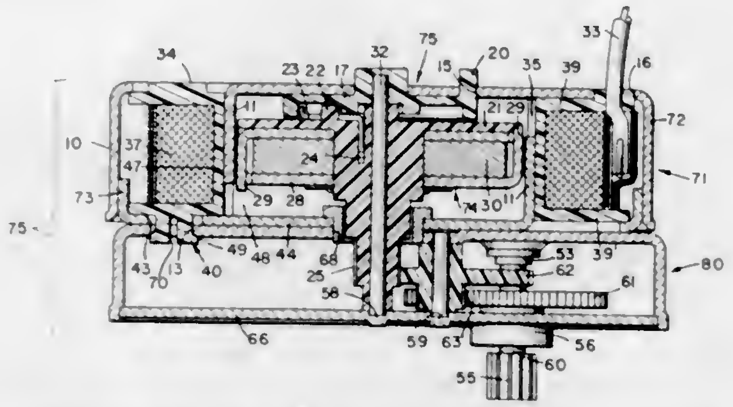
MOLDED BOBBIN FOR SYNCHRONOUS MOTOR

Stephen F. Murray, Heather Hills, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Aug. 30, 1967, Ser. No. 664,533

Int. Cl. H02k *7/10*

U.S. Cl. 310—83 **11 Claims**



A synchronous motor in combination with a detachable gear train means. The motor includes a molded coil bobbin means including studs or legs having such shape so as to afford smooth entry into apertures provided in the housing of the gear train means and locking with the housing of the gear train means upon arcuate displacement of the motor with respect to the housing of the gear train means. When the motor is locked with the gear train means, the pinion thereof is predeterminately and automatically aligned with the input gear of the gear train. The stud means of the bobbin means assists in predeterminately, automatically and accurately aligning the pinion of the motor with the input gear so as to substantially prevent wearing of the gears and crowning of the teeth of the gears of the gear train.

3,448,307

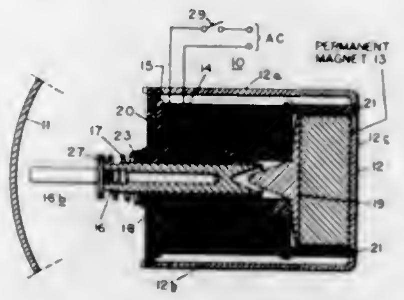
BELL STRIKER RECIPROCATING MOTOR

Rudolph M. Duris, Norwalk, Conn., assignor to Edwards Company, Inc., Norwalk, Conn., a corporation of Connecticut

Filed Sept. 6, 1966, Ser. No. 577,237

Int. Cl. H02k *33/02, 35/02*

U.S. Cl. 310—23 **10 Claims**



An alternating current bell striker motor having a permanent magnet and an electromagnet acting upon a reciprocating plunger. A spool supports a winding of the electromagnet and has a sleeve formed therein for receiving the plunger. The spool has flanges extending from one end for retaining the permanent magnet in alignment with the longitudinal axis of the plunger.

3,448,308

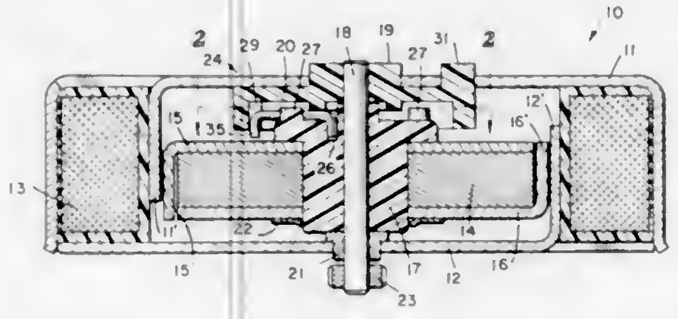
DIRECTIONAL CONTROL SYSTEMS FOR SYNCHRONOUS MOTORS

Richard E. Pervorse, Joseph E. Wiser, John A. Peterson, and Stephen F. Murray, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Sept. 1, 1967, Ser. No. 664,967

Int. Cl. H02k *7/10*

U.S. Cl. 310—41 **8 Claims**



Spring wires are used to provide a mechanical stop against reverse rotation of a rotor as well as provide a resilient action to help the motor obtain synchronization at the quickest possible moment.

3,448,309

MINIATURE ELECTRIC MOTOR

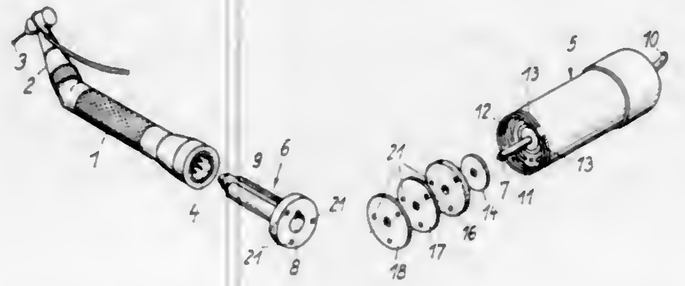
Kurt Epp, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Nov. 7, 1966, Ser. No. 592,425

Claims priority, application Germany, Oct. 29, 1965, S 100,701

Int. Cl. H02k *5/24*

U.S. Cl. 310—51 **3 Claims**



Miniature electric motor cooled by compressed air comprising a cylindrical housing provided with a compressed air feed and at least one aperture used for the discharge of the compressed air, said aperture being provided in the cylindrical jacket surface of the housing, and whose inner edges adjoin the marginal surface of a disk of porous material located in the housing, the width of which disk corresponds to at least the size of the discharge opening and whose one frontal surface is directed toward the current of compressed air, in order to avoid disturbing discharge noises of the compressed air.

3,448,310

DYNAMO-ELECTRIC MACHINES OF THE RELUCTANCE TYPE

Peter John Lawrenson, Leeds, England, assignor to National Research Development Corporation, London, England, a British corporation

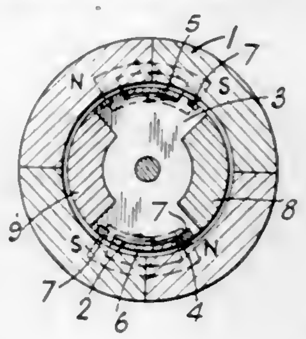
Continuation-in-part of application Ser. No. 410,094, Nov. 10, 1964. This application Aug. 15, 1967, Ser. No. 660,742

Claims priority, application Great Britain, Nov. 12, 1963, 44,629/63

Int. Cl. H02k *19/06*

U.S. Cl. 310—162 **10 Claims**

A reluctance machine in which the rotor has a lesser number of magnetic sections than the stator pole number. The sections may comprise saliencies or isolated segments of magnetic material and preferably the number of sections is half the stator pole number (the "semi-pole" machine). The rotor squirrel-cage winding may be arranged to provide more conducting material in the centres of the saliencies or segments and less between adjacent segments.



3,448,311

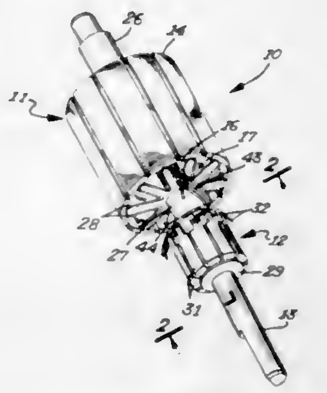
ELECTRICAL ROTOR AND METHOD OF WINDING THE SAME

Gordon V. Mommsen and Raymon H. Dammar, Minneapolis, Minn., assignors to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 25, 1966, Ser. No. 544,794

Int. Cl. H02k *3/00*

U.S. Cl. 310—234 **6 Claims**



An electrical rotor, the leads of which are at least nearly tangent to the insulating material on the shaft between the core laminations and an external circuit connector element such as a commutator.

3,448,312

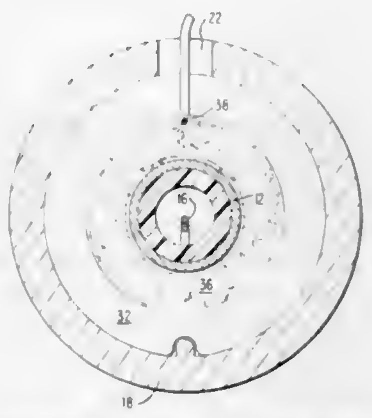
METALLIC WOOL PELLET BRUSH ASSEMBLY FOR SLIP RINGS, COMMUTATORS OR THE LIKE

William H. Mashburn, Blacksburg, Va., assignor to Electro-Tec Corp., Ormond Beach, Fla., a corporation of New Jersey

Filed Nov. 22, 1965, Ser. No. 508,893

Int. Cl. H01r *39/39;* **H02k** *13/10*

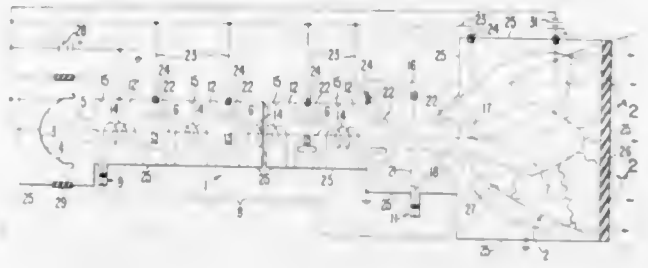
U.S. Cl. 310—239 **6 Claims**



A brush assembly including a metallic wool brush having the shape of a toroidal pellet. The metallic wool mass comprising the brush is arranged to have a high natural resilience which constitutes the sole biasing means for forcing the brush against the cooperating slip ring and thereby maintaining good electrical contact between the brush and the slip ring.

3,448,313
EFFICIENT RADIATION COOLED BEAM COLLECTOR FOR LINEAR BEAM DEVICES

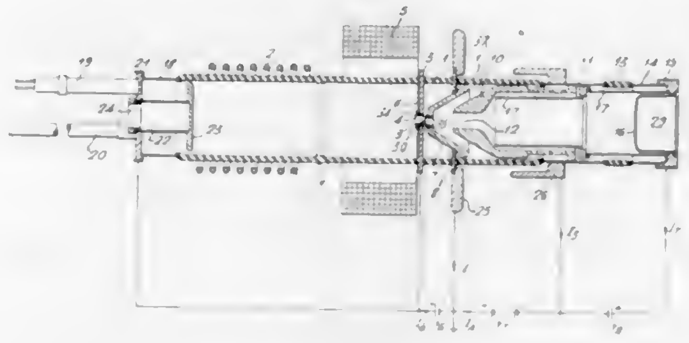
Dennis I. Boilard, Sunnyvale, and Albert Mizuhara, San Mateo, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Oct. 10, 1966, Ser. No. 585,459
Int. Cl. H01j *61/52, 25/02, 23/02*
U.S. Cl. 313—40 **8 Claims**



A linear beam type electron discharge device having a beamed collector cooled by radiation through an infrared permeable window in the envelope thereof is disclosed. Structural features of the beam collector including materials, conformation, wall thickness and mounting arrangement for the purpose of enhancing radiation cooling are discussed. The use of a radiation reflecting and focusing structure and a specific embodiment of the invention are described.

3,448,314
NEUTRON GENERATORS

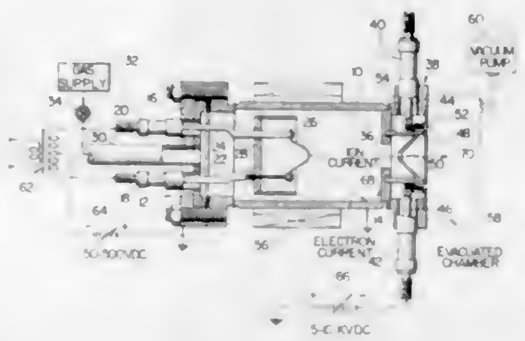
John Ellery Bounden and Leslie Noel Large, Letchworth, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Mar. 7, 1966, Ser. No. 532,296
Claims priority, application Great Britain, Mar. 11, 1965, 10,314/65
Int. Cl. H05h *1/10*
U.S. Cl. 313—61 **5 Claims**



A neutron generator comprising a normally sealed off envelope, means to produce a plasma in gas within a portion of the envelope, a boundary electrode bounding said portion, from a further portion and having an aperture for the extraction of ions from the plasma, an extractor electrode and a target shield each having apertures in register with the boundary electrode aperture to allow passage of an ion beam and being successively spaced from the boundary electrode within said further portion, means to produce an axial magnetic field in the region of the boundary electrode aperture, and a target located behind the target shield.

3,448,315
ION GUN IMPROVEMENTS FOR OPERATION IN THE MICRON PRESSURE RANGE AND UTILIZING A DIFFUSE DISCHARGE

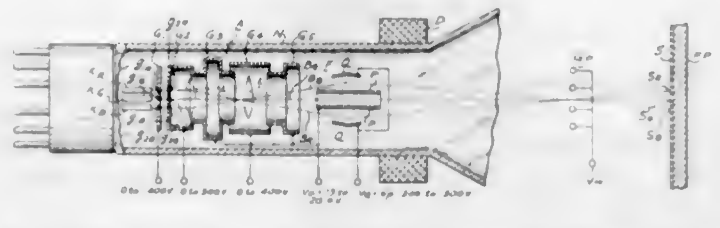
Robert L. Hirsch, Fort Wayne, and Gene A. Meeks, Churubusco, Ind., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Oct. 11, 1966, Ser. No. 585,901
Int. Cl. H05h *1/02, 1/04*
U.S. Cl. 313—63 **18 Claims**



This invention relates to an ion gun which includes a plasma chamber having a cathode disposed therein. An anode defines the chamber and contains an ion-transmitting orifice in one end thereof. An ion-extracting electrode is disposed adjacent to this orifice on the side opposite the chamber. The ion-extracting electrode has a beam-defining aperture oppoiste the orifice, which, in conjunction therewith, provides an electrostatic field for forming and directing a beam of ions from the chamber through both said orifice and aperture. Between the anode and ion-extracting electrode is a region-enclosing wall having openings at its opposite ends, these openings being the orifice and aperture, respectively. This region thus defined inhibits the escape of neutral gas so as to provide an increase in operating efficiency. Electrons issuing from the cathode ionize neutral gas within the chamber to form a plasma. By reason of the optics formed by the orifice and aperture, ions are extracted from the plasma, formed into a beam and discharged through the aperture in this form for subsequent utilization.

3,448,316
CATHODE RAY TUBE

Susumu Yoshida and Akio Ohgoshi, Tokyo, Senri Miyaoka, Kanagawa-ken, and Yoshiharu Katagiri, Tokyo, Japan, assignors to Sony Corporation, Shinagawa-ku, Tokyo, Japan
Filed Jan. 12, 1968, Ser. No. 697,414
Claims priority, application Japan, Jan. 14, 1967, 42/2,629; Mar. 25, 1967, 42/17,856
Int. Cl. H01j *29/46, 31/00*
U.S. Cl. 313—69 **33 Claims**

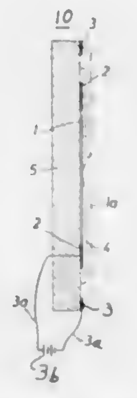


A color picture tube or other cathode ray tube employing a plurality of electron beams includes a single electron gun having one or more cathodes emitting electrons formed into the plurality of beams which are made to converge or cross each other substantially at the optical center of an electrostatic focusing lens by which the beams are focused on the electron-receiving screen of

the tube, whereby to avoid spherical aberration and/or coma. When the beams focused on the electron-receiving screen are all to converge at a common point on such screen, an electrostatic or magnetic deflection device acts on those beams which diverge after passing through the lens-like focusing system.

3,448,317
SEMI-CONDUCTIVE DEVICE FOR REDUCING DISTORTION IN ELECTRON OPTICS

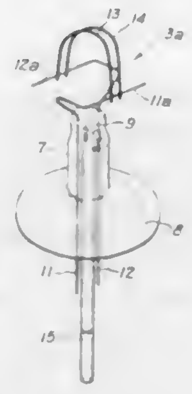
Walter Heimann, Wiesbaden-Dotzheim, and Otto Scherzer, Darmstadt-Niederramstadt, Germany, assignors to W. Hiemann, doing business as Forschungslaboratorium, Prof. Dr.-Ing. W. Heimann, Wiesbaden-Dotzheim, Germany
Filed Mar. 23, 1966, Ser. No. 541,910
Claims priority, application Germany, Mar. 26, 1965, 45,635
Int. Cl. H01j *29/10, 31/26, 39/00*
U.S. Cl. 313—89 **11 Claims**



A potential gradient in a radial direction between the edge and center of the surfact of a transparent carrier plate is established by means of a pair of separated, superposed electrodes applied to the surface of the carrier plate, the electrodes extending essentially over the entire surface and being adapted to be connected to a source of potential. The electrodes are separated from each other except for a small center region substantially at the center of the surface of the carrier plate.

3,448,318
LOW PRESSURE ELECTRIC DISCHARGE LAMP ELECTRODE

John H. Campbell, Mentor, and Delmar D. Kershaw, Kirtland, Ohio, assignors to General Electric Company, a corporation of New York
Filed Nov. 17, 1966, Ser. No. 595,213
Int. Cl. H01j *17/06, 61/06, 61/08*
U.S. Cl. 313—212 **7 Claims**



An extended cathode construction for high current fluorescent lamps, particularly such lamps using a filling gas comprising in part neon at a low pressure. A suitable configuration is achieved by stretching out a coiled overwound cathode to the point where the spacing between turns in the final coiling is about equal to the turn diameter and providing at least 4 centimeters per ampere of discharge capacity.

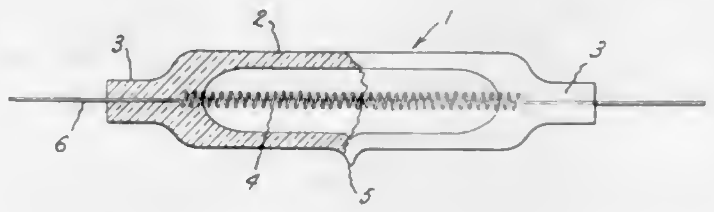
3,448,319
NIOBIUM END SEAL

William C. Louden, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,568
Int. Cl. H01j *61/30, 61/18*
U.S. Cl. 313—221 **5 Claims**

A niobium end cap for an alumina ceramic lamp has the mating surface coated with a sintered layer of tungsten and tungsten oxides. Such layer is completely overcoated with a layer of vitreous sealing material so that none of it is exposed to the sodium vapor in the arc tube.

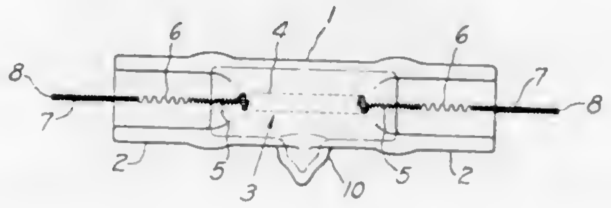
3,448,320
ELECTRIC LAMP AND METHOD OF MANUFACTURE

Roger C. Millikan, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 15, 1966, Ser. No. 601,930
Int. Cl. H01k *1/38, 19/50, 5/48*
U.S. Cl. 313—315 **10 Claims**



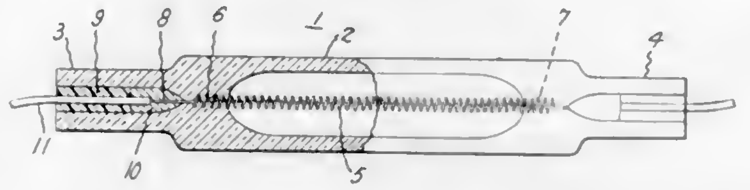
Incandescent lamps having incandescible filaments sealed through the exterior wall of a quartz envelope and making an intimate hermetic bond thereto are formed by passing the incandescent filament through a tubulation-type aperture therein, heating the wire to an elevated temperature, flushing the wire and the tubulation with a volume of inert gas sufficient to protect the incandescible filament against contamination from thermal decomposition products of the quartz tube and heating the quartz tube and the wire until the tube collapses about the wire to form an hermetic seal therebetween and in the absence of any intervening substance.

3,448,321
ELECTRIC INCANDESCENT LAMP AND METHOD OF MANUFACTURE
Bruce E. Shanks, Wickliffe, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 2, 1967, Ser. No. 672,275
Int. Cl. H01k *1/02, 1/36, 3/20*
U.S. Cl. 313—315 4 Claims



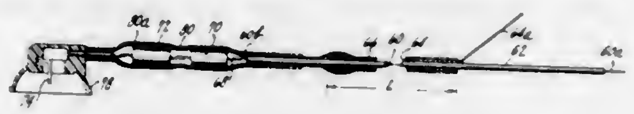
In a quartz incandescent lamp having integral portions of a fine incandescible tungsten filament hermetically sealed through the quartz, the tungsten filament is coiled on a molybdenum mandrel, respective ends of the coil and mandrel assembly are coated with an acid resistant material, the portion of the mandrel between those end portions is dissolved to leave relatively massive legs of coil and mandrel wire, the coating is removed from the legs, the filament is disposed within a quartz envelope with the legs extending from an open end or ends of the envelope, the open end of the envelope is heated above the softening point while portions of the filament contiguous to the legs are highly heated and maintained free from oxide coating or adsorbed gases, and the softened envelope is compressed to form a hermetic seal with the said portions of the filament contiguous to the legs, and to also embed portions of said legs which serve as non-incandescible lead-in wires.

3,448,322
DIRECT FILAMENT ENCLOSED INCANDESCENT LAMPS AND CONTACT MEANS THEREFOR
Roger C. Millikan, Schenectady, and Ludwig A. Osburg, South Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 15, 1966, Ser. No. 601,927
Int. Cl. H01j *5/48, 5/50*
U.S. Cl. 313—318 6 Claims



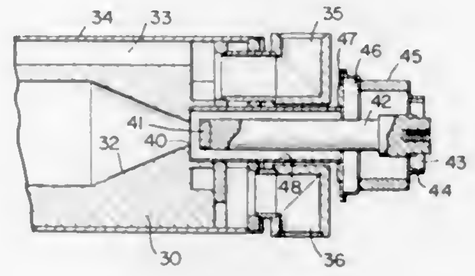
In an electric incandescent lamp wherein an incandescible filament is fused directly through a quartz-like bulb wall, the emerging end of the filament is protected from oxidation by imbedding the same in a massive heat sink of metal or metal alloy formed thereabout.

3,448,323
TELEVISION KINESCOPE VOLTAGE CABLE ASSEMBLY
Raymond C. Owens, Carmel, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,972
Int. Cl. H01j *29/98, 23/34, 29/02*
U.S. Cl. 315—1 1 Claim



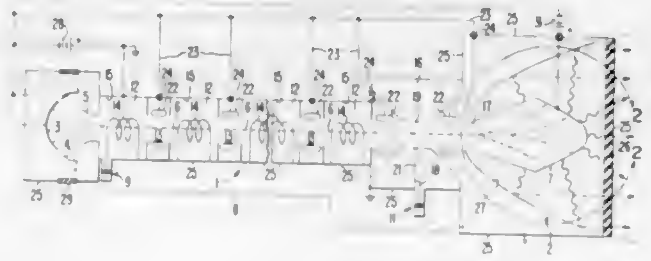
A cable assembly for providing a relatively small parallel capacitance and an insulated current limiting resistor for connecting a high voltage rectifier to an ultor electrode of a cathode ray tube. A shielded cable of predetermined length is coupled between the rectifier and a series resistance to provide the desired capacitance. The resistive element is covered with a sleeve of insulating material and is adapted for connection to the ultor connector.

3,448,324
LINEAR BEAM TUBE HAVING AN INSULATED, SYMMETRICALLY LOCATED, ELECTRODE OF REACTIVE MATERIAL IN THE COLLECTOR ASSEMBLY
Robert E. Eggers, San Jose, and Norman H. Pond, Los Altos, Calif., assignors to Teledyne, Inc., Hawthorne, Calif.
Filed July 28, 1966, Ser. No. 568,534
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 6 Claims



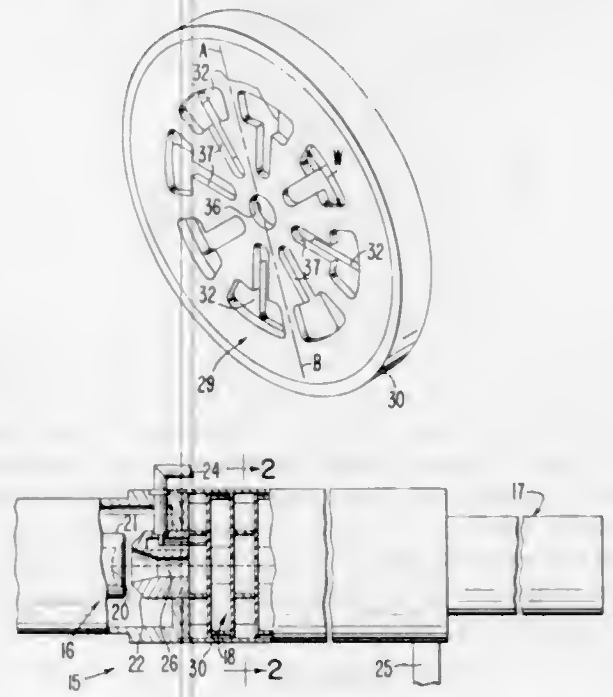
A collector apparatus for linear beam devices is described wherein an electrode of reactive material is symmetrically positioned at the partially open end of the collector member remote from the beam generating assembly and electrically insulated from the collector.

3,448,325
LINEAR BEAM TUBE HAVING A BEAM COLLECTOR COOLED BY RADIATION THROUGH AN INFRARED WINDOW
Erling L. Lien, Los Altos, and William J. Leidigh, Belmont, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Sept. 6, 1966, Ser. No. 577,440
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 9 Claims



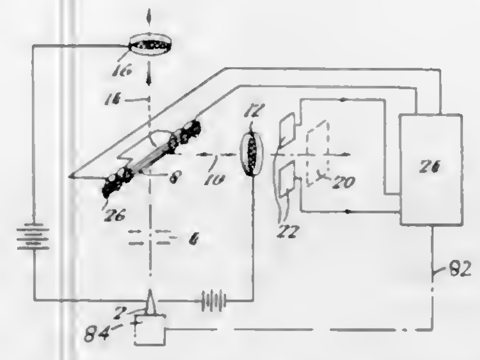
1. A linear beam tube apparatus including, means forming a cathode electrode for forming and projecting a beam of electrons over an elongated linear beam path, means forming a refractory metallic beam collector at the terminal end of the linear beam path for collecting and dissipating the energy of the beam by infrared radiation, means disposed along the beam path intermediate said cathode electrode and said beam collector for electromagnetic interaction with the beam to produce an output microwave signal, means for extracting the output signal for application to a utilization device, means forming an evacuated envelope structure for enclosing said cathode electrode, said interaction means, and said beam collector electrode, means forming an infrared wave permeable window structure disposed at the terminal end of the tube apparatus adjacent said beam collector electrode and forming a portion of said envelope structure for passing infrared wave energy emitted from said beam collector through said envelope structure and away from the tube apparatus for cooling thereof, whereby the tube apparatus is cooled by radiation.

3,448,326
TWT WITH CLOVERLEAF SLOW-WAVE CIRCUIT HAVING SPECIALLY SHAPED COUPLING SLOTS
Bernard Arfin, San Carlos, and James F. Shively, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Dec. 8, 1966, Ser. No. 600,194
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 3 Claims



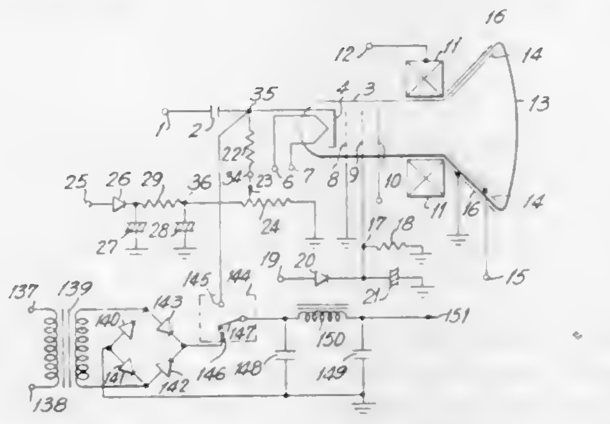
Coupling between adjacent cloverleaf cavities is provided by several radially spaced slots, each in the shape of a T as shown in FIG. 6. The T-shaped slots permit the use of increased thickness in the cavity end walls for high power capability while substantially preventing the loss of bandwidth which normally accompanies increases in end wall thickness.

3,448,327
ELECTRON EMISSION CONTROL
William Charles Nixon, Cambridge, England, assignor to Hilger & Watts Limited, London, England, a company of Great Britain and Northern Ireland
Filed June 8, 1967, Ser. No. 644,712
Claims priority, application Great Britain, June 13, 1966, 26,161/66
Int. Cl. H01j *29/76, 29/46*
U.S. Cl. 315—18 10 Claims



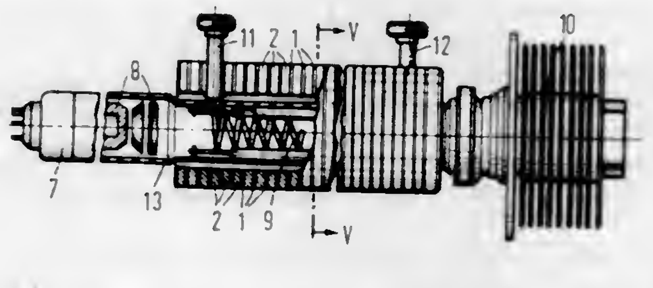
The specification discloses an arrangement for producing an electron beam in which the energies of individual electrons are restricted to within predetermined limits. This is done by filtering unwanted electrons from the beam in two stages, more specifically by diverting the beam to a branch path where all electrons but those having energies above the upper predetermined limit are reflected and are in turn deflected to an exit path where a second filter reflects all electrons having energies below the lower predetermined limit. The specification further describes how the rejected electrons can be employed to stabilize the deflection of the electron beam.

3,448,328
CATHODE RAY TUBE BRIGHT SPOT ELIMINATING CIRCUIT
Takamaro Horio and Masanobu Tsugita, Osaka, Japan, assignors to New Nippon Electric Co., Ltd., Osaka, Japan
Filed May 23, 1967, Ser. No. 640,642
Claims priority, application Japan, May 30, 1966, 41/34,893
Int. Cl. H01j *29/70*
U.S. Cl. 315—20 2 Claims



A cathode ray tube bright spot eliminating circuit wherein the charge stored in the anode of the cathode ray tube is rapidly discharged by connecting the video signal receiving electrode of said cathode ray tube to a B-voltage supply switch directly, or through resistors, the circuit comprising a switch interlocked with the B-voltage supply switch for grounding said video signal receiving electrode directly, or through resistors, thereby bringing the potential difference between the cathode and the first grid in said cathode ray tube to zero when opening said main switch.

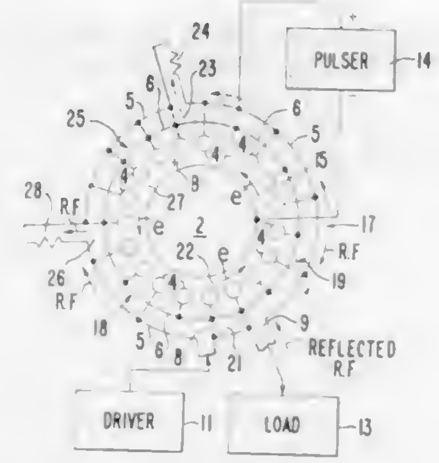
3,448,329
VELOCITY MODULATION TUBE, IN PARTICULAR TRAVELING WAVE TUBE, WITH A MAGNETIC SYSTEM FOR THE BUNDLED CONDUCTION OF THE ELECTRON BEAM BY MEANS OF A HOMOGENEOUS MAGNETIC FIELD
Paul Meyerer, Ottobrunn, and Hans Glien, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Mar. 21, 1966, Ser. No. 535,867
Claims priority, application Germany, Mar. 25, 1965, S 96,180
Int. Cl. H01j *25/34, 19/80*
U.S. Cl. 315—3.5 6 Claims



A velocity modulation tube of the travelling wave type having a magnetic system for bunching electrons in a beam having a tubular structure of alternate magnetic rings and non-magnetic spacing rings for suppressing transverse magnetic fields and the rings formed with radial openings which have widths less than the radial dimensions of said rings.

3,448,330
CROSSED-FIELD REENTRANT STREAM TANDEM SLOW WAVE CIRCUIT TUBE

George K. Farney, New Providence, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey
Filed June 13, 1966, Ser. No. 557,165
Int. Cl. H01j *25/34;* **H03b** *9/08*
U.S. Cl. 315—39.3 11 Claims

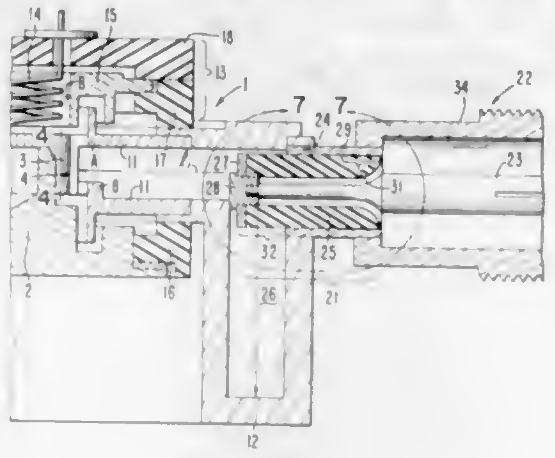


A crossed-field reentrant stream tandem slow wave circuit tube is disclosed. The tube includes a cathode electrode structure coaxially disposed and spaced from an anode circuit. The anode circuit includes first and second severed backward slow wave circuits arranged in tandem with respect to an electron stream formed in the region between the coaxially spaced anode and cathode structures. An axially directed magnetic field is provided in the interaction region. The first and second backward slow wave circuits are severed at their ends to define a pair of drift spaces between the adjacent ends of the tow circuits. The first circuit serves as a buncher for bunching the electron stream into spokes of space charge which rotate into interaction with the second slow wave circuit to excite output wave energy on the second circuit. The second circuit sever provided between the downstream end of the output circuit and the upstream end of the buncher circuit is made sufficiently short to permit the bunched electron stream leaving the output circuit to pass into interaction with wave energy on the buncher circuit, thereby providing positive electronic feedback from the output circuit to the input circuit to increase the efficiency of the tube. In certain embodiments of the present invention, the cathode electrode structure is segmented to be operated at independent potentials for improving the efficiency of the tube and/or for operating the tube in a pulsed mode.

3,448,331
COMPOSITE COAXIAL COUPLING DEVICE AND COAXIAL WINDOW

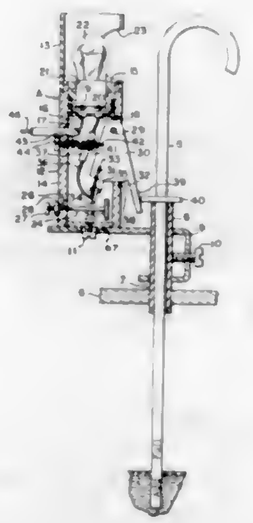
Edward J. Cook, South Hamilton, Mass., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation-in-part of application Ser. No. 525,455, Feb. 7, 1966. This application July 19, 1966, Ser. No. 574,271
Int. Cl. H01j *25/50;* **H03h** *7/38;* **H01p** *1/00*
U.S. Cl. 315—39.53 8 Claims

A composite coaxial coupling device and coaxial wave permeable window for microwave structures including microwave tubes is disclosed. The coaxial coupling device and window includes an inner conductor portion which projects into a field containing a region of space defined between a pair of conductors. A dielectric wave permeable window member coaxially surrounds the inner conductor and projects into the field containing region of space. In one embodiment, the field containing region of space is defined by a wave supporting structure having a radial line portion and a coaxial portion with the outer wall of the coaxial portion apertured for passage of the center conductor of the coupler and wherein a portion of one wall of the radial portion of the line forms an overlying outer conductor extension portion for a coaxial coupling device to load the coaxial coupler to maintain the characteristic impedance to obtain a broadband match. In another embodiment of the present invention, a coupling capacitor structure is disposed at the inner end of the inner conductor of the coaxial line, whereby the capacitor structure balances out a small series inductive reactance of the inwardly projecting portion of the coaxial line to provide a reflectionless window.



3,448,332
OIL DIPSTICK ILLUMINATORS

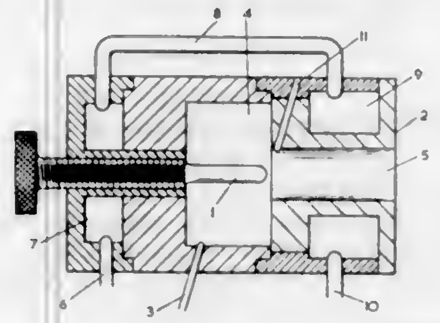
Harvey C. Nesbitt, 84 Fullerton Road, Calgary, Alberta, Canada
Filed Aug. 16, 1967, Ser. No. 661,102
Int. Cl. B60q *9/00*
U.S. Cl. 315—77 5 Claims



The oil dipstick illuminator includes an upright tubular fixture mounted on the oil container top adjacent the dipstick opening. The upper part of the fixture has a socket receiving a double contact electric lamp energizable by a source of current under the control of a switch arm pivoted in and swinging outwardly of the lower part of the fixture. The dipstick flange normally engages and holds the switch arm so positioned that the switch contacts are open, but when the dipstick is removed, the switch arm is permitted to swing outwardly of the fixture under spring pressure to a position wherein the switch contacts are engaged and the electric lamp is energized.

3,448,333
PROCESS FOR INITIATING AN ARC BETWEEN ELECTRODES IN A PLASMA GUN

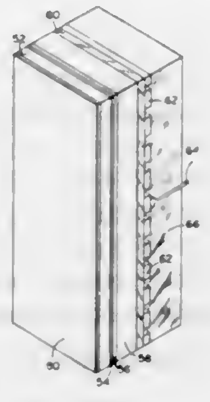
Kenneth Arkless and Alan Lawrence Hare, Durham, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom
Filed May 31, 1966, Ser. No. 554,170
Claims priority, application Great Britain, June 15, 1965, 25,193/65
Int. Cl. H05b *31/26*
U.S. Cl. 315—111 11 Claims



A process for initiating an arc between electrodes in a plasma gun is disclosed. A gaseous mixture is introduced between the electrodes, which gaseous mixture has a lower breakdown potential than its constituents. Generally the mixture comprises the primary gas to be heated and an additional gaseous constituent. As a result of this technique, the arc can be initiated at a lower potential than would have otherwise been possible.

3,448,334
MULTICOLORED E.L. DISPLAYS USING EXTERNAL COLORED LIGHT SOURCES

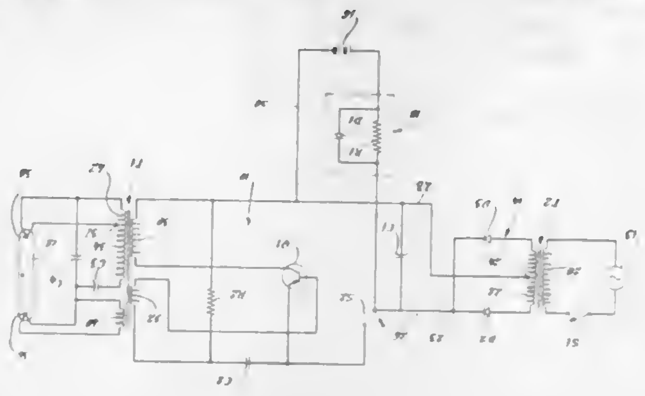
John S. Frost, Santa Ana, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Sept. 30, 1966, Ser. No. 583,289
Int. Cl. H05b *39/04*
U.S. Cl. 315—169 8 Claims



A display system for obtaining multicolored images comprising a display surface and an electroluminescent material coupled to an excitation source, the voltage and frequency of which are variable to vary the output color of the display surface over a relatively narrow spectrum of output colors. Means are provided for color biasing the display surface, the means comprising an external source of colored light which is projected onto the display surface where it is additively mixed with the variably controllable colors generated by the electroluminescent material. In a preferred embodiment, the colored biasing light is made substantially complementary in color to a color within the range of variably controllable colors.

3,448,335
HIGH FREQUENCY AC-DC FLUORESCENT LAMP DRIVER CIRCUIT

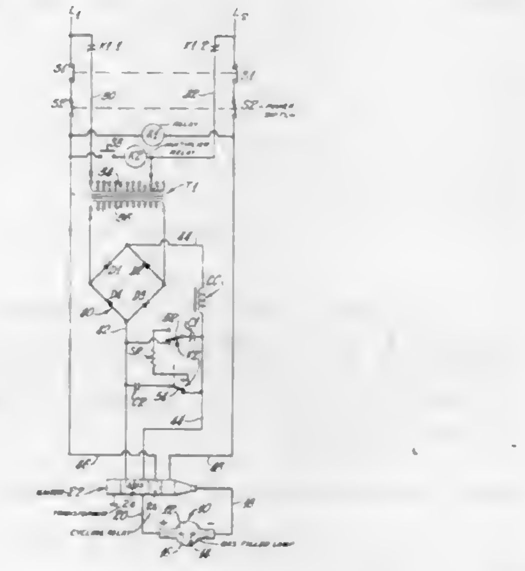
Benjamin F. Gregory and Russell A. Weber, Tampa, Fla., assignors to Trak Microwave Corporation, Tampa, Fla.
Filed July 22, 1966, Ser. No. 567,270
Int. Cl. H05b *41/29*
U.S. Cl. 315—171 7 Claims



An AC-DC drive circuit for a fluorescent lamp is disclosed wherein a transistor oscillator is normally powered by the full-wave rectified DC output from a power supply connected with a conventional AC power main. A battery in series with a resistor is connected across the rectified power output to receive a trickle charge so long as the AC power remains on, and a diode across this resistor is poled to shunt the resistor when AC power fails and thereby connects the battery directly to drive the transistor oscillator. The high frequency output of the transistor oscillator is applied to the fluorescent lamp through an output transformer circuit which includes a capacitor to form a resonant tuned circuit with the transformer secondary inductance, whereby short duration high frequency pulses generated by the transistor are converted into a sinusoidal wave form at the same high frequency, to energize the fluorescent lamp most efficiently.

3,448,336
POWER CIRCUIT FOR GAS FILLED ARC LAMP

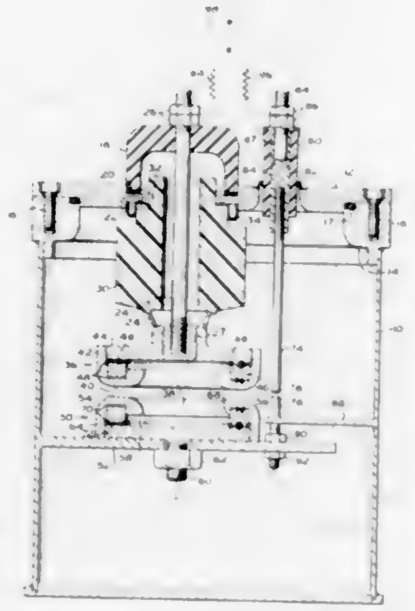
Alexander E. Hochstein, Toledo, Ohio, assignor to The Strong Electric Corporation, Toledo, Ohio, a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,446
Int. Cl. H05b *39/04, 41/14, 41/24*
U.S. Cl. 315—176 9 Claims



The disclosure embraces a power circuit for a gas-filled lamp, the circuit embodying relay means in conjunction with capacitors controlled by the relay means to provide an increased voltage applied momentarily to effect gas ionization and establishment of the arc and thereafter providing direct current of low voltage for normal arc operation.

3,448,337
GASEOUS DISCHARGE DEVICE WITH KEEP-ALIVE ELECTRODES

Chester J. Kawiecki, Santa Barbara, Calif., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 537,981, Mar. 28, 1966. This application Dec. 21, 1967, Ser. No. 697,274
Int. Cl. H05b *41/14*
U.S. Cl. 315—238 **23 Claims**

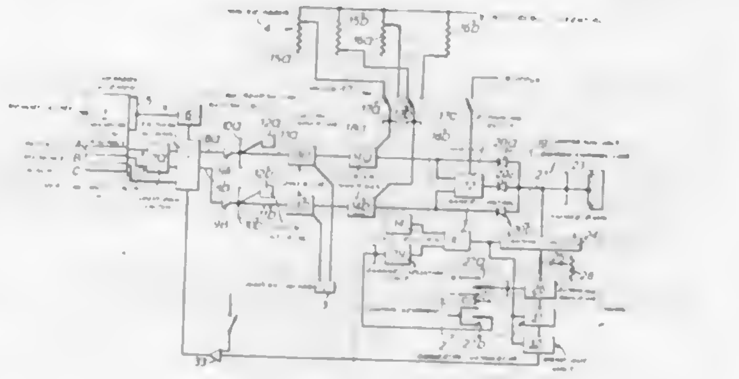


A spark-gap device includes a pair of toroidal principal electrodes including annular permanent magnets therewithin providing a magnetic field for causing movement of an arc discharge around the principal electrodes. A pair of closely spaced starter electrodes, connected substantially in parallel with the principal electrodes, are disposed adjacent the outer periphery of the principal electrodes to form a starter gap adapted to break down at a predetermined voltage to illuminate and ionize the region of the gap between the principal electrodes. The principal gap then immediately breaks down into an arc discharge. According to another embodiment of the present invention, a substantially continuous arc discharge is established between the aforementioned starter electrodes for continuously illuminating and ionizing the region of the gap between the principal electrodes. The principal gap then responds more rapidly when a predetermined voltage is reached thereacross and will break down sooner in response to the occurrence of a fast rising transient surge.

3,448,338
STAGE LIGHTING CONTROL UNITS

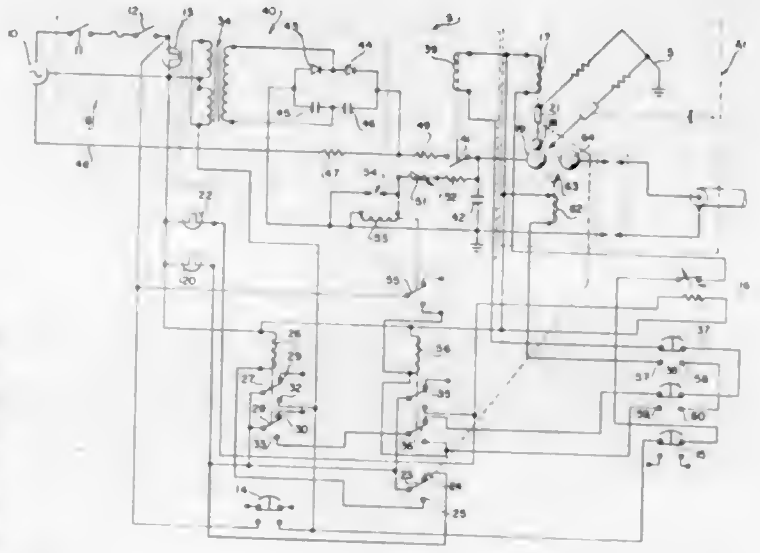
Frederick Percy Bentham, 24 Amherst Road, Ealing, London, W. 13, England, and Phillip Robert Sheridan, "Monalee," 8 Mavelstone Road, Bickley, Kent, England
Filed June 24, 1966, Ser. No. 560,291
Claims priority, application Great Britain, June 28, 1965, 27,314/65
Int. Cl. G05f *1/04;* **H05b** *37/02, 41/36*
U.S. Cl. 315—295 **10 Claims**

A stage lighting control unit operated by a signal generator which writes into a digital memory store, a master fader unit which senses the stored information, digital-analogue converters, and a bank of dimmers and corresponding display lamps responsive to the stored information read after being converted to analogue form.



3,448,339
STORED ELECTRICAL ENERGY CIRCUIT WITH SAFETY INTERLOCKS

William C. Maithonis, Los Angeles, and Stephen A. Barlow, Altadena, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed May 13, 1966, Ser. No. 549,925
Int. Cl. H02h *7/16*
U.S. Cl. 317—9 **11 Claims**

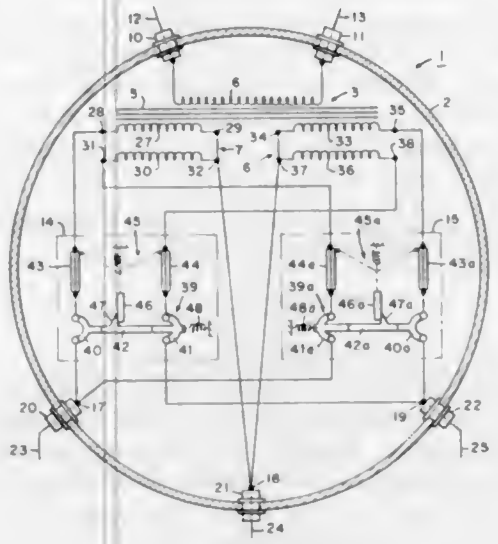


The electrical energy storage device comprises a bridge-doubler rectifier which charges a storage capacitor through an interlocked safety control system. Upon command, stored energy in the range of 10,000 joules may be discharged into an external utilization circuit in a pulse having a duration of one to four microseconds. A control circuit regulates the level of the stored energy. If the stored energy is not utilized within a given operating period, or if the system is to be shut down prior to the utilization of the stored energy, the storage capacitor is automatically and safely discharged to ground.

3,448,340
TRANSFORMER

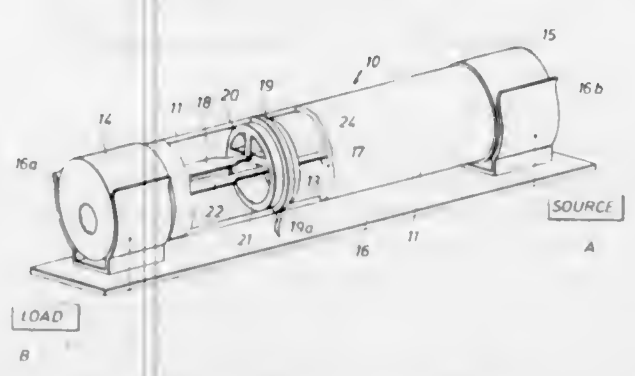
Herbert D. Lewis, Florissant, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed June 29, 1965, Ser. No. 468,001
Int. Cl. H02h *7/14*
U.S. Cl. 317—14 **16 Claims**

A transformer having a primary winding, a pair of secondary winding coils disposed concentrically with the primary winding on the radially inner side thereof, and a pair of secondary coils disposed on the radially outer side of the primary winding and having a predeterminately lower resistance per unit length of turn than that of the pair of secondary coils on the radially inner side of the primary winding so that the impedance of the secondary coils are close enough to permit effective parallel operation thereof, protective circuit breakers having circuit interrupting switches and condition responsive means for actuating the switches, each condition responsive means being connected to carry the current of only one secondary coil.



3,448,341
ELECTRICAL LOAD PROTECTION DEVICE

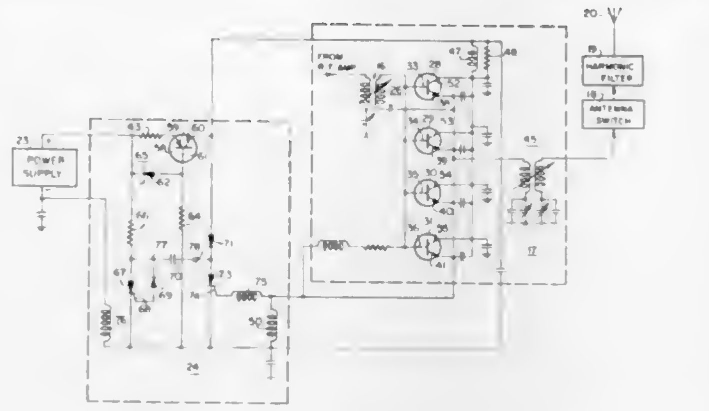
Lewis O. Casey, Baytown, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 19, 1968, Ser. No. 761,404
Int. Cl. H02h *3/28;* **H01h** *85/14*
U.S. Cl. 317—31 **10 Claims**



An in-line electrical load protection device is disclosed which includes a hollow, hermetically sealed, electrically non-conductive body portion filled with an inert gas, such as neon, an electrically conductive fuse link and a cathode element. The fuse link is connected at opposite ends to terminals that extend from the body portion for connecting the fuse link in a circuit between a source of electrical power and an electrical load. The fuse link will melt and open the circuit when the current through it exceeds a predetermined amount. The cathode element is spaced from the load side of the link and connected to a ground or other electrical common between the source and load. When the source voltage exceeds a predetermined value, current flows from the fuse link to the cathode through the gas. When this current, in combination with the load current, exceeds said predetermined amount, the fuse link melts. A resistive element may be provided in series with the cathode link conduction path to provide a range of constant voltage at the load side of the device when the source voltage is above said predetermined value and said combined currents are below said predetermined current.

3,448,342
SELF-RESETTING SEMICONDUCTOR DEVICE PROTECTION CIRCUIT

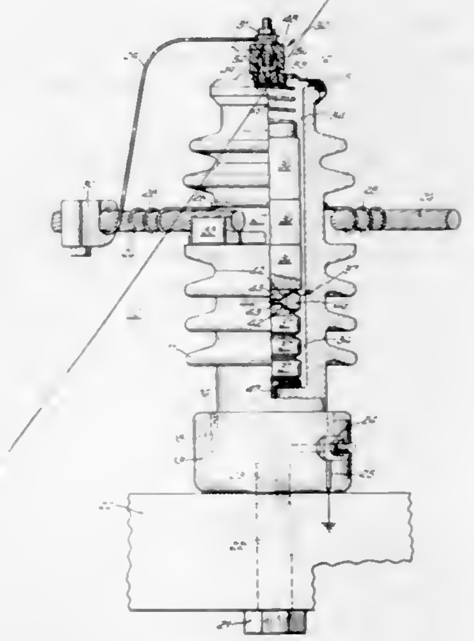
Paul H. Jacobs, Melrose Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 6, 1967, Ser. No. 614,109
Int. Cl. H02h *7/00, 3/28*
U.S. Cl. 317—33 **10 Claims**



A protection circuit coupling a power supply to the semiconductor device to be protected. The protection circuit operates to reduce the power supplied to the semiconductor device to prevent excessive current flow therethrough. After a predetermined time period the circuit automatically applies full power to the semiconductor device for normal operation.

3,448,343
COMBINED OVERVOLTAGE PROTECTIVE DEVICE AND CONDUCTOR SUPPORT

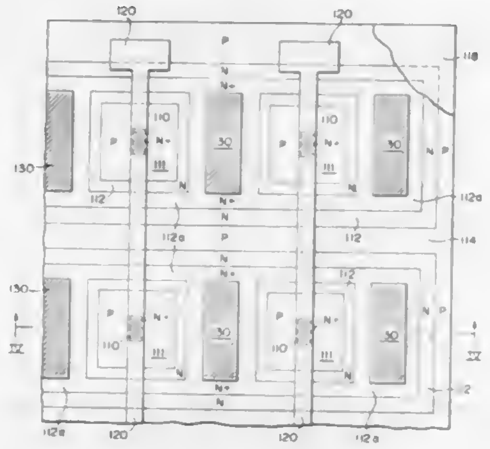
Stanley S. Kershaw, Jr., Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed May 9, 1967, Ser. No. 637,146
Int. Cl. H02h *1/00*
U.S. Cl. 317—72 **3 Claims**



A hollow insulator for supporting a line conductor intermediate its ends and constructed and arranged to be mounted adjacent one end with its other end connected to the line conductor. Overvoltage protective means is disposed within the insulator for interrupting voltage surges, and means are provided at the other insulator end for interrupting the line conductor connection in the event the overvoltage protective device fails. The insulating level of the insulator being substantially equal between the line conductor and each of its ends.

3,448,344
MOSAIC OF SEMICONDUCTOR ELEMENTS INTERCONNECTED IN AN XY MATRIX

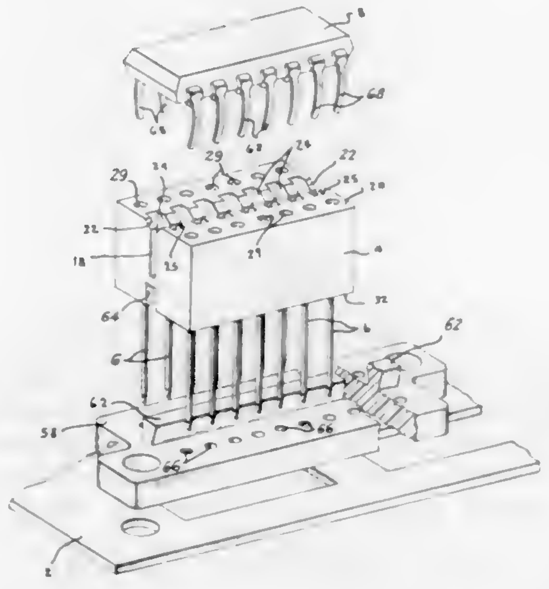
Marvin A. Schuster, Baltimore, William F. List, Linthicum, and Karl Reinitz, Arnold, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1966, Ser. No. 534,340
Int. Cl. H02b *1/04*
U.S. Cl. 317—101 **4 Claims**



A mosaic of semiconductor elements is provided disposed in a plurality of columns and rows with each of the columns comprising elements that have a common region of semiconductive material while each of the rows comprises elements having only discrete regions with isolation means between adjacent elements in the rows. A first set of conductive members each contacts the common region of one of said columns and a second set of conductive members contacts all of the elements in each row. The elements may be phototransistors in which case the collector regions of each of the elements in a column are common while the emitter regions of each of the elements in a row are interconnected.

3,448,345
INTERCONNECTION SYSTEM

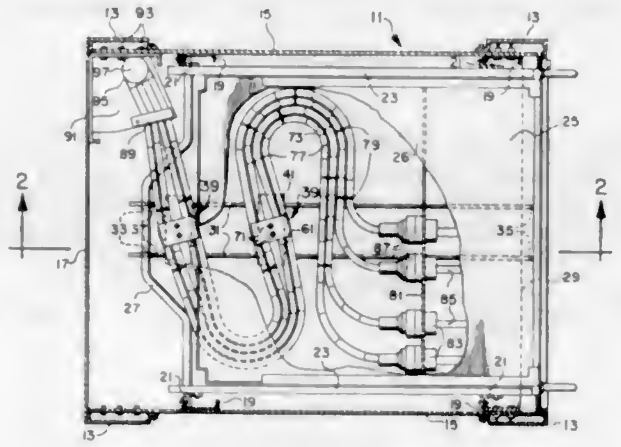
Carl August Koehler, Jr., Santa Ana, Calif., and Mark Allen Shrock, Mechanicsburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed June 8, 1967, Ser. No. 645,575
Int. Cl. H02b *1/04, 9/00;* **H05k** *1/00*
U.S. Cl. 317—101 **6 Claims**



Electrical interconnection system for printed circuit boards and integrated circuit units comprises a plurality of rows of connectors mounted in alignment with each other on a panel board. Each connector comprises an insulating housing having a trough for reception of a board and having contact receiving cavities on each side of the trough. Contacts are mounted in these cavities and have first contact means which engage conductors on the printed circuit board and second contact means beside, and spaced from, the first contact means. Openings in the housing on each side of the trough communicate with second contact means whereby printed circuit board can be inserted into trough and leads from integrated circuit units can be inserted into openings to engage second contact means. Contact terminals have integral terminal posts extending through panel and beyond opposite side thereof to permit point-to-point interconnection wiring.

3,448,346
EXTENSIBLE CABLE SUPPORT

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of David J. McHaffie, Anaheim, Calif.
Filed June 27, 1967, Ser. No. 649,359
Int. Cl. H02b *9/00*
U.S. Cl. 317—122 **5 Claims**

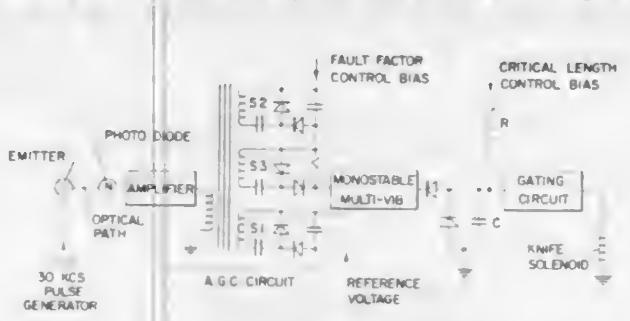


A means for supporting a flexible conductor cable between drawers or racks holding electronic equipment and the cabinet assembly that houses the drawers or racks. A track is installed beneath a drawer and extends the length thereof and somewhat behind the drawer and a plurality of swiveled clamp assemblies slide on the track. The cable folds in a sinuous pattern from side to side of the track and is clamped by the swiveled clamps at intervals where it crosses the track transversely. When the drawer travels in and out of the cabinet the cable is permitted to fold and unfold while remaining firmly clamped to the sliding swiveled clamps thus keeping the cable well supported and preventing entangement, chafing and twisting.

3,448,347
CONTROL CIRCUITS

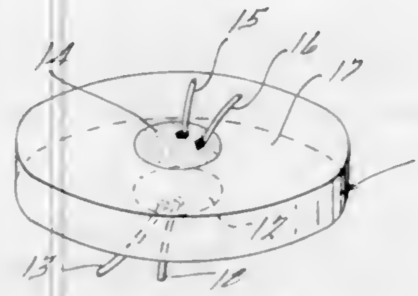
Charles Gunn-Russell, London, England, assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Oct. 14, 1965, Ser. No. 496,005
Claims priority, application Great Britain, Oct. 16, 1964, 42,343/64
Int. Cl. H01h *47/00;* **H03k** *5/20, 17/00*
U.S. Cl. 317—123 **5 Claims**

A control circuit in which a pulsed carrier wave is modulated by faults upon scanning a length of yarn, and in which a capacitor and a resistor are connected with a pulse circuit and a source of DC potential such that the circuit and source affect the potential on the capacitor in opposite senses to operate a gating circuit which provides a control output to actuate a yarn cutter when the potential on the capacitor passes a critical value. The pulse circuit contains an inertia circuit to minimize circuit drift.



3,448,348
TRANSDUCER UTILIZING ELECTRICALLY POLARIZABLE MATERIAL

Henry L. Stadler, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 437,384, Mar. 5, 1965. This application Aug. 1, 1968, Ser. No. 749,504
Int. Cl. H01g *9/04*
U.S. Cl. 317—231 **9 Claims**

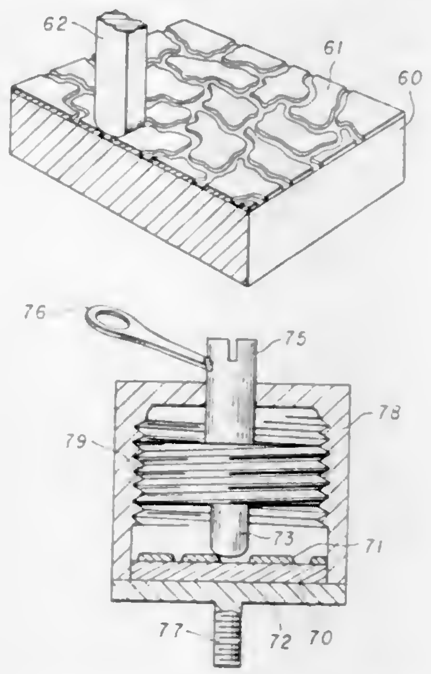


A transducer utilizing a body of electrically polarizable material in which the electrical polarization of the material can be altered and in which a thin layer of metal has a surface positioned in engagement with a surface of the body of electrically polarizable material. Means are coupled to the body for altering the magnitude of polarization of the body in a direction substantially perpendicular to the surface of the thin layer of metal. The electron concentration at the surface of the thin layer of metal positioned against the body is responsively altered upon altering the magnitude of polarization of the body in the direction substantially perpendicular to the surface of the thin layer of metal. This action alters certain physical properties of the thin layer of metal including the electrical resistivity, the transmission and reflectance of light, the critical temperature and magnetic field for the transition from normal to superconducting states in a metal capable of superconductivity, the Hall voltage, the Mossbauer effect and the Curie temperature of a metal that is a ferromagnet.

3,448,349
MICROCONTACT SCHOTTKY BARRIER SEMICONDUCTOR DEVICE

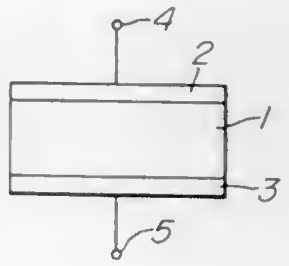
George G. Sumner, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,817
Int. Cl. H01l *19/00*
U.S. Cl. 317—234 **8 Claims**

Disclosed are semiconductor devices and methods for making the same. In the process, deposition of a thin metal layer on a semiconductor substrate is initiated and continued only long enough to produce a discontinuous thin film of metal regions isolated from each other but not so long as to yield an electrically continuous film of the metal. Contact may be made to at least one of the isolated metal regions and to the substrate to produce a device.



3,448,350
SEMICONDUCTOR COMPRISING PLURAL DEEP-LEVEL-FORMING IMPURITIES

Akio Yamashita, Ikeda-shi, and Masaru Tanaka, Toyonaka-shi, Japan, assignors to Matsushita Electric Industrial Co. Ltd., Kadoma-shi, Osaka, Japan, a corporation of Japan
Filed Apr. 4, 1966, Ser. No. 539,878
Claims priority, application Japan, Apr. 7, 1965, 40/20,945
Int. Cl. H01l *3/16, 5/02*
U.S. Cl. 317—234 **11 Claims**

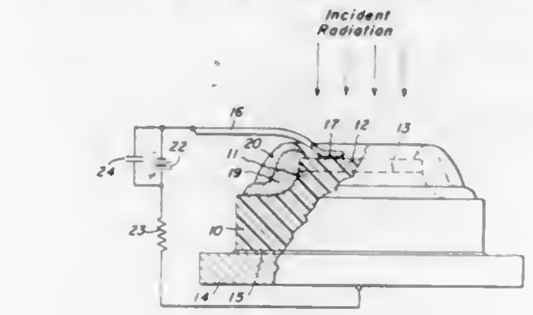


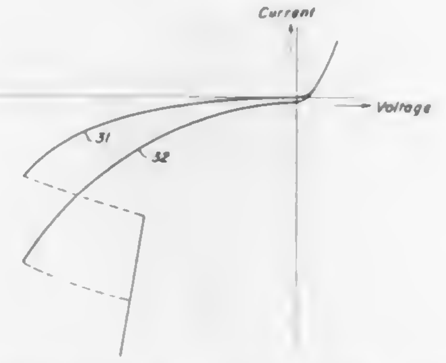
A semiconductor device comprising a body of semiconductor material such as a III–V compound, Si or Ge doped with at least two deep-level-forming impurities selected from the group consisting of Au, Fe, Co, Zn, Mn, Cu, and Ni is disclosed. At least two electrodes are provided to the semiconductor body. The body may have additional regions of p. n. p+ and n+ conductivity formed therein.

3,448,351
CRYOGENIC AVALANCHE PHOTODIODE OF InSb WITH NEGATIVE RESISTANCE CHARACTERISTIC AT POTENTIAL GREATER THAN REVERSE BREAKDOWN

Richard D. Baertsch, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 1, 1967, Ser. No. 642,793
Int. Cl. H01l *3/00, 5/00*
U.S. Cl. 317—234 **11 Claims**

An indium antimonide photodiode which produces high photocurrents when reverse biased just below breakdown. At still higher bias levels, the photodiode exhibits a current controlled negative resistance. The photodiode comprises a p-type surface layer diffused into an n-type semiconductor wafer, with a mesa electrolytically etched thereon. The region where the junction comes to the surface is coated with black wax which is covered with black paint,

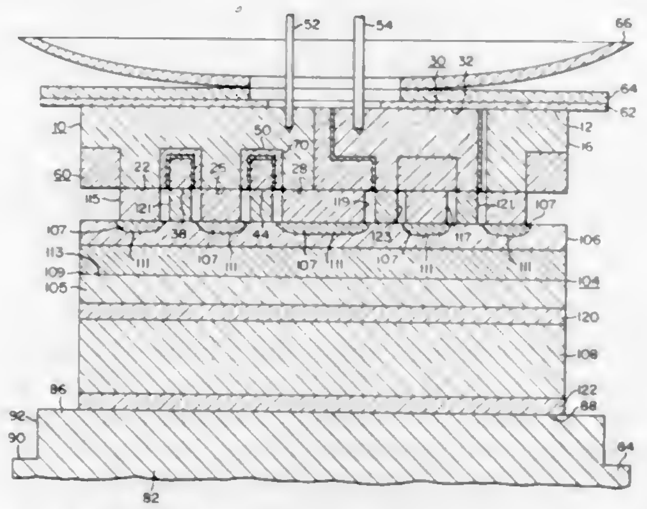




preventing degradation in current-voltage characteristics due to exposure to room light.

3,448,352
MULTIPLE ELECTRICAL CONTACT ASSEMBLY FOR COMPRESSION BONDED ELECTRICAL DEVICES

Herbert E. Ferree, Greensburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 26, 1966, Ser. No. 567,919
Int. Cl. H01l *11/00, 11/04*
U.S. Cl. 317—235 11 Claims

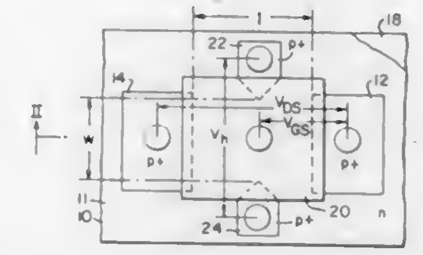


An electrical contact assembly comprises at least two electrical contacts, one inserted within, and interlocked with, the other. The electrical contacts are joined together, and are electrically insulated from each other, by suitable electrical insulating materials. The electrical contact surfaces may then be lapped after joining to produce contact surfaces in essentially the same plane.

3,448,353
MOS FIELD EFFECT TRANSISTOR HALL EFFECT DEVICES

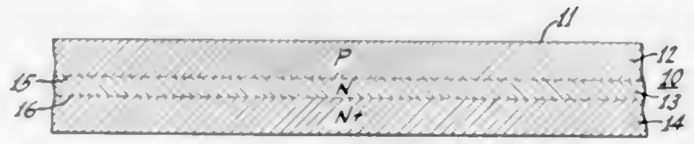
Robert C. Gallagher, Baltimore, and William S. Corak, Arnold, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1966, Ser. No. 593,806
Int. Cl. H01l *3/00, 9/00*
U.S. Cl. 317—235 7 Claims

The inversion layer in MOS-FET's is utilized to get appreciable Hall effect voltage in a structure that may be incorporated in integrated circuits. Structurally, the devices are similar to conventional MOS type devices with, however, additional contact areas transverse to the source to drain current path for deriving the Hall effect voltage and, preferably, a source to drain length to width ratio within the range from about 2.5 to about 3.5.



3,448,354
SEMICONDUCTOR DEVICE HAVING INCREASED RESISTANCE TO SECOND BREAKDOWN

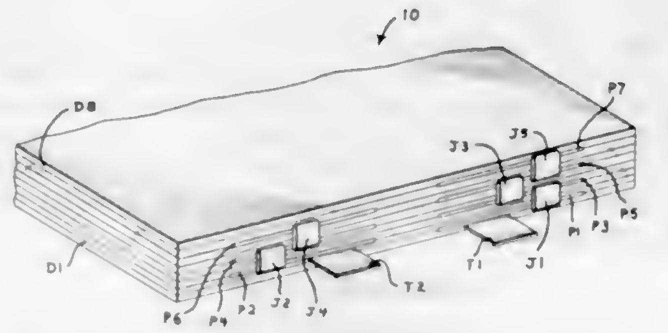
Fred Cohen, South Plainfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,670
Int. Cl. H01l *7/00, 11/00*
U.S. Cl. 317—235 4 Claims



The resistance to second breakdown of a transistor having one or more emitter regions adjacent one face of a semiconductive body is improved by forming a groove in the one body face around each emitter region.

3,448,355
LAMINATED ELECTRICAL CAPACITOR AND METHODS FOR MAKING

John James Ahearn, Jr., Lancaster, and Thomas Robert Clements, Elizabethtown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 1, 1967, Ser. No. 619,822
Int. Cl. H01g *1/02*
U.S. Cl. 317—261 9 Claims

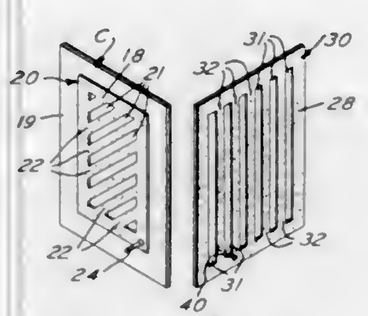


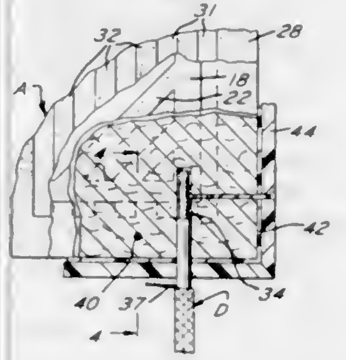
An electrical capacitor having foil-like plates is disclosed incorporating the interconnection scheme with dielectric layers bonded by a thermoplastic resin.

Relatively substantial flat areas of contact interface between conductive members are held by a bonding of insulating sheets as under heat and pressure to avoid the use of extraneous material such as solder or the need for crimping, or crimping structures. The electrical connection means is used making various connections in a laminated electrical capacitor.

3,448,356
ELECTROSTATIC COPYHOLDER AND METHOD FOR MAKING SAME

Anthony Q. Testone, Lansdale, Pa., assignor to The Simco Company, Inc., Lansdale, Pa., a corporation of Pennsylvania
Filed May 24, 1966, Ser. No. 552,483
Int. Cl. G03b *15/00;* **H05f** *7/00*
U.S. Cl. 317—262 14 Claims

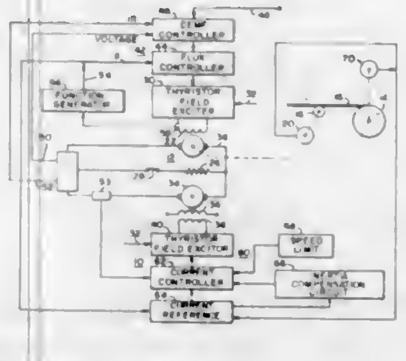




A copyholder to which articles are adhered by electrostatic forces. A first conductive member overlies one surface of a dielectric panel and a second conductive member constituting a grid with open areas overlies the second surface. A D.C. high voltage coupled across the two conductive members enables conductive articles to adhere to the second surface by virtue of the electrical field between the conductive members and emanating through the open areas of the grid. Non-conductive articles adhere by virtue of charges induced therein which are opposite in polarity to those produced on the second surface by the D.C. high voltage.

3,448,357
TENSION CONTROL SYSTEM FOR A REEL DRIVE

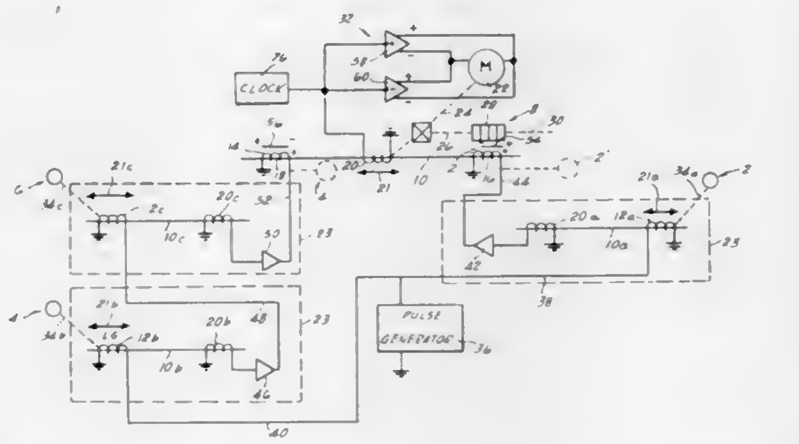
Thomas J. Dolphin, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1966, Ser. No. 571,616
Int. Cl. H02p *7/00*
U.S. Cl. 318—6 9 Claims



A control system for a direct current reel drive motor regulates the field flux to maintain maximum armature counter electromotive force. The control independently and simultaneously regulates the armature current to produce constant tension in strip being wound on the reel with maximum torque per ampere development.

3,448,358
SERVO SYSTEM AND COMPUTER

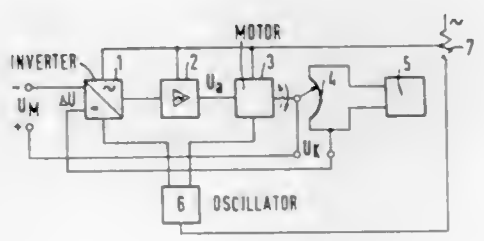
Milton R. Grudin Commack, and Harald R. Johnson, Huntington, N.Y., assignors to General Instrument Corporation, Newark, N.J., a corporation of Delaware
Filed Jan. 8, 1965, Ser. No. 424,328
Int. Cl. G05b *13/02;* **H02p** *7/06, 7/36*
U.S. Cl. 318—18 17 Claims



A servo system for analog computational functions in which two series of signals are applied to spaced points on a delay line, and a signal detecting means is associated with and movable along the delay line between those points. The signal detecting means detects phase differences between the two applied signals as received by it and is positioned by means of a servo system so that the two signals detected by it are in a predetermined time relationship, the thus-determined position of the signal detecting means therefore being determined by the phase relationship between the signals applied at the spaced points respectively.

3,448,359
SELF-ADJUSTING COMPENSATOR PREFERABLY FOR MEASURING RECORDERS

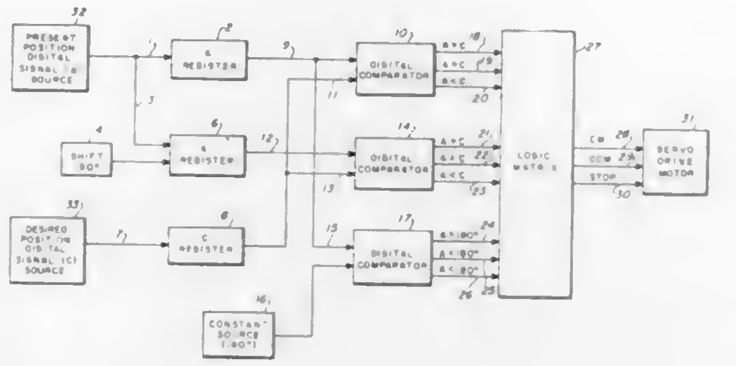
Walter Engel, Nuremberg, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Mar. 22, 1967, Ser. No. 625,126
Claims priority, application Germany, Mar. 24, 1966, S 102,725
Int. Cl. G05b *11/01*
U.S. Cl. 318—18 7 Claims



A self-adjusting compensator compares a small direct voltage with an adjustable reference voltage and causes the resulting error voltage to control the operation of a reversible direct-current motor which changes the setting of a potentiometer for adjusting the reference voltage to the balance value. The slight error voltage is translated to an alternating voltage by means of an inverter keyed from an oscillator. The motor receives energization from a separate direct-current supply through an electronic commutator system which is controlled by the oscillator frequency applied to the inverter. Hall generators subjected to the magnetic field of the motor provide directional control of the commutator system.

3,448,360
DIGITAL SERVOMOTOR POSITION CONTROL INCLUDING MEANS TO POSITION IN SHORTEST DIRECTION

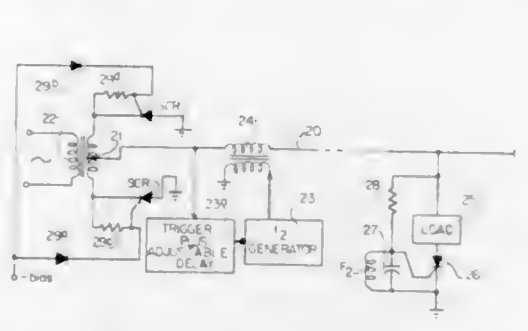
James E. Pohl, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 19, 1965, Ser. No. 498,171
Int. Cl. G05b *11/01*
U.S. Cl. 318—28 **1 Claim**



A system for rotating an antenna from a present direction to a desired direction includes logic circuitry ensuring the shorter direction of rotation that includes three registers receiving digital signals representative of the antenna's present direction, a direction rotated 180° from the present direction, and a desired direction. Outputs from the registers are passed to three comparators for comparison between pairs of the representative signals to determine if one signal is greater than, equal to, or less than the other signal and a final signal is fed to a logic matrix driving an antenna rotating motor to the desired position.

3,448,361
SELECTIVE-FREQUENCY POWERLINE LOAD CONTROL

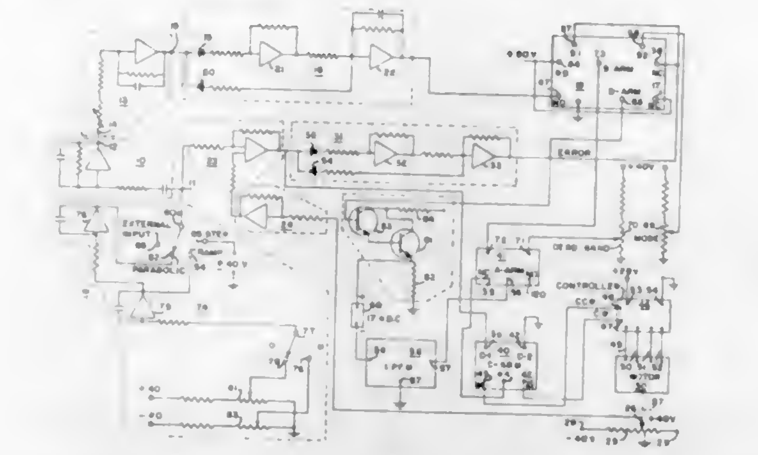
Konrad Dinter, 23 Oppelner Strasse, 69 Heidelberg-Kirchheim, Germany
Filed May 9, 1966, Ser. No. 548,624
Claims priority, application Germany, May 28, 1965, D 47,383
Int. Cl. H02p *1/54, 5/46, 7/68*
U.S. Cl. 318—55 **6 Claims**



A system selectively using different frequencies to individually control different loads coupled to a powerline, or for controlling loads attached to different sections of a powerline which are similarly and separately controllable, the system using control frequency discriminating filters which have a tendency to continue to ring after the control voltages exciting them have been removed, and therefore means are provided for delaying the rise of a new half cycle of the powerline voltage after it passes through zero for an interval sufficient to allow the ringing of the filters to die out. The system also includes several new ways to employ SCR's with filters to control a load connected to a powerline.

3,448,362
STEP MOTOR CONTROL SYSTEM

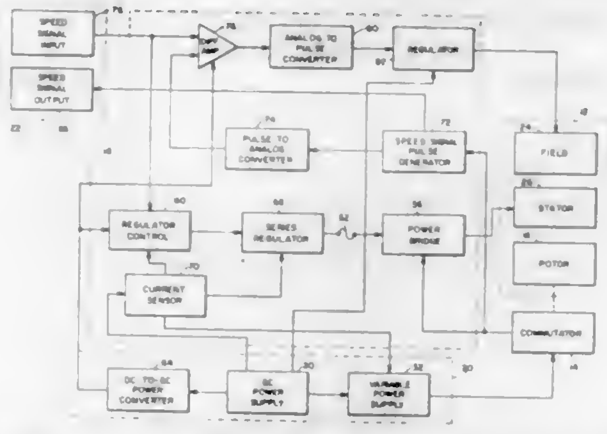
Richard C. Dorf, 16141 Azalea Way, Los Gatos, Calif. 95030, and Thomas G. Liang, 724 E. 9th St., Apt. A7, Tucson, Ariz. 85719
Filed May 23, 1966, Ser. No. 552,299
Int. Cl. H02k *17/34;* **H02p** *5/00*
U.S. Cl. 318—138 **6 Claims**



An automatic control system for any servo system where a step motor can be substituted for any other electromechanical energy conversion device. The step motor is controlled by the control elements so it attains a desired operating state, time-vary or otherwise, defined by an arbitrary deterministic control system input signal, which is allowed to vary arbitrarily even before the system attains the said desired operating state, in the minimum amount of time possible without any overshoot or undershoot. In contributing to this feature the step motor is run at substantially high speeds so that the cumulative movement of each small step of the step motor can be very closely approximated to that of a continuous motor. Consequently, the discrete integrating action of the step motor when operated at high speed converts the motor to a continuous servo integrator.

3,448,363
SPEED CONTROL SYSTEM FOR A DYNAMO-ELECTRIC MACHINE

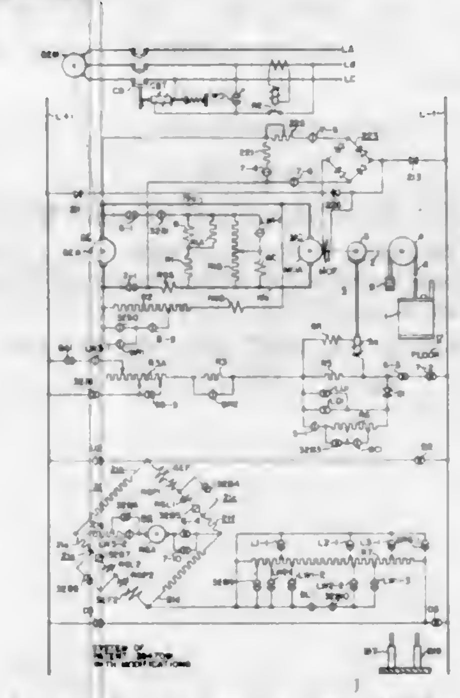
John J. Pierro, Inglewood, and Lewis B. Russell, Orange, Calif., assignors to North American Rockwell Corporation
Filed Sept. 26, 1966, Ser. No. 581,991
Int. Cl. H02p *7/36*
U.S. Cl. 318—197 **6 Claims**



A speed control system for a dynamo-electric machine providing stepless speed control and selectively variable torque over the full speed range. A commutator senses the rotor speed and position and, in conjunction with a speed control input, varies the output of a frequency converter to the rotor and stator so that the stator travelling magnetic wave and the rotor field wave are stationary with respect to one another and separated by a selectively variable displacement angle.

3,448,364
ELEVATOR MOTOR CONTROL SYSTEM INCLUDING DYNAMIC BRAKING WITH MOTOR FIELD EXCITATION

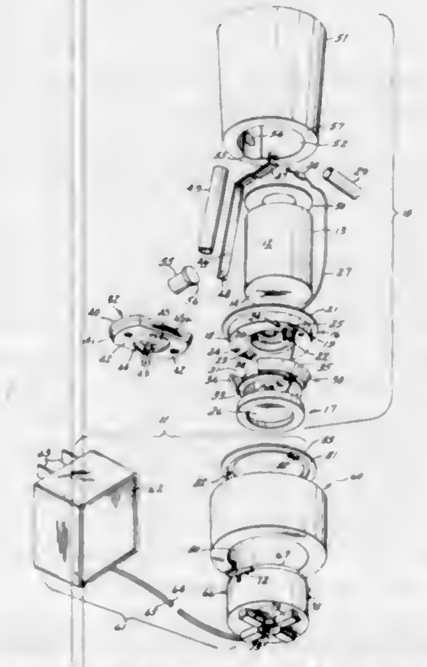
Phillip C. Keiper, Shrewsbury, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1965, Ser. No. 431,808
Int. Cl. H02p *3/18, 7/32;* **B66b** *1/06*
U.S. Cl. 318—381 **4 Claims**



A buffer for an elevator car is designed for a car speed which is below rated car speed. An emergency terminal slowdown device assures reduction of car speed to a level suitable for the buffer. This device connects the direct-current traction motor for dynamic braking with the motor field connected to a first source of direct current through rectifiers. The field also is connected for excitation by the counter-E.M.F. from the motor armature through a full-wave rectifier. Whereby the field excitation is increased when the counter-E.M.F. is above the first source of direct current field excitation.

3,448,365
RECHARGEABLE BATTERY OPERATED CIGARETTE LIGHTER AND RECHARGING AND STORAGE DEVICE THEREFOR

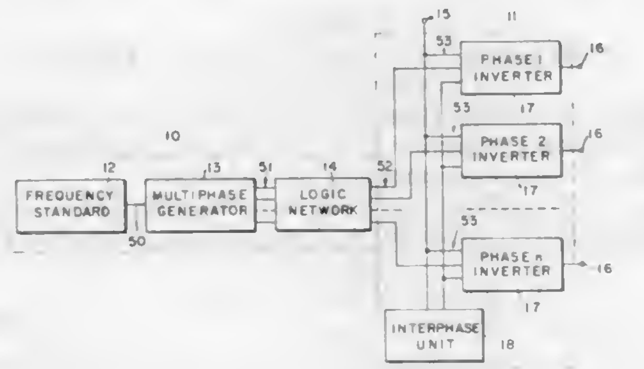
Chester F. Jacobson, Asheboro, N.C., assignor to General Electric Company, a corporation of New York
Filed Aug. 15, 1966, Ser. No. 572,266
Int. Cl. H02j *7/02*
U.S. Cl. 320—2 **5 Claims**



A rechargeable, battery operated cigarette lighter and a recharging and storage device therefor which protects the lighter filament when the lighter is placed therein. The recharging device is separable from the storage device, and thus the storage device may be freely moved about while still performing its basic functions as a support and as a protective cover for the filament.

3,448,366
MULTIPHASE STATIC INVERTER

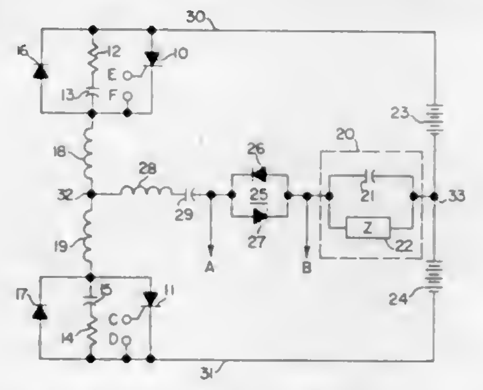
Milton L. Goff, Anaheim, Calif., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Nov. 28, 1966, Ser. No. 597,260
Int. Cl. H02m *7/52*
U.S. Cl. 321—5 **8 Claims**



A multiphase static inverter including a DC power source, a phase-locked control unit which produces a plurality of control signals maintained in proper phase relationship to each other and to a power unit which converts the DC power to multiphase AC power in response to the control signals. The phase-locked control unit includes a frequency standard having a determined frequency output, a digital multiphase generator modifying the output of the frequency standard thereby providing a set of multiphase signals phase-locked to a sub-multiple of the output of the frequency standard and a logic network which combines the multiphase signals to provide the plurality of control signals. The multiphase generator includes a flip-flop driven by the frequency standard and has two output signals of opposite phase and a ring counter driven by one of the flip-flop output signals and providing a plurality of equally-spaced pulses which substantially correspond to the number of phases of the AC output power. The logic network is driven by the flip-flop output signals and by the ring-counter pulses.

3,448,367
INVERTER INHIBIT CIRCUITS

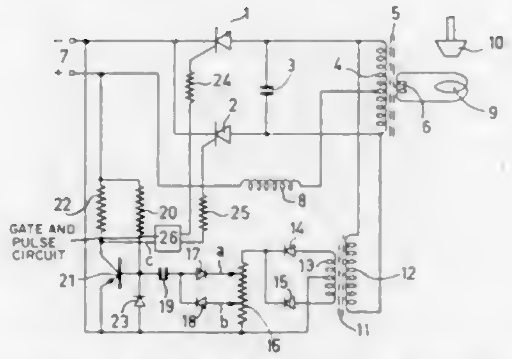
Philip D. Corey, Crozet, Va., assignor to General Electric Company, a corporation of New York
Filed Sept. 19, 1966, Ser. No. 580,421
Int. Cl. H02m *1/18, 7/44, 7/68*
U.S. Cl. 321—12 **9 Claims**



This application discloses an inhibit circuit for an inverter. Load current is sensed and firing of the SCR's in the inverter is inhibited as a function of the polarity of the load current so that when the load current is positive, the trigger pulse to the negatively poled SCR(s) is inhibited. Alternative embodiments provide for load current sensing using either bilaterally connected diodes or a current transformer. The indication from the load current sensors is connected to a third winding on an isolation transformer which is connected between the trigger pulse source and the SCR's. The current sensors act to short out this third winding (and thereby inhibit firing) if a trigger pulse is generated before the load current has reversed. Operation is enhanced by providing snap-action switches (such as Shockley diodes) and time delay circuits in series with the triggering windings of the isolation transformer so that the output of the current sensors acts to inhibit the operation of the time delay circuits.

3,448,368
FREQUENCY INDEPENDENT PHASE CONTROL CIRCUIT

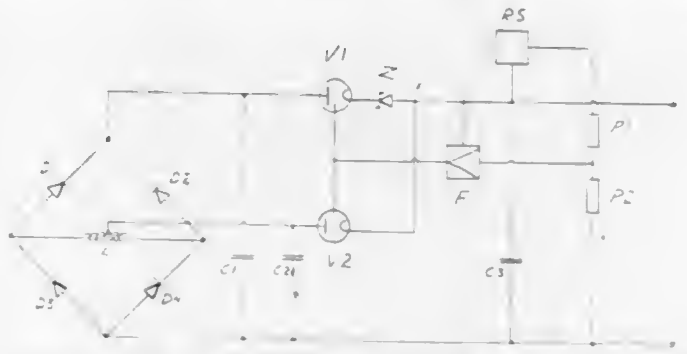
Cornelis Johannes Brouwer, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 2, 1966, Ser. No. 591,591
Claims priority, application Netherlands, Nov. 13, 1965, 6514775
Int. Cl. H02m *1/08, 7/12*
U.S. Cl. 321—18 **8 Claims**



A self-oscillating inverter uses a pair of SCR's to supply energy to a variable load that produces frequency variations in the inverter. An alternating control voltage is derived from the inverter and supplied to a gate control circuit that includes a voltage divider and a capacitor having one electrode connected to first and second taps on the voltage divider via a pair of oppositely poled diodes. The other capacitor electrode is coupled to a point of fixed voltage and to the gate electrodes of the SCR's to maintain the firing angle thereof constant despite said frequency variations in the inverter.

3,448,369
DC-STABILIZER WITH PREREGULATOR

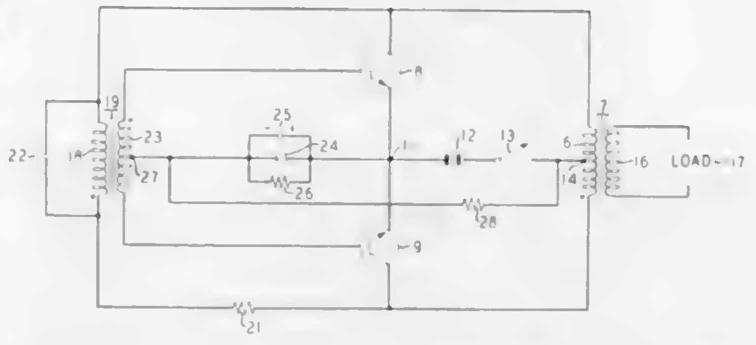
Carl Olof Olsson, Bardabacken 12, Bromma, Sweden
Filed Jan. 13, 1967, Ser. No. 609,095
Claims priority, application Sweden, Jan. 14, 1966, 476/66
Int. Cl. H02m *1/08, 7/00*
U.S. Cl. 321—18 **2 Claims**



Generally, the invention is directed to a DC stabilizer having a preregulator including at least two electronic switching elements each of which is series connected between the input and output terminals of the assemblage and in which each electronic element includes at least two electrodes so biased that a potential difference is developed therebetween, with such potential difference being different for the several elements, one of the electrodes for each element being connected to control means, and with the elements being controlled through the control means in such a manner that only one thereof is conductive at the time, that is to say, during the time interval when the input voltage is within the operative range of the respective elements.

3,448,370
HIGH FREQUENCY POWER INVERTER

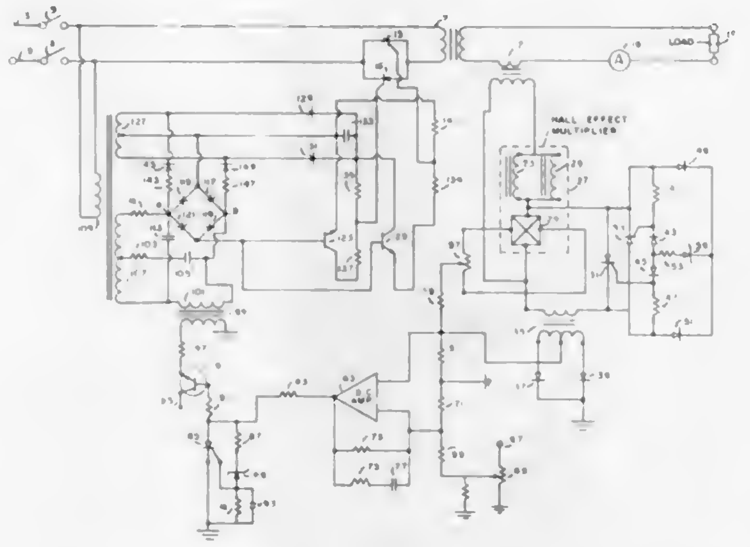
Thomas G. Harrigan, Lake Hiawatha, N.J., assignor to Bell Telephone Laboratories Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 11, 1967, Ser. No. 660,098
Int. Cl. H02m *7/52*
U.S. Cl. 321—45 **5 Claims**



Conduction overlap is eliminated and high frequency efficiency improved in a push-pull power inverter with the inclusion of a capacitor in a circuit common to the base-emitter paths of both transistors.

3,448,371
SOLID STATE CONSTANT CURRENT REGULATOR

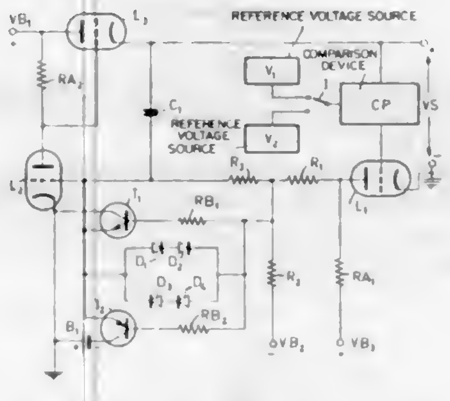
Bernard R. Boymel, Washington, D.C., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 31, 1966, Ser. No. 576,788
Int. Cl. G05f *1/44*
U.S. Cl. 323—4 **4 Claims**



A constant current regulator which is particularly useful in controlling the load current supplied to an airfield lighting system. The improved regulator utilizes a Hall Effect multiplier that provides an output potential proportional to the square of the output load current of the lighting system. The Hall Effect multiplier output potential controls energization of a saturable reactor and the phase of a pulse that gates a silicon control rectifier in series with the energizing source for the lighting system. Protective circuitry is provided to prevent damage to the Hall Effect multiplier from overloading.

3,448,372
APPARATUS FOR REDUCING THE SWITCHING TIME OF A DUAL VOLTAGE POWER SUPPLY

Guillaume Le Goff, Calvados, France, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,327
Claims priority, application France, Oct. 18, 1965, 35,336
Int. Cl. G05f *5/00*
U.S. Cl. 323—22 **13 Claims**

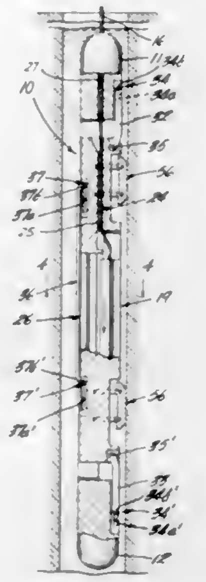


A voltage regulator that selectively supplies two discrete values of regulated voltage to a load. The regulator includes a negative feedback circuit having a given RC time constant that limits the circuit response time when it is switched between the two values of output voltage. A pair of complementary transistors, normally biased "off," are coupled to the feedback circuit so as not to effect the normal regulator action. However, during the switch-over period, one or the other of the transistors is turned "on" and operates to reduce the RC time constant of the feedback circuit by effectively short-circuiting a portion of the resistance thereof.

3,448,373
WELL LOGGING TOOL WITH A TRANSVERSELY SHIFTABLE MEMBER CARRYING A LOGGING ELEMENT AND HAVING A PIVOTALLY LINKED PAD MEMBER

Guerry L. Hahn, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed June 10, 1966, Ser. No. 556,697
Int. Cl. G01v *3/18*
U.S. Cl. 324—1 **8 Claims**

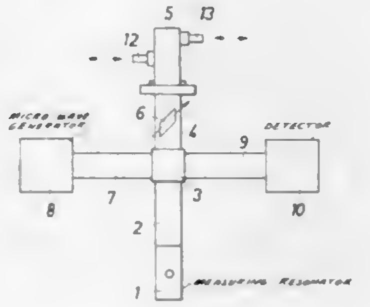
As embodied in the form shown in the drawings and described in detail, a well logging tool comprises a body adapted to be moved longitudinally in a well bore and a member mounted on the body for movement transversely relative to it between a retracted position out of engagement with the well bore wall and an extended position in engagement with the well bore wall. The surface of the member contacting the wall is overlaid with a wear-resisting, non-conductive and non-magnetic material. Stand-off pad members normally extending from the member engage the well bore wall and maintain the member out of engagement with it, but the pad members are retractable to permit the member to engage the well bore wall when operations are conducted with the tool. The member is resiliently urged into engagement with the well bore by a bow spring or the like linked to the member and



selectively engageable with the well bore wall at a point generally opposite the point engaged by the member.

3,448,374
BRIDGE-BALANCING DEVICES FOR SPECTROMETERS FOR PARAMAGNETIC ELECTRON RESONANCE

Klaŭs Heŭer, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Germany
Filed Aug. 29, 1966, Ser. No. 576,198
Int. Cl. G01n *27/78;* **H01p** *7/06;* **G01r** *27/04*
U.S. Cl. 324—.5 **2 Claims**

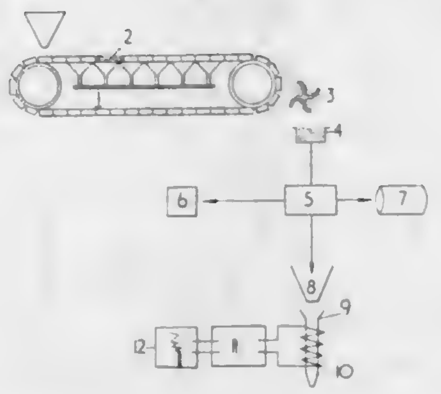


A microwave bridge in a spectrometer for paramagnetic electron resonance includes a measuring resonator and a balancing resonator. The balancing resonator comprises three tuning elements for exact reproduction of the electric properties of the measuring resonator. The tuning elements are: A first dielectric pin with a reflection attenuating layer for changing the natural frequency of the balancing resonator, said pin being hollow to lessen detuning; a second dielectric pin for changing the quality factor of the balancing resonator; and a circular coupling iris. The two pins are displaceable along their longitudinal axes so as to immerse into the balancing resonator with changing lengths. The coupling coefficient of the balancing resonator and a wave guide attached thereto is changed by means of the circular coupling iris.

3,448,375
PROCESS FOR CONTINUOUSLY MEASURING THE QUALITY OF AN AGGLOMERATE

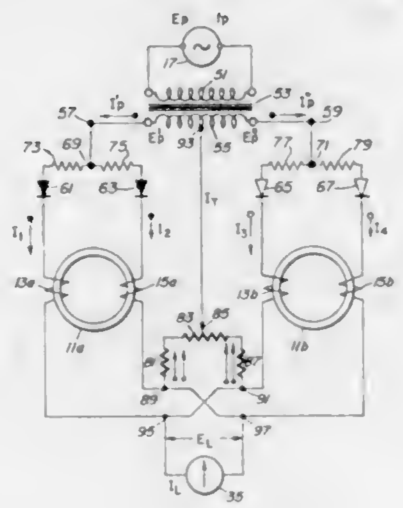
Henri Gilbert Meunier, Liege, Belgium, assignor to Centre National de Recherches Metallurgiques, Brussels, Belgium, a Belgian company
Filed Mar. 23, 1967, Ser. No. 625,553
Claims priority, application Luxembourg, Mar. 25, 1966, 50,769
Int. Cl. G01r *33/12*
U.S. Cl. 324—34 **2 Claims**

A process for continuously measuring the cohesive strength of agglomerates, such as iron ore sinter, wherein a sample of sinter is used as the inductive core of a coil and the inductance of the coil is continuously measured, e.g., by determining the resonant frequency of a tuned circuit including the coil, which inductance is characteristic of the cohesive strength of the agglomerate.



3,448,376
FUNDAMENTAL FREQUENCY RING CORE FLUX GATE MAGNETOMETER

William A. Geyger, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 17, 1964, Ser. No. 338,536
Int. Cl. G01r *33/02*
U.S. Cl. 324—47 3 Claims

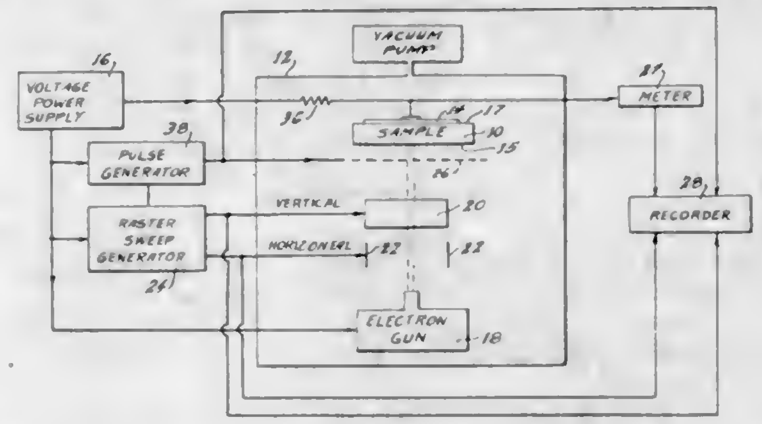


A ring core flux gate magnetometer of the fundamental frequency type in which a rectified half wave voltage is used to energize a toroidal core. An output voltage of the fundamental frequency is obtained from a detector circuit when the magnetometer is energized and placed in a magnetic field. In a modified arrangement, two ring core flux gate elements are combined and may be utilized either as a very sensitive magnetometer or as a gradiometer.

3,448,377
METHOD UTILIZING AN ELECTRON BEAM FOR NONDESTRUCTIVELY MEASURING THE DIELECTRIC PROPERTIES OF A SAMPLE

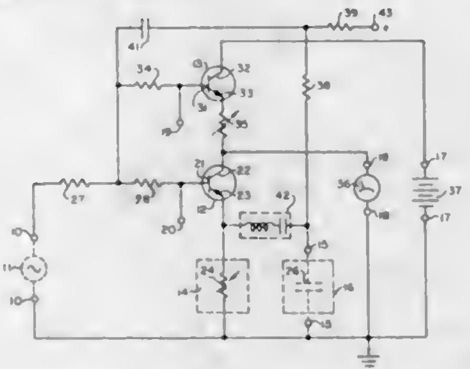
Henry Seiwatz, Oak Park, and Carl M. Groom, Chicago, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 12, 1967, Ser. No. 674,989
Int. Cl. G01r *31/12*
U.S. Cl. 324—54 5 Claims

A method for nondestructively measuring the dielectric properties of a sample includes an electron gun whose beam is scanned across a surface on one side of the sample and a grid spaced from the scanned surface to collect emitted secondary electrons from the scanned surface, whereby equilibration between transmitted primary electrons and secondary electrons is achieved and an equipotential surface for the sample is effected. A negative high voltage is applied to an electrode electrically-conductively mounted to the surface of the opposite side of the sample and the induced charge on the said electrode is measured to obtain a value of the dielectric properties of the sample.



3,448,378
IMPEDANCE MEASURING INSTRUMENT HAVING A VOLTAGE DIVIDER COMPRISING A PAIR OF AMPLIFIERS

Denes Roveti, 1643 Forest Drive, Annapolis, Md. 21403
Filed June 21, 1965, Ser. No. 465,320
Int. Cl. G01r *27/16, 17/10, 27/28*
U.S. Cl. 324—57 9 Claims

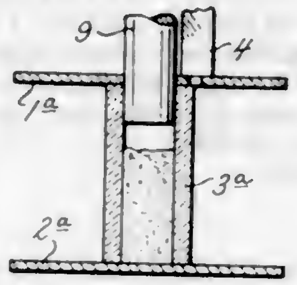


To provide an instrument capable of testing the characteristics of solid state electronic devices, this invention provides a balanced altrenating current circuit having a high impedance. The device to be tested is connected in parallel with one part of the high resistance to unbalance the circuit. The amount of unbalance is a measure of the impedance of the tested device. A pair of amplifiers are connected in series with each other and with a high value resistance across a direct current supply. Alternating current is supplied to the control electrodes of the two amplifiers. The amplifiers act as a variable voltage divider circuit causing the voltage at the junction of the two amplifiers to vary. The circuit values are arranged so that with no device to be tested connected in the circuit, the junction point is at zero potential. When a device to be tested is connected across the high value resistance, the balance is upset. In addition bias means are provided for the device to be tested and a phase shift meter can also be included.

3,448,379
DIELECTRIC CAVITY RESONATOR

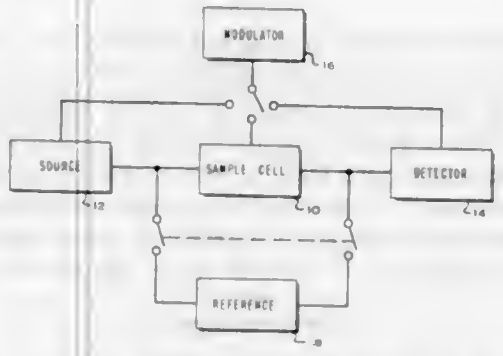
Fred J. Rosenbaum, Chesterfield, Mo., assignor to McDonnell Douglas Corporation, St. Louis, Mo., a corporation of Maryland
Filed May 18, 1964, Ser. No. 367,929
Int. Cl. G01r *27/04*
U.S. Cl. 324—58 18 Claims

An open sided dielectric cavity structure defined by spaced conducting plates and a dielectric member extending between said plates, and means for introducing microwave energy into the cavity adjacent to the dielectric member including a wavguide positioned adjacent to one of the dielectric plates and coupled to the space between the plates through a coupling opening. The subject cavity structure may also include a second waveguide adjacent the other spaced plate and coupled to the space therebetween through another coupling opening to introduce microwave energy into the cavity at a different frequency, and the subject structure may also include means for introducing other types of energy into the cavity including magnetic and radiation energy.



3,448,380
METHOD FOR USE IN SPECTROSCOPIC ANALYSIS

Howard W. Harrington, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Mar. 14, 1967, Ser. No. 623,018
Int. Cl. G01r *27/04*
U.S. Cl. 324—58.5 12 Claims

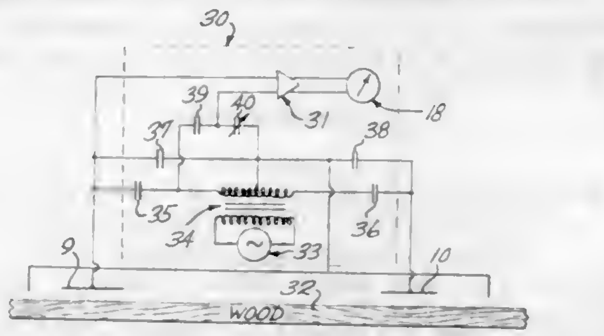


A method in which electromagnetic radiation is applied to a sample to produce a selected spectroscopic transition and in which for at least two different radiation power densities in the sample the ratio of the radiation power absorbed by the sample at the transition frequency to the associated radiation field intensity in the sample or to the square root of the associated radiation power density in the sample is detected so as to obtain a new intensity coefficient at a determinable point on a curve relating this new intensity coefficient to the radiation power density in the sample.

3,448,381
PORTABLE NON-CONTACT MOISTURE METER INCLUDING ELECTRODES DRIVEN 180° OUT OF PHASE

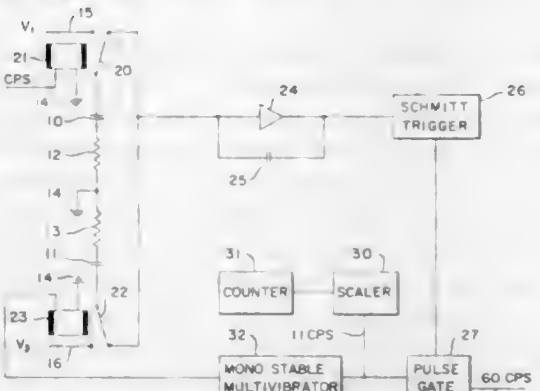
William D. Perry, 151 Viewpoint Drive, Longview, Wash. 98632
Continuation-in-part of application Ser. No. 319,191, Oct. 28, 1963. This application July 5, 1966, Ser. No. 562,612
The portion of the term of the patent subsequent to Aug. 29, 1984, has been disclaimed
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 2 Claims

A portable detector for measuring the moisture content of wood of nonuniform thickness, which detector measures the internal resistance of the wood and relates it to the moisture content of the wood through which the electrical impulse flows. The detector comprises a pair of electrodes placed side by side, an oscillator which drives the electrodes 180° out of phase, and an electrical bridge circuit which determines the internal resistance of the wood sample when the wood is placed adjacent the electrodes.



3,448,382
FREQUENCY MULTIPLYING OR DIVIDING CIRCUIT

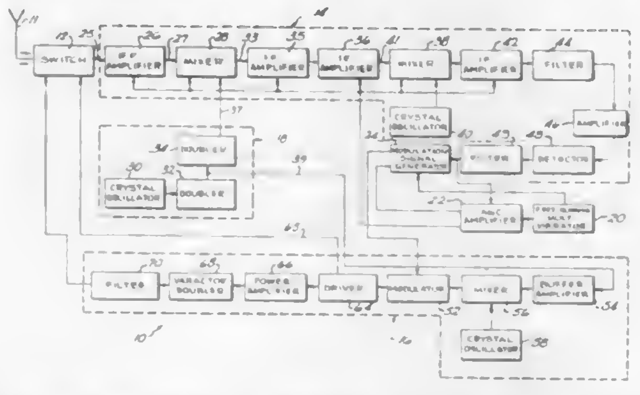
Benjamin D. Stanton, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 11, 1966, Ser. No. 549,336
Int. Cl. G01r *23/02*
U.S. Cl. 324—78 7 Claims



A circuit for multiplying or dividing a reference frequency by any real number using a capacitance bridge having capacitors that are discharged in opposition to each other; one of the capacitors being charged and discharged at a reference frequency, while the other capacitor is charged and discharged at the desired multiple or fraction of the reference frequency.

3,448,383
SINGLE FREQUENCY COMMUNICATION REPEATER

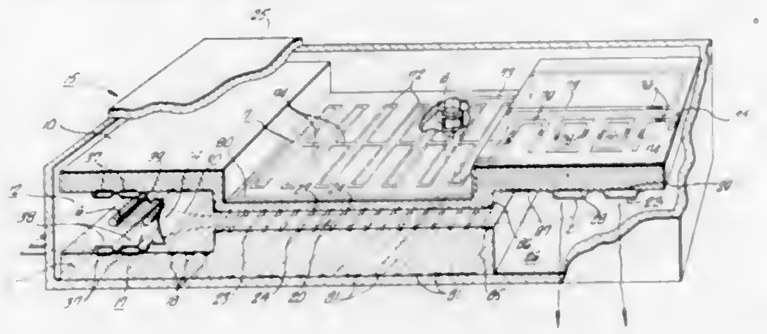
Francis J. Starzec, Jan Ooms, and Kermit C. Schlansker, Ann Arbor, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,872
Int. Cl. H04b *7/16*
U.S. Cl. 325—8 4 Claims



A radio frequency repeater receives and transmits at substantially a single frequency on a time sharing basis. The repeater is switched between receive and transmit at a higher than audio frequency by a continuously operating switching means and includes a device to attenuate the signal to the receiver when the transmitter is active and means for using the detected signal from the receiver during the receiving interval to modulate the carrier frequency of the transmitter during the next succeeding transmit interval so as to maintain the modulation substantially identical with the received signal modulation.

3,448,384
INTEGRAL MICROWAVE RADIATING AND GENERATING UNIT FOR HEATING

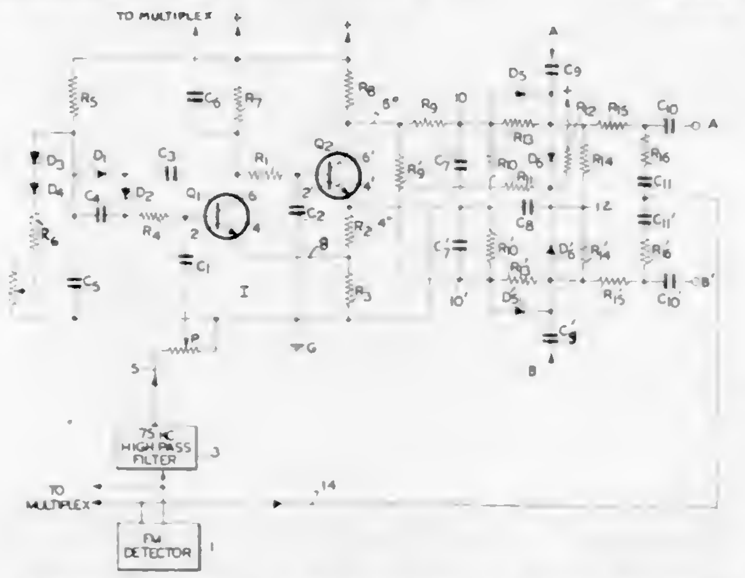
Allan W. Scott, 1272 Windimer Drive, Los Altos, Calif. 94022
Filed Oct. 23, 1965, Ser. No. 502,867
Int. Cl. H04b *1/04;* **H03b** *9/08*
U.S. Cl. 325—120 23 Claims



A pair of dielectric sheets form a flat vacuum space in which a flat electron beam is created. The essential operating structure for a microwave tube are printed on the dielectric sheets. For example, focusing of the electron beam is achieved through printed electrostatic focusing members. A printed microwave interaction structure and a printed microwave antenna are also provided. The various collector plates for the electron beam may be printed or fabricated on metal structures so as to serve the dual function of beam collection and thermal radiation for food browning. A printed power control circuit which is sensitive to a sampling of microwave output power varies the beam location relative to the printed microwave interaction structure so as to assure a constant power for the microwave unit in spite of short or long-term variations in an ordinary line voltage supply source.

3,448,385
STEREOPHONIC RECEIVER SQUELCH APPARATUS

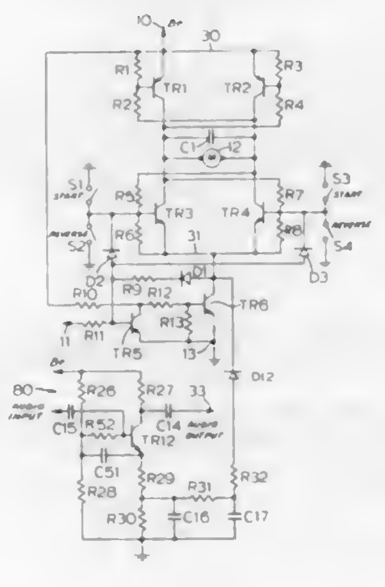
Daniel R. von Recklinghausen, Arlington, Mass., assignor to H. H. Scott, Inc., Maynard, Mass., a corporation of Massachusetts
Filed June 28, 1965, Ser. No. 467,585
Int. Cl. H04b *1/12*
U.S. Cl. 325—348 5 Claims



A squelch circuit for an FM receiver which applies the noise output from the FM detector to a switching circuit responsive to a noise threshold for producing a bias voltage. A diode circuit responsive to said bias voltage is connected in a signal path for squelching the signal in the presence of noise.

3,448,386
AUTOMATIC MUTING NETWORKS FOR SIGNAL SEEKING RECEIVERS

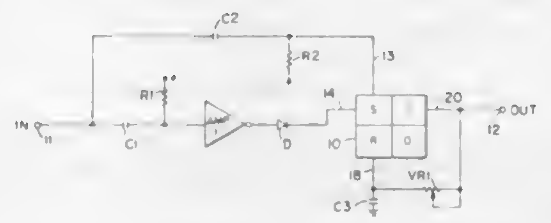
Jacob Buhr, Kitchener, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed Dec. 19, 1966, Ser. No. 602,943
Int. Cl. H04b *1/16, 1/32, 1/34*
U.S. Cl. 325—456 6 Claims



Automatic muting of a signal received by a signal seeking receiver during the interval when the receiver is searching is achieved using an audio amplifying transistor that has a resistor in its emitter circuit shunted by a low impedance path during the search interval, whereby saturation of the transistor results, whereas this path presents a much higher impedance when the receiver is not searching and is tuned to a signal being received.

3,448,387
FREQUENCY DOUBLER

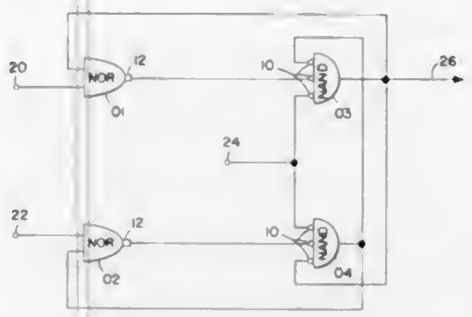
Raymond A. Brandt and Loren L. Dickerson, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Jan. 6, 1967, Ser. No. 607,861
Int. Cl. H03b *19/14*
U.S. Cl. 328—20 8 Claims



A frequency doubler is disclosed. One embodiment of the invention uses a special flip-flop with differentiators feeding an input signal into the flip-flop, and with a reset feedback path having a time delay. The flip-flop has "preset" and "pre-reset" input terminals, as well as the usual output terminals and usual "set" and "reset" input terminals. Another embodiment of the invention uses two of the special flip-flop cascade, and does not employ differentiators. A logical network is used at the input to one of the flip-flops.

3,448,388
STROBE GATE CIRCUIT

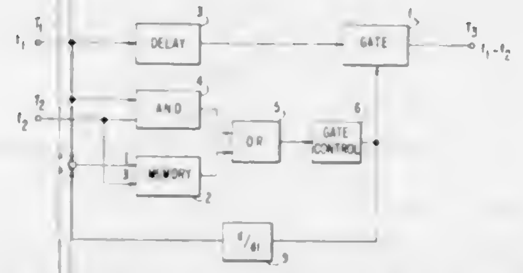
Kenneth W. Krause, Clearwater, Fla., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 3, 1966, Ser. No. 570,098
Int. Cl. H03k *19/34, 19/36*
U.S. Cl. 328—93 4 Claims



1. A gate circuit comprising: a plurality of NOR gates, each having an output and a plurality of inputs; a plurality of NAND gates, each having an output and a plurality of inputs; the output of each said NOR gate is connected as an input to a corresponding input of one of said NAND gates; the output of a first one of said NAND gates is connected as an input, different from said corresponding input, to at least one other of said NAND gates and as an input to a first one of said NOR gates; the output of said other NAND gate being connected as an input to the corresponding NOR gate and as an input to at least the said first NAND gate; an additional input connected to another input of each of said NAND gates.

3,448,389
DIFFERENTIAL FREQUENCY RATE SYSTEM FOR PROVIDING A PULSE TRAIN OUTPUT CORRESPONDING TO THE FREQUENCY DIFFERENCE BETWEEN TWO INPUT PULSE TRAINS

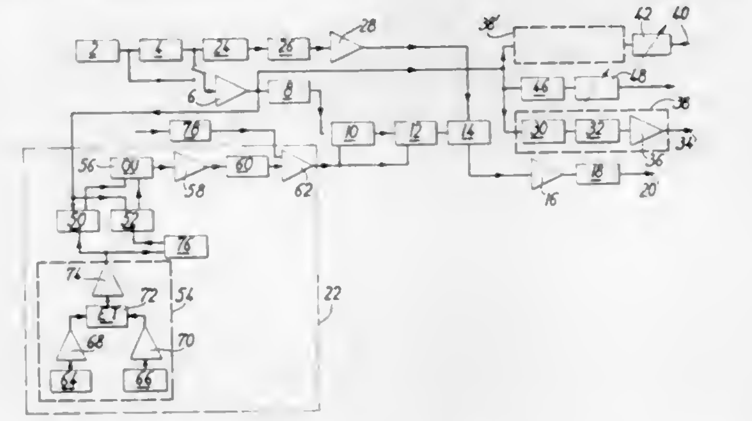
Toshitaka Suzuki and Tôru Sugawara, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo-to, Japan
Filed Oct. 4, 1966, Ser. No. 584,255
Claims priority, application Japan, Oct. 4, 1965, 40/61,160; June 3, 1966, 41/35,429
Int. Cl. H03k *9/06;* **H03d** *13/00;* **H03b** *3/04*
U.S. Cl. 328—133 18 Claims



1. A differential rate system having first and second sets of pulsed waveform signals applied to the input thereof for deriving an output signal representative of the difference in frequency of the two sets of pulsed input signals, the improvement comprising main gate means having input, output and control terminals, gate control means coupled to control terminal of said main gate means for turning off the main gate means for a predetermined time interval in the presence of an energizing main gate turn-off signal to the gate control means, delay means having its output operatively coupled to the input of said main gate means and having its input operatively coupled to the first set of pulsed waveform input signals, memory means having two stable states of operation and having an input operatively coupled to and controlled by the second set of pulsed waveform input signals and its output operatively controlling energization of said gate control means, said memory means being switched to a first stable state of operation thereby enabling energization of said gate control means upon occurrence of a second signal pulse, and means for resetting said memory means to its second stable state upon the occurrence of the next succeeding first signal pulse, said memory means in its second stable state allowing transmission of signal pulses through the delay means and the main gate means to the output thereof.

3,448,390
METHOD AND DEVICE FOR PROVIDING PROTECTION AGAINST ACCIDENTAL BEAM DEVIATION IN LINEAR PARTICLE ACCELERATORS

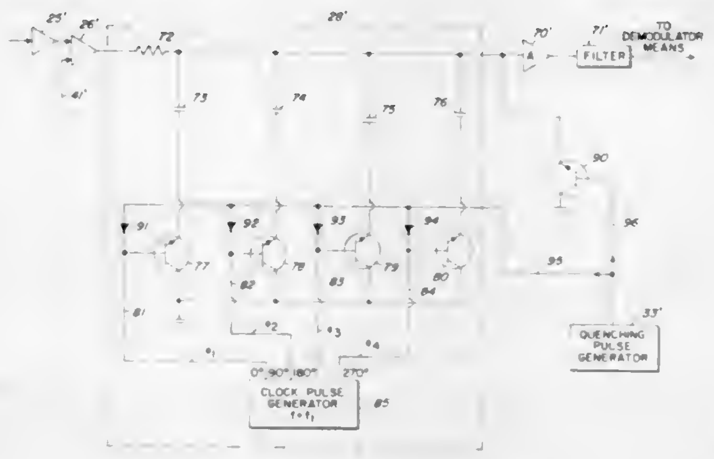
Georges Guilbaud, Orsay, and Jacques Soffer, Plessis-Robinson, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Sept. 22, 1966, Ser. No. 581,195
Claims priority, application France, Sept. 24, 1965, 32,639
Int. Cl. H01j *23/09, 23/24, 29/98*
U.S. Cl. 328—233 5 Claims



A high frequency linear accelerator is protected against damage due to abnormal deviations of the beam by detecting the beam at least in the neighborhood of the end of the trajectory each time the beam is injected. A new beam is then automatically injected at a frequency of several thousand hertz (NkHz.) if the detector has not registered a deviation of the beam. If a deviation of the beam is noted the frequency of injection is reduced to a low frequency of repetition.

3,448,391
KEYED FILTER USING RC CIRCUITS

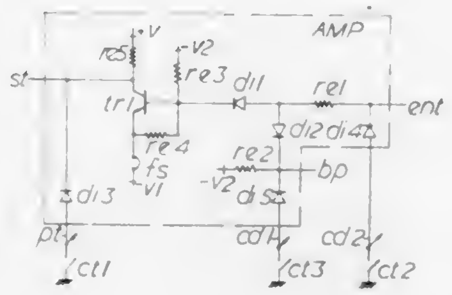
William M. Hutchinson, Newport Beach, and Jerry G. Williford, Tustin, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 13, 1966, Ser. No. 601,499
Int. Cl. H03d *3/18*
U.S. Cl. 329—50 4 Claims



This invention is a keyed filter for filtering a selected tone of frequency f_0 from a composite signal containing a plurality of such tones, orthogonally spaced apart by a frequency f_d. Data bits are encoded in bit-synchronous manner upon each tone with the nature of each bit being determined by the phase of said tone during the preceding bit. The keyed filter comprises a plurality of series circuits connected in parallel across the output of a gating means through which the composite signal is gated. Each series circuit consists of a capacitor and a switch, with the switches being opened in a sequential pattern and with each switch being opened at a repetition rate f_o. Electric charges are accumulated on each capacitor in proportion to the amplitude of the composite signal at the time the associated switch is opened. The gating means is opened during each bit period for a time interval $1/f_d$ so that the said accumulated charges are due only to the tone of frequency f_o. The circuit thus simulates a resonator.

3,448,392
FAULT DETECTING AND ELIMINATING SYSTEM FOR ELECTRICAL CIRCUITS

Pierre Charransol, Clichy, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 443,850
Claims priority, application France, Apr. 17, 1964, 971,301
Int. Cl. G01r *19/00, 21/00, 23/00*
U.S. Cl. 330—2 4 Claims

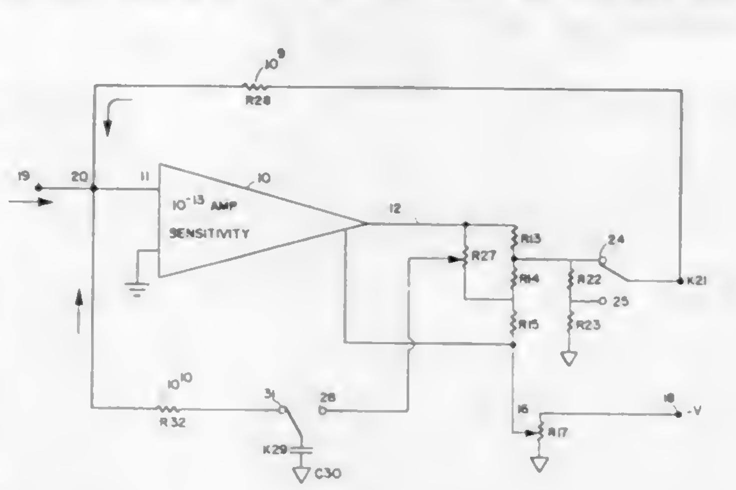


Transistor output circuits are fused for their protection. The fuses are chosen so that they will open the output circuits when they are overloaded due to shorting in the corresponding transistors or due to other faults in the associated circuits. In order to minimize the time required to test a group of transistors to determine whether any of the transistors have shorted or are overloaded and to remove shorted or overloaded transistors from the circuits, a logic circuit is provided. The logic circuit is able, with proper sensors, to detect the presence or absence of an overload, indicative of a defect, in micro-seconds. If such a defect is detected, the logic circuit then applies a signal, of several milli-seconds' duration, which will cause destruction of the fuses connected only to transistors which have been found to be shorted internally or otherwise associated with faulty conditions.

3,448,393
MEANS FOR ERROR CORRECTION

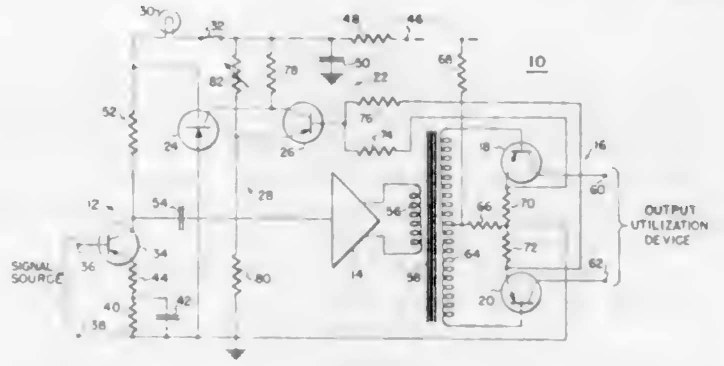
Willard W. Rice, Jr., Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed July 27, 1965, Ser. No. 475,060
Int. Cl. H03f *1/34*
U.S. Cl. 330—9 3 Claims

1. An input reference level compensation device comprising: an amplifier having an input terminal and an output terminal, negative feedback means having a signal supplied from said output terminal through a first impedance to said input terminal, means for storing a level having a predetermined ratio to the level at said output terminal at a predetermined time, means for periodically isolating said means for storing from operative interconnection with said output terminal and placing said means for storing in operative interconnection with said input terminal through a second impedance having a ratio to said first impedance equivalent to said aforementioned ratio for providing reference compensation.



3,448,394
OVERLOAD PROTECTION FOR AMPLIFIERS

Roland O. Rheaume, Racine, Wis., assignor to Webster Electric Company, Inc., Racine, Wis., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,312
Int. Cl. H03f *3/04, 3/26, 17/00*
U.S. Cl. 330—11 7 Claims

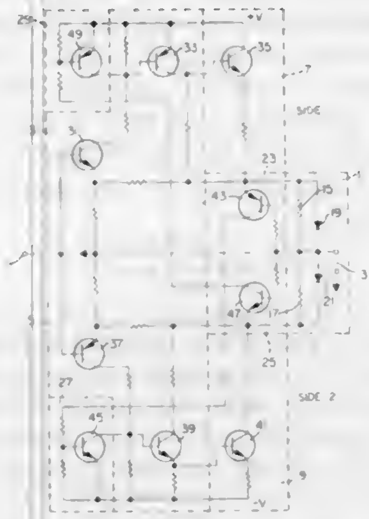


The push-pull transistor output stage of an amplifier is protected against overload by a circuit responsive to the transistor output signals. Detecting elements connected to each transistor develop a signal proportional to the output signal of the corresponding transistor. A third transistor is connected in common to the detecting elements and is rendered conductive if an overload condition exists to gate an SCR thereby to short circuit the operating bias of a preamplifier stage. A manual switch in the SCR current path is opened to return the circuit to its original condition. Alternatively a switch responsive to energization of a lamp in circuit with the SCR may be used automatically to interrupt current flow.

3,448,395
POWER AMPLIFIER SIMULTANEOUS CONDUCTION PREVENTION CIRCUIT

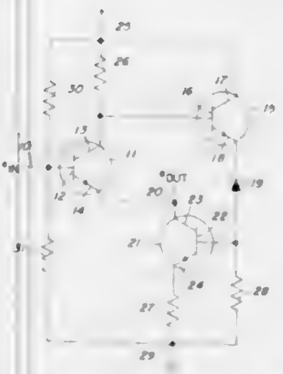
Robert R. Webb, Los Angeles, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 16, 1967, Ser. No. 675,476
Int. Cl. H03f *3/18, 3/26, 3/68*
U.S. Cl. 330—13 5 Claims

A circuit network for preventing simultaneous conduction of two parallel connected stages each responsive to signals of opposite polarity. The network includes sensing means which sense the conductive state of each stage. When one stage is conducting, a gate network responds to the sensed signal of the conducting side and places the other side in a non-conductive state and holds it in a non-conductive state until said conducting stage ceases conduction.



3,448,396
ELECTRONIC CIRCUIT-DIRECT COUPLED TOTEM POLE EMITTER FOLLOWER

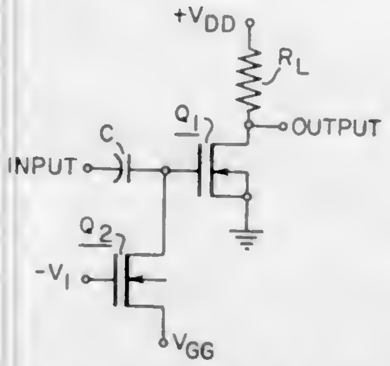
Paul L. Conant, Sr., Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 21, 1966, Ser. No. 603,565
Int. Cl. H03f *3/42, 3/04, 3/68*
U.S. Cl. 330—24 5 Claims



A totem pole emitter follower utilizes a single input transistor and two amplifying transistors to feed back the emitter signal and the input transistor and thereby achieve increased amplification and frequency stability of the circuit. A voltage limiting device is included to limit the voltage excursion of the output signal.

3,448,397
MOS FIELD EFFECT TRANSISTOR AMPLIFIER APPARATUS

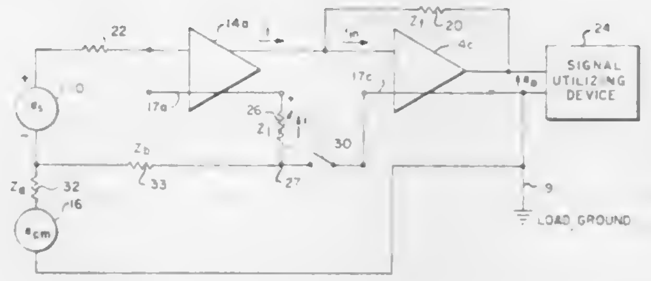
Hung Chang Lin, Silver Spring, and Herman W. van Beek, Laurel, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 15, 1966, Ser. No. 565,594
Int. Cl. H03f *3/14, 3/04*
U.S. Cl. 330—38 9 Claims



A circuit with means for biasing the gate of a first field effect transistor is provided by an additional field effect transistor with electrical coupling between the drain of the second transistor to the gate of the active device. Potential is applied to operate the second transistor in cutoff so that it exhibits a large resistance suitable for biasing, by means of a potential applied to the source thereof, the gate of the active device.

3,448,398
DIFFERENTIAL DIRECT-COUPLED AMPLIFIER ARRANGEMENTS

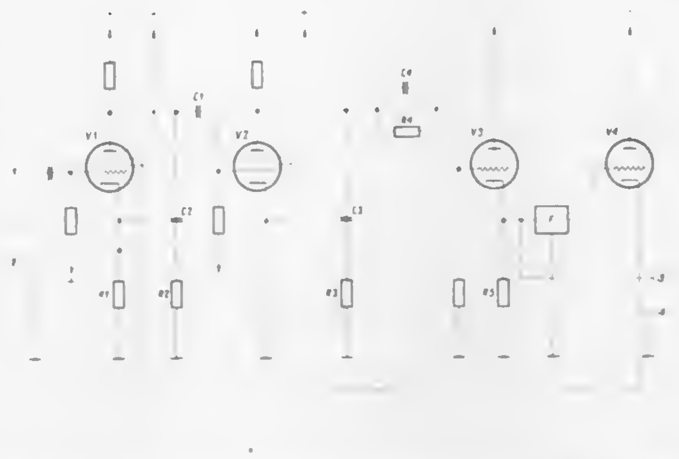
Newton E. Ball, Claremont, and Garry Carter Gillette, Costa Mesa, Calif., assignors to Neff Instrument Corporation, a corporation of Delaware
Filed Feb. 17, 1965, Ser. No. 433,265
Int. Cl. H03f *1/00, 1/14*
U.S. Cl. 330—69 9 Claims



Direct-coupled amplifier configurations exhibiting a high common mode rejection capability for electrical signals which is realized by the maintenance of the input terminals of the amplifier stages isolated with respect to a reference potential.

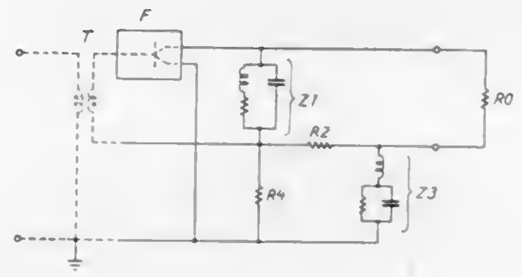
3,448,399
CIRCUIT OF A VACUUM-TUBE, A.C.-COUPLED AMPLIFIER OPERATING IN CONJUNCTION WITH SELECTIVE NEGATIVE FEED-BACK QUADRIPOLES

Jerzy Leslaw Naglowski, Goszczynskiego-St. No. 36, Warsaw, Poland, and Marian Hoscilowicz, Stoleczna-St. No. 7, Warsaw, Poland
Filed Dec. 29, 1964, Ser. No. 421,836
Claims priority, application Poland, Aug. 7, 1964, P 104,778
Int. Cl. H03f *1/22, 3/36*
U.S. Cl. 330—88 5 Claims



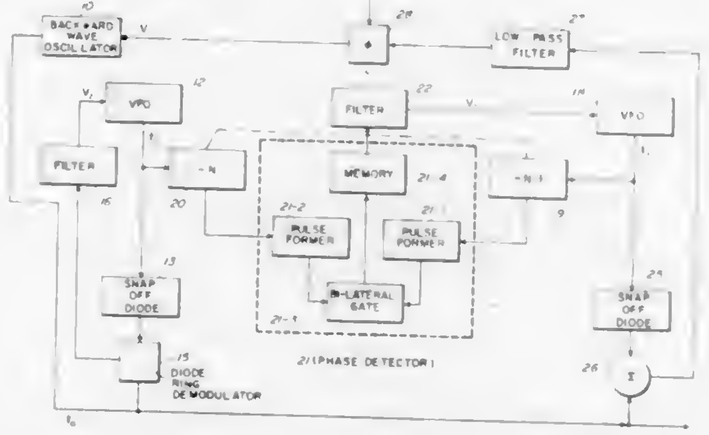
A frequency selective, negative feedback amplifier includes a frequency selective quadripole between the cathode of a cathode follower output stage and the control grid electrode of a cathode follower negative feedback stage, the cathode of which is coupled to the cathode of an input stage to share a common cathode resistor therewith.

3,448,400
ARRANGEMENT FOR VARYING THE FEEDBACK OF AN AMPLIFIER
Hans-Jürgen Breuer, Alvsjo, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Nov. 30, 1967, Ser. No. 686,909
Claims priority, application Sweden, Jan. 24, 1967, 1,039/67
Int. Cl. H03f *1/36, 3/52*
U.S. Cl. 330—109 1 Claim



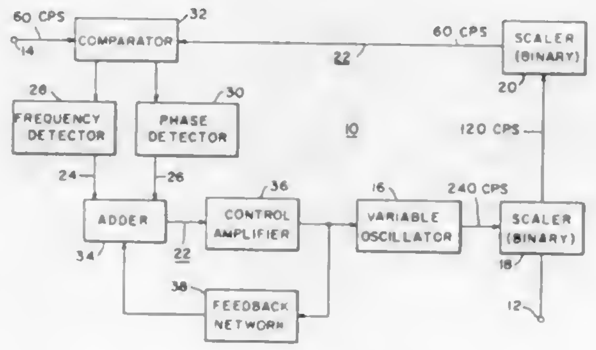
The present invention relates to an arrangement for decreasing the feedback of a reverse feedback amplifier with increasing frequency and for increasing the feedback with decreasing frequency in order to vary the amplification when a signal is supplied through a load impedance, for example a line with frequency dependent attenuation. The feedback variation is accomplished by means of a bridge circuit having frequency dependent impedances in opposite arms thereof, a load impedance in another arm, and an impedance in the remaining arm which has a value equal to the load impedance. One bridge diagonal is connected to the amplifier output terminals and the other diagonal contains an impedance having a value equal to the load impedance. The inverse feedback path is connected from one terminal of the said other diagonal to the input of the amplifier.

3,448,401
DIGITAL FREQUENCY SYNTHESIZER ELIMINATING HIGH SPEED COUNTERS
Duraine E. Welch, Jr., Baltimore, Md., assignor to The Bendix Corporation, Baltimore, Md., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 662,991
Int. Cl. H03b *3/08*
U.S. Cl. 331—2 20 Claims



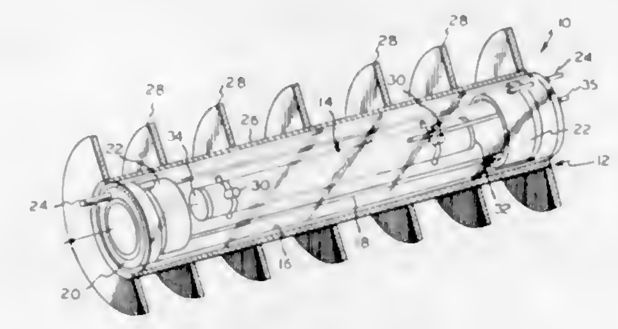
A digitally controlled multichannel frequency synthesizer using a voltage controlled oscillator to generate coherent microwave frequencies. A second voltage controlled oscillator generates a second lower frequency in response to the generated microwave frequency and the J^th^ harmonic of the second frequency. A third voltage controlled oscillator generates a third frequency which is related to the second frequency. The K^th^ of the harmonic of the third frequency is mixed with the generated microwave frequency and compared to a reference frequency so as to generate an error voltage which is used to set the output frequency of the microwave generating voltage controlled oscillator.

3,448,402
PHASE LOCKED OSCILLATOR
Clyde A. Booker, Jr., Churchill, Pittsburgh, and Francis T. Thompson, Penn Hills Township, Verona, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1965, Ser. No. 505,533
Int. Cl. H03b *3/04*
U.S. Cl. 331—8 7 Claims



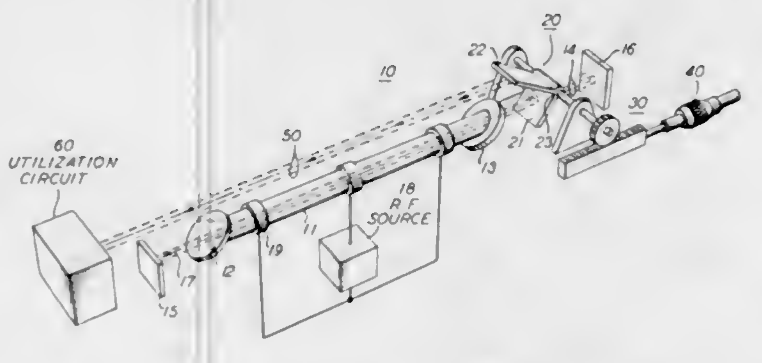
A variable frequency voltage controlled unijuncton transistor oscillator generates an output which is phase locked to the steady state phase and frequency of a reference power line signal having a nominal frequency of 60 cycles per second. A frequency control loop and a phase control loop detect frequency and phase errors and vary the oscillator control voltage to produce the phase locked output. The response of the frequency and phase controls is set to provide phase lock to reference signal changes which persist for a predetermined minimum duration.

3,448,403
LASER STRUCTURE WITH LASER ELEMENT INSERTED CONCENTRICALLY WITHIN CYLINDRICAL LIGHT PUMP TUBE
Nicholas Vislocky, 65 St. Marks Place, New York, N.Y. 10003
Filed Jan. 15, 1964, Ser. No. 337,897
Int. Cl. H01s *3/02*
U.S. Cl. 331—94.5 8 Claims



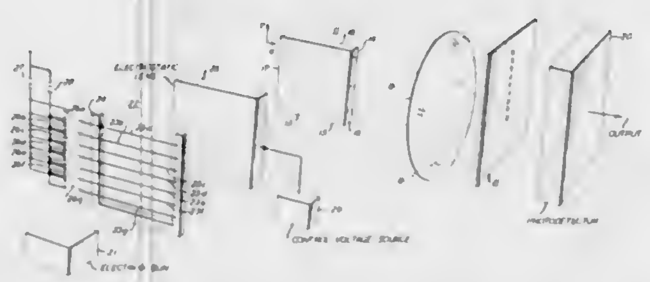
The present invention relates to an improved laser structure consisting of a laser element in the form of a cylindrical crystal rod and a light pump defined by a transparent inner cylindrical tube disposed concentrically outwardly of the laser element, and equal length transparent outer cylindrical tube having a fully reflective covering on the outer surface thereof, means sealing the space between the inner and outer tubes at the ends thereof, and a pair of circular electrodes mounted co-axially between the tubes, one at each end thereof and connected through an adjacent sealing means to a source of electrical current. The light pump may be modified to form a gas laser by providing a semi-reflective material coating on the inner surface of the inner cylindrical tube.

3,448,404
NONTRANSLATING VARIABLE OUTPUT COUPLER FOR OPTICAL MASERS
Ross A. McFarlane, Mountainside, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 22, 1965, Ser. No. 515,791
Int. Cl. H01s *3/05*
U.S. Cl. 331—94.5 2 Claims



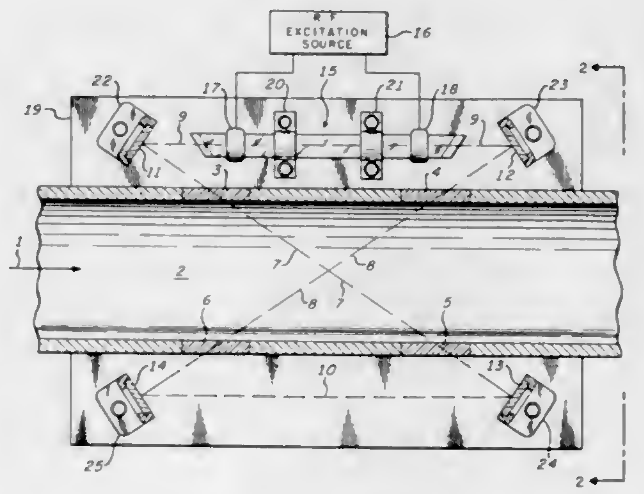
A nontranslating variable output coupler includes a thin slab of material transparent to laser radiation placed in the optical cavity near, but not at, Brewster's angle. An opaque plane mirror is joined at right angles to the thin slab and the assembly is pivoted about an axis through its line of intersection. Energy is coupled from the cavity in an amount related to the deviation of the thin slab from Brewster's angle and along a path parallel to the resonator axis.

3,448,405
SCANNING LASER
Peter A. Wolff, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 17, 1966, Ser. No. 528,220
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 7 Claims



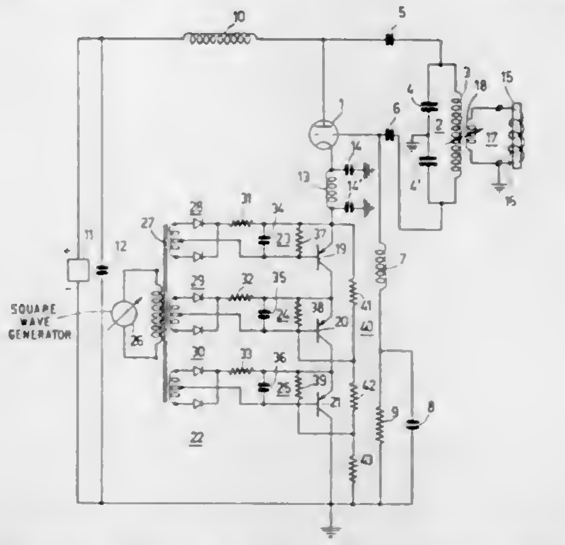
1. Apparatus comprising a body of semiconductor material providing therein upper and lower energy levels appropriate for the stimulated emission of radiation, said body having a preferred surface through which said radiation is emitted, and means for pumping said body inhomogeneously to produce between said levels a population inversion varying through at least two maxima and a minimum therebetween in a plane transverse to the normal to said preferred surface.

3,448,406
LASER FLUID FLOW SENSOR INSENSITIVE TO ROTATION
Robert E. McClure, Locust Valley, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Apr. 5, 1966, Ser. No. 540,261
Int. Cl. H01s *3/05*
U.S. Cl. 331—94.5 6 Claims



5. A device for sensing fluid flow comprising
a conduit having an axis along which said fluid flow occurs,
said conduit being transparent at a plurality of points to permit crossed light beams to propagate across said conduit at other than right angles relative to said axis,
a ring laser having a closed loop resonant cavity comprising two component triangular closed loops together conforming generally to the figure eight,
four sides of said two triangular closed loops constituting the optical paths for said crossed beams.

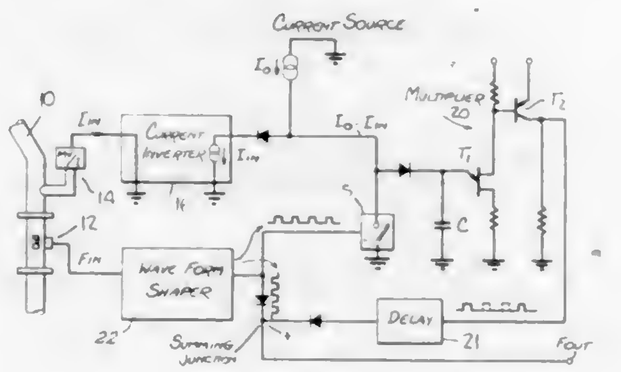
3,448,407
CATHODE CURRENT REGULATED HIGH FREQUENCY OSCILLATOR
Willem Lankreijer, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 26, 1966, Ser. No. 568,039
Claims priority, application Netherlands, Aug. 28, 1965, 6511265
Int. Cl. H03b *5/08, 5/18*
Int. Cl. 331—167 ˙12 Clalms



A high frequency power oscillator includes a plurality of series connected control transistors connected in series with the oscillator electron tube in the cathode circuit. The output power of the oscillator is controlled over a wide range by coupling a source of adjustable current to the base electrode of each transistor. Amplitude control can be obtained by controlling the source of current with a feedback coupling from the output of the oscillator.

3,448,408
FREQUENCY MODIFICATION OF PULSE TRAIN AS A FUNCTION OF AN ANALOG SIGNAL

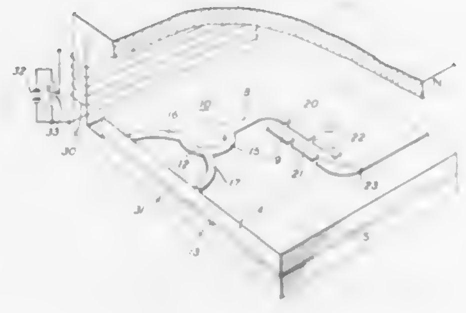
Joseph Wapner and Eugene Nines, Levittown, and Isao Asai, Hatboro, Pa., assignors to Fischer & Parter Co., Warminster, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1966, Ser. No. 536,431
Int. Cl. H03k *7/10*
U.S. Cl. 332—9 **11 Claims**



A technique for modifying the frequency of a pulse train whose frequency represents a first variable, such as flow rate, as a function of an analog signal representing a second variable such as temperature. The technique involves dividing the pulse train by N, where the numerical value of N is a function of the analog signal, the resultant divided train being interleaved with the original train to produce an output train whose frequency depends on both variables.

3,448,409
INTEGRATED MICROWAVE CIRCULATOR AND FILTER

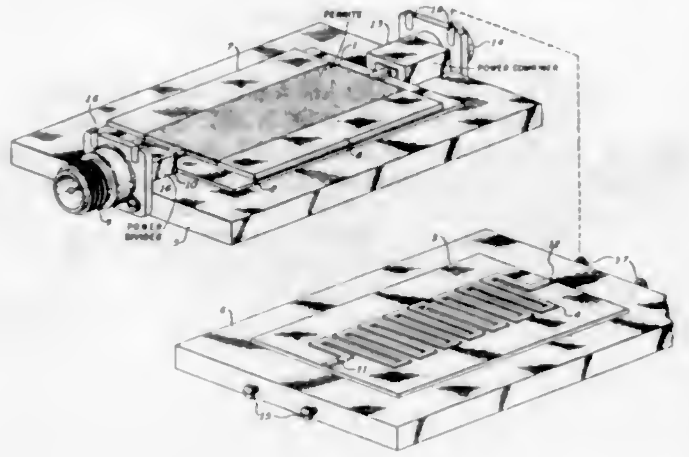
Louis F. Moose, Quakertown, and Masahiro Omori, Allentown, Pa., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 24, 1967, Ser. No. 685,350
Int. Cl. H01p *1/32*
U.S. Cl. 333—1.1 **5 Claims**



An integrated microwave strip assembly including a filter and a circulator in which a single slab of ferrite comprises jointly the substrate of a circulator pattern and the substrate of a reactive pattern. The entire slab is magnetically biased so that the part comprising the substrate of the circulator produces the desired nonreciprocal coupling and the part comprising the substrate of the reactive pattern tunes the reactances to resonance at a frequency dependent on the magnetic bias.

3,448,410
BROADBAND RECIPROCAL DUAL MEANDER LINE FERRITE PHASE SHIFTER

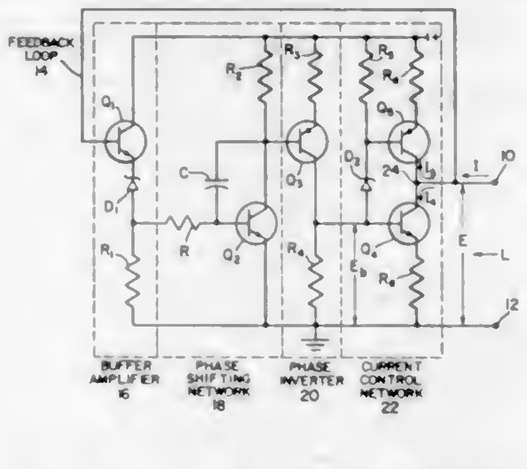
Joe K. Parks, Clearwater, Fla., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed May 25, 1967, Ser. No. 641,343
Int. Cl. H03h *7/30*
U.S. Cl. 333—31 **4 Claims**



A phase shifter having a reciprocal phase delay characteristic substantially independent of frequency comprising a pair of folded strip line (meander line) conductors parallel to each other with each line being mirror symmetric with respect to the facing side of the other line. A ferrite slab is located midway between the two meander lines. An input microwave signal is applied to one end of each of the lines with the same amplitude and the same phase. The other ends of the two lines are combined to provide a phase delayed output signal.

3,448,411
SYNTHETIC INDUCTOR COMPRISING A PHASE-SHIFTING NETWORK FOR SYNTHESIZING THE INDUCTANCE

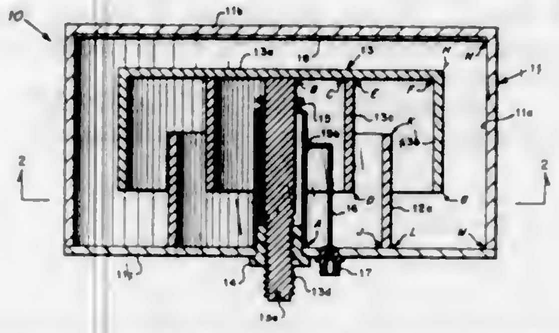
Marvin L. Patterson, 3975 Vincente, Camarillo, Calif. 93010
Filed Mar. 23, 1967, Ser. No. 625,930
Int. Cl. H01p *1/24*
U.S. Cl. 333—80 **5 Claims**



A circuit for simulating the electrical characteristics of a conventional air-core or iron-core inductance coil, the invention arrangement being made up solely of resistors, capacitors, and active elements such as transistors. These components are capable of being micro-miniaturized into a unit of greatly reduced overall size and weight as compared to a standard inductor, particularly at low frenquencies. Not only is the "Q" of the invention circuit higher than that of the member which it replaces, but the former is more versatile in that its output inductance can be varied over a relatively wide range.

3,448,412
MINIATURIZED TUNABLE RESONATOR COMPRISING INTERMESHING CONCENTRIC TUBULAR MEMBERS

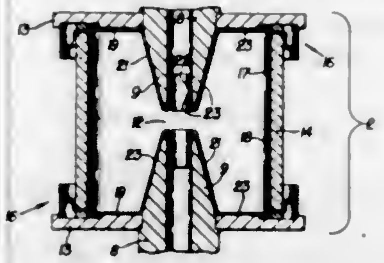
Einar C. Johnson, Hatboro, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 21, 1967, Ser. No. 634,050
Int. Cl. H01p *7/00, 7/04*
U.S. Cl. 333—82 **4 Claims**



A miniaturized tunable coaxial resonator for use at high frequencies with high Q comprising intermeshing concentric tubular members in a shielded housing forming a folded coaxial line with capacitive loading and a variable impedance coupling loop.

3,448,413
R-F WINDOW FOR HIGH POWER ELECTRON TUBES

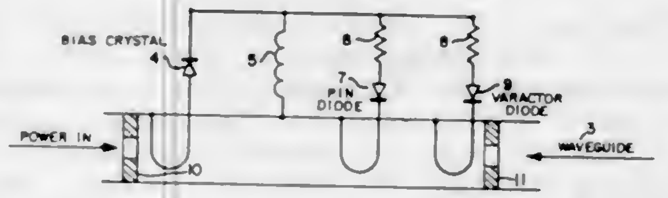
Donald H. Preist, Mill Valley, and Ruth Carlson Talcott, Berkeley, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Original application Apr. 16, 1962, Ser. No. 187,521, now Patent No. 3,252,034. Divided and this application Sept. 27, 1965, Ser. No. 490,204
Int. Cl. H01p *1/00, 7/06*
U.S. Cl. 333—98 **4 Claims**



Failure of windows transparent to radio-frequency electromagnetic energy due to single surface and two surface multipactoring of electrons involving the window is described. Window structures including means for preventing such failure are disclosed and the manufacture of such structures and their incorporation into a radio frequency device, specifically a klystron, are described.

3,448,414
FAST RECOVERY SWITCH LIMITER CIRCUIT

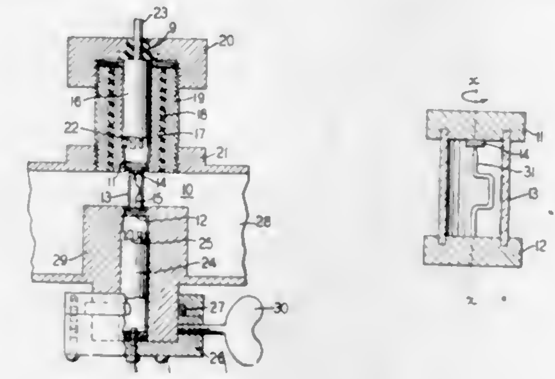
Robert H. Brunton III, West Acton, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 16, 1967, Ser. No. 640,443
Int. Cl. H01p *1/10*
U.S. Cl. 333—98 **3 Claims**



A fast recovery overload protection switch for a microwave system including a variable capacitance semiconductor circuit responsive to power pulses greater than a predetermined level. Upon the discharge of the stored charge on the capacitive circuit through an inductive discharge path, the resonance of the tuned cavity is detuned thus protecting the sensitive crystals within the microwave system.

3,448,415
TUNABLE CRYSTAL DIODES

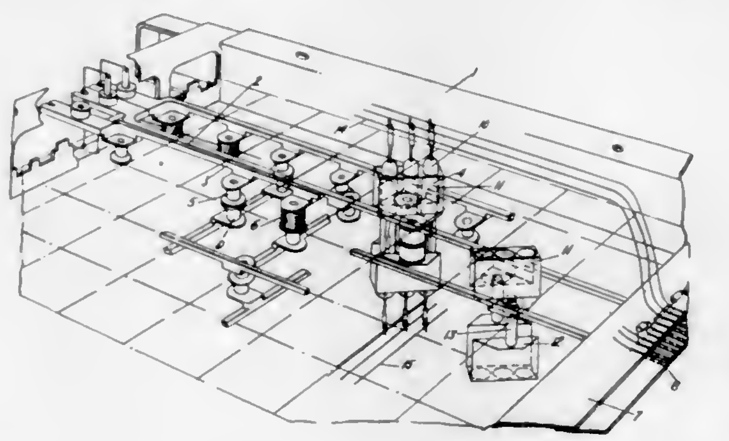
Bernard C. De Loach, Jr., Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 200,212, June 5, 1962. This application Aug. 1, 1968, Ser. No. 749,441
Int. Cl. H01p *1/20*
U.S. Cl. 333—98 **13 Claims**



In a crystal diode, the self-inductance of the crystal contacting element is advantageously employed to resonate with the diode's self-capacitance. Recognizing that in an inhomogeneous electromagnetic field the inductance of a conductive member varies as a function of its position within the field, tuning is accomplished by introducing an asymmetry in the geometry of the diode contacting element, and providing means for rotating the diode about some reference axis. It is an advantage of the invention that the diode can be tuned in situ and under normal operating conditions.

3,448,416
SWITCHING DEVICE IN MATRIX FORM

André Latrubesse and Maxime Hullot, Paris, and Gérard Govaerts, Maison-Laffitte, Yvelines, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 22, 1967, Ser. No. 625,136
Claims priority, application France, Mar. 26, 1966, 55,131
Int. Cl. H01h *1/66, 67/14, 51/28*
U.S. Cl. 335—112 **2 Claims**

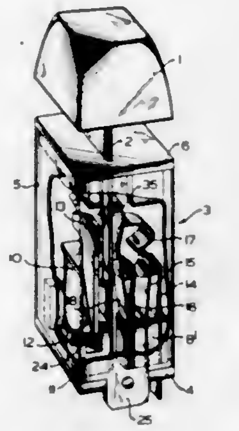


A telephonic coordinate switch formed of a matrix of reed relays of the magnetic-latching type and having each four coils on two cores. The carrier grid of the matrix is formed of moulded rods arranged in two crossed webs.

Each web comprises twin rods between the lines or rows of the reed relays proper (the sets of glass tubes). Each rod carries a line of coils that will be one of the four coils of the adjacent line or row of relays. The relay cores and yokes are assembled in situ after rods with the coils are mounted in the switch frame.

3,448,417
KEY SWITCH ASSEMBLY

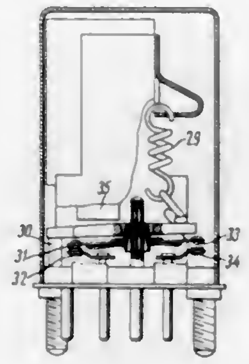
Gerald Schiller and Joachim Hilgendorf, Villingen, Germany, assignors to Kienzle Apparate GmbH, Villingen, Black Forest, Germany
Filed Dec. 1, 1966, Ser. No. 598,314
Claims priority, application Germany, Dec. 1, 1965, K 57,793
Int. Cl. H01h *9/00, 9/26*
U.S. Cl. 335—159 23 Claims



A key switch has a housing with a rectangular cross section so that key switches can be assembled in rows in a keyboard. Each key switch is assembled of components selected from a plurality of components having different functions and being attachable and detachable so that the components can be added to, or omitted from the key switch in accordance with selected functions which the key switch is to perform and all components are located within the housing.

3,448,418
ELECTROMAGNETIC RELAY

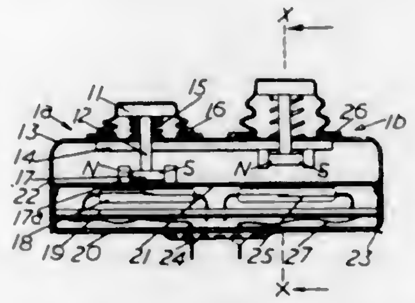
Boris Fedorovich Ivakin, prospekt K. Marxa, 80, kv. 72; Igor Konstantinovich Vavilov, ul. Zhukovskogo, 43/45, kv. 14; Nikolai Konstantinovich Rozental, Yaroslavsky pr., 8, kv. 10; and Vladimir Zinovievich Roizen, Kanal Griboedova, 5, kv. 44, all of Leningrad, U.S.S.R.
Filed Mar. 6, 1967, Ser. No. 620,997
Int. Cl. H01h *3/60*
U.S. Cl. 335—193 3 Claims



An electromagnetic relay in which due to an electric suspension of the armature and a special attachment of the moving contact spring an increased resistance to vibration, linear acceleration and other mechanical overloads is attained. The center of gravity of the armature suspended together with a limiter of vibrations from an elastic element coincides with a point of outlet of the elastic element from the stationary part of the relay with the limiter of vibrations acting closely to the axis of rotation and substantially coinciding with the center of gravity of the armature.

3,448,419
WEATHERPROOF PUSHBUTTON KEY SET EMPLOYING SEALED CONTACTS OPERATED BY A PERMANENT MAGNET

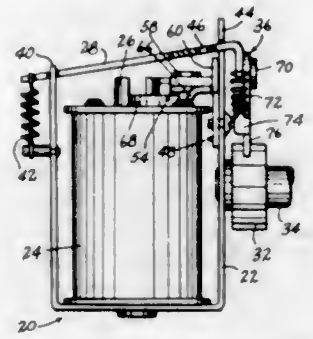
Edward Ronald Myatt, Redbourn, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,537
Claims priority, application Great Britain, Oct. 1, 1965, 41,734/65
Int. Cl. H01h *9/04, 1/66*
U.S. Cl. 335—206 14 Claims



A pushbutton key set is provided with weather-proofing by having each of a plurality of pushbuttons sealed into a box by a flexible bellows cover. Pushbutton shafts are extended from the pushbuttons into the box with magnets attached to the ends within the box. Reed contacts, or other magnetically responsive contacts, are placed within the box to be closed when a magnet is brought within a certain distance by pressing on the pushbutton. Inside the top cover of the box there is a plate of magnetic material which acts as a keeper for each magnet in its reset condition and which also gives the pushbutton a snap action, due to the attraction between the magnet and the plate.

3,448,420
SAFETY LOCK FOR ELECTRICALLY OPERATED RELAYS

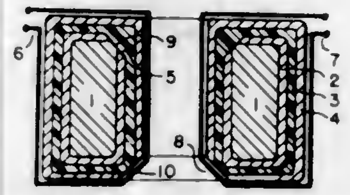
Joseph A. Lotspeich, Florissant, and Joseph F. Lotspeich, St. Louis, Mo., assignors to Warco Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed Oct. 22, 1965, Ser. No. 501,996
Int. Cl. H01f *7/08*
U.S. Cl. 335—253 4 Claims



A relay designed to prevent premature operation due to physical shock. The relay has a spring biased latch operable only upon energization of the relay causing movement of the latch out of locking position under the armature upon operation and freeing the armature for movement. The relay is further provided with a ratchet wheel advancing mechanism, namely a contacting element driven by the armature to advance the ratchet wheel a selected distance, and a stop element is provided to limit the degree of travel of the rachet wheel.

3,448,421
SHIELDED MAGNETIC CORE

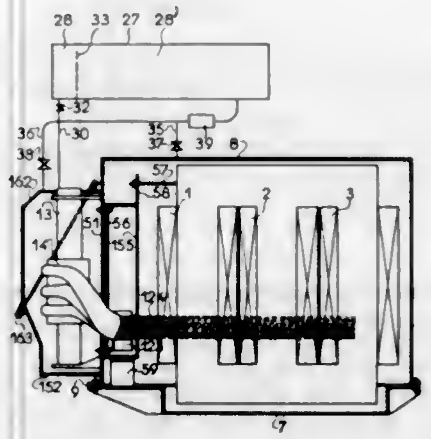
Robert S. Berg, Lexington, and Bradford Howland, Cambridge, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Original application June 7, 1962, Ser. No. 200,748. Divided and this application July 31, 1967, Ser. No. 657,327
Int. Cl. H01f *15/04*
U.S. Cl. 336—84 8 Claims



A low leakage flux magnetic core suitable for use as the core of an inductor or transformer is described. A ferrite core has deposited on it two electrically conductive layers which are separated by an electrically insulating layer of plastic. Each conductive layer has a continuous insulating gap which is parallel to the flux path in the core with the gaps in each layer being on opposite sides of the core from each other.

3,448,422
HOUSING CONSTRUCTION FOR MULTIPLE TAP TRANSFORMER

Jean Marie Derippe, Aix-les-Bains, France, assignor to Compagnie Generale d'Electricite, Paris, France
Filed Oct. 23, 1965, Ser. No. 503,871
Claims priority, application France, Dec. 14, 1964, 998,515
Int. Cl. H01f *27/02, 27/12*
U.S. Cl. 336—94 14 Claims

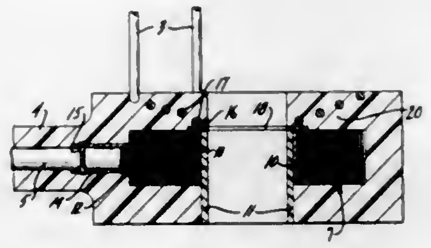


A housing construction for a multiple tap transformer including a first oil filled tank enclosing the active portion of the transformer, a second closed oil filled tank disposed partially within said first closed tank and a third tank within said second tank enclosing a regulating device, conductors passing from said first to said second tanks for interconnecting the transformer and the regulating device.

3,448,423
TRANSFORMER STRUCTURE AND METHOD OF MAKING THE SAME

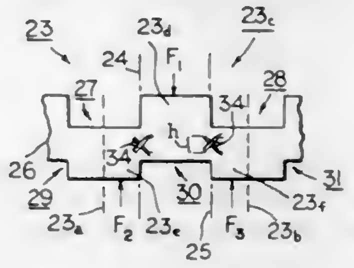
Floyd M. Minks, Kissimmee, Fla., assignor, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 533,542, Mar. 11, 1966. This application Aug. 22, 1968, Ser. No. 755,513
Int. Cl. H01f *27/02, 41/06, 27/30*
U.S. Cl. 336—96 6 Claims

A transformer includes a primary winding wound as a frustoconical-shaped spirally wound coil preferably having inner and outer turns corresponding to the inner and outer diameters of the secondary winding. The secondary winding is an annular or doughnut-shaped member and includes a wire conductor wound on a central insulating tube as a spiral multilayer coil with insulation layers interposed between each turn of the secondary winding. The primary winding is disposed to one side of the secondary coil in coaxial alignment therewith and with the low voltage ends of the primary and the secondary windings in axially aligned relationship. The high voltage turn of the primary is therefore spaced axially from the high voltage turn or turns of the secondary. The spiral primary winding and the secondary winding are potted within an insulating material such as a suitable plastic with the high voltage lead of the secondary projecting outwardly from the periphery of the secondary coil and the leads of the primary winding projecting laterally from the side of the plastic shell.



3,448,424
SHEAR-RESPONSIVE FORCE TRANSDUCERS

Eric Laimins, Belmont, Mass., assignor to BLH Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,872
Int. Cl. G01l *1/22*
U.S. Cl. 338—5 23 Claims

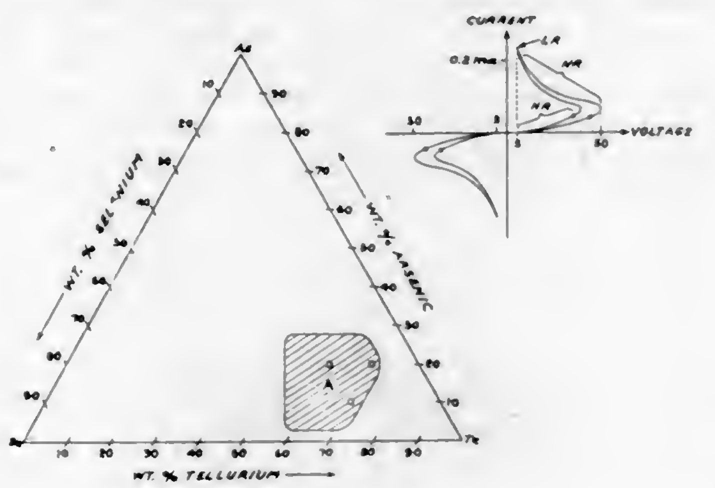


Force-responsive transducers in which substantially pure shear effects cause force-related electrical signals to be produced via associated strain gages are formed by relatively stiff force-transmitting elements of bifurcated but essentially monolithic construction.

3,448,425
SOLID STATE ELEMENT COMPRISING SEMICONDUCTIVE GLASS COMPOSITION EXHIBITING NEGATIVE INCREMENTAL RESISTANCE

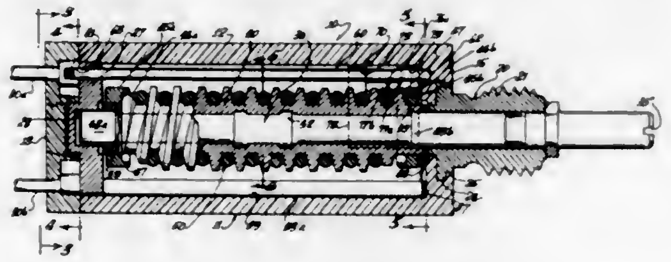
Daniel J. Shanefield, New York, N.Y., and James H. Battle, Boonton, and Paul E. Lighty, Lafayette, N.J., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 605,528
Int. Cl. H01c *7/10*
U.S. Cl. 338—20 5 Claims

A semiconductive glass composition of the ternary group arsenic-tellurium-selenium. The glass has a voltage-current characteristic initially exhibiting relatively high resistance. As the applied voltage is increased, a form of "break over" occurs in which the voltage-current characteristic exhibits negative incremental resistance. If after "break over" has occurred the applied voltage is maintained at a predetermined sustaining value, the glass exhibits relatively low electrical resistance. The glass is stable only in its high resistance state, and reverts to this state when the applied voltage is removed.



3,448,426
INFINITELY ADJUSTABLE POTENTIOMETER

Edward H. Tumbusch, Sepulveda, Calif., assignor to Techno-Components Corporation, Van Nuys, Calif., a corporation of California
Filed May 4, 1966, Ser. No. 547,652
Int. Cl. H01c *5/02*
U.S. Cl. 338—143 **5 Claims**

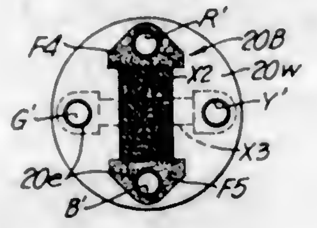


The present invention is an infinitely adjustable potentiometer which includes a coarsely threaded armature mounted within a housing and rotatable from the exterior thereof. A wire resistance element is wound around the armature such that the resistance wire lies between the adjacent sides of each thread turn to form a helix having a number of turns equal to the number of threads along the length of the armature. A contactor is mounted within the housing in slidable contact with the resistance element and is longitudinally movable within the housing in response to rotation of the armature by its engagement with the threads thereof. The contactor is a one piece element having wiper means, thread means, and guide means formed from a single piece of spring metal. Automatic clutching action is provided by means of slip rings which act as shorting bars such that no variation of output occurs at the ends of travel of the contactors along the armature.

3,448,427
RESISTIVE ADJUNCT DEVICE AND COMPONENT

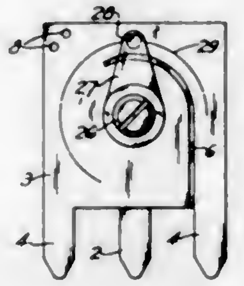
John R. Baskett, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Dec. 4, 1967, Ser. No. 687,652
Int. Cl. H01c *5/02*
U.S. Cl. 338—162 **8 Claims**

A resistive adjunct device of disc or wafer configuration with conductive terminal apertures therein is adapted and arranged to receive therethrough respective pins of a miniature single-turn variable resistive component and to thereby electrically and mechanically integrate the two whereby resistance range may optionally be considerably modified. The wafer-like adjunct device is electrically and mechanically integrated with the variable resistive component by being pressed onto the pin terminals of the latter, thus forming a device which is incorporated into circuit board circuitry by plugging-in and soldering in the manner usual in circuit-board wiring.



3,448,428
VARIABLE RESISTOR WITH RECTANGULAR RESISTANCE ELEMENT

Mogens W. Bang and Earl A. Hanson, Ridgway, Pa., and Frederick E. Eichmiller, deceased, late of St. Marys, Pa., by Gloria Eichmiller, administratrix, St. Marys, Pa., assignors to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania
Filed Oct. 23, 1967, Ser. No. 678,159
Int. Cl. H01c *5/02, 13/00*
U.S. Cl. 338—162 **13 Claims**

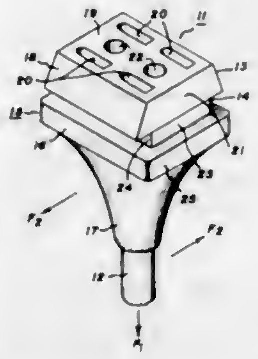


A substantially rectangular substrate supports a coating of resistance material having electric terminals at two adjacent corners. The coating also has a gap in it extending from the edge between the terminals toward its opposite edge and then part way around the center of the coating, with the outer end of the gap located close to one of the terminals. Part of an arcuate resistance path for a sliding contact extends between the outside of the gap and the adjacent edge of the coating.

3,448,429
COMBINED CORD CONNECTOR AND STRAIN RELIEF WITH RECEPTACLE

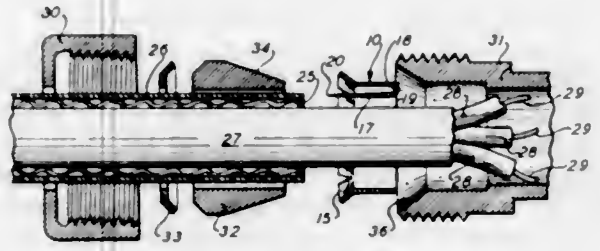
Norman Szeremy and Andrew Highland, Jr., Syracuse, N.Y., and Charles E. Elwell, deceased, late of North Syracuse, N.Y., by Betty D. Elwell, administratrix, Coleman, Tex., assignors to General Electric Company, a corporation of New York
Filed Dec. 5, 1967, Ser. No. 688,276
Int. Cl. H01r *11/04, 13/58*
U.S. Cl. 339—61 **5 Claims**

A combined cord connector and strain relief including a tapered portion, a neck portion, and a shoulder portion is inserted into an opening in a receptacle including a well portion and a retention portion. The combined cord connector and strain relief is of a rectangular cross-sectional configuration across its longitudinal axis and the opening in the receptacle is of a mating configuration. The tapered portion of the cord connector and strain relief includes two opposing inclined deflecting surfaces which flare outwardly in contrast to a neck portion of reduced cross-sectional area retained by inwardly projecting catch members in the retention portion of the receptacle. The shoulder portion of the cord connector and strain relief extends into mating relationship with the well portion so as to resist a disconnecting force normal to the axis of the connection.



3,448,430
GROUND CONNECTOR

William E. Kelly, Bradley Beach, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 611,176
Int. Cl. H01r *13/46, 17/18;* **H02g** *15/02*
U.S. Cl. 339—143 **4 Claims**

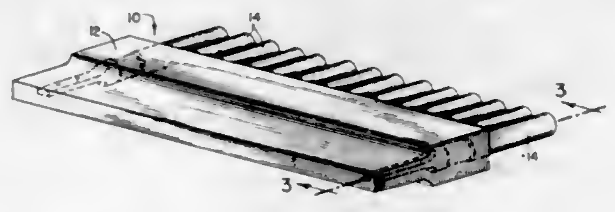


In a connector for securing jacketed, metal clad (armored) cable to a termination point or connector body, a grounding ring having a tooth portion formed thereon to be inserted between the outer surface of the armor and the inner diameter of the jacket, locating the tooth and ring in proper position for the grommet's action. A gland nut and retainer ring and the grommet are disposed at one side and connector body on the other side of the grounding ring. The cable is prepared by cutting the armor and jacket at one end; the cable is threaded through the gland nut, retaining ring and grommet and the grounding ring is inserted between the armor and jacket, all the way, and the parts are assembled, with the gland nut engaging the connector body member.

3,448,431
CONTACT CARRIER STRIP

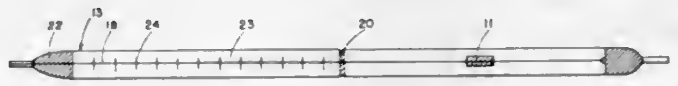
Christian Adrien, West Newton, Mass., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,379
Int. Cl. H01r *5/04, 13/50, 11/16*
U.S. Cl. 339—176 **8 Claims**

This invention relates to a thermoplastic contact carrier strip with a plurality of contacts embedded therein. The contact carrier strip is mated to a conductor carrying ribbon by means of welding electrodes which expose the conductors and contacts for electrical conduction by melting the thermoplastic.



3,448,432
ISOLATOR FOR TOWED HYDROPHONE

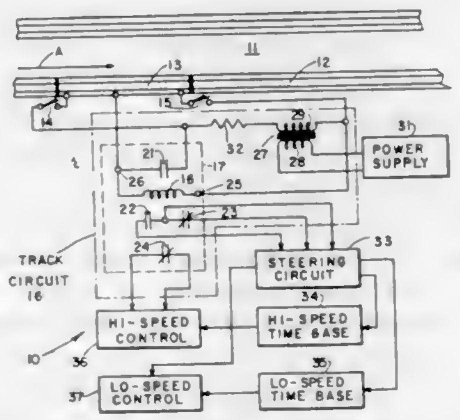
Francis W. Watlington, Pembroke, Bermuda, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 2, 1967, Ser. No. 680,157
Int. Cl. H04b *13/02*
U.S. Cl. 340—5 **9 Claims**



An isolator is provided which is formed of a fluid-filled compliant member so as to induce fluid flow upon the occurrence of selected tension in the towing cable. Baffles are secured within the member either to axially extending electrical conductors or to the inner surface of the member to cause energy dissipating turbulence.

3,448,433
OVERSPEED AND UNDERSPEED ALARM SYSTEM

Robert B. McCune, Allendale, N.J., assignor to Abex Corporation, a corporation of Delaware
Filed Jan. 18, 1966, Ser. No. 521,310
Int. Cl. B61l *3/02;* **G08b** *21/00*
U.S. Cl. 340—47 **6 Claims**



A speed control for a railroad classification yard comprising a pair of track switches, a track circuit actuated on and off by the track switches, a steering circuit actuated on for a predetermined time period each time the track circuit goes on, an overspeed time base and an underspeed time base each actuated on for an independent period when the steering circuit goes on, an overspeed control for performing one control function when the track circuit goes off before the overspeed time base turns off, an auxiliary switching device turned on by the underspeed time base and turned off by the track circuit, and an underspeed control device that performs a second control function whenever the underspeed time base turns off before the track circuit turns off.

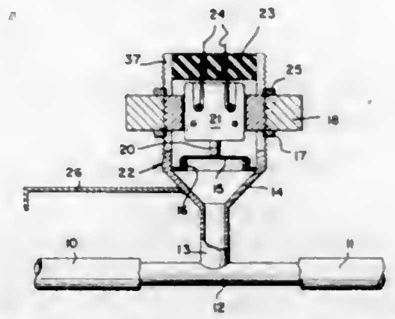
3,448,434
DECELERATION WARNING-INDICATION SYSTEM FOR MOTOR VEHICLES

Albert C. Nolte, Jr., Oyster Bay Cove, and Allison C. Collard, Douglaston, N.Y., assignors to The Elton Industries Corporation, New York, N.Y., a family holding company

Filed Mar. 23, 1966, Ser. No. 536,885

Int. Cl. G60r *25/10*

U.S. Cl. 340—71 **3 Claims**



Apparatus for producing a warning indication for a decelerating vehicle which senses changes in fluid quantity to the engine, either in a vacuum line or in the fuel line of the engine. In order to produce the warning indication, the apparatus uses a pressure-actuated switch provided with a plunger, the latter being activated by a moving diaphragm.

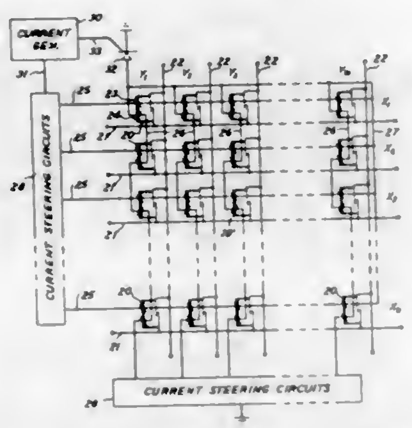
3,448,435
MAGNETIC REED SWITCHING MATRIX

Roger A. Billhardt, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, and Berkeley Heights, N.J., a corporation of New York

Filed June 17, 1966, Ser. No. 558,324

Int. Cl. G11b *5/00;* **H04q; H01f** *27/42*

U.S. Cl. 340—166 **19 Claims**



1. An electrical switch circuit comprising a plurality of magnetically responsive switch devices arranged in rows and columns, each of said switch devices having a first winding and an oppositely poled, second winding thereon, a plurality of row conductors, each including the first windings of the switch devices of a row, a plurality of column conductors each including the second windings of the switch devices of a column, and means for selectively applying first and second decaying alternating currents of substantially equal frequency and amplitude to said row and column conductors, respectively, one of said first and second currents being applied one-half cycle before the other.

3,448,436
ASSOCIATIVE MATCH CIRCUIT FOR RETRIEVING VARIABLE-LENGTH INFORMATION LISTINGS

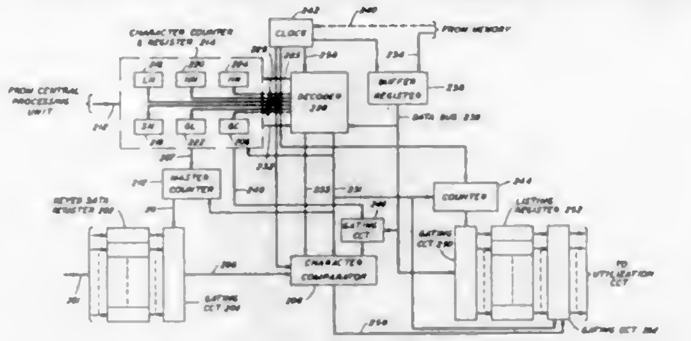
Richard E. Machol, Jr., Long Branch, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Nov. 25, 1966, Ser. No. 596,934

Int. Cl. G11b *13/00*

U.S. Cl. 340—172.5 **5 Claims**

A match circuit is disclosed for comparing variable amounts of externally-applied data with variable portions of data listings retrieved from a memory. The data listings may be composed of variable-length sublistings which are in turn composed of variable numbers of data character. Variable amounts of the externally-applied data may be compared with any portion or portions of the data listings. Upon the occurrence of a match, the data listing being examined is transferred to a utilization circuit.



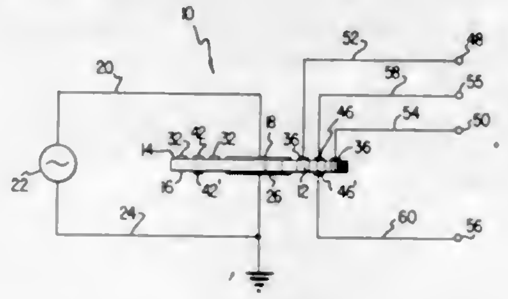
3,448,437
CERAMIC MEMORY DEVICE

Charles W. H. Barnett, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 22, 1965, Ser. No. 515,703

Int. Cl. G11b *5/44*

U.S. Cl. 340—173.2 **5 Claims**



A piezoelectric ceramic memory unit which has separate write-in and read-out electrodes and which does not utilize switches. A signal is stored in the ceramic body by applying a D.C. potential to a preselected area of the body which is preferably in the form of a disc. Through remnant polarization, the binary state of the pre-selected area may be established and stored indefinitely and later detected from the read-out electrodes.

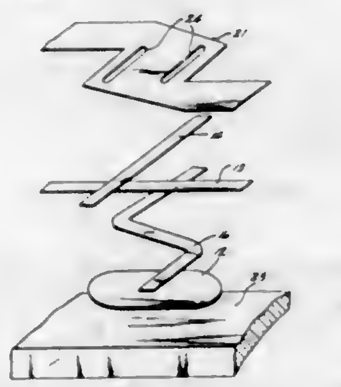
3,448,438
THIN FILM NONDESTRUCTIVE MEMORY

Jay M. Hansen, Santa Monica, and Michael May, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,112

Int. Cl. G11b *5/00*

U.S. Cl. 340—174 **6 Claims**



A thin film nondestructive readout memory in which digital words can be written in and read out on a word-by-word basis. The writing is a rotational switching operation performed by magnetic fields generated by two intercepting current-carrying lines, one of which produces a magnetic field along the axis of anisotropy and the other of which is transverse. The reading is a ferromagnetic resonance detection operation performed by the magnetic fields generated by two intercepting zigzag, current carrying lines in which one of the zigzag lines generates an R.F. magnetic field transverse to the axis and the other line generates a D.C. magnetic field along the axis. The magnetic state of the thin film magnetic element is read out by shifting the internal magnetization with the D.C. field and detecting the resultant change in the R.F. power absorbed.

3,448,439
METHOD AND APPARATUS FOR ELIMINATING INTERFERENCE OUTPUT SIGNALS IN A MEMORY STORER

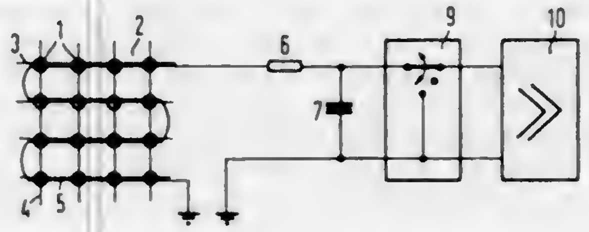
Ernst Feldtkeller, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Mar. 31, 1965, Ser. No. 444,210

Claims priority, application Germany, Apr. 3, 1964, S 90,367

Int. Cl. G11b *5/00;* **H03k** *15/04;* **H01f** *27/42*

U.S. Cl. 340—174 **2 Claims**



A method and apparatus for effecting the suppression of bipolar output interference impulses which arise in coincidence reading of a memory storer implying magnetic layers, actuatable through the reversible rotary processes of the partially controlled thin magnetic layers, in which, following the reading out of selected impulses, such impulses are integrated and upon the voltage of the integrated pulses reaching a predetermined value approaching a maximum value, the integrated impulse is applied to and amplified, the apparatus illustrated employing switching means disposed between the integrating means and the amplifying means to selectively apply the integrated pulse to the amplifying means.

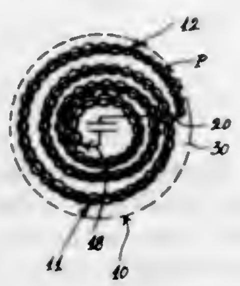
3,448,440
INTERCEPTOR TRANSFORMER PROXIMITY KEY

John R. Wiegand, Valley Stream, N.Y., assignor to Wiegand Electronics Co., Inc., Union County, N.J., a corporation of New Jersey

Filed Dec. 17, 1965, Ser. No. 514,555

Int. Cl. G11b *5/00, 5/20*

U.S. Cl. 340—174 **10 Claims**



1. A magnetic proximity key comprising a flat spiral coil of electrically conductive wire, a first magnetic wire winding wound uniformly in one direction helically around the electrically conductive wire from end to end thereof and insulated electrically from the coil, a second magnetic wire winding wound uniformly in an opposite direction helically around the electrically conductive wire of the coil and around the first magnetic wire winding, said second winding being electrically insulated from the coil and first winding, each turn of the second winding intersecting a turn of the first winding, said coil and windings constituting an interceptor transformer magnetically balanced by the two windings, and a capacitor connected across inner and outer ends of said spiral coil to constitute a tuned resonant circuit with said coil, whereby damped magnetic wave trains arriving at said circuit are magnetically memorized by said interceptor transformer during a major portion of each wave train, and magnetic pulses representing the memorized wave trains are reradiated magnetically from said interceptor transformer during a portion of each initial one half cycle of each successive wave train, the reradiated magnetic pulses having a frequency corresponding to the resonant frequency of the tuned circuit.

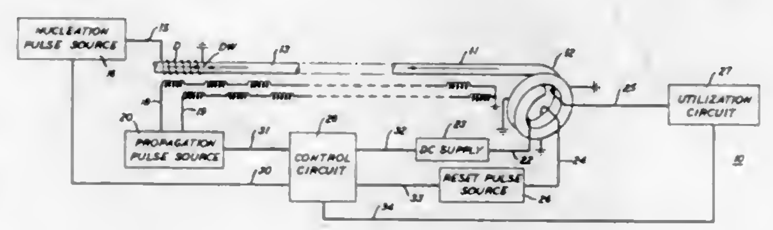
3,448,441
INCREASED AMPLITUDE DOMAIN DEVICE

Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 8, 1966, Ser. No. 532,624

Int. Cl. G11b *5/62*

U.S. Cl. 340—174 **5 Claims**



A magnetic domain propagation medium exhibits an augmented output when interrogated if the output portion of the medium is wound into a coil geometry through which a domain wall is propagated prior to the interrogation operation.

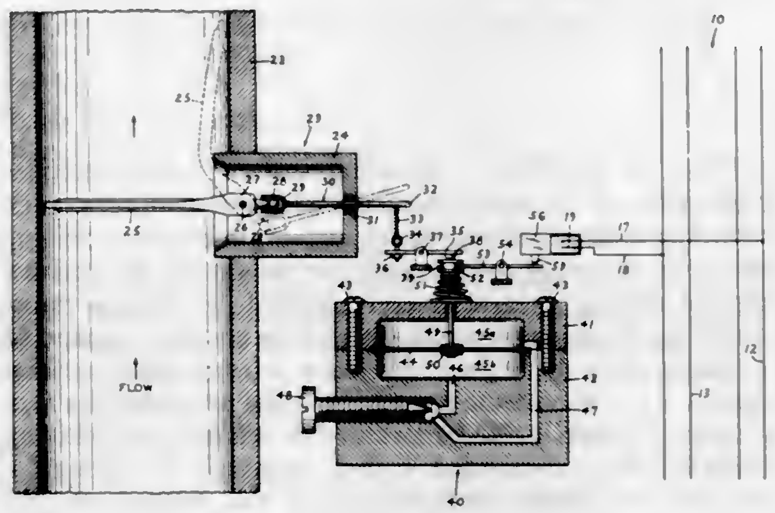
3,448,442
METHOD AND APPARATUS FOR DETECTING WATERFLOW INCLUDING A NON-INSTANTANEOUSLY RECYCLING RETARD ELEMENT

Arthur B. Hube, Huntington Station, N.Y., assignor to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey

Filed Apr. 30, 1965, Ser. No. 452,281

Int. Cl. G08b *21/00;* **H01h** *35/40, 47/18*

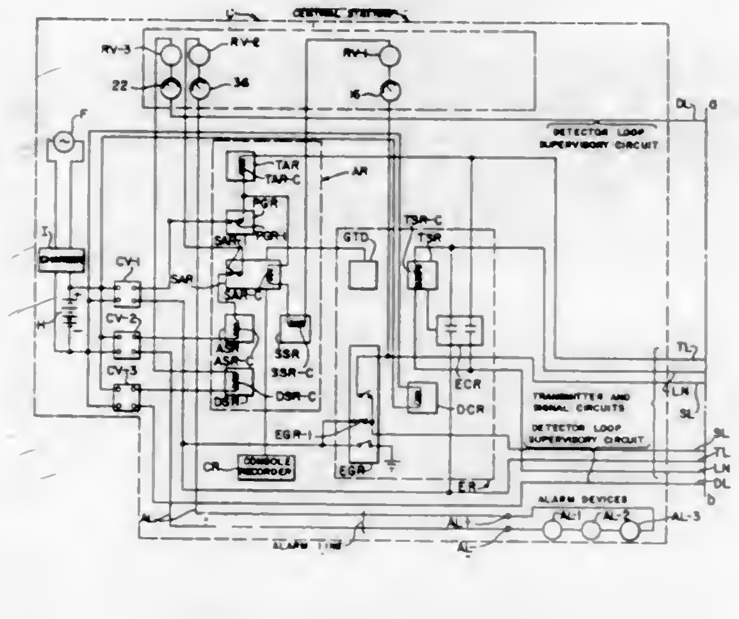
U.S. Cl. 340—239 **7 Claims**



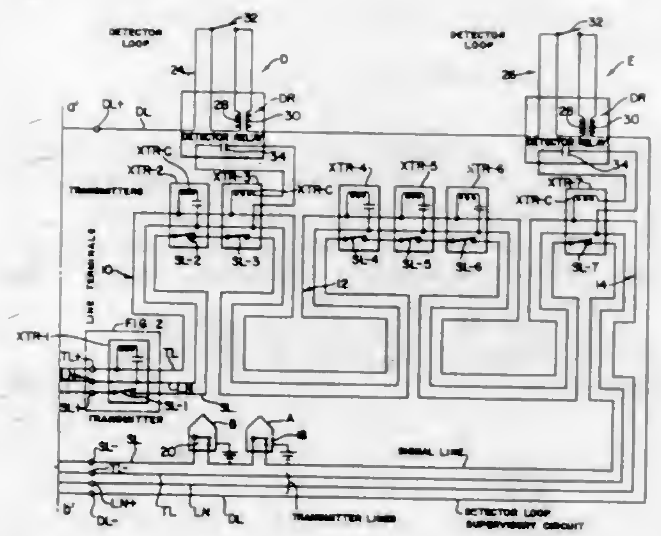
An alarm system of the waterflow detection type for producing a warning signal when water flows in the conduits of an automatic fire sprinkler system. The system employs flow detection devices mounted in communication with the water in a sprinkler system and arranged to produce a mechanical motion output upon a flow of the water within the system. The output is applied to an energy absorbing system which retards absorption of the output and redelivers the output at a retarded rate upon cessation of the output. The quantity of energy stored in the absorption system is continuously measured and an alarm is produced when a predetermined level is exceeded.

3,448,443
SIGNALING SYSTEM

Foster E. Weld, Newton Highlands, Mass., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed July 9, 1965, Ser. No. 470,845
Int. Cl. G08b *25/00*
U.S. Cl. 340—287 13 Claims



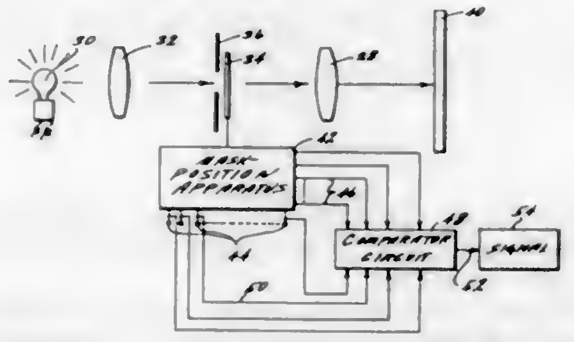
RV-3
RV-2
RV-1
22
34
16
DETECTOR LOOP SUPERVISORY CIRCUIT
TAR
TAR-C
AR
TSR-C
TSR
CV-1
CV-2
CV-3
SSR
SSR-C
DSR-C
ECR
DCR
EGR-1
TRANSMITTER AND SIGNAL CIRCUITS
DETECTOR LOOP SUPERVISORY CIRCUIT
ALARM DEVICES
AL-1
AL-2
AL-3



There is provided a signaling system which includes a plurality of remotely located system transmitters, each including code signaling means, driving means for driving said code signaling means, and control means for activating the driving means; a conventional fire alarm transmitter having normally-closed signaling contacts connected in series with the signaling means of the system transmitters by a conductor extending from a central station; a central station pulse generator for transmitting driving impulses to an activated system transmitter through a pair of conductors extending from the central station; and, a pulse generator controller for energizing the pulse generator when a system transmitter is activated and no conventional fire alarm transmitter has been actuated.

3,448,444
DECODING SYSTEM FOR SELECTIVE INFORMATION DISPLAY

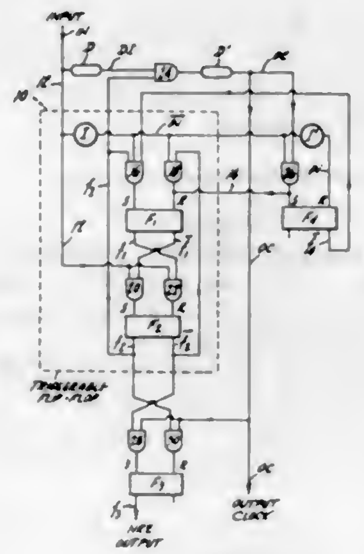
William H. Saylor, South Laguna Beach, Calif., assignor to S. S. & S. Company, a partnership
Filed May 26, 1965, Ser. No. 458,973
Int. Cl. G06d *3/14;* **H04l** *17/16*
U.S. Cl. 340—324 1 Claim



A signal-controlled display system is disclosed. Symbols for display are defined in an arcuate array on a display mask which cooperates with a display structure, e.g. an optical unit, to exhibit symbols or the like. The mask is supportably carried on a pivotal structure capable of moving the mask along intersecting paths (at least one of which is arcuate) so as to selectively display the symbols. A mechanical drive unit controllably positions the pivotal structure (and in turn the mask) in accordance with applied digital signals. The system also includes a lock structure to provide memory for the mask, and a mask-incorporated signal generator to assure correct positioning.

3,448,445
CONVERSION FROM SELF-CLOCKING CODE TO NRZ CODE

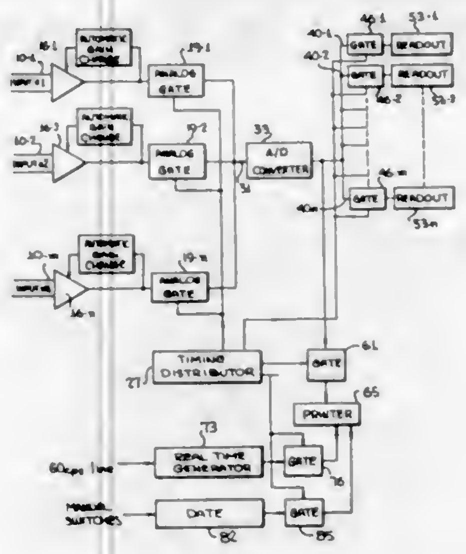
John A. Vallee, Juno Beach, Fla., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 17, 1965, Ser. No. 464,734
Int. Cl. H04l *3/00;* **H03k** *13/02*
U.S. Cl. 340—347 7 Claims



A converter for deriving a simple non-return-to-zero (NRZ) information signal and a separate output clock pulse wave from an input signal which consists of periodic clock pulses between which a "1" is represented by the presence of a pulse and a "0" is represented by the absence of a pulse. The converter is particularly useful for converting a self-clocking information signal read from a magnetic medium to an information signal and a clock pulse wave suitable for application to the signal input and shift input, respectively, of a shift register.

3,448,446
MULTIPLE CHANNEL DIGITAL READOUT SYSTEM

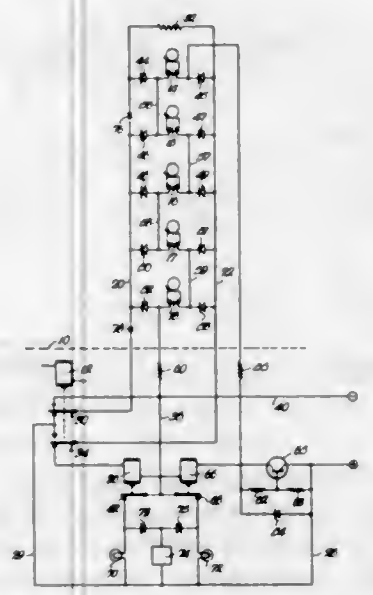
Wilbur Gerald James, Falls Church, and John C. Mould, McLean, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,457
Int. Cl. H03k *13/24;* **H04l** *3/00*
U.S. Cl. 340—347 8 Claims



A digital representation of the amplitudes of low-level analog signals carried by respective ones of a plurality of input channels is provided by amplifying the signals in their respective channels, sampling the input channels in sequence for multiplexing the respective signals to an analog-to-digital converter, and supplying the digital outputs to readout devices in synchronism with the sampling of the channels. Signal isolation as well as variable gain amplification for a wide range of input signal levels and frequencies (down to almost DC) is provided in each channel by a pair of high input impedance DC electrometer amplifier stages coupled in cascaded relationship via an R-C coupling network having a time constant equal to at least five times the period of the lowest frequency of the input signals to the respective overall amplifier.

3,448,447
POLARIZED D.C. SIGNALING SYSTEM AND MEANS FOR SUPERVISING SAME

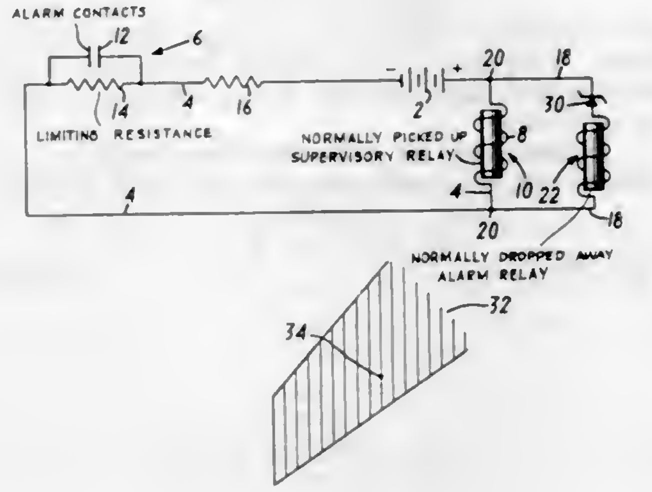
Claude L. Tetherow, Lincoln, Nebr., assignor, by mesne assignments, to Notifier Company, Lincoln, Nebr., a corporation of Connecticut
Filed June 28, 1965, Ser. No. 467,350
Int. Cl. G08b *29/00, 23/00*
U.S. Cl. 340—409 12 Claims



1. In a signaling system, a signaling line comprising two conductors, a source of D.C. potential normally connected to said line to maintain one conductor thereof positive and the other conductor negative, a plurality of circuits bridging said line at intervals along its length, each of said bridging circuits comprising, in series, a pair of diodes with a signal responding device intermediate the diodes, said diodes being so poled as to normally prevent the flow of current from said source though said devices, means for at times reversing the polarity of the D.C. potential connected to said line thereby to operate said devices, a supervisory circuit normally energized by direct current from said source and having means for responding to a cessation of the current flow in said supervisory circuit, said supervisory circuit including both conductors of said line in series, means connecting said source and all of said devices in series independently of said line to form a second normally energized supervisory circuit, and means controlled by said second supervisory circuit to operate responsive to a cessation of the current flow in said second supervisory circuit.

3,448,448
SUPERVISED ALARM CIRCUITS

Walter E. Rowley, Jr., New Milford, and Basil D. Rissolo, Monroe, Conn., assignors to Edwards Company, Inc., a corporation of Connecticut
Filed Nov. 19, 1965, Ser. No. 508,703
Int. Cl. G08b *29/00*
U.S. Cl. 340—409 1 Claim



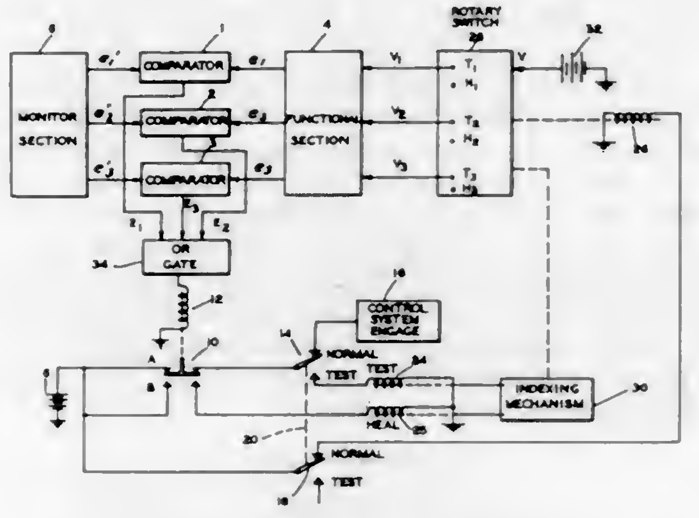
ALARM CONTACTS
12
6
14
4
16
2
LIMITING RESISTANCE
20
18
30
NORMALLY PICKED UP SUPERVISORY RELAY
8
10
22
4
20
18
NORMALLY DROPPED AWAY ALARM RELAY
32
34

A supervised alarm circuit having a pair of line wires connecting a protected area station with a headquarters station. The wires are connected at the protected area station through a resistor in multiple with normally open contacts of an alarm detector. The circuit is energized by a source of energy connected in series with the line wires to provide a normally low level of energization and a higher level of energization when the detector is actuated. A normally picked up supervisory relay is connected across the line wires at the headquarters station, and a normally dropped away alarm relay is connected across the line wires at that station through a Zener diode.

3,448,449
AUTOMATIC TEST DEVICE

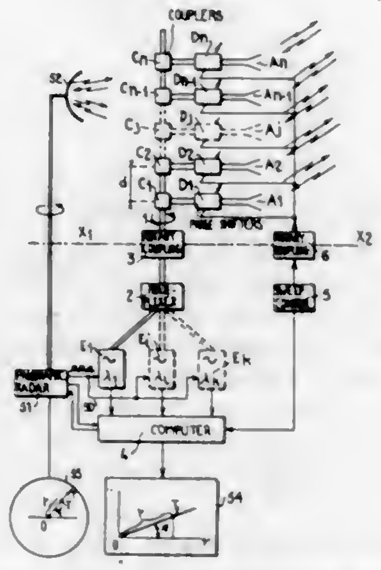
Allan E. Schulz, Glen Ridge, and Jerry Doniger, Montvale, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,370
Int. Cl. G08b *19/00, 29/00;* **G08c** *25/00*
U.S. Cl. 340—413 8 Claims

A monitor for a control system wherein signals corresponding to conditions related to the control system and signals corresponding to a desired level of the condition signals are provided. A selected one of said signals is combined with a signal at a predetermined level so that said one signal does not correspond to the desired level. and whereupon an error signal is provided for causing the one signal and the predetermined level signal to be combined in a predetermined sequence. A system failure is indicated when the predetermined sequence is interrupted.



3,448,450
PULSE RADAR FOR DETERMINING ANGLES OF ELEVATION

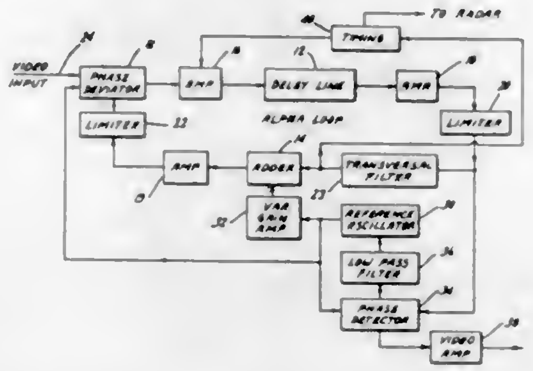
Roger Alfandari, Paris, and Bernard Daveau, Orsay, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed Aug. 29, 1967, Ser. No. 664,193
Claims priority, application France, Sept. 1, 1966, 74,889
Int. Cl. G01s *9/02*
U.S. Cl. 343—16 12 Claims



A stack of vertically spaced radar antennas, effective over a narrow azimuthal range, are simultaneously energized, with a plurality of pulse carrier frequencies common to all antennas, through respective phase shifters whose phase shifts are chosen to establish a desired multilobe pattern, each carrier frequency generating an individual lobe with its axis inclined at a particular angle of elevation. These angles are varied, within relatively narrow vertical ranges, by concurrent adjustment of the several phase shifters whereby the multilobe pattern sweeps an extended vertical sector. With a three-lobe pattern, the central lobe may be used for the tracking of a target while the flanking lobes serve, in cooperation with an associated azimuthal radar, to keep the system centered on the target.

3,448,451
RADAR SWEEP INTEGRATOR CIRCUIT

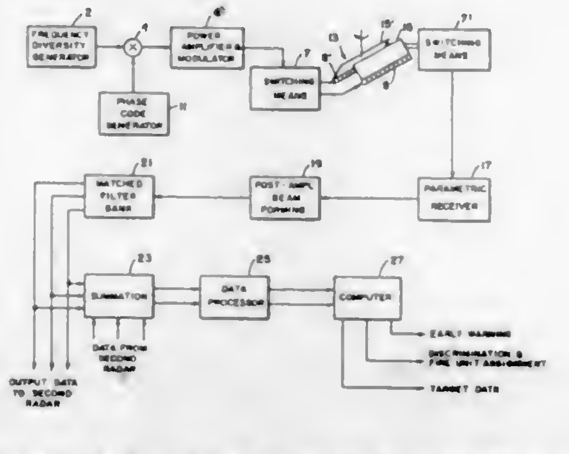
Jack "E" Wilcox, Levittown, Pa., assignor, by mesne assignments, to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,965
Int. Cl. G01s *7/28;* **H03b** *1/00;* **H04b** *1/10*
U.S. Cl. 343—17.1 10 Claims



1. A sweep integrator circuit comprising a delay line, means coupling the output of said delay line to its input to form a recirculatory loop having a gain greater than unity for signals within a certain frequency band and below a certain amplitude level at a selected point in said loop, whereby a carrier wave having a frequency within said band at said selected point is caused to circulate in said loop, said last-mentioned means including signal responsive means for modulating the phase of said carrier wave circulating in said loop, means for supplying the signal to be integrated to said phase modulating means, and means associated with said loop for adding a carrier wave, at a reference phase of the modulated carrier wave in said loop, to the modulated carrier wave circulating in said loop.

3,448,452
ANTI-MISSILE MOBILE SEARCH RADAR

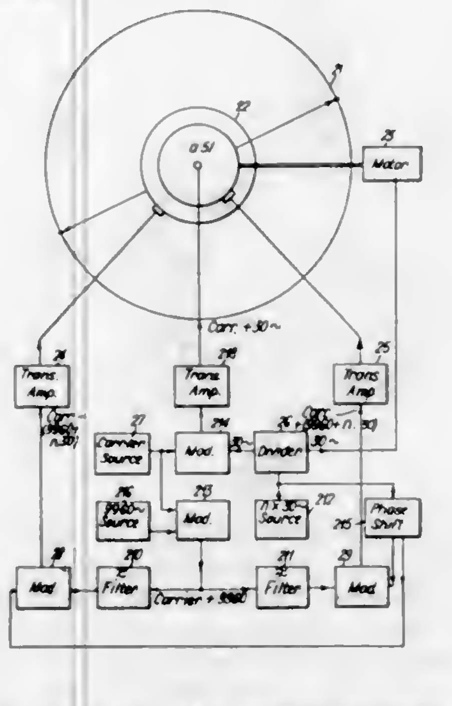
David H. Mooney, Jr., Severna Park, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 1, 1966, Ser. No. 570,137
Int. Cl. G01s *9/06*
U.S. Cl. 343—11 3 Claims



Two phase coded coherent type radar units each having post-amplifier beam forming in elevation, mechanical azimuth scanning, and matched filter multiple receivers connected to exchange information. Two antennas per unit are provided back-to-back with switching of the transmitter and the receiver so that half horizon can be scanned.

3,448,453
DOPPLER VOR SYSTEMS

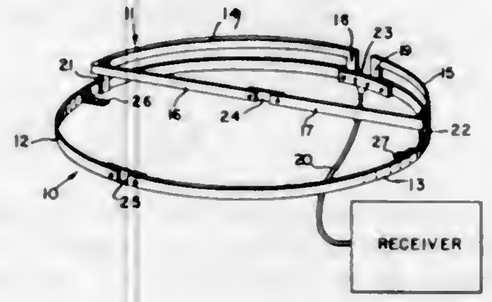
Charles William Earp, Hampstead, London, and Francis Giles Overbury, Potters Bar, England, assignors to International Standard Corporation, New York, N.Y., a corporation of Delaware
Filed June 29, 1967, Ser. No. 649,903
Claims priority, application Great Britain, July 8, 1966, 30,757/66
Int. Cl. G01s *1/44*
U.S. Cl. 343—106 6 Claims



An improved Doppler VOR system wherein a separate aerial radiates a reference signal having a frequency equal to the gyration frequency of the system and wherein at least one harmonic of the reference signal is radiated by an array of aerials. The radiated harmonic is recovered at the receiver and is used to improve the accuracy of the reference signal received from the separate aerial.

3,448,454
OMNIDIRECTIONAL CIRCULAR DIPOLE ANTENNA

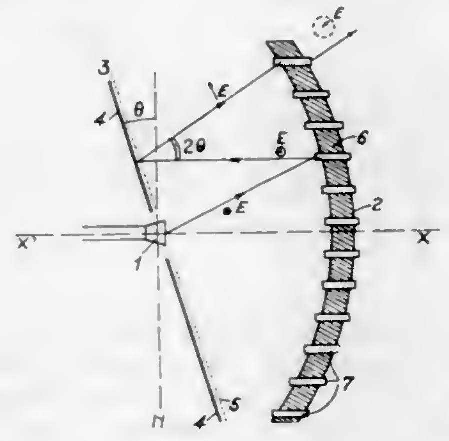
Oscar L. Lane, 302 Baltimore St., Aberdeen, Md. 21001
Filed Sept. 29, 1966, Ser. No. 582,847
Int. Cl. H01q *11/12, 9/16, 9/26*
U.S. Cl. 343—742 3 Claims



1. A high frequency antenna comprising a first dipole, the leg elements thereof extending from spaced terminal ends in substantially semi-circular arcs lying in the same plane, the free ends of said leg elements positioned adjacent but spaced from each other, a second dipole in a plane parallel to the plane of said first dipole, the leg elements of said second dipole extending from terminal ends adjacent the terminal ends of the first dipole in arcs of the same radius as the radius of the arcs of the first dipole for a portion of their length and then bent inwardly into straight leg portions, the free ends of which are positioned adjacent but spaced from each other, the terminal end of each leg of said first dipole being electrically connected to the corresponding terminal end of each leg of the second dipole and the thus connected terminal ends of said dipoles forming feeder connections for a transmission line.

3,448,455
ARMOURED STRUCTURE ANTENNA

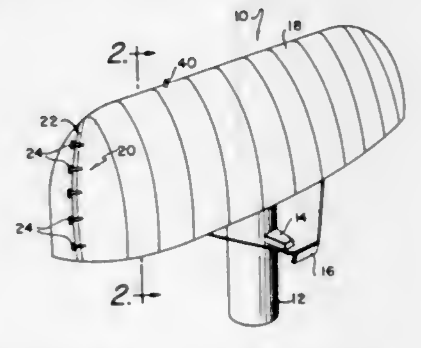
Roger S. Alfandari, Paris, and Bernard J. Daveau, Chatillon-sous-Bagneux, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed Mar. 22, 1965, Ser. No. 441,932
Claims priority, application France, Mar. 20, 1964, 968,126
Int. Cl. H01q *19/00, 19/14, 19/12*
U.S. Cl. 343—756 11 Claims



An antenna assembly adapted to transmit and receive electromagnetic waves while withstanding severe operational conditions. A feed member provides the antenna with linearly polarized electromagnetic waves. A parabolic reflector is illuminated by these electromagnetic waves and, in turn, reflects them to a planar reflector. Upon reflection from the planar reflector member, a portion of the thus-reflected waves are transmitted by the parabolic reflector. The planar reflector is arranged to change the linear polarization of the waves while reflecting them back toward the parabolic reflector. The parabolic reflector is arranged to transmit the waves with the modified polarization so that the transmitted beam constitutes the radiated beam from the antenna assembly.

3,448,456
REFLECTOR ANTENNA INFLATABLE WITH FOAMED PLASTIC

Jacques H. Pessin, Ellicott City, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 12, 1966, Ser. No. 578,893
Int. Cl. H01q *1/40*
U.S. Cl. 343—873 8 Claims



1. A light weight portable antenna system comprising:

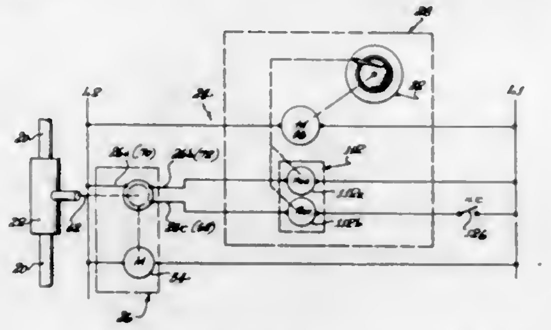
an outer balloon member containing a light weight plastic foam;

said outer balloon member being flexible and incorporating over a portion of said outer balloon member means for reflecting radio frequency energy;

said outer balloon member including a resealable seam, whereby said plastic foam may be removed from said outer balloon member.

3,448,457
MONITORING AND RECORDING SYSTEM

James Scott Gassaway, Los Angeles, Calif., assignor to Hersey-Sparling Meter Company, El Monte, Calif., a corporation of Massachusetts
Filed Oct. 11, 1965, Ser. No. 494,624
Int. Cl. G01d *9/12*
U.S. Cl. 346—1 **23 Claims**

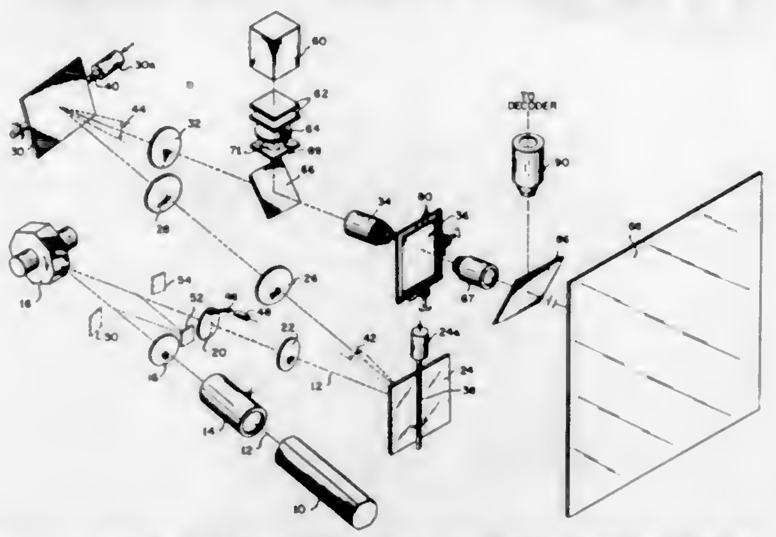


A remotely monitored variable quantity, such as water flow or level, is translated into a control signal of the time-duration type, each signal being composed of a series of cycles at constant frequency and equal time duration. Each cycle in turn comprises a variable member of electric pulses occuring at a constant frequency so that the quantity is measured by the number of pulses. The signal is produced by a special signal generator and is recorded at any suitable distant point.

3,448,458
LASER RECORDER WITH SCANNING AND DISPLAY SYSTEMS

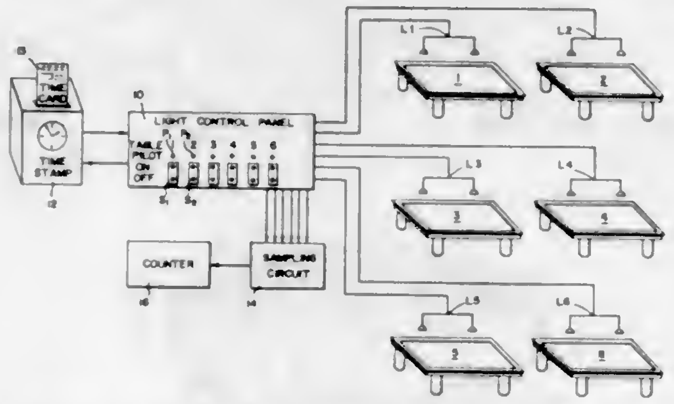
Carl O. Carlson, Los Angeles, Henry D. Ives, Redondo Beach, and John L. Jones, Gardena, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed June 16, 1967, Ser. No. 646,561
Int. Cl. G01d *9/42, 15/10*
U.S. Cl. 346—17 **16 Claims**

A display system wherein an information bearing laser beam is controlled by three mirror movements to achieve selective localized scanning of a record medium for producing thereon recordings of data greatly reduced in size, e.g., characters having a height of about 100 microns. One of the mirror movements positions the laser beam along the vertical axis of a specified optical field of the recording medium while a second mirror movement positions the laser beam along the horizontal axis of the optical field to a selected position whereat the character is to be recorded. A third mirror movement provides for a short vertical line scanning action at the selected position with means for sweeping the scan lines to form a raster area and thereby permit the laser light beam to produce the desired character on the record medium. The horizontal and vertical positioning movements over the optical field (e.g., a size of about 6.4 by 6.4 millimeters) of the record medium are controlled electronically in a manner whereby the laser beam is very rapidly positioned to the desired position for commencing the scanning operation. The system further incorporates means for bypassing the high speed scanning mirror movement to simply provide line recording capability, means for applying a variety of recording techniques to enable erasing and reusability capability of the record medium, means for projecting the image recording on the record medium onto a viewing screen, and means for recording and storing the data on the record medium in a form that can be read for use in digital computer systems and the like.



3,448,459
BILLIARD PLAY TALLY SYSTEM

Edward Margolis, Brookline, Mass., assignor to Billiard Controls, Inc., Boston, Mass.
Filed Feb. 2, 1967, Ser. No. 613,659
Int. Cl. G01d *9/02;* **G06f** *7/46*
U.S. Cl. 346—33 **5 Claims**

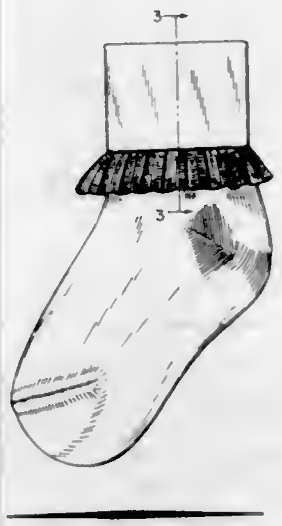


A system records the amount of hire of game equipment by tallying and totalizing the on-time of electrical fixtures required to be associated with the equipment.

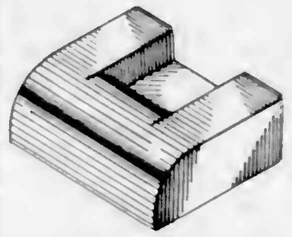
DESIGNS

JUNE 3, 1969

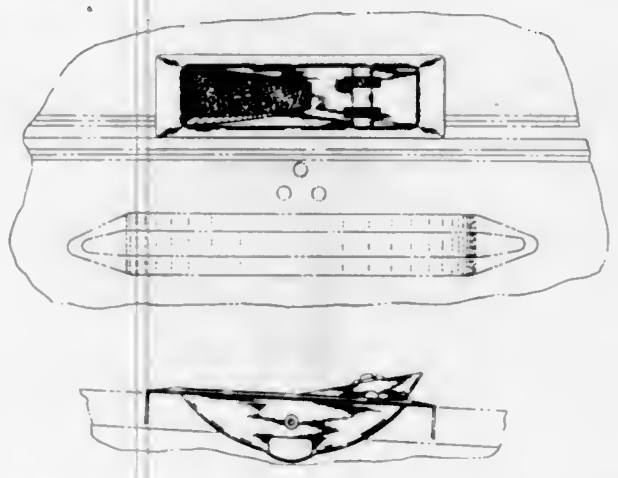
214,301
SOCK
Edward M. Clark, Greensboro, N.C., assignor to Kiddie Tot Hosiery Mills, Inc., High Point, N.C., a corporation of North Carolina
Filed Jan. 25, 1968, Ser. No. 10,311
Term of patent 14 years
Int. Cl. D2—*04*
U.S. Cl. D2—334



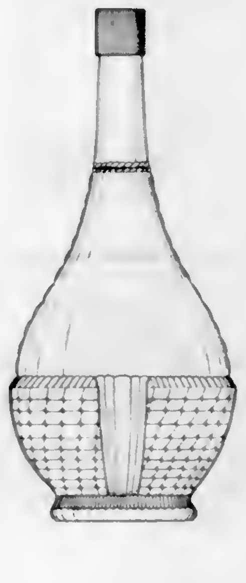
214,302
PILLOW
Abe Lee Barber, P.O. Box 19121, Oklahoma City, Okla. 73119
Filed Mar. 22, 1968, Ser. No. 11,091
Term of patent 14 years
Int. Cl. D6—*02*
U.S. Cl. D3—9



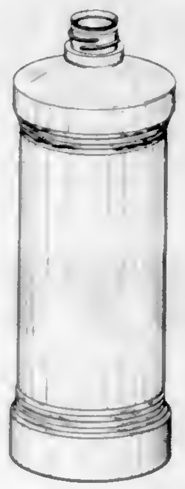
214,303
LUGGAGE LOCK
Steven S. Feinberg, 28 Liden Drive, Providence, R.I. 02906
Filed Mar. 25, 1968, Ser. No. 11,108
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—129



214,304
BOTTLE
Franklin D. Northgrave, Arva, Ontario, and Arthur N. Knowles, London, Ontario, Canada, assignors to London Winery Limited, London, Ontario, Canada
Filed Oct. 21, 1968, Ser. No. 14,083
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—23



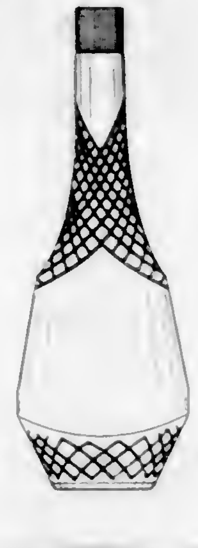
214,305
BOTTLE
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 10,612
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—100



214,306
BOTTLE

Franklin D. Northgrave, Arva, Ontario, and Arthur N. Knowles, London, Ontario, Canada, assignors to London Winery Limited, London, Ontario, Canada
Filed Sept. 16, 1968, Ser. No. 13,537
Term of patent 14 years
Int. Cl. D9—*01*

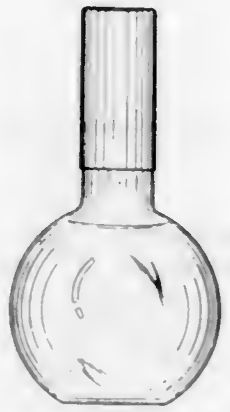
U.S. Cl. D9—122



214,307
BOTTLE

Massimo Vignelli, New York, N.Y., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 6,828
Term of patent 14 years
Int. Cl. D9—*01*

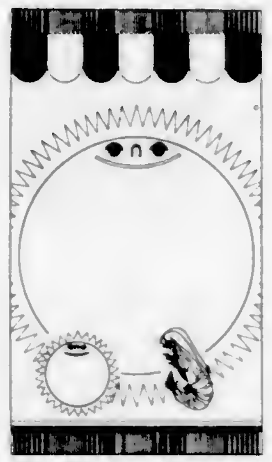
U.S. Cl. D9—139



214,308
PACKING BAG

Takashi Matsuo, 122 Ujina, Hiroshima, Japan
Filed Feb. 12, 1968, Ser. No. 10,530
Claims priority, application Japan Dec. 1, 1967
Term of patent 14 years
Int. Cl. D9—*06*

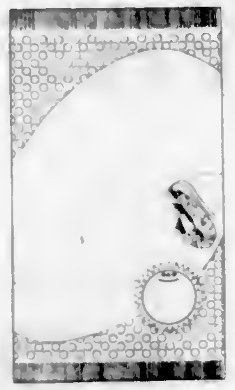
U.S. Cl. D9—251



214,309
PACKING BAG

Takashi Matsuo, 122 Ujina, Hiroshima, Japan
Filed Feb. 12, 1968, Ser. No. 10,531
Claims priority, application Japan Dec. 1, 1967
Term of patent 14 years
Int. Cl. D9—*06*

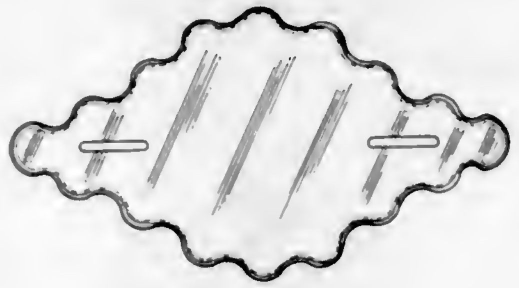
U.S. Cl. D9—251



214,310
DRAWER PULL SHIELD

Charles R. Wasnewsky, 50 Newton Ave. Pittsfield, Mass. 01201
Filed Jan. 18, 1968, Ser. No. 10,202
Term of patent 7 years
Int. Cl. D8—*03*

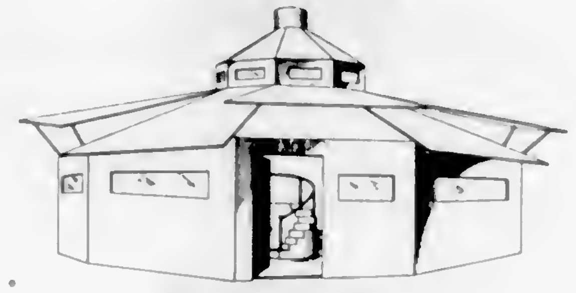
U.S. Cl. D8—179



214,311
BUILDING UNIT

Clifford A. Bellamy, Lobby 5, Securities Bldg., 3rd and Stewart Sts., Seattle, Wash. 98101
Filed Aug. 23, 1968, Ser. No. 13,255
Term of patent 14 years
Int. Cl. D26—*04*

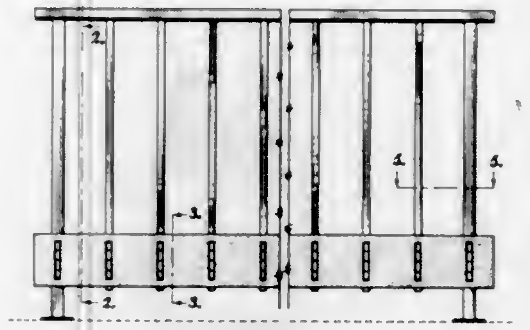
U.S. Cl. D13—1



214,312
HANDRAILING

Wenzel W. Thom, Wichita, Kans., assignor of one-half to Fannie Mae Jones, Wichita, Kans.
Filed Apr. 15, 1968, Ser. No. 11,466
Term of patent 14 years
Int. Cl. D25—*02, 01*

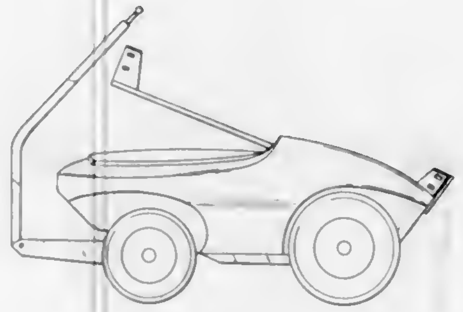
U.S. Cl. D13—7



214,313
MOTORIZED GOLF CART

Norman S. Gardner, 64 Trenor Drive, New Rochelle, N.Y. 10804
Filed Aug. 26, 1968, Ser. No. 13,259
Term of patent 14 years
Int. Cl. D12—*13*

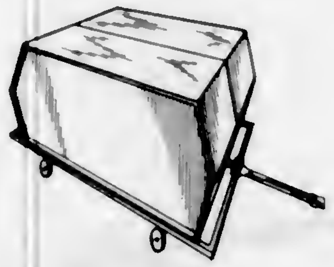
U.S. Cl. D14—3



214,314
MOBILE FOOD VENDING UNIT

Delmer James Hill, P.O. Box 6873, Grosse Pointe Woods, Mich. 48236
Filed Feb. 5, 1968, Ser. No. 10,447
Term of patent 14 years
Int. Cl. D12—*10*

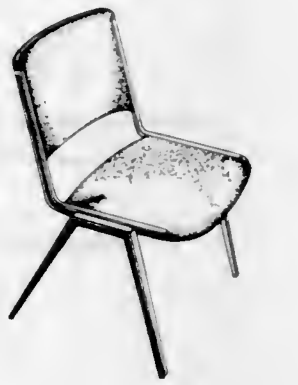
U.S. Cl. D14—3



214,315
CHAIR

Robert P. Bartholomew, Grand Rapids, Mich., assignor to Steelcase, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Dec. 5, 1967, Ser. No. 9,645
Term of patent 14 years
Int. Cl. D6—*01*

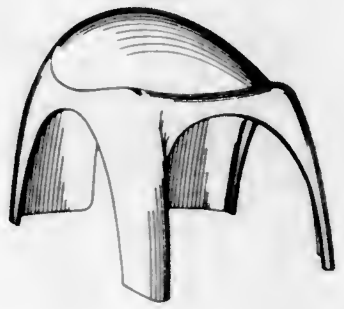
U.S. Cl. D15—1



214,316
CHILD'S CHAIR

Everett Stacy Dukes, 5010 E. Broadway, Long Beach, Calif. 90803
Filed Apr. 1, 1968, Ser. No. 11,250
Term of patent 7 years
Int. Cl. D6—*01*

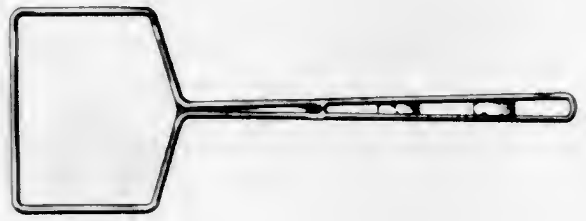
U.S. Cl. D15—1



214,317
AQUARIUM FISH NET FRAME

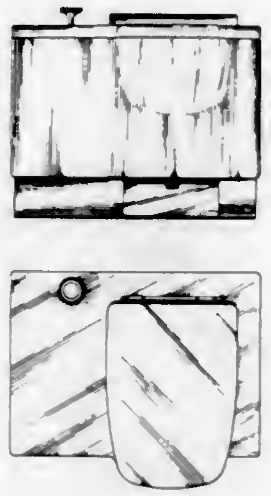
Herbert R. Axelrod, Deal, N.J., assignor to T.F.H. Publications, Inc., Jersey City, N.J., a corporation of New York
Filed June 28, 1968, Ser. No. 12,547
Term of patent 14 years
Int. Cl. D22—*08*

U.S. Cl. D22—22



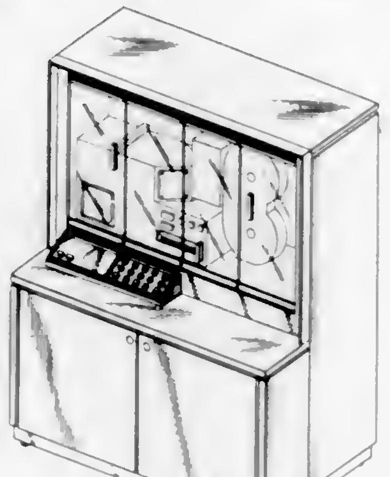
214,318
ELECTRICAL CLOSET

Henrik Carl Wilhelm Wahlforss, Stockholm, Sweden, assignor to AB Hakanssons Industrier, Amal, Sweden
Filed Dec. 26, 1967, Ser. No. 9,912
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—48



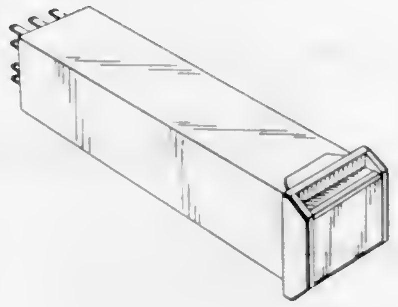
214,319
COMPUTER OUTPUT MICROFILMER

Homer A. Smith and Wilbur D. Robinson, both of 400 N. Plymouth Ave., Rochester, N.Y. 14650
Filed Apr. 29, 1968, Ser. No. 11,662
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



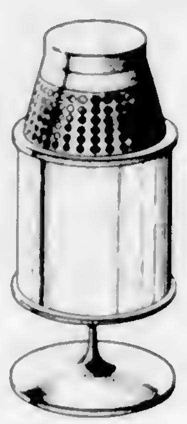
214,320
COMBINED SIGNAL AND CONTROL MODULE

John Stallebrass, 15 Adam and Eve Mews, London W. 8, England
Filed Dec. 22, 1967, Ser. No. 9,896
Claims priority, application Great Britain July 18, 1967
Term of patent 14 years
Int. Cl. D14—*99;* D26—*01*
U.S. Cl. D26—13



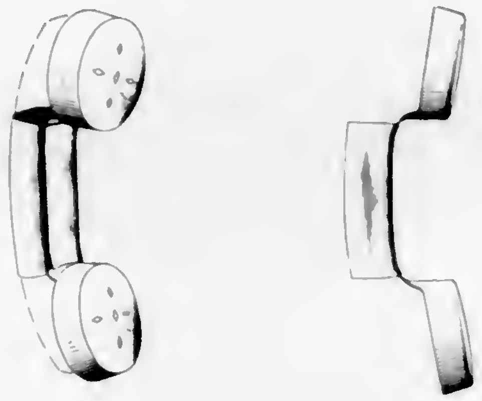
214,321
COMBINATION LOUDSPEAKER AND ENCLOSURE THEREFOR

Gordon L. Duern, Elmira, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed July 8, 1968, Ser. No. 12,653
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



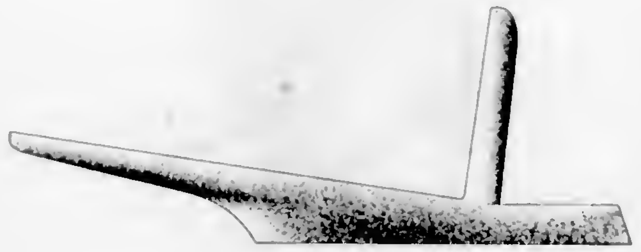
214,322
DISPOSABLE SANITARY COVER FOR TELEPHONE HANDSETS

Willie L. Velasquez, 311 Effie, Fresno, Calif. 93701
Filed July 12, 1968, Ser. No. 12,735
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



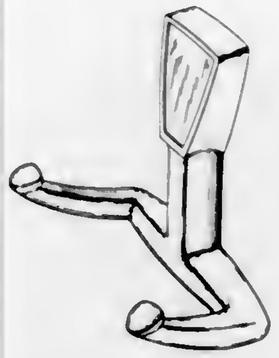
214,323
BOOK HOLDER

Albert P. Penter, Loveland, Ohio, assignor to The C. M. Paula Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 12, 1968, Ser. No. 12,314
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—3



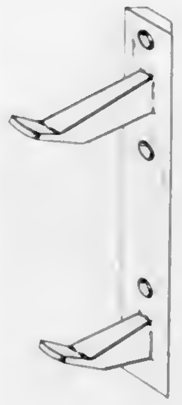
214,324
COAT HOOK

Robert W. Schier, Northfield, and Larry F. Odar, Northbrook, Ill., assignors to Krueger Metal Products, Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Mar. 18, 1968, Ser. No. 11,021
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



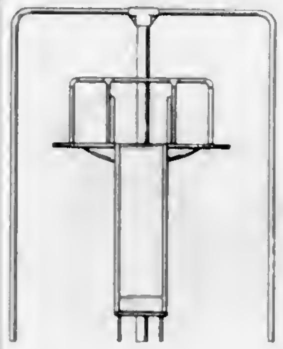
214,325
CLOTHES HOOK

Robert W. Schier, Northfield, and Larry F. Odar, Northbrook, Ill., assignors to Krueger Metal Products, Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Mar. 18, 1968, Ser. No. 11,030
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



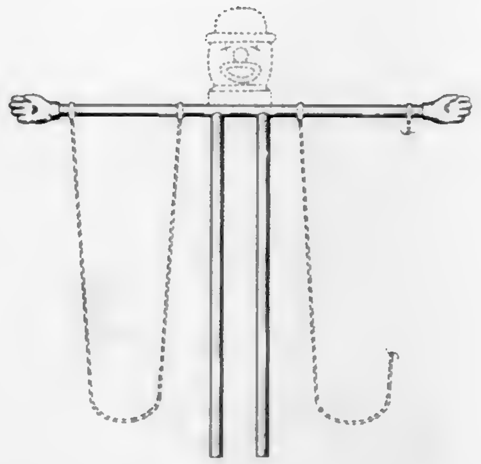
214,326
COMBINED PLAYGROUND CLIMBER AND SLIDE

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,238
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



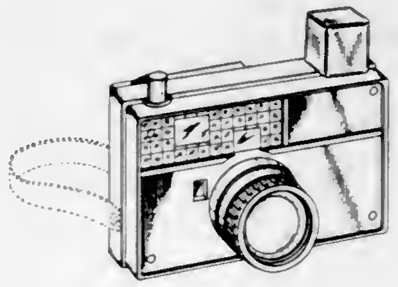
214,327
PLAYGROUND SWING

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 20, 1968, Ser. No. 11,073
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



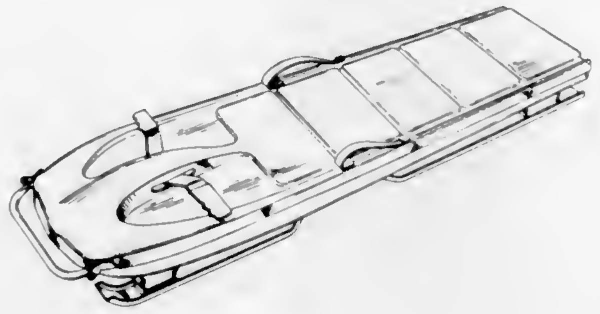
214,328
TOY CAMERA

Ralph W. Crawford, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Mar. 6, 1967, Ser. No. 6,062
Term of patent 14 years
Int. Cl. D21—*02;* D16—*01*
U.S. Cl. D34—15

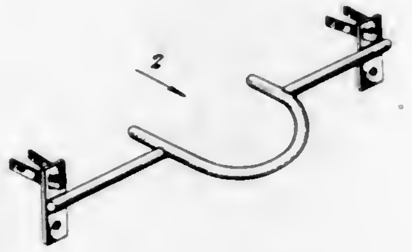


214,329
SNOW SLED

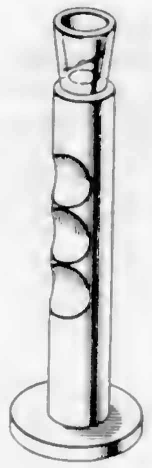
Loran R. Hill, Olney, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 13, 1968, Ser. No. 12,341
Term of patent 14 years
Int. Cl. D12—*13;* D21—*02*
U.S. Cl. D34—15



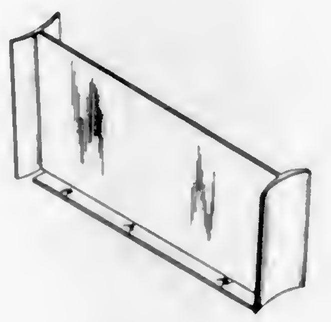
214,330
TREE HOLDER
Hiram M. Maxwell, 1748 N. Verdugo Road, Apt. 7, Glendale, Calif. 91208
Filed May 6, 1968, Ser. No. 11,799
Term of patent 14 years
Int. Cl. D8—*01, 03*
U.S. Cl. D35—1



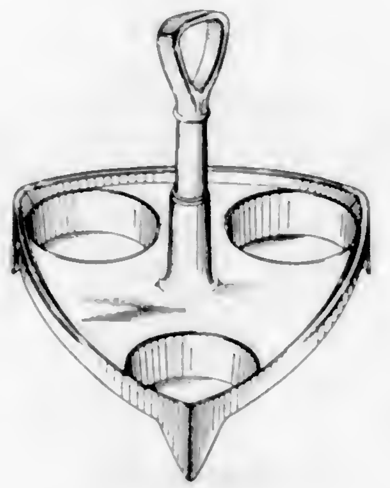
214,331
COMBINED GLASS AND HOLDER
Harry D. Greaney, 14 Elting Circle, Holyoke, Mass. 01040
Filed Sept. 17, 1968, Ser. No. 13,558
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D36—8



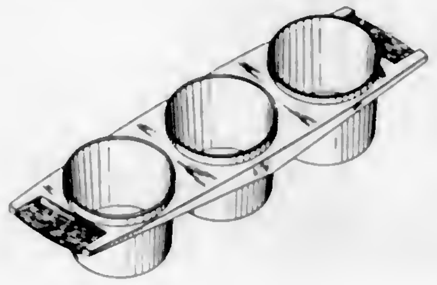
214,332
DIVIDER PANEL FOR A LUNCH BOX OR THE LIKE
James B. Swett, Barrington, R.I., assignor to Dart Industries, Inc., a corporation of Delaware
Original design application Nov. 2, 1966, Ser. No. 4,512, Divided and this application Mar. 7, 1968, Ser. No. 10,884
Term of patent 14 years
Int. Cl. D9—*04;* D7—*99*
U.S. Cl. D44—1



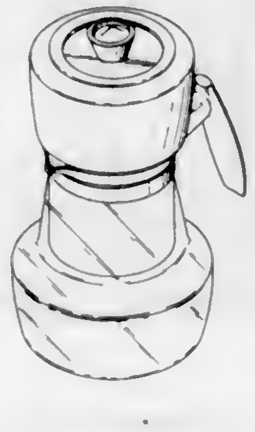
214,333
TRAY FOR CONDIMENT DISPENSERS OR THE LIKE
James Baldwin Swett, Barrington, R.I., assignor to Dart Industries, Inc., a corporation of Delaware
Filed July 3, 1968, Ser. No. 12,622
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—7



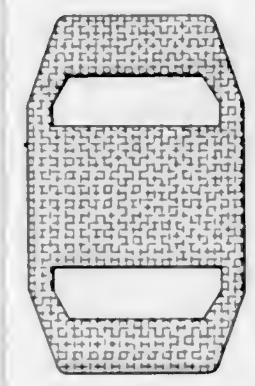
214,334
CONTAINER FOR FOODSTUFFS OR THE LIKE
Albert Kner, Chicago, Ill., assignor to Dart Industries, Inc., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 11,234
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—10



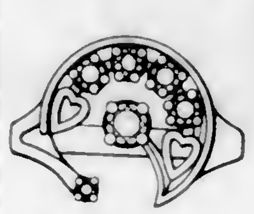
214,335
COFFEE MAKER OR THE LIKE
Pierre Leon Decrouez, Ridley Township, Delaware County, and John A. Sproston, Philadelphia, Pa., assignors to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed June 28, 1968, Ser. No. 12,546
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—26



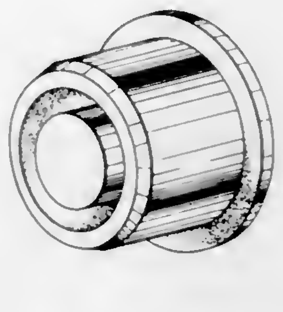
214,336
WATCHBAND ATTACHMENT
Patrick Petrie, 12210 Malone St., Los Angeles, Calif. 90066
Filed Mar. 27, 1967, Ser. No. 6,388
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—4



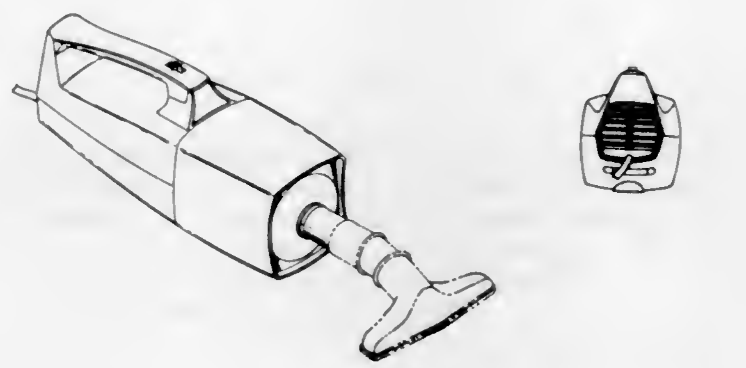
214,337
FINGER RING OR THE LIKE
Abe Hoffenberg, 215 W. 5th St., Los Angeles, Calif. 90013
Filed Aug. 12, 1968, Ser. No. 13,091
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—10



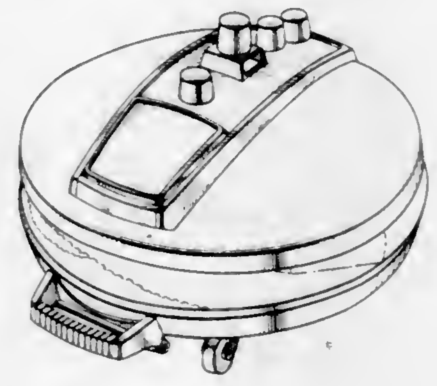
214,338
ROLL END BEARING
Alan John Stone, Canandaigua, N.Y., assignor, by mesne assignments, to Murray Company of Texas, Inc., a corporation of Delaware
Filed July 3, 1967, Ser. No. 7,668
Term of patent 14 years
Int. Cl. D15—*99*
U.S. Cl. D46—1



214,339
VACUUM CLEANER
Gregory Fossella, Marshfield, Mass., assignor to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed Sept. 9, 1968, Ser. No. 13,449
Term of patent 14 years
Int. Cl. D7—*06;* D15—*07*
U.S. Cl. D49—13



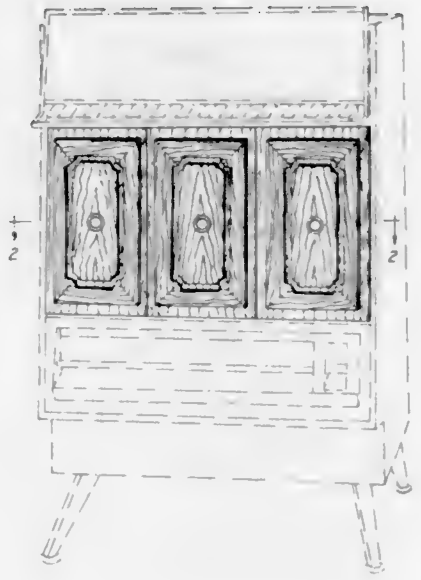
214,340
SUCTION CLEANER
Harold W. Schaefer and Samuel E. Hohulin, Bloomington, Ill., assignors to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware
Original design application Nov. 13, 1967, Ser. No. 9,378, now Patent No. 212,257, dated Sept. 17, 1968. Divided and this application Apr. 1, 1968, Ser. No. 12,534
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. 49—14



214,341
MERCHANDISING MACHINE PANEL

Walter L. Koch, Caldwell, and Kerry A. Day, Parsippany, N.J., assignors to Rowe International, Inc., Whippany, N.J., a corporation of Delaware
Filed Sept. 27, 1968, Ser. No. 13,750
Term of patent 14 years
Int. Cl. D20—*01*

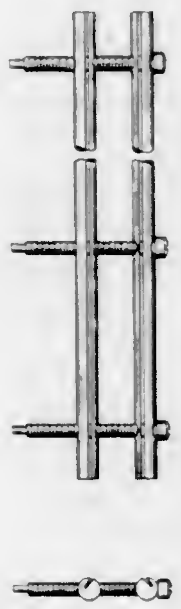
U.S. Cl. D52—3



214,342
CLAMP FOR SPLIT RING HEATER BAND

George B. Desloge, St. Louis, Mo., assignor to Watlow Electric Manufacturing Company, St. Louis County, Mo., a corporation of Missouri
Filed Mar. 18, 1968, Ser. No. 11,018
Term of patent 14 years
Int. Cl. D8—*02*

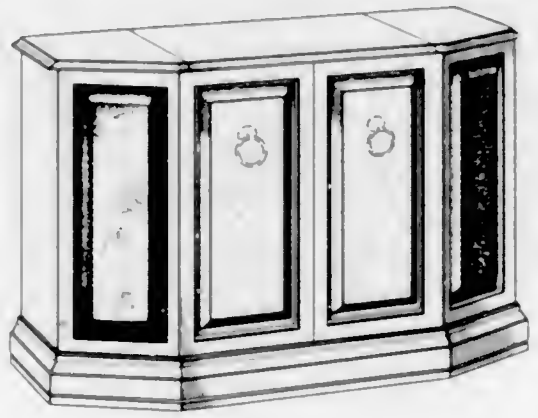
U.S. Cl. D54—1



214,343
RADIO CABINET OR SIMILAR ARTICLE

Gordon L. Duern, Elmira, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed July 8, 1968, Ser. No. 12,656
Term of patent 14 years
Int. Cl. D14—*03*

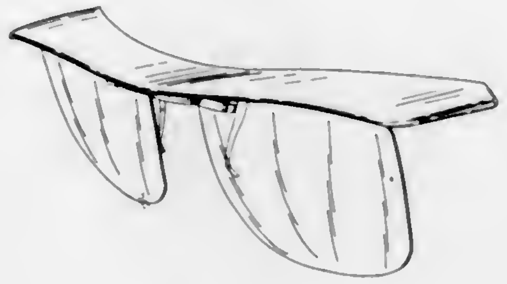
U.S. Cl. D56—4



214,344
COMBINED EYESHADE AND CLIP-ON SUNGLASSES

Anthony Shindler, Brookline, Mass., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed June 20, 1968, Ser. No. 12,451
Term of patent 14 years
Int. Cl. D16—*08*

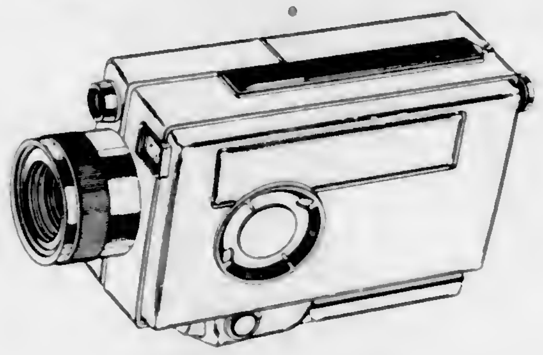
U.S. Cl. D57—1



214,345
MOVIE CAMERA OR THE LIKE

David Elwood Hansen, Fairport, N.Y.
(400 Plymouth Ave. N., Rochester, N.Y. 14650)
Filed Aug. 23, 1968, Ser. No. 13,249
Term of patent 14 years
Int. Cl. D16—*02*

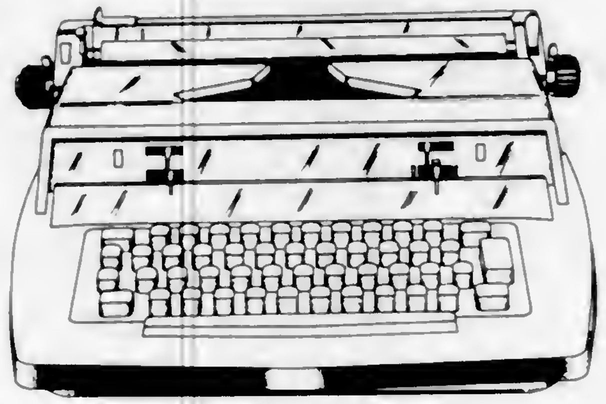
U.S. Cl. D61—1



214,346
TYPEWRITER

Carl L. Otto, New York, N.Y., assignor to Litton Business Systems, Inc., New York, N.Y., a corporation of New York
Filed Sept. 30, 1968, Ser. No. 13,794
Term of patent 14 years
Int. Cl. D18—*01*

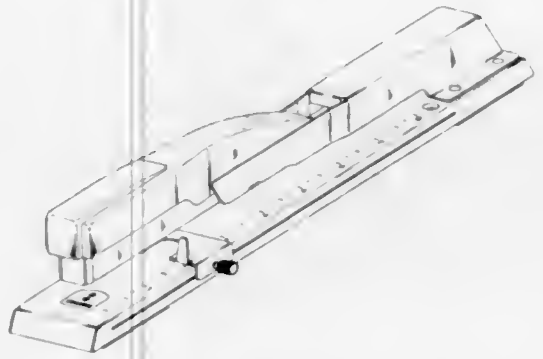
U.S. Cl. D64—11



214,347
LONG-REACH STAPLING MACHINE OR SIMILAR ARTICLE

John J. Power, Westbury, and Nathaniel M. Olney, New York, N.Y., assignors to Swingline Inc., Long Island City, N.Y., a corporation of New York
Filed Oct. 14, 1968, Ser. No. 13,959
Term of patent 14 years
Int. Cl. D19—*02*

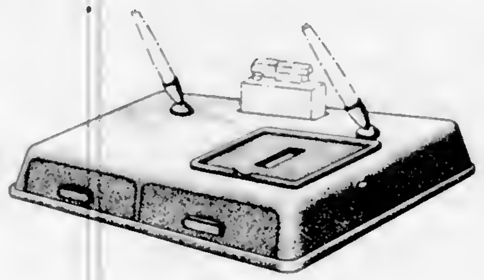
U.S. Cl. D74—1



214,348
DESK SET

Frank J. Schroeder, 4210 31st St. S.,
St. Petersburg, Fla. 33712
Filed Dec. 14, 1967, Ser. No. 9,842
Term of patent 14 years
Int. Cl. D19—*02*

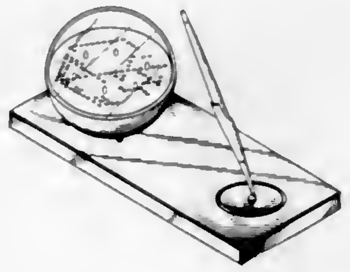
U.S. Cl. D74—5



214,349
ILLUMINABLE DESK SET

Norman T. McFarland, Urbana, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed May 1, 1968, Ser. No. 11,735
Term of patent 14 years
Int. Cl. D19—*02;* D26—*99*

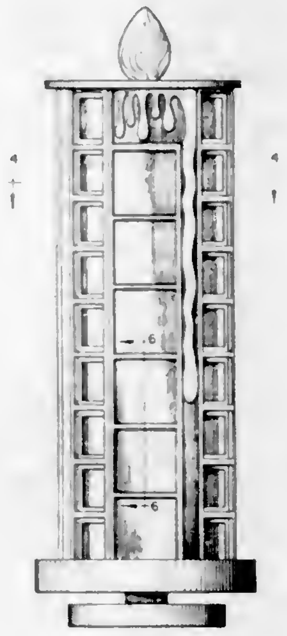
U.S. Cl. D74—5



214,350
JEWELRY DISPLAY STAND

Lester Silverman, 77 Cold Brook Drive,
Cranston, R.I. 02910
Filed May 20, 1968, Ser. No. 11,998
Term of patent 14 years
Int. Cl. D20—*02;* D6—*01*

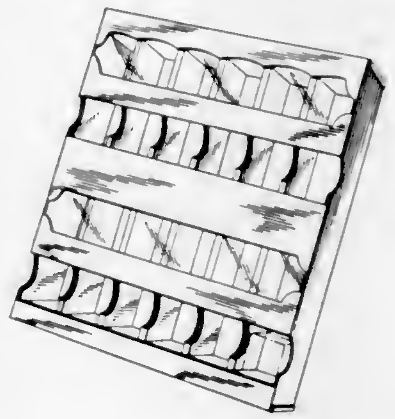
U.S. Cl. D80—9



214,351
COMBINED DISPLAY AND DISPENSING STAND FOR MERCHANDISE

Charles Resnick, Freeport, N.Y., assignor to Fred Bronner Corporation, New York, N.Y.
Filed June 6, 1968, Ser. No. 12,244
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D80—9

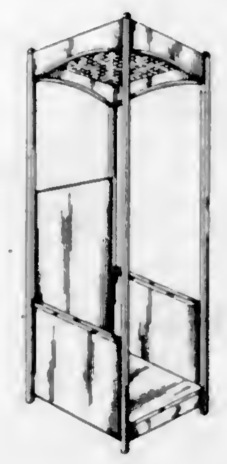


214,352
DISPLAY FIXTURE OR SIMILAR ARTICLE

Elmer L. Reibold, Park Ridge, William W. Timpe, Prospect Heights, and Spartaco Trivellini, Roselle, Ill., assignors to Market Masters, Inc., Elk Grove Village, Ill., a corporation of Illinois

Filed Aug. 1, 1968, Ser. No. 12,991
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D80—9

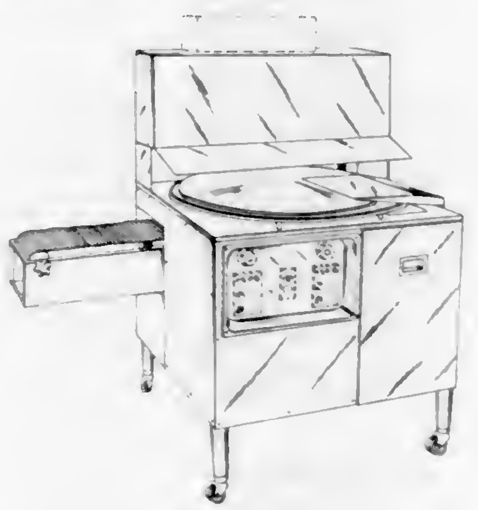


214,353
AUTOMATED COOKING UNIT

Jerry J. Oxford, Granite City, and Donald M. Kaffer, Belleville, Ill., and Leo M. Strenfel, Florissant, Mo., assignors to Oxford Manufacturing Company, Belleville, Ill., a corporation of Delaware

Filed June 10, 1968, Ser. No. 12,289
Term of patent 14 years
Int. Cl. D7—*04*

U.S. Cl. D81—10

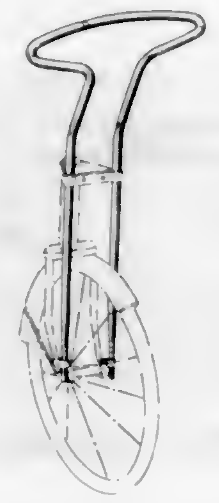


214,354
HANDLEBAR FOR A TWO-WHEELED VEHICLE OR THE LIKE

Sherwood B. Ross, 155 Woodmere Blvd., Woodsburgh, N.Y.

Filed Apr. 11, 1968, Ser. No. 11,413
Term of patent 14 years
Int. Cl. D12—*11*

U.S. Cl. D90—11

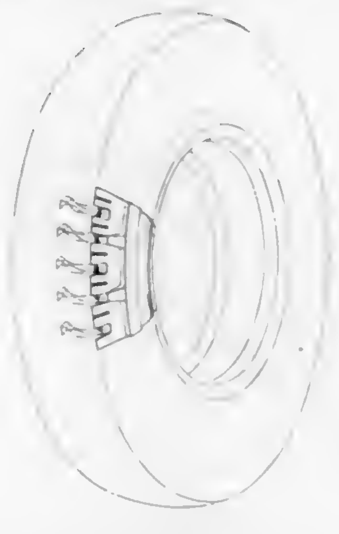


214,355
TIRE

Charles A. Sangiovanni, Huntington Station, N.Y., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed July 30, 1968, Ser. No. 12,964
Term of patent 14 years
Int. Cl. D12—*14*

U.S. Cl. D90—20



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 3RD DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Babcock, Henry N.: *See*—
  Small, Augustus B., and Babcock. Re. 26,597.
Esso Research & Engineering Co.: *See*—
  Small, Augustus B., and Babcock. Re. 26,597.
Fairbanks, Gordon J., and K. Staiger, to Stewart-Warner Corp. Automotive booster heater. Re. 26,599, 6–3–69, Cl. 237—2.
Fetzer, Wallace G., to Oglebay Norton Co. Method for determining sound focus for mining blast. Re. 26,598, 6–3–69, Cl. 102—23.
Hitachi, Ltd.: *See*—
  Miura, Tanetoshi, and Koshikawa. Re. 26,600.
Hupp Corp.: *See*—
  Jobes, Harry W. Re. 26,596.
Jobes, Harry W., to Hupp Corp. Heat pump controls. Re. 26,596, 6–3–69, Cl. 165—12.
Koshikawa, Tsuneji: *See*—
  Miura, Tanetoshi, and Koshikawa. Re. 26,600.
Miura, Tanetoshi, and T. Koshikawa, to Hitachi, Ltd. Apparatus for observing vocal cord wave. Re. 26,600, 6–3–69, Cl. 128—2.
Oglebay Norton Co.: *See*—
  Fetzer, Wallace G. Re. 26,598.
Polaroid Corp.: *See*—
  Wareham, Richard R. Re. 26,595.
Small, Augustus B., and H. N. Babcock, to Esso Research & Engineering Co. Cementitious systems. Re. 26,597, 6–3–69, Cl. 106—89.
Staiger, Kurt: *See*—
  Fairbanks, Gordon J., and Staiger. Re. 26,599.
Stewart-Warner Corp.: *See*—
  Fairbanks, Gordon J., and Staiger. Re. 26,599.
Wareham, Richard R., to Polaroid Corp. Self-developing camera. Re. 26,595, 6–3–69, Cl. 95—13.

LIST OF DESIGN PATENTEES

AB Hakanssons Industries: *See*—
  Wahlforss, Henrik C. W. 214,318.
American Machine & Foundry Co.: *See*—
  Hill, Loran R. 214,329.
American Optical Corp.: *See*—
  Shindler, Anthony. 214,344.
Axelrod, Herbert R., to T.F.H. Publications, Inc. Aquarium fish net frame. 214,317, 6–3–69, Cl. D22—22.
Barber, Abe L. Pillow. 214,302, 6–3–69, Cl. D3—9.
Bartholomew, Robert P., to Steelcase, Inc. Chair. 214,315, 6–3–69, Cl. D15—1.
Bellamy, Clifford A. Building unit. 214,311, 6–3–69, Cl. D13—1.
Bronner, Fred, Corp.: *See*—
  Resnick, Charles. 214,351.
Clark, Edward M., to Kiddie Tot Hosiery Mills, Inc. Sock. 214,301, 6–3–69, Cl. D2—334.
Crawford, Ralph W., to Fisher-Price Toys, Inc. Toy camera. 214,328, 6–3–69, Cl. D34—15.
Dart Industries, Inc.: *See*—
  Kner, Albert. 214,334.
  Swett, James B. 214,332.
  Swett, James B. 214.333.
Decrouez, Pierre L., and J. A. Sproston, to Proctor-Silex, Inc. Coffee maker or the like. 214,335, 6–3–69, Cl. D44—26.
Desloge, George B., to Watlow Electric Mfg. Co. Clamp for split ring heater band. 214,342, 6–3–69, Cl. D54—1.
Duern, Gordon L., to Electrohome Ltd. Combination loudspeaker and enclosure therefor. 214,321, 6–3–69, Cl. D26—14.
Duern, Gordon L., to Electrohome Ltd. Radio cabinet or similar article. 214,343, 6–3–69, Cl. D56—4.
Dukes, Everett S. Child's chair. 214,316, 6–3–69, Cl. D15—1.
Electrohome Ltd.: *See*—
  Duern, Gordon L. 214,321.
  Duern, Gordon L. 214,343.
Feinberg, Steven S. Luggage lock. 214,303, 6–3–69, Cl. D8—129.
Fisher-Price Toys, Inc.: *See*—
  Crawford, Ralph W. 214,328.
Fossella, Gregory, to Proctor-Silex, Inc. Vacuum cleaner. 214,339, 6–3–69, Cl. D49—13.
Game-Time, Inc.: *See*—
  Wormser, Robert S. 214,326.
  Wormser, Robert S. 214,327.
Gardner, Norman S. Motorized golf cart. 214,313, 6–3–69, Cl. D14—3.
Gillette Co., The: *See*—
  Vignelli, Massimo. 214,307.
Glass, Marvin, & Associates: *See*—
  McFarland, Norman T. 214,349.
Goodrich, B. F., Co., The: *See*—
  Sangiovanni, Charles A. 214,355.
Greaney, Harry D. Combined glass and holder. 214,331, 6–3–69, Cl. D36—8.
Hansen, David E. Movie camera or the like. 214,345, 6–3–69, Cl. D61—1.
Hill, Delmer J. Mobile food vending unit. 214,314, 6–3–69, Cl. D14—3.
Hill, Loran R., to American Machine & Foundry Co. Snow sled. 214 329, 6–3–69, Cl. D34—15.
Hills, David G., to Monsanto Co. Bottle. 214,305, 6–3–69, Cl. D9—100.
Hoffenberg, Abe. Finger ring or the like. 214,337, 6–3–69, Cl. D45—10.
Jones, Fannie M.: *See*—
  Thom, Wenzel W. 214,312.
Kaffer, Donald M.: *See*—
  Oxford, Jerry J., Kaffer, and Strenfel. 214,353.
Kiddie Tot Hosiery Mills, Inc.: *See*—
  Clark, Edward M. 214,301.
Kner, Albert, to Dart Industries, Inc. Container for foodstuffs or the like. 214,334, 6–3–69, Cl. D44—10.
Koch, Walter L., and K. A. Day, to Rowe International, Inc. Merchandising machine panel. 214,341, 6–3–69, Cl. D52—3.
Krueger Metal Products, Inc.: *See*—
  Schier, Robert W., and Odar. 214,324.
  Schier, Robert W., and Odar. 214,325.
Lioon Business Systems, Inc.: *See*—
  Otto, Carl L. 214,346.
London Winery Ltd.: *See*—
  Northgrave, Franklin D., and Knowles. 214,304.
  Northgrave, Franklin D., and Knowles. 214,306.
Market Masters, Inc.: *See*—
  Reibold, Elmer L., Timpe, and Trivellini. 214,352.
Matsuo, Takashi. Packing bag. 214,308, 6–3–69, Cl. D9—251.
Matsuo, Takashi. Packing bag. 214,309, 6–3–69, Cl. D9—251.
Maxwell, Hiram M. Tree holder. 214,330, 6–3–69, Cl. D35—1.
McFarland, Norma T., to Marvin Glass & Associates. Illuminable desk set. 214,349, 6–3–69, Cl. D74—5.
Monsanto Co.: *See*—
  Hills, David G. 214,305.
Murray Co. of Texas, Inc.: *See*—
  Stone, Alan J. 214,338.
National Union Electric Corp.: *See*—
  Schaefer, Harold W., and Hohulin. 214,340.
Northgrave, Franklin D., and A. N. Knowles, to London Winery Ltd. Bottle. 214,304, 6–3–69, Cl. D9—23.
Northgrave, Franklin D., and A. N. Knowles, to London Winery Ltd. Bottle. 214,306, 6–3–69, Cl. D9—122.
Otto, Carl L., to Lioon Business Systems, Inc. Typewriter. 214,346, 6–3–69, Cl. D64—11.
Oxford, Jerry J., D. M. Kaffer, and L. M. Strenfel, to Oxford Mfg. Co. Automated cooking unit. 214,353, 6–3–69, Cl. D81—10.
Oxford Mfg. Co.: *See*—
  Oxford, Jerry J., Kaffer, and Strenfel. 214,353.
Paula, C. M., Co., The: *See*—
  Penter, Albert P. 214,323.
Penter, Albert P., to The C. M. Paula Co. Book holder. 214,323, 6–3–69, Cl. D33—3.
Petrie, Patrick. Watchband attachment. 214,336, 6–3–69, Cl. D45—4.
Power, John J., and N. M. Olney, to Swingline, Inc. Long-reach stapling machine or similar article. 214,347, 6–3–69, Cl. D74—1.
Proctor-Silex, Inc.: *See*—
  Decrouez, Pierre L., and Sproston. 214,335.
  Fossella, Gregory. 214,339.
Reibold, Elmer L., W. W. Timpe, and S. Trivellini, to Market Masters, Inc. Display fixture or similar article. 214,352, 6–3–69, Cl. D80—9.
Resnick, Charles, to Fred Bronner Corp. Combined display and dispensing stand for merchandise. 214,351, 6–3–69, Cl. D80—9.
Ross, Sherwood B. Handlebar for a two-wheeled vehicle or the like. 214,354, 6–3–69, Cl. D90—11.
Rowe International, Inc.: *See*—
  Koch, Walter L., and Day. 214,341.
Sangiovanni, Charles A., to The B. F. Goodrich Co. Tire. 214,355, 6–3–69, Cl. D90—20.
Schaefer, Harold W., and S. E. Hohulin, to National Union Electric Corp. Suction cleaner. 214,340, 6–3–69, Cl. D49—14.
Schier, Robert W., and L. F. Odar, to Krueger Metal Products, Inc. Coat hook. 214,324, 6–3–69, Cl. D33—8.
Schier, Robert W., and L. F. Odar, to Krueger Metal Products, Inc. Clothes hook. 214,325, 6–3–69, Cl. D33—8.

- Schroeder, Frank J. Desk set. 214,348, 6-3-69, Cl. D74—5.
- Schindler, Anthony, to American Optical Corp. Combined eyeshade and clip-on sunglasses. 214,344, 6-3-69, Cl. D57—1.
- Silverman, Lester. Jewelry display stand. 214,350, 6-3-69, Cl. D80—9.
- Smith, Homer A., and W. D. Robinson. Computer output microfilmer. 214,319, 6-3-69, Cl. D26—5.
- Stallebrass, John. Combined signal and control module. 214,320, 6-3-69, Cl. D26—13.
- Steelcase, Inc.: *See—*
  - Bartholomew, Robert P. 214,315.
- Stone, Alan J., to Murray Co. of Texas, Inc. Roll end bearing. 214,338, 6-3-69, Cl. D46—1.
- Strenfel, Leo M.: *See—*
  - Oxford, Jerry J., Kaffer, and Strenfel. 214,353.
- Swett, James B., to Dart Industries, Inc. Divider panel for a lunch box or the like. 214,332, 6-3-69, Cl. D44—1.
- Swett, James B., to Dart Industries, Inc. Tray for condiment dispensers or the like. 214,333, 6-3-69, Cl. D44—7.
- Swingline, Inc.: *See—*
  - Power, John J., and Olney. 214,347.
- T.F.H. Publications, Inc.: *See—*
  - Axelrod, Herbert R. 214,317.
- Thom, Wenzel W., ½ to F. M. Jones. Handrailing. 214,312, 6-3-69, Cl. D13—7.
- Velasquez, Willie L. Disposable sanitary cover for telephone handsets. 214,322, 6-3-69, Cl. D26—14.
- Vignelli, Massimo, to The Gillette Co. Bottle. 214,307, 6-3-69, Cl. D9—139.
- Wahlforss, Henrik C. W., to AB Hakanssons Industries. Electrical closet. 214,318, 6-3-69, Cl. D23—48.
- Wasnewsky, Charles R. Drawer pull shield. 214,310, 6-3-69, Cl. D10—8.
- Watlow Electric Mfg. Co.: *See—*
  - Desloge, George B. 214,342.
- Wormser, Robert S., to Game-Time, Inc. Combined playground climber and slide. 214,326, 6-3-69, Cl. D34—5.
- Wormser, Robert S., to Game-Time, Inc. Playground swing. 214,327, 6-3-69, Cl. D34—5.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 3D DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Abate, Leo: *See—*
  - Lorentzen, Hans K., Anderle, Joseph A., and Abate, Leo 3,447,585.
- Abbott Laboratories: *See—*
  - Johnson, Robert Phillip, and Oswald, John Paul, 3,448,114.
- Abbott, Terence A., Clachan, Margaret L., Kennedy, David Rankine, McIntyre, Ian S., and Shephard, Basil R., to Bexford Limited. Drafting film. 3,447,947, 06-03-69, Cl. 117-073.
- Abelius, Sven Gosta Birger. Transport and storage package. 3,447,260, 06-03-69, Cl. 047-034.11
- Abex Corporation: *See—*
  - Keller, Emil C., 3,448,071.
  - McCune, Robert B., 3,448,433.
- Abramson, Andrew E., and Kitchar, Andrew F., to Research, Incorporated, mesne. Machine alignment in strip joining. 3,447,994, 06-03-69, Cl. 156-502.
- Adamson United Company: *See—*
  - Seanor, Rex C., and Perlberg, S Everett, 3,447,201.
- Adrien, Christain, to Elco Corporation. Contact carrier strip. 3,448,431, 06-03-69, Cl. 339-176.
- Advance Finishing, Inc.: *See—*
  - Tillotson, John G., 3,447,215.
- Aeronautics and Space Administration with respect to an invention of,, and McHaffie, David J., to Koehler, Carl Aug,. N/A. Extensible cable support. 3,448,345, 06-03-69, Cl. 317-122.
- Aeroprojects Incorporated: *See—*
  - Smith, Daniel J., Tarpley, William B., Jr., and McKinney, Charles Dana, Jr., 3,447,879.
- Aerospace Components Corporation: *See—*
  - Solymar, George G., 3,447,689.
- Agfa-Gevaert AG: *See—*
  - Kiper, Gerd, 3,447,431.
- Agfa-Gevaert Aktiengesellschaft: *See—*
  - Kaufer, Helmut, Burger, Erich, and Huber, Hans-Peter, 3,447,438.
  - Wick, Richard, Engelsmann, Dieter, and Winkler, Alfred, 3,447,433.
  - Winkler, Alfred, 3,447,435.
- Ahearn, John James, Jr., and Clements, Thomas Robert, to AMP Incorporated. Laminated electrical capacitor and methods for making. 3,448,355, 06-03-69, Cl. 317-261.
- Aileo, Jackson A., to Gentex Corporation, mesne. Safety helmet with improved stabilizing and size adjusting means. 3,447,162, 06-03-69, Cl. 002-003.
- Air Products and Chemicals Inc.: *See—*
  - Green, Harold A., 3,448,065.
- Air Reduction Company, Incorporated: *See—*
  - Jeannette, Joseph C., 3,447,730.
- Airtex Products: *See—*
  - Parrent, William Russell, and Gray, Robert J., 3,447,408.
- Aitkens, Edward B. Bank check holder. 3,447,677, 06-03-69, Cl. 206-073.
- Akagi, Saburo: *See—*
  - Kitaoka, Atsushi, Murayama, Keisuke, Moiura, Syoji, Toda, Toshimasa, Akagi, Saburo, Kurumada, Tomoyuki, and Watanabe, Ichiro 3,448,074.
- Akahori, Hiroshi, to Hitachi, Ltd. Device for exchanging pole piece assemblies of an electron lens in an electron microscope. 3,448,262, 06-03-69, Cl. 250-049.5
- Akerman, Emanuel: *See—*
  - Pomper, Seymour, and Akerman, Emanuel 3,448,010.
- Aktiebolaget Atomenergi: *See—*
  - Gronlund, Kaj Anders, 3,447,576.
- Aktiengesellschaft Brown Boveri & Cie: *See—*
  - Giamrnona, Salvatore, 3,448,287.
- Aktiengesellschaft Gebrueder Loepfe: *See—*
  - Loepfe, Erich, 3,447,303.
- Alco Standard Corporation: *See—*
  - Bornor, June Richard, 3,447,788.
- Alden, Thomas H., and Livingston, James D., to General Electric Company. Type II superconductors containing magnetic particles. 3,448,062, 06-03-69, Cl. 252-513.
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- Zanis, Jakov Benediktovich: *See—*
  - Basin, Genrikh Maxovich, Gorenshtein, Ilya Vladimirovich, Lemberg, Mark Eleazarovich, Linetsky, Semen Grigorievich, Myasoed, Anatoly Eliseevich, and Zanis, Jakov Benediktovich 3,447,332.
- Zavalischin, Nikolai Ivanovich: *See—*
  - Gelfand, Ilya Markovich, Zavalischin, Nikolai Ivanovich, and Kulachenkov, Gennady Petrovic 3,447,364.
- Zavod Jana Svermy, narodni podnik: *See—*
  - Cermak, Jiri, Vystrcil, Karel, and Novotny, Bohuslav, 3,447,525.
- Zavody Jana Svermy, narodni podnik: *See—*
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- Zecher, Wilfried: *See—*
  - Merten, Rudolf, and Zecher, Wilfried 3,448,170.
- Zechlin, Richard: *See—*
  - Henderson, Robert M., and Zechlin, Richard 3,448,294.
- Zeile, Karl: *See—*
  - Heusner, Alex, and Zeile, Karl 3,448,109.
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2–3	3,447,162
	3,447,163
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 3, 1969 Volume 863 Number 1

TRADEMARKS

NOTICES

United States Adopted Names

List No. 22

November 1, 1968 to February 28, 1969

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (U.S.A.N.) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

acedapsone: antimalarial
acronine: antineoplastic
adiphenine hydrochloride: smooth muscle antispasmodic
algestone acetonide: progestogen
amquinate: antimalarial
apazone: anti-inflammatory
bromazepam: psychotherapeutic
carbomer: suspending and emulsifying agent
cintazone: anti-inflammatory
clemastine: antihistaminic
clortermine hydrochloride: anorexiant
domiphen bromide: antiseptic
flucytosine: antifungal
fluocinolide: glucocorticoid
flurandrenolide: glucocorticoid
hyclate: monohydrochloride hemiethanolate hemihydrate
iocetamic acid: radiopaque
liotrix: synthetic thyroid principle
memodine hydrochloride: antiviral
metiapine: unknown as yet
morantel tartrate: anthelmintic
orgotein: anti-inflammatory
ormetoprim: antibacterial
oxilapine succinate: CNS depressant
polacrilin: pharmaceutical aid
poligeenan: antipeptic
prazosin hydrochloride: antihypertensive
ritodrine: uterine relaxant
sulfazamet: antibacterial sulfonamide
thiothixene hydrochloride: psychotherapeutic
tramadol: analgesic

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	14,617
Date of oldest new application	February 20, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation **TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION**	Oldest Application	
	New	Amended
(I) **L. J. BETTENDORF**, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-21-68	6-4-63
(II) **F. H. WETHERBEE**, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	6-12-68	5-24-66
(III) **P. S. BALL**, Classes 19, 21, 23, 26, 31, 34, 35, 36	9-3-68	1-21-66
(IV) **M. E. ABRAMSON**, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	2-20-68	6-1-65
Renewals (All Classes)	1-21-69	....
Sec. 12(c) Publications (All Classes)	2-5-69	....

Applications filed during the month of March 1969—2,850

Registrations Issued	415—No. 870,278 to No. 870,692
Renewals Issued	150

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

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Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 69,530 (VOGUE), The Conde Nast Publications, Inc., Weekly magazine; **Reg. No. 504,006**, same, Magazine published twenty times yearly, **filed** Aug. 9, 1967, D.C., S.D.N.Y., Doc. 67–C–3045, *The Conde Nast Publications, Inc.* v. *American Greetings Corporation.* Order of discontinuance with prejudice, Jan. 18, 1968.

Reg. No. 269,655 (SUN DROP), The Mil-Kay Orange Corporation of America, Flavoring extracts and concentrated syrups for making soda water and other beverages, particularly orange beverage; **Reg. No. 399,561**, same, Sun Drop Sales Corporation of America, Non-alcoholic, maltless beverages sold as soft drinks, and extracts and concentrates for making such beverages; **Reg. No. 782,157** (SUN DROP DIET AND DESIGN), same, Dietary soft drinks, **filed** Apr. 22, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c713, *Sun Drop Sales Corporation of America* v. *Swift & Company.* On stipulation order cause is dismissed without prejudice, Jan. 19, 1968.

Reg. No. 330,932 (BALI), Coty, Inc., Face powder, talcum powder and rouge compacts, bath powder, sachet, rouge, lip sticks, perfumes, toilet waters, liquid nail polishers, cuticle removers, polish removers, **filed** Nov. 2, 1967, D.C., S.D.N.Y., Doc. 67–C–4302, *The Bali Company, Inc.* v. *Chas. Pfizer & Co., Inc.* Notice of voluntary dismissal, Nov. 27, 1967.

Reg. No. 398,874 (PROGRESSO AND DESIGN), Uddo & Taormina Corporation, Canned vegetables; **Reg. No. 620,471**, same, Canned vegetables, canned fruits, canned olives, canned pork and beans, canned spaghetti, canned fish, canned egg plant appetizer, canned tomato paste, and canned citrus fruit juices and tomato juice; **Reg. No. 708,478** (PROGRESSO), same, Canned and bottled edible olive oil and olives, macaroni, canned ravioli, spaghetti, tomato paste, canned vegetables, pizza sauce, clam sauce, tomato sauce, spaghetti sauce, canned fish, canned fruits, canned soups, cheese, coffee, dried beans, vinegar, spices, olive appetizer consisting of olives, celery, capers, oregano, vinegar, oil and spices; egg plant appetizer consisting of egg plant, tomato sauce, celery, olives, capers, onions, oils, vinegar, sugar and spices, **filed** Jan. 27, 1969, D.C., S.D.N.Y., Doc. 69–C–316, *Uddo & Taormina Corp.* v. *Pizza Paverna, Inc. et al.* Consent judgment, defendants enjoined, Mar. 19, 1969.

Reg. No. 399,561. (See Reg. No. 269,655.)

Reg. No. 504,006. (See Reg. No. 69,530.)

Reg. No. 608,451 (PINCH), Haig & Haig Limited, Scotch whisky; **Reg. No. 670,723** (DESIGN OF BOTTLE), same, Whisky, **filed** Aug. 28, 1967, D.C., S.D.N.Y., Doc. 67–C–3276, John Haig & Company Ltd. trading as *Haig & Haig* v. *Countess Mara, Inc. et al.* Notice of dismissal, Nov. 13, 1967.

Reg. No. 620,471. (See Reg. No. 398,874.)

Reg. No. 638,128 (WORLD'S FINEST), World's Finest Chocolate, Inc., Candy, **filed** Jan. 13, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c64, *World's Finest Chocolate Inc.* v. *World Candies, Inc., Goldblatt Brothers, Inc.* Order stipulation consent, Apr. 10, 1969.

Reg. No. 644,262 (ROMAN AND DESIGN), Roman Products Corporation, Frozen meat ravioli, cheese ravioli, meat sauce, mushroom sauce, pizza pies, and manicotti, **filed** Apr. 10, 1969, D.C., E.D. Wis. (Milwaukee), Doc. 69–C–128, *Roman Products Corporation* v. *Davis A. Donnelly, doing business as Roman Inn Pizza Company and Black River Dairy Products, Inc.*

Reg. No. 644,504 (FEATHAIRE), The Barbizon Corporation, Broadwoven fabric made of cotton, nylon and other synthetic fibers, and combinations thereof, **filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4379, *The Jaunty Fabric Corporation* v. *Monerey Mills Inc.* Stipulation discontinuing action, Nov. 17, 1967.

Reg. No. 670,723. (See Reg. No. 608,451.)

Reg. No. 687,622 (MELOTEX), Hockmeyer Bros., Inc., Textile fabrics in the piece composed of corduroy, used exclusively for the manufacture of boys' and men's wear, **filed** Apr. 9, 1969, D.C., S.D.N.Y., Doc. 69–1447, *Hockmeyer Bros. Inc.* v. *B & E Mills Inc.*

Reg. No. 708,478. (See Reg. No. 398,874.)

Reg. No. 782,157. (See Reg. No. 269,655.)

Reg. No. 784,934 (JADE EAST), Swank, Inc., Cologne, aftershave lotion and deodorant, **filed** Aug. 17, 1967, D.C., S.D.N.Y., Doc. 67–C–3134, *Swank, Inc.* v. *Martin Goldstein, doing business as The Nagold Co.* Final judgment, defendants Martin Goldstein, doing business as The Nagold Co. enjoined and restrained, Oct. 30, 1967. **Same, filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4381, *Swank, Inc.* v. *Global Imports, Inc.* Final judgment, defendant enjoined, Dec. 4, 1967.

Reg. No. 799,544 (EXPO 67), Canadian Corporation for the 1967 World Exhibition, Publications issued from time to time; **Reg. No. 800,518**, same, Services involving the establishing, publicizing and promoting an international exposition for the benefit of sponsors and others, **filed** Aug. 17, 1967, D.C., S.D.N.Y., Doc. 67–C–3151, *Canadian Corporation for the 1967 World Exhibition* v. *Dexter Press, Inc. et al.* Stipulation and order of discontinuance etc., Oct. 23, 1969.

Reg. No. 800,518. (See Reg. No. 799,544.)

Reg. No. 811,389 (QUARTET), Quartet Fashions, Inc., Ladies' and girls' blouses, skirts, pants, shorts, jumpers, and suits, **filed** Oct. 31, 1967, D.C., S.D.N.Y., Doc. 67–C–4237, *Quartet Fashions, Inc.* v. *Quartet Fabrics, Inc.* Judgment, defendant enjoined, Feb. 16, 1968.

Reg. No. 822,598 (DESIGNERS U.S.A. AND DESIGN), The Berger Brothers Company, Women's blouses, jackets, skirts, suits and negligees, **filed** Mar. 14, 1968, D.C., S.D.N.Y., Doc. 68–C–1065, *The Berger Brothers Co.* v. *Association for Creative Design U.S.A., Inc. et al.* Final consent judgment, defendant permanently enjoined, Sept. 20, 1968.

Reg. No. 831,747 (MATCHBOX), Lesney Products & Co., Ltd., Toys—namely, model vehicles, model machines, plastic fire stations, ambulance stations, service stations, and cardboard road layouts, **filed** Apr. 1, 1969, D.C., S.D.N.Y., Doc. 69–C–1330, *Lesney Products & Co. Ltd. et ano.* v. *Schooline Corporation.*

Reg. No. 836,350 (SI BONNE), Crown Textile Mfg. Corp., Fabrics used as a lining, underlining, interfacing, decorator and outer fabric on women's dresses, coats, suits, skirts, slacks, and sportswear; curtain and drapery fabrics, **filed** Nov. 22, 1967, D.C., S.D.N.Y., Doc. 67–C–4618, *Crown Textile Mfg. Corp.* v. *Ascot Textile Corp.* Order of dismissal, July 9, 1968.

Reg. No. 837,848 (PEE WEE), Uneeda Doll Co., Inc., Dolls, and doll accessories, **filed** Dec. 19, 1967, D.C., S.D.N.Y., Doc. 67–C–4961, *Uneeda Doll Co. Inc.* v. *Durham Industries, Inc.* Order of dismissal, June 20, 1968.

Reg. No. 863,444 (AMERICAN RACING EQUIPMENT AND DESIGN), American Racing Equipment, Wheels cast from magnesium or aluminum and hub caps for wheels for motor vehicles, **filed** Mar. 31, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–601–F, *American Racing Equipment* v. *John T. Huey, doing business as Johnny's Speed & Chrome Shop and James Johnson.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 266,479. Burgess Publishing Company, Minneapolis, Minn. Filed Mar. 13, 1967.

AUDIO
TUTORIAL SYSTEMS

The word "Systems" is disclaimed apart from the mark as shown.

Class 32—Furniture and Upholstery

For Study Carrels (Int. Cl. 20).

Class 36—Musical Instruments and Supplies

For Tape Recorders/Reproducers (Int. Cl. 9).

Class 38—Prints and Publications

For Printed Leaflets, Descriptive Literature, Teaching and Course Literature, Brochures, Outlines and Scripts, Used in Connection With Recorded Self-Teaching Courses (Int. Cl. 16).

First use September 1963.

SN 272,660. Hochschild Kohn & Co., Incorporated, Baltimore, Md. Filed May 31, 1967.

H&K

Class 19—Vehicles

For Bicycles (Int. Cl. 12).

Class 22—Games, Toys, and Sporting Goods

For Equipment and Apparatus Sold as a Unit for Playing Board Games and Card Games; Children's Hand Wagons and Children's Tricycles (Int. Cls. 12 and 28).

Class 28—Jewelry and Precious-Metal Ware

For Rings, Bracelets, Necklaces, Brooches, Decorative Pins, Jewel Cases and Watchbands (Int. Cl. 14).

Class 32—Furniture and Upholstery

For Tables, Chairs, Writing Desks, Credenzas, Bedsteads, End Tables, Sofas, and Divans (Int. Cl. 20).

Class 37—Paper and Stationery

For Writing Paper, Envelopes, Announcement Cards and Paper Placemats (Int. Cl. 16).

Class 38—Prints and Publications

For Decorated Greeting Paper and Greeting Cards (Int. Cl. 16).

Class 39—Clothing

For Clothing for Ladies, Children and Men—Namely, Sport Coats, Suits, Pants, Ties, Coats, Sweaters, Dresses, Head-Wear, Blouses, Shirts, Lingerie, Hosiery, and Foundation Garments (Int. Cl. 25).

Class 40—Fancy Goods, Furnishings, and Notions

For Shoelaces, Sewing Kits, Buttons and Decorative Braid (Int. Cl. 26).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Carpets (Int. Cl. 27).

Class 50—Merchandise Not Otherwise Classified

For Sipping Straw, Matchbook Covers and Placemats of Material Other Than Paper (Int. Cls. 20, 27, and 34).

Class 51—Cosmetics and Toilet Preparations

For Cold Creams, Shaving Lotions, Shaving Soap, Colognes, Powders, Hairdressings, Perfumes, Lipsticks, Rouge, Eye shadow and Cosmetic Astringent Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Laundry Soaps, Laundry Detergents, Toilet Soaps, and Shampoos (Int. Cl. 3).

First use Aug. 8, 1965.

SN 273,084. Linn Camera Shop, Inc., Lansing, Mich. Filed June 5, 1967.

Linprints

Owner of Reg. No. 853,259.

Class 101—Advertising and Business

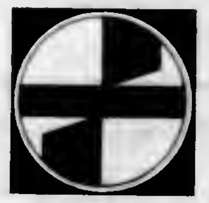
For Retail Store Services in the Selling of Photographic Supplies Such as Film, Photographic Paper, Developing and Printing Materials, Cameras, and Movie Cameras, Camera Accessories, Lighting Equipment, Slide Projectors and Movie Projectors (Int. Cl. 35).

Class 106—Material Treatment

For Photofinishing Services Consisting of Developing and Printing Photographic Materials, Enlarging Prints and Processing Positive Transparency Film (Int. Cl. 40).

First use November 1927.

SN 278,239. Pullmax Aktiebolag, Goteborg, Sweden. Filed Aug. 14, 1967.



Owner of Swedish Reg. No. 113,485, dated July 16, 1965.

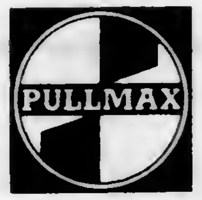
Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Metal Plate and Metal Sheet Shearing and Forming Machines With Material Handling Attachments Therefor and Parts Thereof (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Arc Welding Machines (Int. Cl. 7).

SN 278,240. Pullmax Aktiebolag, Goteborg, Sweden. Filed Aug. 14, 1967.



Owner of Swedish Reg. No. 112,723, dated Apr. 23, 1965; and U.S. Reg. No. 546,795.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Metal Plate and Metal Sheet Shearing and Forming Machines With Material Handling Attachments Therefor and Parts Thereof (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Arc Welding Machines (Int. Cl. 7).

SN 281,322. Societe des Etablissements Klytia S.a.r.l., Levallois-Perret, Hauts-de-Seine, France. Filed Sept. 27, 1967.

KLYTIA

Owner of French Reg. No. 530,329, dated Apr. 15, 1965 (Paris); Natl. Inst. No. 246,106.

Class 51—Cosmetics and Toilet Preparations

For Perfumes, Cologne, Face and Hand Creams, Skin Lotions, Face Tonic, Body Powder, Body Lubricating Oils, Suntan Creams, Milk Bath and Lotion, Makeup Foundation, Rouge, Lipstick, Mascara, Eye Shadow, Incidentally Medicated Face Makeup, and Depilatories (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

SN 290,881. Peter Hand Foundation, Inc., Waukegan, Ill. Filed Feb. 12, 1968.

PARADE

Class 18—Medicines and Pharmaceutical Preparations

For Horse Feed Supplement (Int. Cl. 31).
First use Dec. 2, 1966.

Class 46—Foods and Ingredients of Foods

For Dog Food for Both Mixing and Feeding Unmixed, and Horse Feed for Mixing (Int. Cl. 31).
First use Dec. 20, 1966.

SN 299,901. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 7, 1968.

GEIGY

Owner of Reg. Nos. 398,710, 777,637, and others.

Class 6—Chemicals and Chemical Compositions

For Pesticide Products for Agricultural, Horticultural, Industrial, Household and Manufacturing Use (Int. Cl. 5).
First use July 12, 1943.

Class 10—Fertilizers

For Plant Nutrients (Int. Cl. 1).
First use November 1952.

SN 300,772. Allied Chemical Corporation, New York, N.Y. Filed June 19, 1968.

COMPENSATOR

Class 18—Medicines and Pharmaceutical Preparations

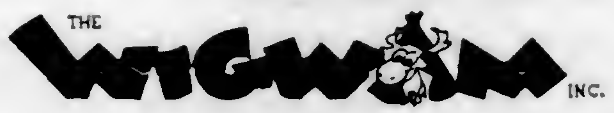
For Livestock Feed Supplements (Int. Cl. 31).

Class 46—Foods and Ingredients of Foods

For Livestock Feeds and Formulated Livestock Feeds (Int. Cl. 31).

First use at least as early as Mar. 18, 1965.

SN 303,211. The Wigwam, Inc., Portland, Oreg. Filed July 19, 1968.



Applicant disclaims the abbreviation "Inc." when used apart from the mark.

Class 2—Receptacles

For Hunting and Fishing License Containers (Int. Cl. 16).

Class 37—Paper and Stationery

For Camping Check List, Partially Printed (Int. Cl. 16).

First use Jan. 1, 1966.

SN 303,445. Republic Molding Corporation, Chicago, Ill. Filed July 23, 1968.

FREEZETTE

Owner of Reg. No. 546,318.

Class 2—Receptacles

For Plastic Bags and Plastic Boxes (Int. Cls. 20 and 22).

Class 5—Adhesives

For Adhesive Tape (Int. Cl. 17).

Class 37—Paper and Stationery

For Wrapping Paper (Int. Cl. 16).

First use January 1959.

SN 308,943. Highway Trailer Industries, Inc., Edgerton, Wis. Filed Oct. 7, 1968.

HIGHWAY

Owner of Reg. Nos. 583,945, 666,224, and others.

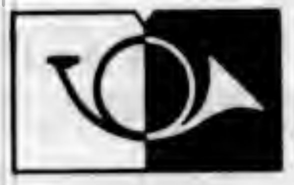
Class 19—Vehicles

For Truck Trailers and Truck Bodies (Int. Cl. 12).
First use May 1, 1917.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Power Operated Aerial Lifts, Power Operated Mobile Aerial Platforms, Boring Machines, and Winches (Int. Cl. 7).
First use in or about 1929.

SN 310,608. Bowmar Records, Inc., Glendale, Calif. Filed Oct. 28, 1968.



Class 36—Musical Instruments and Supplies

For Phonograph Records and Multi-Media Teaching Sets or Kits, Each Kit Consisting of Books, Phonograph Records and Filmstrips (Int. Cl. 9).

Class 38—Prints and Publications

For Books and Picture Stories in Poster Form Such as for Study or Teaching Purposes (Int. Cl. 16).

First use Nov. 1, 1967.

SN 315,173. Comet Packaging Corporation, Bronx, N.Y. Filed Dec. 26, 1968.

IGLOO

Class 2—Receptacles

For Polyethylene Bags; Cellophane Bags; and Liners for Cans, Pails, Drums, and Hampers (Int. Cl. 22).
First use prior to 1950.

Class 37—Paper and Stationery

For Food Wrapping Materials—Namely, Plastic Food Wrap, and Cellophane Sheets on Rolls (Int. Cl. 16).
First use Dec. 10, 1945.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 288,337. NVF Company, Wilmington, Del. Filed Jan. 8, 1968.

yorkite

For Cellulose Material in Sheet Form Used as a Surfacing Material and as Crossbanding With Lumber and Paper Products (Int. Cl. 17).
First use Aug. 21, 1967.

SN 291,904. Shell Oil Company, New York, N.Y. Filed Feb. 26, 1968.

DURATRON

For Polymer Suitable for Molding or Forming Furniture Component Parts (Int. Cl. 1).
First use at least as early as Jan. 26, 1968.

SN 316,932. Dow Badische Company, Williamsburg, Va. Filed Jan. 21, 1969.

CENTRON

For Synthetic Textile Fiber (Int. Cl. 22).
First use Oct. 2, 1968.

SN 316,933. Dow Badische Company, Williamsburg, Va. Filed Jan. 21, 1969.

ESTAIRE

For Synthetic Textile Fiber (Int. Cl. 22).
First use Oct. 2, 1968.

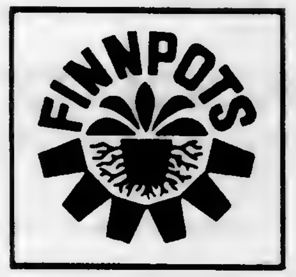
SN 316,934. Dow Badische Company, Williamsburg, Va. Filed Jan. 21, 1969.

AUREL

For Synthetic Textile Fiber (Int. Cl. 22).
First use Oct. 2, 1968.

Class 2—Receptacles

SN 285,300. A. Ahlstrom Osakeyhtio, Warkaus, Finland. Filed Nov. 21, 1967.



Priority claimed under Sec. 44(d) on Finnish application filed May 24, 1967; Reg. No. 52,591, dated June 5, 1968. Applicant disclaims the representation of flower pots and flowers apart from the mark as shown.

For Flower Pots and Flower Pot Trays Made from Peat (Int. Cl. 21).

SN 285,984. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America, West Chicago, Ill. Filed Dec. 1, 1967.

Jiffystrips

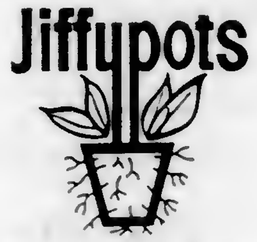
„Plant Pot and All"

The representation of pots and the words "Plant Pot and All" are disclaimed apart from the mark as shown without waiver of applicant's common law rights therein. Owner of Reg. Nos. 834,188, 835,744, and others.

For Molded Units Composed of Several Peat Moss Pots Connected at Their Tops (Int. Cl. 31).

First use during 1965, on or before July 17, 1961, in a different form.

SN 285,985. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America, West Chicago, Ill. Filed Dec. 1, 1967.



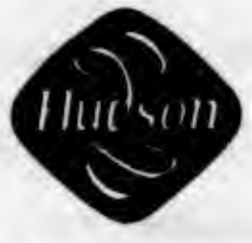
,,Plant Pot and All''

The words "Plant Pot and All" are disclaimed apart from the mark as shown without waiver of applicant's common law rights therein. Owner of Reg. Nos. 834,188, 835,744, and others.

For Peat Moss Pots for Flowers and Other Plants (Int. Cl. 31).

First use during 1965, during 1954, in a different form.

SN 301,071. Hudson Pulp & Paper Corp., New York, N.Y. Filed June 21, 1968.



Owner of Reg. Nos. 722,723, and 757,981.

For Paper Bags (Int. Cl. 16).

First use about June 1966.

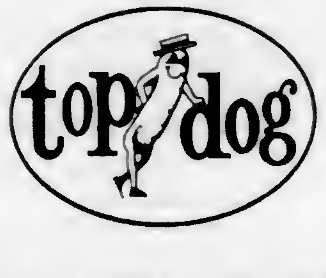
SN 304,423. Young Fire Equipment Corporation, Lancaster, N.Y. Filed Aug. 5, 1968.

PAK-MATE

For Cannister and Tank Holder (Int. Cl. 21).

First use Apr. 12, 1968.

SN 305,491. Richard D. Riemann, Berkeley, Calif. Filed Aug. 19, 1968.



For Disposable Cups, and Plates (Int. Cl. 21).

First use Oct. 21, 1966.

SN 306,287. Union Camp Corporation, New York, N.Y. Filed Aug. 29, 1968.

PAC-MATE

For Combination Bag-in-a-Box (Int. Cl. 16).

First use July 6, 1968.

SN 308,001. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Sept. 23, 1968.

FOAMGLAZE

For Plastic Containers—Namely, Plates, Bowls and Trays (Int. Cl. 21).

First use Sept. 6, 1968.

SN 314,425. Jersey Paper Co., New Brunswick, N.J. Filed Dec. 13, 1968.

CAST-AWAY

For Paper Plates, Paper Cups and Plastic Cups (Int. Cl. 21).

First use Mar. 19, 1968.

SN 316,414. Comet Packaging Corporation, Bronx, N.Y. Filed Jan. 13, 1969.

TRU*VALU

For Polyethylene Bags (Int. Cl. 22).

First use prior to Jan. 1, 1956.

SN 316,908. Rocéd Manufacturers Inc., Fayetteville, N.Y. Filed Jan. 17, 1969.

COMFY-STATION

For Cat Litter Trays Formed of Plastic Material (Int. Cl. 21).

First use Apr. 2, 1968.

SN 316,913. Shoe Form Co. Inc., Auburn, N.Y. Filed Jan. 17, 1969.

PORT-A-JUG

For Collapsible Plastic Containers (Int. Cl. 21).

First use Aug. 23, 1968.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 290,000. Marketing & Motivation Incorporated, New York, N.Y. Filed Jan. 31, 1968.

HANG-A-HANDLE

For Display Tote Bag With Hook Handle Closure (Int. Cl. 18).

First use Jan. 19, 1968.

SN 307,537. United States Tabulating Binder Corporation, Niles, Ill. Filed Sept. 17, 1968.

DATA BATCH

For Portfolios (Int. Cl. 18).

First use Oct. 9, 1967.

Class 4 — Abrasives and Polishing Materials

SN 311,815. Blanks Wallpaper & Paints, Inc., d.b.a. Panel Shield Company, Bluefield, W. Va. Filed Nov. 12, 1968.

PANEL SHIELD

For Wood Polish and Preservative (Int. Cl. 3).

First use Oct. 25, 1968.

SN 313,650. Hanson-Kane, Inc., Dayton, Ohio. Filed Dec. 5, 1968.

VIZABLES

For Silicone Treated Tissues With Anti-Fogging Properties for Cleaning and Polishing Eyeglasses (Int. Cl. 21).

First use Nov. 29, 1968.

Class 5 — Adhesives

SN 296,210. Sunbeam Corporation, Chicago, Ill. Filed Apr. 22, 1968.

SUNBEAM

For Glue (Int. Cl. 1).

First use Dec. 4, 1967.

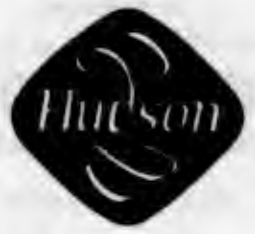
SN 296,357. Sperry Rand Corporation, New York, N.Y. Filed Apr. 23, 1968.

REM-WELD

For Liquid Plastic Adhesive for Book Repair and/or Book Binding (Int. Cl. 1).

First use Aug. 24, 1954.

SN 301,070. Hudson Pulp & Paper Corp., New York, N.Y. Filed June 21, 1968.



Owner of Reg. No. 634,675.

For Gummed Tape (Int. Cl. 16).

First use about June 1966.

SN 304,577. Bixby Box Toe Company, Inc., Haverhill, Mass. Filed Aug. 7, 1968.

BIX·ROD

For Industrial Adhesives Useful, for Example, in Manufacturing Shoes (Int. Cl. 1).

First use July 1967.

SN 305,692. Sternco Industries, Inc., Harrison, N.J. Filed Aug. 21, 1968.

LONGLIFE

Owner of Reg. No. 764,547 and others.

For Combination Adhesive Cement and Sealing Compound for Aquariums (Int. Cl. 1).

First use Apr. 22, 1968.

SN 310,130. Sidney L. Pincus, d.b.a. Modern Products Co., Brooklyn, N.Y. Filed Oct. 21, 1968.

GLITTER-IT

For Tubes Containing a Liquid Adhesive for Use in Marking and Decorating (Int. Cl. 16).

First use Oct. 15, 1956.

SN 311,892. Krause Milling Company, Milwaukee, Wis. Filed Nov. 12, 1968.

REZEX

For Cereal Core Binder Made From Corn (Int. Cl. 1).

First use Sept. 15, 1968.

SN 314,904. Pecora Chemical Corporation, Philadelphia, Pa. Filed Dec. 19, 1968.

TAG 136

For Adhesive for Ceramic Wall Tile (Int. Cl. 1).

First use Oct. 30, 1968.

Class 6 — Chemicals and Chemical Compositions

SN 283,453. The Norac Company, Inc., Azusa, Calif. Filed Oct. 26, 1967.

MATHE

For Metallic Stearates (Int. Cl. 1).

First use June 1950.

SN 286,673. Hokko Chemical Industry Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Dec. 11, 1967.

HOKTHION

Owner of Japanese Reg. No. 712,995, dated July 12, 1966.

For Sterilizing Compositions, Disinfectants and Insecticides for Agricultural Purposes (Int. Cl. 5).

SN 286,674. Hokko Chemical Industry Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Dec. 11, 1967.

HOKMET

Owner of Japanese Reg. No. 712,996, dated July 12, 1966.

For Sterilizing Compositions, Disinfectants and Insecticides for Agricultural Purposes (Int. Cl. 5).

SN 287,277. Cherrybrook Company, Fairborn, Ohio. Filed Dec. 20, 1967.

ZYTTRITE

For High Temperature, High Density and High Strength Translucent Polycrystalline Ceramic Material—Namely, Zirconia Which Is Stabilized by the Oxide of Yttrium, Dysprosium or Ytterbium (Int. Cl. 1).

First use Aug. 19, 1967.

SN 288,194. Delta Drug Corporation, Jacksonville, Fla. Filed Jan. 5, 1968.

ADHES-OFF

For Preparation in Spray Form for Removing All Types of Adhesive Tape From the Skin and Attaining Better Adherence of New Tape (Int. Cl. 1).

First use Sept. 30, 1966.

SN 289,541. Thetford Engineering Corporation, Ann Arbor, Mich. Filed Jan. 24, 1968.

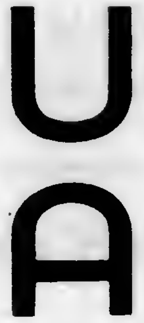
AQUA-KEM

Owner of Reg. No. 836,578.

For Chemical Odor Control Concentrate for Toilet Holding Tanks and Sanitation Systems (Int. Cl. 5).

First use Jan. 3, 1968.

SN 292,728. United Aircraft Corporation, East Hartford, Conn. Filed Mar. 7, 1968.

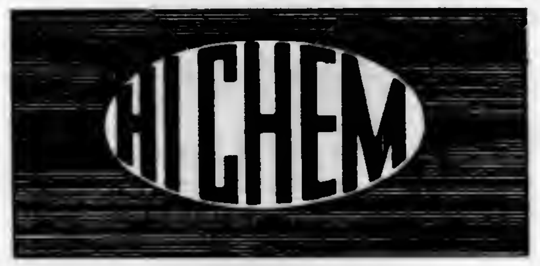


Owner of Reg. Nos. 785,092, 811,287, and others.

For Combustion Catalysts for Solid Propellant Formulations (Int. Cl. 1).

First use Oct. 25, 1967.

SN 296,883. Sun Cleanser Company, Detroit, Mich. Filed Apr. 29, 1968.



The drawing is lined for the colors red and blue.

For Disinfectant-Algaecide-Bactericide Preparation for Use in Swimming Pools (Int. Cl. 5).

First use Apr. 1, 1968.

SN 300,983. Sternco Industries, Inc., Harrison, N.J. Filed June 20, 1968.

PERMALIFE

Owner of Reg. No. 777,200.

For pH Test Kit for Aquarium Water (Int. Cl. 1).

First use Jan. 7, 1963.

SN 303,769. Chapman Chemical Company, Memphis, Tenn. Filed July 29, 1968.

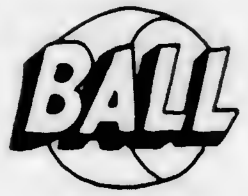
CHAPCOTE

Owner of Reg. Nos. 563,954, 762,556, and others.

For Fungicidal Wood Coating Composition (Int. Cl. 2).

First use Oct. 16, 1962.

SN 303,961. Ball Industries, El Segundo, Calif. Filed July 31, 1968.



For Vaporizing Insect Spray; Residual Insecticide; Aerosol Insect and Moth Sprays; Dust Absorbing Composition for Application to Dust Mops; Mint and Pine Disinfectants; Room Deodorant Sprays; Paradichlorobenzene Deodorant Blocks; Disinfectant-Deodorant Primarily for Institutional and Hospital Use (Int. Cls. 4 and 5).

First use at least as early as 1951.

SN 308,201. Geigy Chemical Corporation, Ardsley, N.Y. Filed Sept. 25, 1968.

IRGAPEL

Owner of Reg. Nos. 165,426, 309,202, and others.

For Leather Dressing and Water Repellant Agent (Int. Cl. 1).

First use Sept. 4, 1968.

SN 309,068. Nationwide Chemical Corporation, Fort Myers, Fla. Filed Oct. 7, 1968.

ISOBAC

For Liquid Soil Fungicides (Int. Cl. 5).

First use Feb. 20, 1963.

SN 310,080. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.

SHEATH

For Rust Preventatives (Int. Cl. 2).

First use 1959.

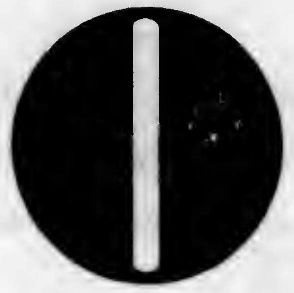
SN 310,978. The Procter & Gamble Company, Cincinnati, Ohio. Filed Oct. 31, 1968.

OFF-SHOOT-O

For Chemical Pinching Agent for Ornamental Flowers and Shrubs (Int. Cl. 1).

First use Feb. 12, 1968; Oct. 7, 1965, as to "Off-Shoot."

SN 311,104. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 1, 1968.



For Chemical Pinching Agent for Ornamental Flowers and Shrubs (Int. Cl. 1).

First use Feb. 12, 1968.

SN 316,574. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Jan. 15, 1969.

CBC-TROL

For Reagent for Control of Hemotology Testing for Laboratory Use (Int. Cl. 1).

First use Dec. 27, 1968.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 316,877. Armstrong & Sons, Manasquan, N.J. Filed Jan. 17, 1969.

KOOLCLEAN

For Smoking Pipes and Filters Therefor (Int. Cl. 34).

First use Dec. 12, 1968.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 296,111. Roman T. Chandler, d.b.a. Old Reliable Cartridge Co., Milwaukee, Wis. Filed Apr. 22, 1968.

BIG FIFTY

For Sporting and Hunting Rifles, and Ammunition Therefor (Int. Cl. 13).

First use Sept. 27, 1967.

SN 306,987. Fairchild Hiller Corporation, Germantown, Md. Filed Sept. 10, 1968.

FAIRCHILD HILLER

For Mechanically and Electropneumatically Operated Launchers and Parts Therefor for Launching Ordnance, Pyrotechnics, Electronic Devices and Supplies (Int. Cl. 13).

First use at least as early as Apr. 1, 1965.

SN 316,224. Michaels of Oregon Co., Portland, Oreg. Filed Jan. 9, 1969.

UNCLE MIKE'S

For Swivels for Guns (Int. Cl. 13).

First use Jan. 12, 1951.

Class 10 — Fertilizers

SN 312,627. Wyo-Ben Products, Inc., Billings, Mont. Filed Nov. 19, 1968.

SHEEP MOUNTAIN

For Gypsum for Agricultural Purposes (Int. Cl. 1).

First use Mar. 31, 1968.

SN 316,756. The O. N. Scott & Sons Company, Marysville, Ohio. Filed Jan. 16, 1969.

PLUS 2

For Fertilizer With Weed Control (Int. Cl. 1).

First use Jan. 18, 1965.

SN 316,757. The O. M. Scott & Sons Company, Marysville, Ohio. Filed Jan. 16, 1969.

PLUS 1

For Fertilizer With Weed Control (Int. Cl. 1).

First use Jan. 18, 1965.

Class 12 — Construction Materials

SN 269,680. Mobil Oil Corporation, New York, N.Y. Filed Apr. 20, 1967.

JOINTITE

For Cement for Pipe Joints and Analogous Uses (Int. Cl. 19).

First use at least as early as 1915.

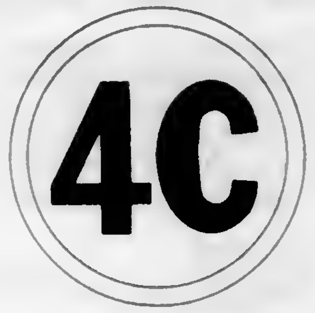
SN 275,037. Continental Coatings Corporation, Brooklyn, N.Y. Filed June 29, 1967.

GLASSET

For Joint Sealer for Cement, Windows, Road Decks, and Bridge Decks (Int. Cl. 17).

First use Apr. 20, 1967.

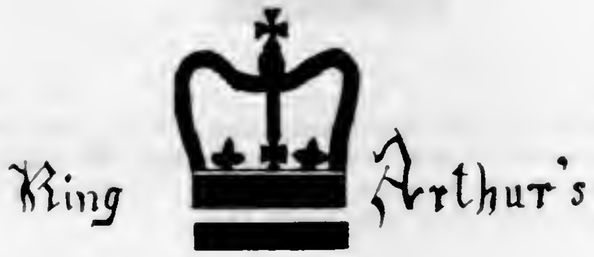
SN 292,309. Texas Industries, Inc., Dallas, Tex. Filed Mar. 1, 1968.



For Chemically-Controlled Compensating Cement Which Expands During Curing To Offset Drying Shrinkage for Making Crack Resistant Concrete (Int. Cl. 19).

First use Aug. 30, 1967.

SN 296,872. Arthur A. Rosner, d.b.a. National Lumber Company, Woodside, N.Y. Filed Apr. 29, 1968.



For Prefinished and Unfinished Wall Paneling, Plywood Lumber, Chipcore Boards, Millwork (Int. Cl. 19).

First use Nov. 1, 1966.

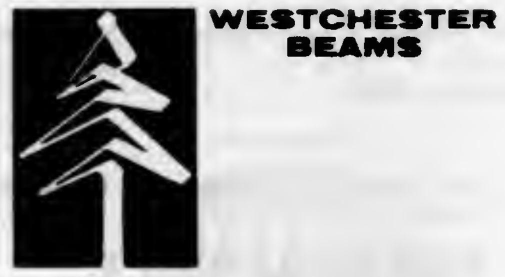
SN 297,271. Capitol Products of Grand Rapids, Inc., Grand Rapids, Mich. Filed May 3, 1968.

CAPSULITE

For Building Insulation—Namely, Ground Polystyrene (Int. Cl. 17).

First use in or about June 1966.

SN 298,651. Westchester Timber Corporation, New York, N.Y. Filed May 20, 1968.



Applicant disclaims the word "Beams" apart from the mark.

For Wood Beams (Int. Cl. 19).

First use Dec. 19, 1967.

SN 299,021. Honeycomb Products, Inc., Miami, Fla. Filed May 24, 1968.

ORBITEX

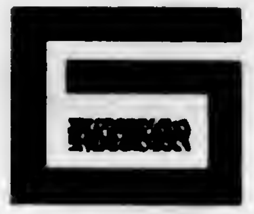
For Honeycomb Structural Core Materials of Sheet and Resin Impregnated Sheet, Said Sheet Selected From the Group Including Metal, Paper, Fiberglass, Plastic and Textile Sheeting (Int. Cls. 6 and 19).
First use on or about Apr. 16, 1968.

SN 300,131. Speed Fab-Crete Buildings, Inc., Fort Worth, Tex. Filed June 10, 1968.

SPEED FAB-CRETE

For Prefabricated Buildings and Components—Namely, Office Buildings, Warehouses, Service Buildings, Schools, Gymnasiums, Shelters, Concrete Umbrellas, Invertible Paraboloids, Cupolas, Concrete Building Blocks, Panels of Various Sizes for Fences, Roofs, Intermediate Floors, and Ceilings, Retaining Walls, Ramps, Bridge Floors, and Bridge Abutments (Int. Cl. 19).
First use about Aug. 1, 1962.

SN 303,019. Granite Research Industries, Inc., Somerville, Mass. Filed July 18, 1968.



For Interior and Exterior Precast or Laminated Structural Panels With and Without Decorative Facings for Construction and remodeling Purposes (Int. Cl. 19).
First use at least as early as March 1964.

SN 304,201. Biltbest Corporation, St. Genevieve, Mo. Filed Aug. 2, 1968.

ROTO-LOK

For Awning Window Units (Int. Cl. 19).
First use February 1956.

SN 307,143. Stress-Plus, Inc., St. Paul, Minn. Filed Sept. 11, 1968.

STRESS-PLUS

For Building Panels (Int. Cl. 19).
First use June 1965.

SN 308,925. Set Products, Inc., Cleveland, Ohio. Filed Oct. 4, 1968.

POLYVYN

For Paste and Liquid Crack Filling and Sealing Compositions (Int. Cl. 17).
First use January 1963.

SN 309,281. The Mosler Safe Company, Hamilton, Ohio. Filed Oct. 9, 1968.

TRANSACTALL

For Drive-In Windows for Stores, Banks and the Like (Int. Cl. 19).
First use Sept. 26, 1968.

SN 309,764. W. R. Grace & Co., Cambridge, Mass. Filed Oct. 16, 1968.

POLYSORB

For Sound Attenuation Material (Int. Cl. 17).
First use Oct. 3, 1958.

SN 309,864. Gratten Marine Research Corp., Yonkers, N.Y. Filed Oct. 17, 1968.

STA-POD

For Concrete Structures Used in the Construction of Marine Breakwaters, Sea Walls, Embankments and Storeline Erosion Barriers (Int. Cl. 19).
First use Oct. 1, 1968.

SN 310,129. Philip Carey Corporation, Cincinnati, Ohio. Filed Oct. 21, 1968.

VILLAGER

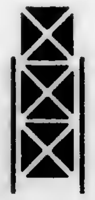
For Solid Vinyl Siding, Panels and Soffits (Int. Cl. 19).
First use May 9, 1968.

SN 310,380. Textone, Inc., Los Angeles, Calif. Filed Sept. 9, 1968.

TEXPLY

For Vinyl Laminated Plywood (Int. Cl. 19).
First use Mar. 29, 1968.

SN 312,677. Harsco Corporation, Wormleysburg, Pa. Filed Nov. 20, 1968.



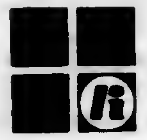
Owner of Reg. No. 822,564.
For Scaffolding and Shoring Equipment (Int. Cl. 6).
First use Nov. 17, 1968.

SN 312,905. Paeco, Inc., Perth Amboy, N.J. Filed Nov. 22, 1968.

SHERWOOD

For Decorative Beams (Int. Cl. 19).
First use Oct. 15, 1968.

SN 313,727. Rimar Manufacturing, Inc., Manheim, Pa. Filed Dec. 5, 1968.



For Window Grilles (Int. Cl. 19).
First use July 30, 1967.

SN 316,171. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed Jan. 9, 1969.

ROUGH 'N' TUMBLE

Owner of Reg. No. 817,644.
For Lumber and Wood Products, i.e., Plywood for Use in Construction, Building, and Furniture fields (Int. Cl. 19).
First use on or about Nov. 15, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 280,382. American Home Products Corporation, New York, N.Y. Filed Sept. 15, 1967.

TWIN GRIP

For Bake Pans Specially Designed With Opposed Handles (Int. Cl. 21).
First use Oct. 1, 1961.

SN 289,834. Ridgewood Instrument Company, Grandview, Mo. Filed Jan. 29, 1968.

R-2

For Sheet Metal Sleeve Clips (Int. Cl. 6).
First use Dec. 1, 1967.

SN 289,982. Flo-Lok, Inc., Houston, Tex. Filed Jan. 31, 1968.

COMPAT

For Valves and Valve and Pipe Fittings (Int. Cl. 6).
First use Jan. 5, 1968.

SN 293,049. Omco Inc., Worcester, Mass. Filed Mar. 12, 1968.

POSILOCK

For Pipe Fittings, Including Fittings for Plastic Gas Tubing (Int. Cl. 17).
First use Dec. 8, 1965.

SN 309,954. Continental Copper & Steel Industries, Inc., New York, N.Y. Filed Oct. 18, 1968.

SEASHORE

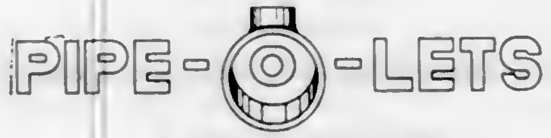
For Wire Screens (Int. Cl. 6).
First use June 1968.

SN 311,025. FWI, Inc., Tulsa, Okla. Filed Oct. 31, 1968.

UNARAMA

For Valves (Int. Cl. 6).
First use June 1, 1968.

SN 311,194. Wheeling Machine Products Company, Wheeling, W. Va. Filed Nov. 1, 1968.



For Extra Heavy, 3,000 Pound and 6,000 Pound Conotured and Beveled Half Couplings, in the One-Half Inch Through Six Inch Sizes (Int. Cl. 6).
First use Oct. 6, 1968.

SN 311,253. G.K.N. Bolts & Nuts Limited, Darlaston, England. Filed Nov. 4, 1968.

antiseez

For Threaded Fasteners (Int. Cl. 6).
First use Sept. 11, 1968; in commerce Sept. 11, 1968.

SN 311,627. Thiokol Chemical Corporation, Bristol, Pa. Filed Nov. 7, 1968.

THIOGLAS

For Glass Filament Wound Pipe (Int. Cl. 21).
First use Feb. 22, 1968.

Class 14—Metals and Metal Castings and Forgings

SN 300,463. Magnetics, Incorporated, East Butler, Pa. Filed June 14, 1968.

MAGNETICS inc.

Owner of Reg. No. 846,122.
For Sheets, Bars, Wire, Rods, and Tubes for Further Manufacture in the Industrial Arts Made From Metallic Materials and Formed by Rolling, Swagging, Punching, Drawing, and Machining, and Flat Metal Shapes Formed by Photo-Etching and Photo-Chemical Milling (Int. Cl. 6).
First use August 1964.

SN 300,965. Republic Steel Corporation, Cleveland, Ohio. Filed June 20, 1968.

HP 9-4

For Steel Alloys (Int. Cl. 6).
First use May 28, 1968.

SN 310,031. Pan American Trade Development Corp., New York, N.Y. Filed Oct. 21, 1968.

PAMPA

Owner of Reg. No. 863,807.
For Galvanized Metal Sheets (Int. Cl. 6).
First use Sept. 11, 1968.

Class 15—Oils and Greases

SN 272,098. Robert A. Reuter, d.b.a. Dylon Industries, Lawrenceburg, Tenn. Filed May 22, 1967.

DYLON

For Graphite Mold Release Agent (Int. Cl. 1).
First use Mar. 10, 1967.

SN 308,156. The Standard Oil Company, Cleveland, Ohio. Filed Sept. 24, 1968.

QVO

The drawing is lined for the colors purple and gold.
For Motor Oil (Int. Cl. 4).
First use Sept. 13, 1968; July 23, 1968, in another form.

Class 16 — Protective and Decorative Coatings

SN 289,838. The Sherwin-Williams Company, Cleveland, Ohio. Filed Jan. 29, 1968.

POWERCLAD

For Compositions in the Nature of Paints for Electrocoating (Int. Cl. 2).
First use November 1967.

SN 312,230. Sapolin Paints Inc., New York, N.Y. Filed Nov. 14, 1968.

Without prejudice to its common law rights and for the purpose of this application only, applicant disclaims the notation "Antique Satin" apart from the mark as shown.
For Paint Enamel and Clear Wood Finish (Int. Cl. 2).
First use Sept. 18, 1968.

Class 18 — Medicines and Pharmaceutical Preparations

SN 264,808. Durham Pharmacal Corp., Durham, N.Y. Filed Feb. 16, 1967.

dP

For Therapeutical Compositions for Topical Application to the Skin—Namely, medicated Preparations for Treatment of Acne, Oily Skin and Seborrheic Conditions (Int. Cl. 5).
First use Aug. 24, 1966.

SN 283,409. Alberto-Culver Company, Melrose Park, Ill. Filed Oct. 26, 1967.

SURE

For Laxative Preparation (Int. Cl. 5).
First use Mar. 13, 1967.

SN 284,950. Thayer-Knomark, Inc., Springfield Gardens, N.Y. Filed Nov. 15, 1967.

BLEMICIN

For Medical Preparation for the Treatment of Pimples and Acne (Int. Cl. 5).
First use July 31, 1967.

SN 285,637. Aktiebolaget Ferrosan, Malmo, Sweden. Filed Nov. 27, 1967.

BURONIL

Owner of Swedish Reg. No. 114,929, dated Jan. 14, 1966.
For Psychopharmacological Drugs (Int. Cl. 5).

SN 287,843. Towne, Paulsen & Co. Inc., Monrovia, Calif. Filed Dec. 29, 1967.

SINUSEZE

For Decongestant Analgesic (Int. Cl. 5).
First use May 15, 1967.

SN 288,653. USV Pharmaceutical Corporation, New York, N.Y. Filed Jan. 11, 1968.

PANTHOGESIC

Owner of Reg. Nos. 569,705, 826,270, and others.
For Topical Skin Application for Treatment of Painful and Itching Dermatoses (Int. Cl. 5).
First use Dec. 7, 1968.

SN 288,666. American Home Products Corporation, New York, N.Y. Filed Jan. 12, 1968.

ATIVAN

Owner of Reg. No. 754,925.
For Medicinal Preparation in the Nature of a Psychotropic Agent (Int. Cl. 5).
First use Sept. 28, 1967.

SN 289,903. Keim-Diat G.m.b.H., Augsburg, Germany. Filed Jan. 30, 1968.

POLYGRAN

Owner of German Reg. No. 682,791, dated Oct. 14, 1955.
For Tonic and Vitamin Preparations for Human Use Derived From Plant Germs and Seedlings (Int. Cl. 5).

SN 298,760. Laboratoires Labaz, Paris, France, by change of name from Societe Francaise des Laboratoires Labaz, Paris, France. Filed May 21, 1968.

CORDARONE

Owner of French Reg. No. 720,289, dated Mar. 22, 1967.
For Pharmaceutical Product or Specialty for the Treatment of Cardiac and Circulatory Disorders (Int. Cl. 5).

SN 303,181. Merck & Co., Inc., Rahway, N.J. Filed July 19, 1968.

TRYPTIZOL

Owner of Reg. No. 720,590.
For Medicinal Preparation for Use as a Psychotherapeutic Agent (Int. Cl. 5).
First use June 19, 1968.

SN 304,230. King's Specialty Company, Fort Wayne, Ind. Filed Aug. 2, 1968.

DENTROL

For Dietary Supplement for Children (Int. Cl. 5).
First use May 10, 1968.

SN 304,231. King's Specialty Company, Fort Wayne, Ind. Filed Aug. 2, 1968.

KIDDI-FLUOR

For Dietary Supplement for Children (Int. Cl. 5).
First use May 10, 1968.

SN 304,232. King's Specialty Company, Fort Wayne, Ind. Filed Aug. 2, 1968.

VI-EDI-FLUOR

For Dietary Supplement for Children (Int. Cl. 5).
First use May 10, 1968.

SN 304,459. Geigy Chemical Corporation, Ardsley, N.Y. Filed Aug. 6, 1968.

BUTE

Owner of Reg. Nos. 559,913, 753,208, and others.
For Analgesic Preparations (Int. Cl. 5).
First use July 2, 1968.

SN 304,468. Hoffmann-La Roche Inc., Nutley, N.J. Filed Aug. 6, 1968.

BIACT

For Decongestant Preparation (Int. Cl. 5).
First use July 25, 1968.

SN 304,629. Sterwin Chemicals Inc., New York, N.Y. Filed Aug. 7, 1968.

AVi-STRESS

For Medicinal Preparation for Use in Medicating Poultry Drinking Water (Int. Cl. 5).
First use Apr. 5, 1967.

SN 304,815. Reed & Carnrick, Kenilworth, N.J. Filed Aug. 9, 1968.

DOSSIL

For Medicinal Preparation—Namely, a Laxative (Int. Cl. 5).
First use on or about Aug. 5, 1968.

SN 304,816. Reed & Carnrick, Kenilworth, N.J. Filed Aug. 9, 1968.

DOSS-SIL

For Medicinal Preparation—Namely, a Laxative (Int. Cl. 5).
First use on or about Aug. 5, 1968.

SN 314,169. Air Reduction Company, Incorporated, New York, N.Y. Filed Dec. 11, 1968.

AIRCO

Owner of Reg. No. 146,156 and others.
For Anesthetics and Medical Gases—Namely, Cyclopropane, Ethylene, Ethyl Chloride, Ethyl Vinyl Ether, Trifluoroethyl Vinyl Ether, Trichloroethylene, Nitrous Oxide, Oxygen, Carbon Dioxide, Oxygen Carbon Dioxide Mixtures, Helium, Helium-Oxygen Mixtures; Hexafluorodiethyl Ether a Convulsive Agent for Convulsive Shock Therapy (Int. Cl. 5).
First use October 1967.

Class 20 — Linoleum and Oiled Cloth

SN 302,375. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed July 10, 1968.

ASPEN

For Vinyl Flooring (Int. Cl. 27).
First use June 7, 1968.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 234,385. David Mendelsohn, d.b.a. Daltronics Co., Providence, R.I. Filed Nov. 18, 1965.

DALTRONICS

For Electronic Filters (Int. Cl. 9).
First use Nov. 29, 1960.

SN 276,107. Electra/Midland Corporation, Kansas City, Kans., assignee of Electra Manufacturing Company, Independence, Kans. Filed July 17, 1967.

THERMAKLAD

For Coating Applied to Components for Use in Electrical and Electronic Circuits—Namely, Current Limiters, Resistors, Capacitors, Integrated Circuits, and Microcircuits (Int. Cl. 9).
First use May 11, 1965.

SN 290,503. The Magnavox Company, Fort Wayne, Ind. Filed Feb. 7, 1968.

PHONOCOPIER

For Phone Couplers Used in Television Receivers and Facsimile Equipment (Int. Cl. 9).
First use May 10, 1966.

SN 293,702. Economics Laboratory, Inc., St. Paul, Minn. Filed Mar. 20, 1968.

SILVER-MASTER

For Electronic Pre-Washer and Detarnisher Used for the Cleaning of Eating Ware and Utensils (Int. Cl. 9).
First use Dec. 9, 1966.

SN 302,932. Gardner Manufacturing Company, d.b.a. Speed Clean Division of Gardner Mfg. Co., Horicon, Wis. Filed July 17, 1968.

HAPPY COW

The term "Cow" is disclaimed apart from the mark as shown.
For Vacuum Cleaner for Cows (Int. Cl. 9).
First use Jan. 1, 1968.

SN 304,448. Clairol Incorporated, New York, N.Y. Filed Aug. 6, 1968.

MAKING FACES

For Electric Make-Up Mirror (Int. Cl. 9).
First use July 17, 1968.

SN 306,163. National Union Electric Corporation, Jersey City, N.J. Filed Aug. 28, 1968.

𝄞 QUIET KLEEN

For Electric Vacuum Cleaners for Domestic Use (Int. Cl. 9).
First use on or before July 23, 1968.

SN 307,001. Automotive Devices Company of Pennsylvania, Philadelphia, Pa. Filed Sept. 10, 1968.

ADCO

For Rebuilt Automotive Parts, to Wit, Generators, Alternators, and Starters (Int. Cl. 12).
First use Jan. 31, 1945.

SN 308,055. Vasco Metals Corporation, Latrobe, Pa. Filed Sept. 23, 1968.

PERMAGROUND

For Electrical Ground Rods (Int. Cl. 9).
First use Aug. 1, 1968.

SN 308,263. American District Telegraph Company, New York, N.Y. Filed Sept. 26, 1968.

Tubulaire

For Electro-Magnetic Speakers (Int. Cl. 9).
First use on or about July 15, 1968.

SN 312,732. American Plasticraft Company, Chicago, Ill. Filed Nov. 21, 1968.

FIL-PAC

For Electrical and Electronic Filters and Filter Networks (Int. Cl. 9).
First use Sept. 12, 1968.

SN 313,291. Habitat, Inc., New York, N.Y. Filed Nov. 29, 1968.

HABITAT

Owner of Reg. Nos. 538,548 and 672,232.
For Electrical Lamps and Lights and Parts Therefor (Int. Cl. 11).
First use on or about Feb. 13, 1963.

Class 22 — Games, Toys, and Sporting Goods

SN 287,509. American Sankyo Corporation, New York, N.Y. Filed Dec. 26, 1967.

Musical PLAYMATE

No claim is made to the word "Musical" separately and apart from the mark.
For Toy Music Boxes (Int. Cl. 28).
First use July 1, 1967.

SN 297,664. Edison Giocattoli Societa per Azioni, Firenze, Italy. Filed May 8, 1968.

SUPERMATIC

The drawing is lined for red, orange and yellow, but color is not claimed as a feature of the mark.
For Toy Arms and Plastic Ammunition for Toy Arms (Int. Cl. 28).
First use September 1965; in commerce March 1966.

SN 298,229. Kohner Bros., Inc., East Paterson, N.J. Filed May 15, 1968.

TURN-ABOUT BLOCKS

The word "Blocks" is disclaimed apart from the mark as shown.
For Toy Blocks (Int. Cl. 28).
First use April 1968.

SN 299,085. American Machine & Foundry Company, New York, N.Y. Filed May 27, 1968.

SKI WAY

Applicant disclaims any rights in the word element "Ski" separate and apart from the mark.
For Simulated Ski Action Exercising Device for Strengthening, Developing and Maintaining Muscular Coordination and Skill (Int. Cl. 28).
First use July 8, 1967.

SN 300,019. Swiss-Tech, Inc., Delavan, Wis. Filed June 7, 1968.

SW-ish Rod

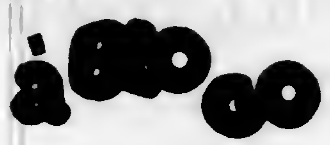
Applicant disclaims the word "Rod" apart from the mark as shown.
For Fishing Rods (Int. Cl. 28).
First use Feb. 1, 1967.

SN 300,054. Bayleysuit, Inc., Eureka, Calif. Filed June 10, 1968.

Aquastatic

For Diving Suits (Int. Cl. 9).
First use Oct. 19, 1967.

SN 300,200. Jefcor Industries, Inc., Valley Stream, N.Y. Filed June 11, 1968.



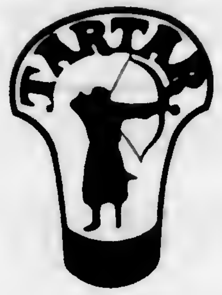
For Blowing Toys for Circulating a Ball Through Tubes (Int. Cl. 28).
First use Aug. 1, 1965.

SN 302,454. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed July 10, 1968.

ALUMIPOWERED

Owner of Reg. No. 695,595.
For Golf Clubs (Int. Cl. 28).
First use Apr. 11, 1968.

SN 302,543. Victor Comptometer Corporation, Chicago, Ill. Filed July 11, 1968.



For Archery Bows (Int. Cl. 28).
First use Nov. 10, 1967.

SN 302,699. American Toy & Furniture Co., Inc., Chicago, Ill. Filed July 15, 1968.

COLOR-IFIC

For Educational Toy Hobby Kit (Int. Cl. 28).
First use Mar. 7, 1968.

SN 302,775. Tanoak Industries, Inc., Roseburg, Oreg. Filed July 15, 1968.

OREGON SLAMMER

For Baseball Bats (Int. Cl. 28).
First use July 1964.

SN 302,951. Ronald L. Morris, d.b.a. The Garron Co., Mesa, Ariz. Filed July 17, 1968.

FORTBUSTER

For Full Size Light Weight Toy Cannons (Int. Cl. 28).
First use June 18, 1968.

SN 303,285. Dura Fiber Inc., Costa Mesa, Calif. Filed July 22, 1968.

CATA-POLE

For Fiber Glass Vaulting Pole (Int. Cl. 28).
First use Dec. 27, 1967.

SN 303,292. The Electric Game Company, West Springfield, Mass. Filed July 22, 1968.

TUBMARINE

For Toy Boats (Int. Cl. 28).
First use Apr. 9, 1968.

SN 303,316. The Kingfisher Corporation, Rockville, Conn. Filed July 22, 1968.

INFALLIBLE

Owner of Reg. Nos. 633,101 and 633,102.
For Fish Hooks (Int. Cl. 28).
First use at least as early as Mar. 25, 1968.

SN 303,351. Rolf A. Samsing, Braintree, Mass. Filed July 22, 1968.

AQUA PAL

For Water Sport Items—Namely, Paddles (Int. Cl. 28).
First use July 17, 1966.

SN 303,461. Wilson Sporting Goods Co., River Grove, Ill. Filed July 23, 1968.

MATCH POINT

Owner of Reg. No. 749,736.
For Tennis Rackets (Int. Cl. 28).
First use March 1967.

SN 303,588. Atlantic Lures, Inc., Providence, R.I. Filed July 25, 1968.

OLD FAITHFUL

For Fishing Lures (Int. Cl. 28).
First use Aug. 10, 1956.

SN 303,711. Sportsman's Den, Inc., d.b.a. Kendon Mfg. Co., Ooltewah, Tenn. Filed July 26, 1968.

PRISSY MISS

For Fishing Lures (Int. Cl. 28).
First use Apr. 30, 1963.

Class 23 — Cutlery, Machinery, and Tools and Parts Thereof

SN 259,325. Kennametal Inc., Latrobe, Pa. Filed Nov. 23, 1966.

KENGRIP-OKU

Owner of Reg. No. 785,216.
For Tire Studding Equipment—Namely, Stand Mounted Stud Guns, Hand Held Stud Guns, Stud Feeders, and Parts Thereof (Int. Cl. 7).
First use Sept. 16, 1964.

SN 273,937. Samuel Bingham Company, Chicago, Ill. Filed June 15, 1967.

BINGHAM

For Printing Rollers and Roll Coverings for Rollers Used in the Graphic Arts (Int. Cls. 7 and 22).
First use 1927.

SN 282,062. Deady Chemical Company, Kansas City, Kans. Filed Oct. 9, 1967.

DEADY

For Weirs, Pumps and Gravity or Mechanically Operated Chemical Feeders (Int. Cl. 7).
First use in or about June 1956.

SN 283,447. Lodal, Inc., Kingsford, Mich. Filed Oct. 26, 1967.

LOAD-A-MATIC

For Automatic Refuse Handling Equipment—Namely, Hydraulic Truck-Mounted Container Loaders, Hoppers and Compactors; and Mechanical Refuse Container Units for Use Therewith (Int. Cl. 7).
First use Mar. 30, 1957.

SN 301,920. Die Supply Corporation, Cleveland, Ohio. Filed July 3, 1968.

DIECO

Owner of Reg. No. 627,743.
For Die Sets and Components for Use With Presses (Int. Cl. 6).
First use Apr. 1, 1968.

SN 307,303. Beaird-Poulan Inc., Shreveport, La. Filed Sept. 13, 1968.

WRIGHT

Owner of Reg. No. 714,688.
For Blade Saws (Int. Cl. 8).
First use Aug. 16, 1968.

SN 307,451. Gad-Jets, Inc., Dayton, Ohio. Filed Sept. 16, 1968.

Swing-n-Joint

For Hydraulic Rotating Swivel Joints and Parts Therefor (Int. Cl. 7).
First use Oct. 23, 1967.

SN 307,993. Flow-A-Matic Corporation, Columbus, Ohio. Filed Sept. 23, 1968.

Flow-a-matic

For Sewage Pumping Systems and Parts Therefor (Int. Cl. 11).
First use Nov. 22, 1956.

SN 308,128. Oneida Ltd., Oneida, N.Y. Filed Sept. 24, 1968. Owner of Reg. No. 850,218.

WILL 'O' WISP

For Stainless Steel Flatware (Int. Cl. 8).
First use Aug. 29, 1968.

SN 308,192. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Sept. 25, 1968.

HYDRA-STAK

For Material Conveying and Stacking Apparatus and Parts Therefor Such as Stacker and Retriever Cranes (Int. Cl. 7).
First use Aug. 29, 1968.

SN 308,200. Forbes Lalebtape Company, Grand Rapids, Mich. Filed Sept. 25, 1968.

label-CHIEF

For Label-Dispensing Machines (Int. Cl. 7).
First use on or about Feb. 1, 1968.

SN 308,327. Thor Power Tool Company, Aurora, Ill. Filed Sept. 26, 1968.

IMPULSATOR

For Air Operated Wrenches (Int. Cl. 7).
First use Apr. 23, 1962.

SN 308,334. United Industrial Syndicate, Inc., Portland, Maine. Filed Sept. 26, 1968.

PORTCO

For Machinery for Forming, Printing, and Stacking Packages for Moldable Products (Int. Cl. 7).
First use May 23, 1967.

SN 308,814. Rodgers Plastics Equipment, Inc., Minneapolis, Minn. Filed Oct. 3, 1968.

MINI-SETTER

For Molding Presses (Int. Cl. 7).
First use March 1968.

SN 308,910. March Manufacturing Company, Glenview, Ill. Filed Oct. 4, 1968.

MAGNE-BOOST

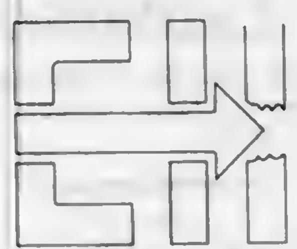
For Motor-Driven, Magnetically-Coupled Rotary Pumps (Int. Cl. 7).
First use January 1968.

SN 311,406. The Precision Manufacturing Company, Inc., Clearwater, Fla. Filed Nov. 5, 1968.

CYCLECYL

For Machine for Reboring Gasoline Engines (Int. Cl. 7).
First use June 1965.

SN 311,622. South Shore Tool & Development Corporation, Irwin, Pa. Filed Nov. 7, 1968.



For Machine for Honing by Extruding an Abrasive Material Through a Work Piece (Int. Cl. 7).
First use Jan. 11, 1968.

Class 25 — Locks and Safes

SN 307,881. Ted Tronson, d.b.a. Safe-Lok Company, Gardena, Calif. Filed Sept. 20, 1968.

SAFE-LOK

For Lock Box Attached to a Doorknob To Enclose Keys to the Premises (Int. Cl. 6).
First use about May 1967.

Class 26 — Measuring and Scientific Appliances

SN 289,592. Kenneth King, d.b.a. King Manufacturing Co., Weston, Mass. Filed Jan. 25, 1968.

CHARTMATE

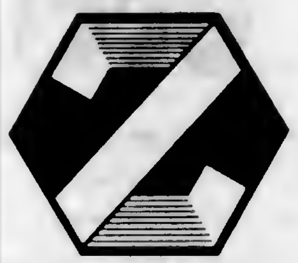
For Map and Chart Overlays for Aiding Piloting and Navigation (Int. Cl. 9).
First use May 13, 1967.

SN 296,798. Black Clawson-Sumner, Inc., Everett, Wash. Filed Apr. 29, 1968.

ACROCLIP

For Veneer Clipper Control for Programming Cutting of Sheet Material Preparatory to Laminating (Int. Cl. 9).
First use at least as early as Dec. 15, 1967.

SN 299,054. Zyrotron Industries, Inc., South Hackensack, N.J. Filed May 24, 1968.



For Liquid Level Control System Employing a Solid-State Temperature Sensing Probe (Int. Cl. 9).
First use Apr. 9, 1968.

SN 304,015. Perfect Parts, Inc., Carlstadt, N.J. Filed July 31, 1968.

FREEZ-CHECK

For Hydrometers for Testing the Radiator Liquid of Automotive Vehicles (Int. Cl. 9).
First use May 6, 1968.

SN 304,054. Collectron Corporation, New York, N.Y. Filed Aug. 1, 1968.

COLLECTROTORQUE

For Torque Measuring Devices (Int. Cl. 9).
First use June 14, 1968.

SN 304,910. GAF Corporation, New York, N.Y. Filed Aug. 12, 1968.

MIRAVIEW

For Rear Projection Viewers (Int. Cl. 9).
First use Feb. 12, 1968.

SN 305,653. Italo Cremona, S.p.A., Gazzada, Varese, Italy. Filed Aug. 21, 1968.

AMICA

For Eye Glasses, Sun Glasses, Lenses for Eye and Sun Glasses (Int. Cl. 9).
First use June 1, 1968; in commerce June 1, 1968.

SN 310,163. Xerox Corporation, Rochester, N.Y. Filed Oct. 21, 1968.

660

For Electrophotographic Copying Machines (Int. Cl. 9).
First use on or before Mar. 31, 1967.

SN 311,341. The Star Case Company, New York, N.Y. Filed Nov. 5, 1968.

TIPPSY

For Automatic Jigger (Int. Cl. 21).
First use Feb. 9, 1968.

SN 313,587. S. S. Kresge Company, Detroit, Mich. Filed Dec. 4, 1968.

SSK

For Optical Appliances and Associated Equipment—Namely, Binoculars, Opera Glasses, Sport Glasses, Telescopes, Microscopes, Still Cameras, Movie Cameras, Projection Screens, Film Reels, Slide Sorters, Slide Viewers, Flash Units, Slide Projectors, and Movie Projectors (Int. Cl. 9).
First use on or before Sept. 30, 1966.

SN 314,015. Automation Devices, Inc., Fairview, Pa. Filed Dec. 10, 1968.

PROXI~TRON

For Capacitance Variance Detector Unit and Relay Control Circuit Designed To Produce an Electrical Signal Responsive to the Position or Absence of a Part (Int. Cl. 9).
First use Mar. 28, 1960.

SN 314,016. Automation Devices, Inc., Fairview, Pa. Filed Dec. 10, 1968.

LITE-TRON

For Detector Actuated Photoelectrically for Sensing the Presence of Objects by Direct or Reflected Light Causing the Actuation of a Relay Preselected To Respond to the Absence or Presence of Such Object, and Parts Thereof (Int. Cl. 9).
First use Dec. 20, 1962.

SN 315,018. Schulmerich Carillons, Inc., Sellersville, Pa. Filed Dec. 23, 1968.

SCHULMERICH

Owner of Reg. Nos. 663,077 and 668,051.
For Combination Bank Protective Camera and Alarm System (Int. Cl. 9).
First use Sept. 23, 1968.

Class 27 — Horological Instruments

SN 293,155. Lyndamar Enterprises, Inc., New York, N.Y. Filed Mar. 13, 1968.

PAR EXCELLENCE

"Par Excellence" is a French word meaning "pre-eminently" or "above all."
For Watches (Int. Cl. 14).
First use Feb. 26, 1968.

SN 312,488. The Nastrix Corporation, New York, N.Y. Filed Nov. 18, 1968.

Kingmatic VIDEO

For Watches (Int. Cl. 14).
First use July 1, 1943.

SN 304,616. Movado Watch Agency, Inc., New York, N.Y. Filed Aug. 7, 1968.

Nastrix

Owner of Reg. Nos. 806,712 and 806,713.
For Watches (Int. Cl. 14).
First use June 28, 1968.

SN 314,726. Movado Watch Agency, Inc., New York, N.Y. Filed Dec. 17, 1968.

DATACHRON

For Watches (Int. Cl. 14).
First use Dec. 12, 1968.

SN 315,622. Villager Industries, Inc., Philadelphia, Pa. Filed Dec. 31, 1968.

LADYBUG

Owner of Reg. Nos. 542,327, 842,483, and others.
For Watches (Int. Cl. 14).
First use Dec. 10, 1968.

Class 28 — Jewelry and Precious-Metal Ware

SN 301,273. Textron Inc., Providence, R.I. Filed June 24, 1968.

JETTE MESH

No claim is made to the word "Mesh" apart from the remainder of the mark.
For Expansion Bracelets, Including Watch Bracelets (Int. Cl. 14).
First use June 14, 1968.

SN 311,060. Regal Manufacturing Company, Providence, R.I. Filed Oct. 31, 1968.

CUTEE CLIP

Applicant disclaims the word "Clip" apart from the mark as shown.
For Jewelry (Int. Cl. 14).
First use Oct. 15, 1968.

SN 311,416. Sunbell Corporation, Aubuquerque, N. Mex. Filed Nov. 5, 1968.

Goldorado

For Gold Plated Jewelry (Int. Cl. 14).
First use Sept. 1, 1968.

SN 311,460. Border Sunshine Novelty Co., Albuquerque, N. Mex. Filed Nov. 6, 1968.

SAV-A-LINK

For Cuff Link Guards (Int. Cl. 14).
First use Sept. 26, 1968.

SN 311,541. Nancy S. White, d.b.a. The Grr! Club, Northfield, Ill. Filed Nov. 6, 1968.

Grr!

For Jewelry, Especially Rings (Int. Cl. 14).
First use Oct. 30, 1968.

SN 311,931. The Richelieu Corp., Holbrook, N.Y. Filed Nov. 12, 1968.

PETI-CLIP

For Costume Jewelry, Particularly Earrings (Int. Cl. 14).
First use Oct. 23, 1968.

SN 312,352. Sylvester's Jewelers, New York, N.Y. Filed Nov. 15, 1968.

DIAMOLIKE

For Synthetic Gems for Finished Articles of Jewelry—Namely, Pins, Finger Rings, Earrings and Bracelets (Int. Cl. 14).
First use Oct. 28, 1967.

SN 313,930. Gold-Master Corp., New York, N.Y. Filed Dec. 9, 1968.

GOLDEN MARRIAGE

For Men's and Women's Rings (Int. Cl. 14).
First use June 1, 1966.

Class 29 — Brooms, Brushes, and Dusters

SN 293,143. Industrial Brush Company, Pomona, Calif. Filed Mar. 13, 1968.

RAIN-CHECK

For Brush Filament Curtains for Use in a Car Wash (Int. Cl. 21).
First use June 2, 1967.

SN 310,435. American Uniform Company, Cleveland, Tenn. Filed Oct. 24, 1968.

dust-tex

Owner of Reg. Nos. 337,545 and 772,503.
For Dust Cloths, Dust Mops and Mop Holders (Int. Cl. 21).
First use in or about 1961.

SN 312,794. Montrose Products, Inc., Chicago, Ill. Filed Nov. 21, 1968.

VELV-EDJ

For Artists' Paint Brushes (Int. Cl. 16).
First use Nov. 1, 1968.

Class 31 — Filters and Refrigerators

SN 291,583. Carrier Corporation, Syracuse, N.Y. Filed Feb. 21, 1968.

FROSTMASTER

Owner of Reg. No. 419,239.
For Self-Contained Refrigeration Unit Used in Transport Vehicles (Road, Rail or Sea) for the Preservation of Perishable Products in Transport (Int. Cl. 11).
First use Feb. 6, 1968.

SN 312,888. Heaters, Incorporated, Webster, Ind. Filed Nov. 22, 1968.

CON-VAP

For Condensate Evaporators for Refrigerators (Int. Cl. 11).
First use spring of 1968.

Class 32 — Furniture and Upholstery

SN 304,320. Diamond Crystal Salt Company, St. Clair, Mich. Filed Aug. 5, 1968.

PACKET CHEF

Applicant disclaims exclusive rights to the use of "Packet" apart from the composite mark shown in the drawing, but applicant does not waive any of its common law rights therein.
For Display Racks for Dispensing Prepackaged Condiments (Int. Cl. 21).
First use June 24, 1968.

SN 304,627. Skogsviks Licens Aktiebolag, Taby, Sweden. Filed Aug. 7, 1968.

COMPRIMA

Owner of Swedish Reg. No. 121,923, dated Dec. 22, 1967.
For Furniture—Namely, Storage Cabinets and Drawers and Parts Therefor (Int. Cl. 20).

SN 313,155. B-C Manufacturing Corporation, d.b.a. Interior Fashions, Tacoma, Wash. Filed Nov. 27, 1968.

ROLL-A-FOLD

For Decorator Dividers To Optionally Separate Spaces Within Buildings (Int. Cl. 20).
First use Nov. 18, 1968.

Class 33 — Glassware

SN 312,415. American Saint Gobain Corporation, Kingsport, Tenn. Filed Nov. 18, 1968.

ARMOR-GARD

Owner of Reg. No. 573,384.
For Flat Glass—Namely, Burglar Resisting Glass (Int. Cl. 21).
First use Oct. 30, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 285,345. ALD, Inc., Chicago, Ill., assignee of Park-O Corporation, Dallas, Tex. Filed Nov. 21, 1967.

ROS-O-BAKE

For Food Cookers for Commercial Use—Namely, a Unit Which Cooks Potatoes, Onions and Other Foods by Immersion Into a Molten Rosin Compound (Int. Cl. 11).
First use December 1966.

SN 289,463. Air Reduction Company, Incorporated, New York, N.Y. Filed Jan. 24, 1968.

SPATTER SCAT

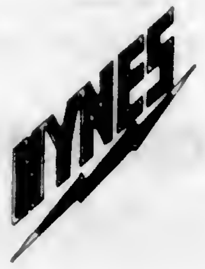
No registration rights are claimed for the word "Spatter" apart from the mark as shown, but applicant waives none of its common law rights in the mark shown, or any feature thereof.
For Spray Coating for Welding Apparatus To Prevent the Accumulation of Spatter (Int. Cl. 1).
First use May 22, 1967.

SN 290,957. Genco Manufacturing, Inc., Alliance, Ohio. Filed Feb. 13, 1968.

GENCONTROL

For Controls for Industrial Burners (Int. Cl. 9).
First use January 1961.

SN 300,595. Hynes Electric Heating Company, Kenilworth, N.J. Filed June 17, 1968.



For Portable and Stationary Industrial Electric Heaters for Heating Liquids, Solids and Gases (Int. Cl. 11).
First use 1954; 1928 at to "Hynes."

SN 304,101. Marine Engine Specialties Corporation, New York, N.Y. Filed Aug. 1, 1968.

MESCO

For Maritime and Industrial Equipment and Machinery—Namely, Heat Exchangers of the Shell and Tube Types and Sample Coolers of the Boiler Water, Lube Oil, Shell and Tube Types To Cool Samples of Various Fluids and Gases (Int. Cl. 11).
First use 1965.

SN 304,309. Compak-O-Matic, Inc., Worth, Ill. Filed Aug. 5, 1968.

Owner of Reg. No. 802,241.
For Product Welding Tools—Namely, Arc Welding Units and Parts Thereof (Int. Cl. 9).
First use Apr. 26, 1968.

SN 305,721. The J. R. Clark Company, Spring Park, Minn. Filed Aug. 22, 1968.

The drawing is lined to indicate the color red.
For Barbecue Grills (Int. Cl. 11).
First use at least as early as 1953.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 270,575. The Kelly-Springfield Tire Company, Cumberland, Md. Filed May 3, 1967.

STAR
TRIPLE TRUCK

The word "Truck" is disclaimed apart from the mark as shown. Owner of Reg. No. 762,748.
For Tires (Int. Cl. 12).
First use Dec. 21, 1959.

SN 271,393. Vogue Tyre & Rubber Company, Chicago, Ill. Filed May 12, 1967.

VOGUE WIDE TRAC

Without waiving its common law rights, applicant disclaims the term "Wide Trac" apart from the mark as a whole. Owner of Reg. Nos. 212,547 and 812,175.
For Automobile Tires (Int. Cl. 12).
First use in or about November 1966.

SN 314,510. The Armstrong Rubber Company, West Haven, Conn. Filed Dec. 16, 1968.

SURVEYOR

For Pneumatic Tires (Int. Cl. 12).
First use on or about Sept. 30, 1968.

SN 314,944. Adran Company, Inc., Dayton, Wash. Filed Dec. 20, 1968.

ADRAN

For Vehicle Tires and Tubes (Int. Cl. 12).
First use at least as early as Dec. 31, 1964.

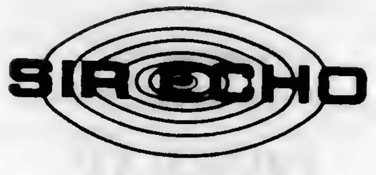
SN 315,081. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Dec. 23, 1968.

SUNLINER

For Tires (Int. Cl. 12).
First use Oct. 10, 1968.

Class 36 — Musical Instruments and Supplies

SN 269,440. Memory Master Corporation, Cleveland, Ohio. Filed Apr. 18, 1967.



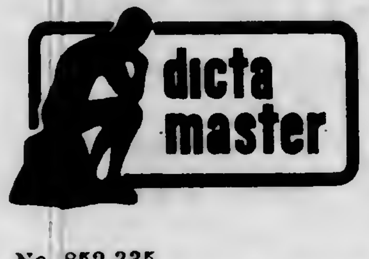
For Attache Cases, for Carrying Tape-Recorders, Having a Built-In Concealed Microphone and Switch Controller by Its Carrying Handle (Int. Cl. 9).
First use on or about Sept. 29, 1966.

SN 288,641. Playtape, Inc., New York, N.Y. Filed Jan. 11, 1968.

PLAYTAPE MUSIC MACHINE

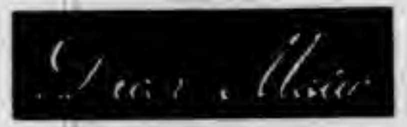
Applicant disclaims the words "Music Machine" apart from the mark as shown. Owner of Reg. No. 839,143.
For Portable Cartridge Tape Players (Int. Cl. 9).
First use July 21, 1966.

SN 304,699. Memory Master Corporation, Cleveland, Ohio. Filed Aug. 8, 1968.



Owner of Reg. No. 852,335.
For Attache Cases, for Carrying Tape-Recorders (Int. Cl. 9).
First use on or about July 10, 1968.

SN 318,742. BSR (USA) Ltd., Blauvelt, N.Y. Filed Feb. 10, 1969.



For Phonograph Record Changers (Int. Cl. 9).
First use Oct. 31, 1968.

SN 319,063. Metro-Goldwyn-Mayer Inc., New York, N.Y. Filed Feb. 13, 1969.

MGM

For Prerecorded Magnetic Tapes (Int. Cl. 9).
First ues in or before October 1959.

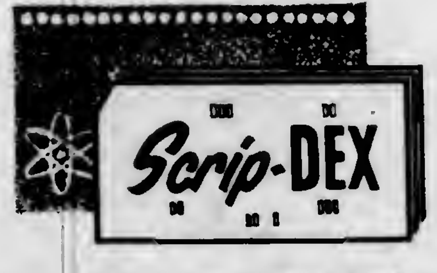
Class 37 — Paper and Stationery

SN 300,361. Lindy Pen Company, Incorporated, North Hollywood, Calif. Filed June 13, 1968.

SHORT SHORTY

Owner of Reg. Nos. 842,453 and 856,530.
For Ballpoint Pens (Int. Cl. 16).
First use Feb. 15, 1967.

SN 301,266. Southwestern Drug Corporation, Dallas, Tex. Filed June 24, 1968.



The prescription symbol "℞" and the configuration of the goods are disclaimed apart from the mark as shown.
For Printed Forms Used in Recording Prescription Sales of Pharmaceuticals (Int. Cl. 16).
First use May 26, 1968.

SN 303,525. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed July 24, 1968.

PARTY MAGIC

For Paper Napkins (Int. Cl. 16).
First use July 5, 1968.

SN 310,799. A. Pomerantz and Company, Philadelphia, Pa. Filed Oct. 29, 1968.

LIQUI-CARBON

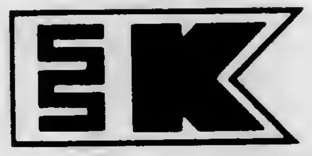
For Carbon Paper (Int. Cl. 16).
First use Oct. 3, 1968.

SN 311,296. Paper Products Incorporated, Long Beach, Calif. Filed Nov. 4, 1968.

MEDALLION

For Paper Napkins and Paper Place Mats (Int. Cls. 16 and 27).
First use Sept. 17, 1965.

SN 312,311. S. S. Kresge Company, Detroit, Mich. Filed Nov. 15, 1968.



For Photo Albums (Int. Cl. 16).
First use on or before July 1, 1967.

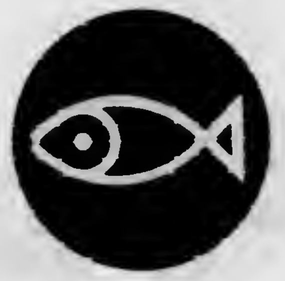
Class 38 — Prints and Publications

SN 277,422. Army Times Publishing Company, Washington, D.C. Filed Aug. 3, 1967.

MILITARY MARKET

For Magazine Publication (Int. Cl. 16).
First use February 1954.

SN 279,321. New England Aquarium Corporation, Boston, Mass. Filed Aug. 29, 1967.



The lines on the drawing are a feature of the mark and do not represent color.
For Periodical Containing Articles Furthering Education, Research and Display Relating to the World of Water (Int. Cl. 16).
First use July 1964.

SN 280,238. Market Publications, Inc., New Canaan, Conn. Filed Sept. 13, 1967.

The Physicians Market Place

For Periodical Magazine Containing Reply Cards Directed to Physicians (Int. Cl. 16).
First use June 28, 1967.

SN 285,854. Random House, Inc., New York, N.Y. Filed Nov. 29, 1967.

RHD

For Dictionaries (Int. Cl. 16).
First use at least as early as May 1, 1967.

SN 286,770. Norcross, Inc., New York, N.Y. Filed Dec. 12, 1967.

WEDGEWOOD

For Greeting Cards (Int. Cl. 16).
First use Nov. 8, 1967.

SN 294,002. The American Society of Medical Technologists, Houston, Tex. Filed Mar. 25, 1968.

THE AMERICAN JOURNAL OF MEDICAL TECHNOLOGY

For Monthly Magazine (Int. Cl. 16).
First use on or about Jan. 1, 1936.

SN 297,069. Don Kracke, d.b.a. Rickie Tickie Stickies, Long Beach, Calif. Filed May 1, 1968.

THE STICKIE THING

For Decorative Adhesive-Backed Labels in the Nature of Decalcomanias (Int. Cl. 16).
First use Apr. 11, 1968.

SN 300,538. Sieber & McIntyre, Inc., Chicago, Ill. Filed June 17, 1968.

PFL$

Physician/s Financial Letter

"Physician/s Financial Letter" is disclaimed apart from the mark.
For Magazine (Int. Cl. 16).
First use Feb. 12, 1968.

SN 301,850. The Raymond Lee Organization, Inc., New York, N.Y. Filed July 2, 1968.

INNOVATION WORLD

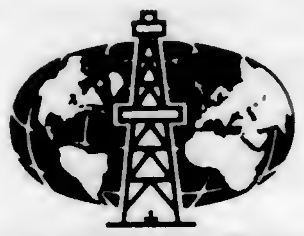
For Periodically Issued Newsletter and Magazine (Int. Cl. 16).
First use May 15, 1968.

SN 302,121. Prayer-A-Gram Foundation, Fort Wayne, Ind. Filed July 5, 1968.

PRAYER-A-GRAM

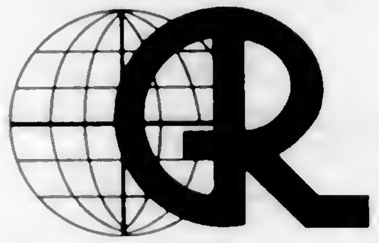
For Printed Inspirational Messages (Int. Cl. 16).
First use Jan. 10, 1968.

SN 302,431. Mid-Continent Supply Co., Fort Worth, Tex. Filed July 10, 1968.



Owner of Reg. No. 559,818.
For Trade Publication—Namely, Trade Magazines Published Periodically, Pamphlets and Catalogs (Int. Cl. 16).
First use December 1947.

SN 306,479. Graphic Research, Inc., Wichita, Kans. Filed Sept. 3, 1968.



For Educational, Public Information, Public Relations, Product, and Commercial Films for Sales, Product and In-Plant Training (Int. Cl. 9).
First use in or about April 1967.

SN 306,759. Computicket Corporation, New York, N.Y. Filed Sept. 6, 1968.

COMPUTICKET

For Tickets for Use in Selling the Entertainment Services of Others (Int. Cl. 16).
First use October 1967.

SN 306,999. The American Hotel Association Directory Corporation, New York, N.Y. Filed Sept. 10, 1968.

HOTEL
&
MOTEL
RED BOOK

Owner of Reg. No. 699,026.
For Hotel Director Published Annually (Int. Cl. 16).
First use 1962.

SN 307,032. Luzier Incorporated, Kansas City, Mo. Filed Sept. 10, 1968.

You
INCORPORATED

Applicant disclaims the right to the exclusive use of the word "Incorporated" apart from the mark as shown.
For Magazine Dealing With Cosmetics, Toiletries and Fragrance Products Issued Bi-Weekly to Applicant's House-to-House Beauty Consultants and Sales People (Int. Cl. 16).
First use January 1951.

SN 307,035. James Everette Marler, Sr., Colfax, La. Filed Sept. 10, 1968.

AUTOMOBILE TALK

For Newspaper Column (Int. Cl. 16).
First use Sept. 4, 1967.

SN 307,501. Howard S. Pyle, Mercer Island, Wash. Filed Sept. 16, 1968.

RANDOM RADIATION

For Magazine (Int. Cl. 16).
First use Dec. 15, 1959.

SN 307,576. Institute for Scientific Information, Inc., Philadelphia, Pa. Filed Sept. 17, 1968.

IDR&DS

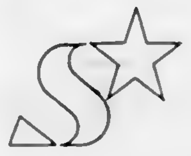
For Reference Volume Issued Annually in the Nature of a Directory (Int. Cl. 16).
First use Aug. 8, 1968.

SN 309,515. Fundicator Incorporated, Mountain Lakes, N.J. Filed Oct. 14, 1968.

Fundicator∆

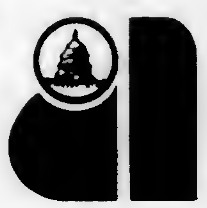
For Newsletter Dealing With Mutual Funds (Int. Cl. 16).
First use Sept. 6, 1968.

SN 310,700. Sextant Systems, Inc., Milwaukee, Wis. Filed Oct. 28, 1968.



For Books and Booklets for Academic and Business Guidance in Vocational, Occupational, and Career Counselling (Int. Cl. 16).
First use Apr. 8, 1968.

SN 310,995. American International Pictures, Los Angeles, Calif. Filed Oct. 31, 1968.



For Motion Picture and Television Photoplays (Int. Cl. 16).
First use May 29, 1968.

SN 311,826. Ciba Limited, Basel, Switzerland. Filed Nov. 12, 1968.

CIBACHROME-PRINT

Owner of Swiss Reg. No. 229,892, dated Jan. 29, 1968; and U.S. Reg. No. 753,583.
For Black and White and Colored Photographs (Int. Cl. 16).

SN 311,877. The Bureau of National Affairs, Inc., Washington, D.C. Filed Nov. 13, 1968.

INTERNATIONAL TRADE REPORTER

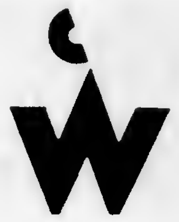
Owner of Reg. No. 431,335.
For Periodically Issued Reports and Supplements Therefor (Int. Cl. 16).
First use May 2, 1946.

SN 312,200. Institute for Scientific Information, Inc., Philadelphia, Pa. Filed Nov. 14, 1968.

ICRS

For Index Published Periodically for Chemical Compounds (Int. Cl. 16).
First use Sept. 20, 1968.

SN 312,294. James Heermance, d.b.a. Corporate World, Washington, D.C. Filed Nov. 15, 1968.



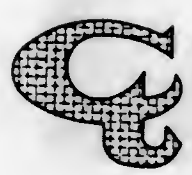
For Newsletter (Int. Cl. 16).
First use Nov. 12, 1968.

SN 312,380. Careers Incorporated, New York, N.Y. Filed Nov. 18, 1968.

FACULTY REPORT

Owner of Reg. Nos. 562,994, 859,468, and others.
For Monthly Reports Providing Colleges With a Method of Selective Ordering of Business and Scientific Information Brochures by Means of Business Reply Cards (Int. Cl. 16).
First use Sept. 1, 1968.

SN 315,735. Computicket Corporation, New York, N.Y. Filed Jan. 3, 1969.



The Drawing is lined for gold but no claim is made to color.
For Tickets for Use in Selling the Entertainment Services of Others (Int. Cl. 16).
First use October 1967.

Class 39 — Clothing

SN 271,683. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed May 17, 1967.

PEWLON

Priority claimed under Sec. 44(d) on Japanese application filed Mar. 27, 1967; Reg. No. 800,595, dated Dec. 12, 1968.
For Evening Dresses, Suits, Skirts, Children's Outer and Inner Garments, Over Coats, Topcoats and Rain Coats, Sweaters, Cardigan Jackets, Waistcoats, Blouses, Sport Shirts, Polo Shirts, Underwear, Bathing Suits, Pajamas, Negligees, Nightgowns, Hosiery, Mufflers, Scarfs, Neckerchiefs, Shawls, Neckties, Hats and Caps (Int. Cl. 25).

SN 287,181. Tanner of North Carolina, Inc., Rutherford, N.C. Filed Dec. 18, 1967.

TANNERWAY

Owner of Reg. No. 702,317.
For Ladies' Shirts, Blouses, Pullovers, Tunics, Slacks, Skirts, Pantsdresses, Culottes, Weskits, Jackets, Belts, Shifts, Shorts, Dresses and Vests (Int. Cl. 25).
First use July 19, 1967.

SN 297,448. The Status Shoe Corporation, New York, N.Y. Filed May 6, 1968.

LITTLE GUYS & GALS BY STATUS

Owner of Reg. No. 755,134.
For Infant Children's Shoes (Int. Cl. 25).
First use Dec. 13, 1967.

SN 299,910. E. K. Helmet Mfg. Co., Westminster, Calif. Filed June 6, 1968.

PREMIER

For Rigid Protective Helmets for Persons Driving or Riding in Motorcycles, Automobiles, Boats and Other Vehicles (Int. Cl. 9).
First use in or about September 1967.

SN 303,495. Edward Atlas, d.b.a. Le Rose Hosiery, Bronx, N.Y. Filed July 24, 1968.

JOY-LE ROSE

The name "Joy-Le Rose" is fictitious and does not identify a particular living individual.
For Hosiery (Int. Cl. 25).
First use Apr. 1, 1968.

SN 303,770. Charlesgate Clothes, Inc., Newton, Mass. Filed July 29, 1968.

LA MANCHA

For Men's Sports Jackets (Int. Cl. 25).
First use July 22, 1968.

SN 305,050. I. B. Kleinert Rubber Company, New York, N.Y. Filed Aug. 13, 1968.

KLEINERT'S

Owner of Reg. Nos. 48,993, 623,611, and others.
For Rubber Gloves (Int. Cl. 25).
First use on or before June 28, 1968.

SN 308,099. Draper Products, Inc., Appleton, Wis. Filed Sept. 24, 1968.

DAFFY DOWN

The word "Down" is disclaimed apart from the mark as shown.
For Disposable Diapers (Int. Cl. 25).
First use Feb. 6, 1968.

SN 308,425. Koracorp Industries, Inc., d.b.a. Koret of California, Inc., San Francisco, Calif. Filed Sept. 30, 1968.

KORET OF CALIFORNIA

Applicant disclaims the phrase "of California" apart from the mark as shown.
For Women's, Misses' and Children's Clothing—Namely, Suits, Dresses, Skirts, Shirts, Blouses, Vests, Halters, Jackets, Coats, Sweaters, Slacks, Culottes, Outer Shorts, Play-Suits, Pedal Pushers, and Swim Suits (Int. Cl. 25).
First use Apr. 1, 1944 on women's dresses.

SN 308,616. Gold Seal Rubber Company, Boston, Mass. Filed Oct. 1, 1968.

UNI-MOLD

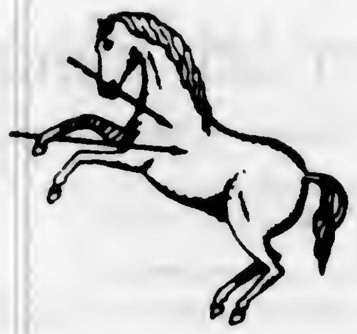
For Shoes (Int. Cl. 25).
First use Jan. 12, 1968.

SN 309,038. The Hadley Corporation, Weaverville, N.C. Filed Oct. 7, 1968.

GLENTHISTLE

For Sweaters (Int. Cl. 25).
First use Sept. 13, 1968.

SN 309,201. Colt's Inc., Hartford, Conn. Filed Oct. 9, 1968.



For Neckwear (Int. Cl. 25).
First use Sept. 24, 1968.

SN 309,622. D. S. Safety Helmet Corporation, Los Angeles, Calif. Filed Oct. 14, 1968.

DS

For Safety Helmets (Int. Cl. 9).
First use July 15, 1967.

SN 309,680. Jay-Dee, Inc., Hopkins, Minn. Filed Oct. 15, 1968.

Ank-L-Jacs

For Spats (Int. Cl. 25).
First use Mar. 20, 1966.

SN 309,768. Kayser-Roth Corporation, New York, N.Y. Filed Oct. 16, 1968.

UNI-MATES

For Ladies' Hosiery (Int. Cl. 25).
First use Sept. 24, 1968.

SN 309,991. Max Rubin Co., Inc., Baltimore, Md. Filed Oct. 18, 1968.

ANCHOR-MATE

For Men's Clothing—Namely, Coats, Overcoats and Topcoats (Int. Cl. 25).
First use November 1967.

SN 313,474. Jomac-North, Inc., Warrington, Pa. Filed Dec. 3, 1968.

BLU-FLEX

For Work and Household Gloves (Int. Cl. 25).
First use Oct. 22, 1968.

SN 313,752. The Villager, Inc., Philadelphia, Pa. Filed Dec. 5, 1968.

JR. JUNCTION

For Wearing Apparel—Namely, Coats (Int. Cl. 25).
First use July 8, 1968.

SN 314,575. The H. D. Lee Company, Inc., Shawnee Mission, Kans. Filed Dec. 16, 1968.

LADY LEE

Owner of Reg. Nos. 130,792, 711,910, and others.
For Ladies' and Misses' Pants, Jeans, Jackets, and Walking Shorts (Int. Cl. 25).
First use in or about February 1947.

SN 317,425. Lucky Stores, Inc., San Leandro, Calif. Filed Jan. 24, 1969.

Lenita

For Hosiery (Int. Cl. 25).
First use Aug. 2, 1950.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 306,486. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 3, 1968.

CURTILON

For Hair Goods—Namely, Wiglets (Int. Cl. 26).
First use on or about Aug. 12, 1968.

SN 306,487. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 3, 1968.

NATURE BLEND

For Hair Goods—Namely, Wiglets (Int. Cl. 26).
First use on or about Aug. 12, 1968.

SN 307,931. Heavenly Creations, Inc., Norfolk, Va. Filed Sept. 23, 1968.

Heavenly Creations

The word "Creations" is disclaimed apart from the mark as shown. Owner of Reg. No. 830,574.
For Wigs (Int. Cl. 26).
First use April 1964.

Class 41 — Canes, Parasols, and Umbrellas

SN 303,079. Telesco Brophey Limited, Montreal, Quebec, Canada. Filed July 18, 1968.

STOWAWAY

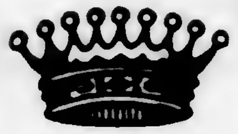
Priority claimed under Sec. 44(d) on Canadian application filed Jan. 19, 1968; Reg. No. 158,732, dated Oct. 11, 1968.
For Umbrellas (Int. Cl. 18).

SN 311,468. Countess Mara, Inc., New York, N.Y. Filed Nov. 6, 1968.

Countess Mara

Owner of Reg. Nos. 534,902, 597,237, and others.
For Umbrellas, Walking Sticks, and Canes (Int. Cl. 18).
First use Mar. 15, 1966.

SN 311,470. Countess Mara, Inc., New York, N.Y. Filed Nov. 6, 1968.



Owner of Reg. Nos. 380,728, 633,241, and others.
For Umbrellas, Walking Sticks, and Canes (Int. Cl. 18).
Filed Mar. 15, 1966.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 271,682. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed May 17, 1967.

PEWLON

Priority claimed under Sec. 44(d) on Japanese application filed Mar. 27, 1967; Reg. No. 800,593, dated Dec. 12, 1968.

For Knitted and Woven Fabrics for Use in the Clothing Industry; and for Quilts, Quilt Covers, and Curtains (Int. Cl. 24).

SN 291,713. Commercial Carpet Corporation, New York, N.Y. Filed Feb. 23, 1968.

ACRYLIC 73

Applicant disclaims the word "Acrylic" apart from the mark as shown.
For Carpets and Rugs (Int. Cl. 27).
First Use Dec. 20, 1967.

SN 291,977. Etacol International Ltd., Zurich, Switzerland. Filed Feb. 27, 1968.

ETASIL

Priority claimed under Sec. No. 44(d) on Swiss Reg. No. 228,266, dated Sept. 5, 1967. Owner of U.S. Reg. Nos. 779,968, 797,308, and 797,310.

For Fusible Interlinings for Use in the Clothing and/or Textile Industry (Int. Cl. 24).

SN 300,026. Leo Warkol, Inc., New York, N.Y. Filed June 7, 1968.

REFLECTA-GLO

For Woven and Knitted Fabrics for Making Into Men's and Women's Coats, Suits, Slacks, and Vests, and the Like (Int. Cl. 24).
First use May 1, 1966.

SN 300,808. Dylan Carpet Inc., New York, N.Y. Filed June 19, 1968.

CULTURED ORIGINALS

The word "Originals" is disclaimed apart from the mark as shown.
For Wool Carpets (Int. Cl. 27).
First use on or about May 15, 1968

SN 303,902. Fieldcrest Mills, Inc., Eden, N.C. Filed July 30, 1968.

Primeau

For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 13, 1968.

SN 303,903. Fieldcrest Mills, Inc., Eden N.C. Filed July 30, 1968.

arribeau

For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 27, 1968.

SN 305,792. Stretchnit of Pennsylvania, Inc., Allentown, Pa., by change of name from Stretchnit, Inc., Allentown, Pa. Filed Aug. 23, 1968.

STRETCHNIT

Owner of Reg. No. 753,504.

For Knitted Fabrics Used for Making Skirts, Trousers, Shorts, Bathing Suits, Ski Pants, Slacks, Blouses, Pajamas, Jackets, Leotards, Pool Covers, and the Like (Int. Cl. 24).
First use Sept. 15, 1961.

SN 306,002. Viking Carpets, Inc., New York, N.Y. Filed Aug. 26, 1968.

VANGUARD

Owner of Reg. No. 703,841.

For Coverings for Surfaces Such as Floors, Walls and the Like, in the Form of Woven, Tufted, Pile and Broadloom Rugs and Carpets (Int. Cl. 27).
First use Nov. 2, 1959.

SN 307,039. Mount Vernon Mills, Inc., Baltimore, Md. Filed Sept. 10, 1968.

MAXFLOW

For Dryer Felts (Int. Cl. 7).
First use Mar. 17, 1967.

SN 307,040. Mount Vernon Mills, Inc., Baltimore, Md. Filed Sept. 10, 1968.

MAXAIR

For Dryer Felts (Int. Cl. 7).
First use June 17, 1964.

SN 303,492. Klopman Mills, Inc., Rockleigh, N.J. Filed Sept. 30, 1968.

CAMITALIA

For Fabrics in the Piece Composed of Natural Fibers, Man-Made Fibers and Blends Thereof for Use in Men's and Boys' Shirts and Under Shorts (Int. Cl. 24).
First use at least as early as Aug. 7, 1968.

SN 309,311. Charles Wayland Stuart, Jr., d.b.a. Stuart Specialty Co., Charlotte, N.C. Filed Oct. 9, 1968.

DAB 'N DRI

For Towels (Int. Cl. 24).
First use Oct. 2, 1967.

SN 309,662. William Cherkezian & Son, New York, N.Y. Filed Oct. 15, 1968.

ROYAL HINDUSTAN

The word "Hindustan" is disclaimed apart from the mark as shown.
For Oriental Rugs (Int. Cl. 27).
First use on or about July 1, 1964.

SN 309,699. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 15, 1968.

PERMASTAT

Owner of Reg. No. 624,568.

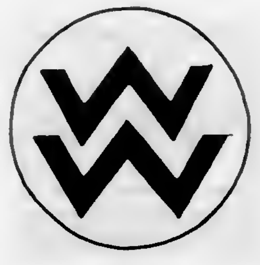
For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers or Blends of the Foregoing Which Have Been Treated With a Finish To Inhibit the Presence of Static Electricity (Int. Cl. 24).
First use Oct. 5, 1968.

SN 310,108. The Kendall Company, Walpole, Mass. Filed Oct. 21, 1968.

PETAL SOFT

Owner of Reg. No. 397,705.
For Crib Sheets and Baby Pillow Cases (Int. Cl. 24).
First use Sept. 11, 1968.

SN 313,218. Work Wear Corporation, Cleveland, Ohio. Filed Nov. 27, 1968.



Owner of Reg. Nos. 742,019 and 819,542.

For Industrial Towels, Table and Bed Linens and Roller or Continuous Towels (Int. Cl. 24).
First use June 26, 1968.

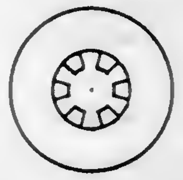
SN 315,516. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Jan. 2, 1969.

HYDROCON

For Carpets (Int. Cl. 27).
First use Nov. 25, 1968.

Class 43 — Thread and Yarn

SN 303,920. Molnlycke Sytrad Aktiebolag, Goteborg, Sweden. Filed July 30, 1968.



Owner of Swedish Reg. No. 117,965, dated Nov. 4, 1966.
For Yarns and Threads (Int. Cl. 23).

SN 310,144. Spartans Industries, Inc., New York, N.Y. Filed Oct. 21, 1968.

KORLOON

For Yarns and Threads (Int. Cl. 23).
First use Aug. 1, 1966.

SN 311,182. The Singer Company, New York, N.Y. Filed Nov. 1, 1968.

VELFLOC

For Yarn (Int. Cl. 23).
First use May 28, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

SN 293,407. Societe Anonyme des Laboratoires Robert & Carriere, Paris, France. Filed Mar. 15, 1968.

FLOG

Owner of French Reg. No. 708,021, dated Apr. 29, 1966.

For Breathing Masks, and Artificial Respirators, and Apparatus Having the Dual Function of Administering Anesthetics and Giving Automatic Respiratory Assistance (Int. Cl. 10).

SN 293,540. Medical Supply Company, Rockford, Ill., assignee of Medical Supply Company, Rockford, Ill. Filed Mar. 18, 1968.

CULTURETTE

For Cotton-Tipped Swab Contained in a Tube With an Ampoule, for Taking Culture Samples (Int. Cl. 5).
First use Mar. 16, 1967.

SN 303,816. Optotechnik G.m.b.H., Herrsching, Upper Bavaria, Germany. Filed July 29, 1968.

HEINE

For Otoscopes, Ophthalmoscopes, and Components and Accessories Thereof (Int. Cl. 10).
First use in 1947; in commerce in 1952.

SN 304,761. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

BEAUTIFUL PEOPLE

Owner of Reg. No. 858,371.
For Electrical Instant Hairsetter (Int. Cl. 11).
First use June 12, 1968.

SN 305,422. Eagle Druggists Supply Co., Inc., New York, N.Y. Filed Aug. 19, 1968.

SUPERLATEX

Owner of Reg. No. 608,897.
For Pacifiers, Teethers and Teething Rings (Int. Cl. 10).
First use Sept. 12, 1967.

SN 310,254. Solar Laboratories, Inc., Inglewood, Calif. Filed Oct. 22, 1968.

LIGHTCAST

For Bandage Material Adapted To Be Applied to a Human or Animal Member and Hardens To Form a Cast, Splint or Supporting Structure (Int. Cl. 5).
First use Sept. 27, 1968.

SN 310,365. Stimulant Products, Inc., Culver City, Calif. Filed Oct. 23, 1968.

FACIAL-FIRM

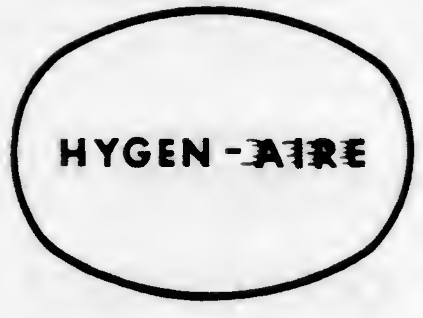
For Electronic Tissue and Muscle Exerciser (Int. Cl. 10).
First use on or about Oct. 7, 1968.

SN 314,046. C. R. Bard, Inc., Murray Hill, N.J. Filed Dec. 10, 1968.

BIOGARD

For Surgical Drapes Made of Non-Woven Fabric (Int. Cl. 5).
First use Oct. 25, 1968.

SN 315,805. Mark VII Industries, Inc., Sarasota, Fla. Filed Jan. 2, 1969.



For Cabinet for Storing and Sterilizing Toothbrushes (Int. Cl. 11).
First use June 28, 1968.

SN 315,826. Northwest Plastics Research Corporation, Yakima, Wash. Filed Dec. 23, 1968.

Truly Yours

For Feminine Disposable Syringes (Int. Cl. 5).
First use July 20, 1968.

SN 315,926. Jintan Terumo Co., Ltd., Shibuya-ku, Tokyo, Japan. Filed Jan. 6, 1969.

RibbonPack

For Syringes, Hypodermic Syringes, and Needles for Syringes (Int. Cl. 10).
First use May 10, 1968; in commerce May 10, 1968.

SN 316,652. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 15, 1969.

ADAPTIC

Owner of Reg. Nos. 213,391 and 525,277.
For Anterior and Posterior Dental Restorative (Int. Cl. 5).
First use Nov. 7, 1968.

SN 316,792. Jobst Institute, Inc., Toledo, Ohio. Filed Jan. 16, 1969.

JET

Owner of Reg. No. 862,069.
For Air Splints (Int. Cl. 10).
First use Jan. 23, 1962.

SN 316,886. The Dentists' Supply Company of New York, York, Pa. Filed Jan. 17, 1969.

VARI-MIX

For Dental Cement and Amalgam Mixing Apparatus (Int. Cls. 5 and 10).
First use Aug. 9, 1968.

SN 317,063. Kay Laboratories, Incorporated, Newport Beach, Calif. Filed Jan. 21, 1969.

TEMP-AID

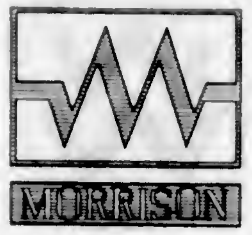
For First Aid Cold Packs (Int. Cl. 5).
First use on or about July 18, 1968.

SN 317,161. Sybron Corporation, Rochester, N.Y. Filed Jan. 21, 1969.

CHUCK-IT

For Disposable Electrosurgical Chuck Handles and Cords (Int. Cl. 10).
First use on or before Nov. 11, 1968.

SN 318,083. A. F. Morrison Company, Wilton, Conn. Filed Jan. 31, 1969.



The drawing is lined for the color blue, but no claim is made to color.
For Medical Grade Plastic Tubing (Int. Cl. 10).
First use Nov. 25, 1968.

SN 318,436. Leo Pharmaceutical Products Ltd., Ballerup, Denmark. Filed Feb. 5, 1969.

CYSTOMAT

Owner of Danish Reg. No. 1,878, dated July 19, 1968.
For Apparatus for Automatic Intermittent Lavage of a Cavity in the Human Body (Int. Cl. 10).

SN 318,621. Bio Data, Inc., Minneapolis, Minn. Filed Feb. 7, 1969.

MagnaSonic

For Stethoscope (Int. Cl. 10).
First use July 29, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 304,051. Canada Dry Corporation, New York, N.Y. Filed Aug. 1, 1968.

ZEBRA MAN

For Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before June 25, 1968.

SN 304,052. Canada Dry Corporation, New York, N.Y. Filed Aug. 1, 1968.

SOCIETY CLUB

For Ginger Ale (Int. Cl. 32).
First use on or before June 25, 1968.

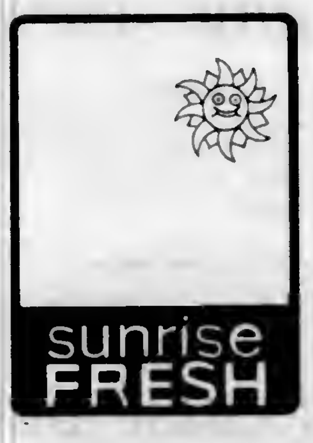
Class 46—Foods and Ingredients of Foods

SN 233,173. Enrique Bernat Fontlladosa, Barcelona, Spain. Filed Nov. 23, 1965.

ABRA LA BOCA A CHUPA CHUPS

The mark as translated into English is "open the mouth to Chupa Chups." Owner of Spanish Reg. No. 747,124, dated Apr. 15, 1966.
For Hard Candy—Namely, Pop on a Safety Stick (Int. Cl. 30).

SN 263,080. The Kroger Co., Cincinnati, Ohio. Filed Jan. 23, 1967.



Applicant disclaims the word "Fresh" apart from the mark as shown.
For Fresh Produce—Namely, Tomatoes, Sweet Corn, Strawberries, Bananas, Lettuce, Grapes, Cantaloupes, Oranges, Apples, Watermelon, Grapefruit, Plums, and Peas (Int. Cl. 31).
First use at least as early as Aug. 24, 1966.

SN 264,974. Savyon Holding SA, Lausanne, Vaud, Switzerland. Filed Feb. 17, 1967.

GOLDEN TREE

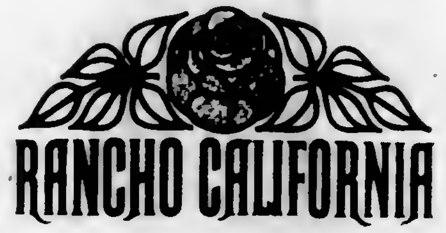
Priority claimed under Sec. 44(d) on Swiss Reg. No. 221,310, dated Sept. 22, 1966.
For Food Beverage Containing Cocoa or Chocolate and a Powder Used as a Base for Making Food Flavoring Syrups, Ice Cream, Pastry and Candy (Int. Cl. 30).

SN 273,934. Bud H. Adams, Wichita, Kans. Filed June 15, 1967.

CHICK PAK

For Dry Flour Mix (Int. Cl. 30).
First use July 1, 1956.

SN 275,467. Rancho California, Newport Beach, Calif. Filed July 6, 1967.



Applicant disclaims without waiver of any of its common law rights, any exclusive right to the term "California" apart from its use in the mark as shown. The drawing is lined for the color red.
For Jellies, Marmalade, Preserves and Fresh Watermelon (Int. Cls. 29 and 31).
First use on or about Sept. 2, 1965.

SN 277,312. Sea-Snack Company, Philadelphia, Pa., assignee of Tastee Cocktails, Inc., Newark, N.J. Filed Aug. 1, 1967.

Tastee

For Shrimp Cocktails and Cocktail Sauce for Meats and Fish (Int. Cls. 29 and 30).
First use on or about Apr. 15, 1950.

SN 281,951. Animex Centrala Importowo-Eksportowa Artykulow i Przetworow Pochodzenia Zwierzecego, d.b.a. Animex, Warsaw, Poland, Filed Oct. 6, 1967.

MOLO

The word "Molo" translates from the Italian language as "wharf" or "jetty." Owner of Polish Reg. No. 46,504, dated Apr. 26, 1967.
For Fresh, Chilled and Frozen Pork, Beef, Veal, Mutton, Horseflesh, Sausages and Bacon, Canned Meat, Canned Meat With Vegetables, Prepared Meat Dishes, Quick Frozen Packs of Meat With Vegetables, Meat Extracts, Soup Concentrates, Meat and Vegetable Sauce Concentrates of Both a Meat and Vegetable Nature, Frozen Poultry, Canned Poultry, Frozen Poultry Fillets, Powdered Milk, Melted Cheese, Hard Cheese, Butter, Casein, and Condensed and Evaporated Milk, Shell Eggs, Liquid Frozen Whole Eggs, Egg Powder, Albumen, Edible Fats of an Animal Nature, Fresh Dressed Venison and Frozen Prepared Game Products (Int. Cl. 29).

SN 282,098. Kent Feeds, Inc., Muscatine, Iowa. Filed Oct. 9, 1967.

NRB

For Feed Supplement for Beef Cattle (Int. Cl. 31).
First use in or about August 1966.

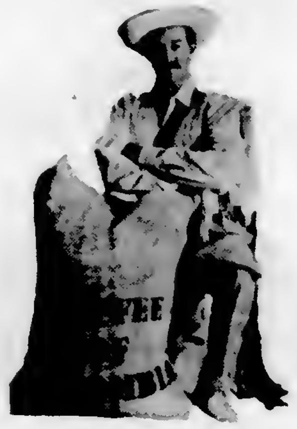
SN 283,438. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Filed Oct. 26, 1967.

TEVIO

Owner of German Reg. No. 793,622, dated Aug. 31, 1964.

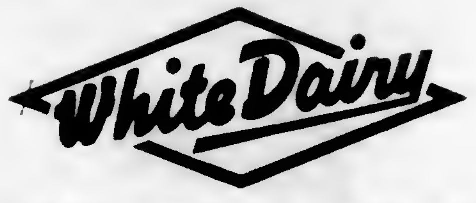
For Dietetic Foodstuffs for Use in Management of Diabetes and Obesity—Namely, Jams, Preserves, Doughs, Fruit Syrups, Bonbons, and Chocolates (Int. Cl. 5).

SN 283,541. National Federation of Coffee Growers of Colombia, New York, N.Y. Filed Oct. 27, 1967.



No claim is made to exclusive rights in the phrase "Coffee of Colombia" apart from other features of the mark. The Portrait is that of "Jose Duval," whose consent is of record. Owner of Reg. Nos. 726,575 and 752,589.
For Coffee (Int. Cl. 30).
First use January 1963.

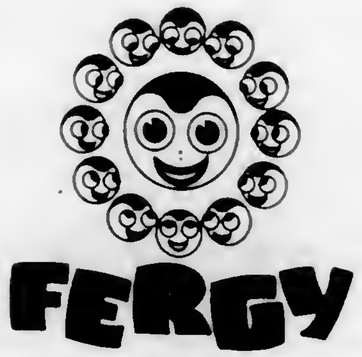
SN 284,772. White Dairy Company, Birmingham, Ala. Filed Nov. 13, 1967.



The word "Dairy" is disclaimed apart from the mark as shown.

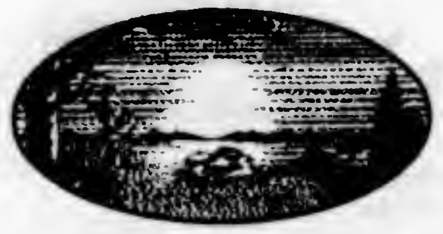
For Fresh Milk, Chocolate Milk, Powdered Buttermilk, Fresh Buttermilk, Fresh Skim Milk, Fresh Whipping Cream, Fresh "Pro-Teen" Milk (2 Percent Butterfat), Fresh Orange Juice, Chocolate Drink (With a Fresh Milk Base), Butter, Fresh Eggs, Cottage Cheese, Egg Nog Mix (Containing Milk, Eggs, and Other Food Ingredients), and Milk Shake Mix (With a Fresh Milk Base) (Int. Cls. 29, 30, and 32).
First use in or before 1912.

SN 289,579. Martin J. Ferguson, Greenwich, Conn. Filed Jan. 25, 1968.



For Biscuits (Int. Cl. 30).
First use Sept. 7, 1967.

SN 289,727. Sunco Corporation, d.b.a. Walden Pond Food, Forest City, Iowa. Filed Jan. 26, 1968.



The drawing is lined for shading purposes. The lines do not indicate particular colors.

For Pond Food in the Form of Prepared Feeds, Grains and Food Supplements for Fish, Ducks, Water Fowl, Turtles, and Other Forms of Pond and Water Dwelling Wild Life (Int. Cl. 31).
First use Oct. 15, 1967.

SN 290,646. Richard K. Ransom, d.b.a. Hickory Farms of Ohio, Toledo, Ohio. Filed Feb. 8, 1968.

BEEF STICK

Applicant disclaims the word "Beef" apart from the mark as shown.
For Summer Sausage (Int. Cl. 29).
First use May 1955.

SN 290,647. Richard K. Ransom, d.b.a. Hickory Farms of Ohio, Toledo, Ohio. Filed Feb. 8, 1968.

No claim is made to the word "Cheddar" apart from the mark as shown.
For Crackers (Int. Cl. 30).
First use January 1968.

SN 294,659. Richard K. Ransom, d.b.a. Hickory Farms of Ohio, Toledo, Ohio. Filed Apr. 1, 1968.

YANKEE TRADER

For Canned Sardines (Int. Cl. 29).
First use December 1967.

SN 296,108. Carnation Company, Los Angeles, Calif. Filed Apr. 22, 1968.

QUIK SPRED

The word "Spred" is disclaimed separate and apart from the mark as a whole, but the applicant waives none of its common law rights in the mark shown or any feature thereof.
For Sandwich Spread (Int. Cl. 29).
First use Apr. 3, 1968.

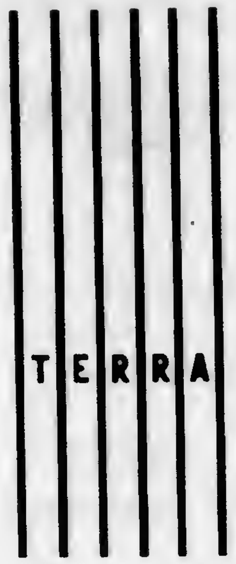
SN 296,810. Chicken Delight, Inc., Des Plaines, Ill. Filed Apr. 29, 1968.

APPLE CRISP DELIGHT

No claim is made to the words "Apple Crisp" apart from the mark as shown. Owner of Reg. Nos. 568,388, 831,915, and others.

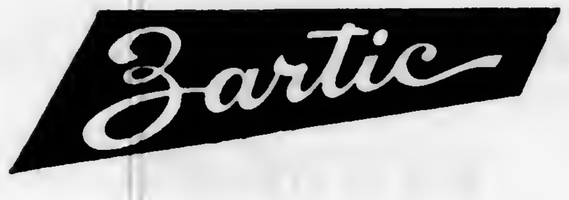
For Ready-To-Eat Food Products—Namely, an Apple or Apple-Flavored Dessert of a Pastry Character (Int. Cl. 30).
First use July 1, 1967.

SN 300,752. Terra Chemicals International, Inc., Sioux City, Iowa. Filed June 18, 1968.



For Animal Feed for Ruminant Animals and the Like (Int. Cl. 31).
First use on or about Sept. 16, 1967.

SN 302,445. Zartic Frozen Meats, Inc., Plainfield, Ill., by change of name from Randy's Frozen Steaks, Inc., Plainfield, Ill. Filed July 10, 1968.



For Fresh and Frozen Beef, Pork, and Veal in Their Various Cuts and in Portion Control Form—Namely, Steaks, Patties and Sausages (Int. Cl. 29).
First use May 25, 1968.

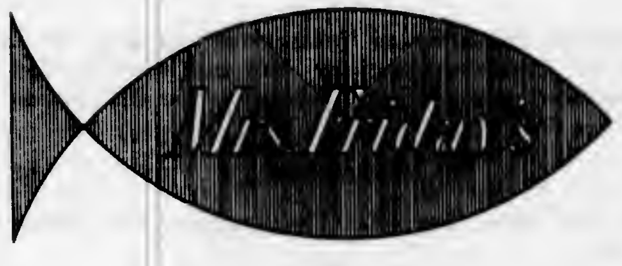
SN 303,474. General Mills, Inc., Minneapolis, Minn. Filed July 24, 1968.

MONKEY BAR

The word "Bar" is disclaimed apart from the mark as shown.

For Animal and Vegetable Protein Based Ready-To-Eat Food in the Form of a Bar (Int. Cl. 30).
First use on or prior to Aug. 9, 1967.

SN 303,668. Fish King Processors, Inc., Los Angeles, Calif. Filed July 26, 1968.



The drawing is lined for the color red, but no claim is made to color.
For Quick-Frozen Ready To Fry Fish (Int. Cl. 29).
First use May 1, 1963.

SN 303,779. Delmonico Foods, Inc., Hershey, Pa. Filed July 29, 1968.

SPRING & SUMMER SALAD

Applicant disclaims any exclusive right to use of the word "Salad" except as it is used as part of the mark.
For Combination Package for Making a Pasta Product—Namely, Macaroni Salad (Int. Cl. 30).
First use July 1, 1966.

SN 303,780. Delmonico Foods, Inc., Hershey, Pa. Filed July 29, 1968.

IRON-SKILLET SUPPER

Applicant disclaims any exclusive right to use of the word "Supper" except as it is used as part of the mark.
For Combination Package for Making a Pasta Product, Comprising Macaroni Plus a Packet Containing Meat Gravy Flavoring, Seasonings, Almonds and Dried Vegetable Ingredients (Int. Cl. 30).
First use Mar. 10, 1967.

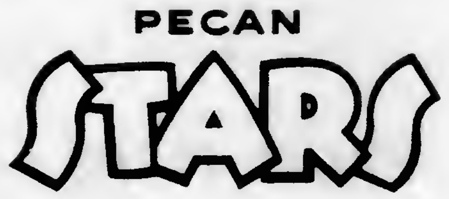
SN 303,781. Delmonico Foods, Inc., Hershey, Pa. Filed July 29, 1968.

FOUR SEASONS DUMPLING-DINNER

Applicant disclaims any exclusive right to use of the words "Dumpling Dinner" except as they are used as part of the mark.

For Pasta Product—Namely, Whole Egg Dumplings Packaged With a Packet Containing Chicken Flavored Gravy and Dried Vegetable Ingredients (Int. Cl. 30).
First use Mar. 10, 1967.

SN 303,923. Pangburn Company, Inc., Fort Worth, Tex. Filed July 30, 1968.



Applicant disclaims the term "Pecan" separate and apart from the mark as shown.
For Candy (Int. Cl. 30).
First use Oct. 1, 1961.

SN 303,970. Ph. Wechsler & Son, Inc., Bronx, N.Y. Filed July 31, 1968.

WECHSLER

For Coffee, Tea, Hot Chocolate in Liquid and Powder Form, Non-Dairy Cream, Jelly, Pancake Syrup, Catsup, Mustard, Sundae Toppings of a Nut Nature as Well as of a Fruit, Syrup and Confectionary Nature, Fountain Syrups for Food and Food Beverage Purposes, Salad Dressing, Pancake Mix, Waffle Mix, Doughnut Mix, Soup Base, and Spices (Int. Cls. 29 and 30).
First use 1922.

SN 304,683. Frito-Lay, Inc., Dallas, Tex. Filed Aug. 8, 1968.

FRITO BANDITO

Owner of Reg. Nos. 306,005, 703,625, and others.
For Snack Foods—Namely, Corn Chips, Potato Chips, Puffed Corn Snacks, and Dip Mixes Having a Cheese Base (Int. Cls. 29 and 30).
First use July 19, 1968.

SN 304,981. Stayton Canning Company, Cooperative, Stayton, Oreg. Filed Aug. 12, 1968.

OREGON BEAUTY

For Canned and Frozen Fruits and Vegetables (Int. Cl. 29).
First use at least as early as the 1940's.

SN 304,982. Stayton Canning Company, Cooperative, Stayton, Oreg. Filed Aug. 12, 1968.

VALLEY MAID

For Canned and Frozen Fruits and Vegetables (Int. Cl. 29).
First use at least as early as 1950.

SN 305,213. Duffy-Mott Company, Inc., New York, N.Y. Filed Aug. 15, 1968.

CLAMATO

Owner of Reg. No. 699,486.
For Clam Chowder (Int. Cl. 29).
First use July 30, 1968.

SN 305,344. Pacific Aromatics, Inc., Los Angeles, Calif. Filed Aug. 16, 1968.

PACCOSEAL

Owner of Reg. No. 832,278.
For Powdered Food Flavors and Powdered Food Beverage Bases (Int. Cl. 30).
First use Feb. 6, 1966.

SN 305,346. Prince Butter Cookie Co., Inc., Brooklyn, N.Y. Filed Aug. 16, 1968.

FRUIT FLIPS

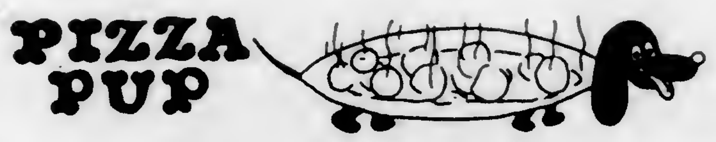
The word "Fruit" is disclaimed apart from the mark as shown.
For Cookies (Int. Cl. 30).
First use June 6, 1968.

SN 305,741. Iceland Products, Inc., Camp Hill, Pa. Filed Aug. 22, 1968.

NORSEA

For Frozen Fish and Frozen Prepared Fish (Int. Cl. 29).
First use March 1960.

SN 305,975. Pizza Dog, Inc., Detroit, Mich. Filed Aug. 26, 1968.



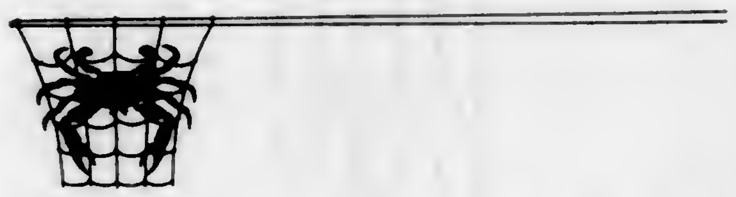
No claim is made to the word "Pizza" apart from the mark as shown. Owner of Reg. No. 804,800.
For Frozen Pizza Product in the Form of a Sandwich Utilizing a Bread Crust in the Shape of a Hot Dog Bun (Int. Cl. 30).
First use Aug. 20, 1968.

SN 306,075. Regal Fruit Cooperative, Tonasket, Wash. Filed Aug. 27, 1968.

TON-HI

For Fresh Apples (Int. Cl. 31).
First use 1954.

SN 306,426. The Blue Channel Corporation, Port Rolay, S.C. Filed Sept. 3, 1968.



For Seafood—Namely, Frozen Crab Cakes and Crab Roe Pate (Int. Cl. 29).
First use June 21, 1968.

SN 306,453. The Blue Channel Corporation, Port Royal, S.C. Filed Sept. 3, 1968.

CRABIAR

For Crab Roe Pate (Int. Cl. 29).
First use June 21, 1968.

SN 307,295. Bakers Franchise Corp., New York, N.Y. Filed Sept. 13, 1968.

RITE DELITE

For Bread (Int. Cl. 30).
First use Apr. 15, 1968.

SN 307,416. Bonwit Laboratories, Inc., Bremen, Ind. Filed Sept. 16, 1968.

FREE 'N EASY

For Frying Oil (Int. Cl. 29).
First use May 10, 1967.

SN 307,524. Vroman Foods, Inc., Toledo, Ohio. Filed Sept. 16, 1968.

E-Z SERV

For Frozen Desserts and Confections—Namely, Ice Cream, Coated Ice Cream Confections, Frozen Custards, Ice Milk, Milk Sherbert, Fruit Juices, and Ices (Int. Cls. 30 and 32).
First use July 27, 1968.

SN 307,536. Star Batteries, Inc., Miami, Fla. Filed Sept. 17, 1968.

KIKA

For Bread Sticks, Crackers and Noodles (Int. Cl. 30).
First use Sept. 1, 1968.

SN 307,684. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Sept. 18, 1968.

Staley

Owner of Reg. Nos. 753,804 and 777,510.
For Dextrose for Food Purposes (Int. Cl. 30).
First use Oct. 26, 1965.

SN 308,043. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Sept. 23, 1968.

ZEST

Owner of Reg. No. 535,129.
For Spices (Int. Cl. 30).
First use Sept. 17, 1968.

SN 308,202. General Foods Corporation, White Plains, N.Y. Filed Sept. 25, 1968.

MEAL-IN-A-GLASS

For Frozen Nutritionally Complete Meal in Liquid Form (Int. Cl. 5).
First use Sept. 6, 1968.

SN 308,813. Riviana Foods Inc., Houston, Tex. Filed Oct. 3, 1968.

PROTEX

For Rice Bran (Int. Cl. 30).
First use Nov. 29, 1967.

SN 308,928. Southland Coffee Company, Atlanta, Ga. Filed Oct. 4, 1968.

IT SINGS WITH FLAVOR

For Coffee With Chicory (Int. Cl. 30).
First use Sept. 10, 1968.

SN 309,492. Thompson's Dairy, Inc., d.b.a. Washington Dairy Foods and Thompson's Honor Dairy, Washington, D.C. Filed Oct. 11, 1968.

FANCY FREE

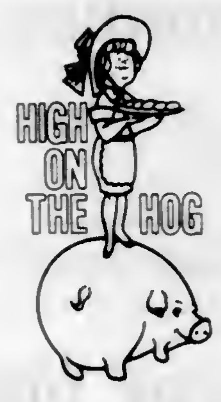
For Skimmed and Lowfat Milk in Bottles or Cartons (Int. Cl. 29).
First use Sept. 16, 1968.

SN 309,567. Albert F. Goetze, Incorporated, Baltimore, Md. Filed Oct. 14, 1968.

GOETZE

The drawing is lined for red. Owner of Reg. Nos. 745,190, 745,561, and others.
For Processed Meats (Int. Cl. 29).
First use May 6, 1968.

SN 309,659. Chambers-Godfrey Manufacturing Company, d.b.a. Martenn Country Hams, Martin, Tenn. Filed Oct. 15, 1968.



For Country Ham Slices (Int. Cl. 29).
First use Sept. 23, 1968.

SN 309,698. Spillers Limited, London, England. Filed Oct. 15, 1968.

BONIO

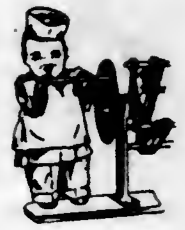
Owner of Reg. No. 538,963.
For Dog Biscuits (Int. Cl. 31).
First use on or about Jan. 1, 1967; in commerce at least as early as July 20, 1968.

SN 309,849. The Dietene Company, Minneapolis, Minn. Filed Oct. 17, 1968.

RESOURCE

For Special Dietetic Bread Mix in Powder Form (Int. Cl. 5).
Oct. 11, 1968.

SN 310,245. Howard W. Niswonger, Colorado Springs, Colo. Filed Oct. 22, 1968.



For Salt Water Taffy, Peanut Brittle, Pecan Brittle, Candied and Buttered Popcorn, Fudge, Chocolates, Nuts, Parched Corn, Hard Candies, Almond Toffee, Cotton Candy, and Sno-Cones (Int. Cls. 29 and 30).
First use on or about June 1, 1928.

SN 310,532. Anderson, Clayton & Co., Dallas, Tex. Filed Oct. 25, 1968.

Potato*fluff*

For Emulsifier Mixture Used in the Commercial Preparation of Mashed Potatoes (Int. Cl. 30).
First use Dec. 5, 1967.

SN 310,663. ITT Continental Baking Company, Rye, N.Y. Filed Oct. 28, 1968.

WONDER

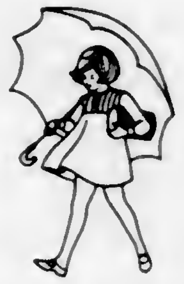
Owner of Reg. Nos. 215,188, 776,291, and others.
For Pretzels (Int. Cl. 30).
First use Oct. 17, 1968.

SN 310,846. Brock Candy Company, Chattanooga, Tenn. Filed Oct. 30, 1968.

CANDY DISH

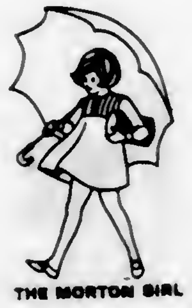
For Candy (Int. Cl. 30).
First use Dec. 5, 1960.

SN 311,651. Morton International, Inc., Chicago, Ill. Filed Nov. 8, 1968.



Owner of Reg. Nos. 103,357, 511,639, and 804,375.
For Salt, Pepper, Sugar, Honey, Cheeses, Jams, Jellies, Meatless Condiment Sauces and Dressings, Cream Substitutes, Salt Substitutes, and Food Flavoring Extracts, Syrups and Concentrates (Int. Cls. 29 and 30).
First use on or about Jan. 24, 1968; on or about Nov. 6, 1914 in a different form.

SN 311,652. Morton International, Inc., Chicago, Ill. Filed Nov. 8, 1968.



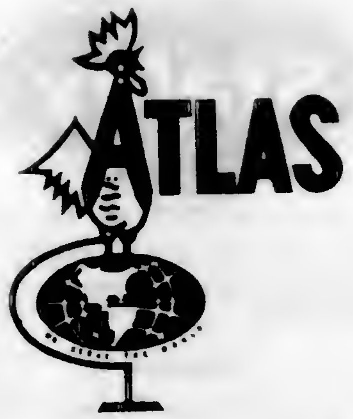
Owner of Reg. Nos. 103,357, 804,375, and others.
For Salt, Pepper, Sugar, Honey, Cheeses, Jams, Jellies, Meatless Condiment Sauces and Dressings, Cream Substitutes, Salt Substitutes, and Food Flavoring Extracts, Syrups and Concentrates (Int. Cls. 29 and 30).
First use on or about Sept. 20, 1968; on or about Nov. 6, 1914, as to the "design" in a different form.

SN 312,269. Standex Corporation, Chicago, Ill. Filed Nov. 15, 1968.

SURPRISE POP

The word "Pop" is disclaimed apart from the mark as shown.
For Candy (Int. Cl. 30).
First use at least as early as Sept. 6, 1968.

SN 313,477. Ralston Purina Company, St. Louis, Mo. Filed Dec. 3, 1968.



The drawing is lined for the color red, but no claim is made to color.
For Dressed Chicken (Int. Cl. 29).
First use as early as Ocober 1960.

SN 317,997. General Mills, Inc., Minneapolis, Minn. Filed Jan. 31, 1969.

BAC-O-BITS

Owner of Reg. Nos. 811,099 and 837,588.
For Protein Bits Having a Flavor Like Smoke Cured Bacon (Int. Cl. 29).
First use on or prior to Sept. 3, 1968.

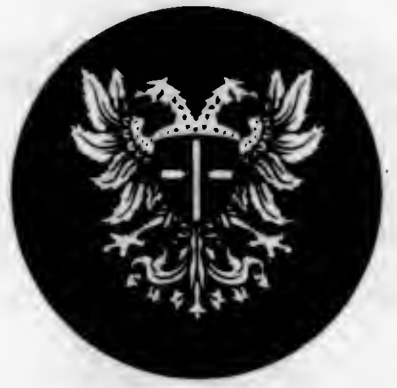
SN 318,000. General Mills, Inc., Minneapolis, Minn. Filed Jan. 31, 1969.

G

Owner of Reg. Nos. 758,523 and 814,114.
For Peanut Butter Flavored Candy (Int. Cl. 30).
First use on or prior to Nov. 14, 1968.

Class 47 — Wines

SN 275,836. Contopoulos Brothers, Ltd., New York, N.Y. Filed July 12, 1967.



The drawing is lined for the color red.
For Wine (Int. Cl. 33).
First use Apr. 10, 1967.

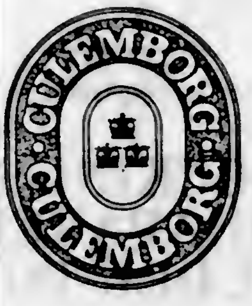
SN 285,763. Remy-Pannier, Florent, France. Filed Nov. 28, 1967.

SAINTE-ROSE

Owner of French Reg. No. 3,268, dated Jan. 20, 1965 (Saumur); Natl. Inst. No. 240,087.
For Rose Wines (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 276,005. Culemborg Exploitatie Maatschappij N.V., Amsterdam, Netherlands. Filed July 14, 1967.



Owner of Dutch Reg. No. 156,062, dated May 11, 1965.
For Beer (Int. Cl. 32).

Class 49 — Distilled Alcoholic Liquors

SN 305,775. Edward Young & Company Limited, London, England. Filed Aug. 22, 1968.

DARK FIRE

Owner of British Reg. No. 850,622, dated June 20, 1963.
For Rum (Int. Cl. 33).

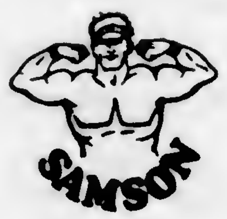
SN 317,798. Guild Wine Co., d.b.a. Guild Brandy Cellars, Lodi, Calif. Filed Jan. 29, 1969.

Toussaint l'Ouverture

The mark consists of the name of a celebrated Haitian patriot, now deceased.
For Brandy (Int. Cl. 33).
First use Dec. 18, 1968.

Class 50 — Merchandise Not Otherwise Classified

SN 295,847. Ropa Industries, Inc., New York, N.Y. Filed Apr. 17, 1968.



For Plastic Covers for Outdoor Swimming Pools and Outdoor Furniture (Int. Cl. 22).
First use on or about Dec. 26, 1967.

SN 300,337. Crescent Metal Products, Inc., Cleveland, Ohio. Filed June 13, 1968.

CRES-COR

Owner of Reg. Nos. 606,950 and 619,930.
For Protective Shields for Food Being Displayed and Served and Including Shields of Translucent and Transparent Materials (Int. Cl. 20).
First use Aug. 28, 1964.

SN 302,529. Carl F. Seitz, Phoenix, Ariz. Filed July 11, 1968.

"TRAIL-BLAZ-R"

For Plastic Direction Indicating Arrow of Red/Orange Fluorescent Color With Fastening Pin (Int. Cl. 20).
First use June 20, 1968.

SN 306,884. Continental Can Company, Inc., New York, N.Y. Filed Sept. 9, 1968.

BOND TWIST

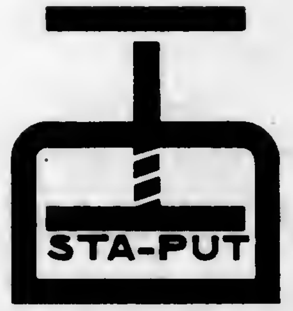
The word "Twist" is disclaimed apart from the mark as shown.
For Crown Closures (Int. Cl. 20).
First use Aug. 5, 1968.

SN 307,748. Mate Plastics Corp., New York, N.Y. Filed Sept. 19, 1968.

shuMate

For Shoe Trees (Int. Cl. 21).
First use Aug. 20, 1968.

SN 311,413. Sta-Put Enterprises Incorporated, Massapequa Park, N.Y. Filed Nov. 5, 1968.



For Chocks Used To Block Rolling Motion of Objects Such as Wheels and Barrels (Int. Cl. 20).
First use Mar. 19, 1966.

SN 311,863. General Steel Industries, Inc., d.b.a. Flex-O-Lite Division, St. Louis, Mo. Filed Nov. 12, 1968.

FLEX-O-LINE

Owner of Reg. Nos. 563,749 and 708,308.
For Rolls of Reflective Pressure Sensitive Tape (Int. Cl. 17).
First use Oct. 15, 1968.

SN 311,864. General Steel Industries, Inc., d.b.a. Flex-O-Lite Division, St. Louis, Mo. Filed Nov. 12, 1968.

FLEX-O-LANE

Owner of Reg. Nos. 563,749 and 708,308.
For Rolls of Reflective Pressure Sensitive Tape (Int. Cl. 17).
First use Oct. 15, 1968.

SN 312,228. Crown Cork & Seal Company, Inc., Philadelphia, Pa. Filed Nov. 14, 1968.

SURE-TWIST

For Bottle Caps (Int. Cl. 6).
First use at least as early as July 31, 1968.

SN 312,779. Jerard Les, Inc., New York, N.Y. Filed Nov. 21, 1968.

ASSEMBLAGE

For Decorative Wall Plaques (Int. Cl. 20).
First use Sept. 18, 1968.

SN 316,870. Polytop Corporation, Slatersville, R.I. Filed Jan. 17, 1969.

POLYTUBE

For Container Closures (Int. Cl. 20).
First use Dec. 3, 1968.

Class 51 — Cosmetics and Toilet Preparations

SN 242,816. Guerlain, Inc., New York, N.Y. Filed Apr. 6, 1966.

SHALIMAR

Owner of Reg. Nos. 216,906 and 236,279.
For Perfume, Cologne, Toilet Water, Dusting Powder, Talcum Powder, Skin Lotion, Hair Spray and Bath Oil (Int. Cl. 3).
First use Apr. 3, 1926.

SN 269,100. Rawson Drug and Sundry Company, Inc., Oakland, Calif. Filed Apr. 13, 1967.

LOVERLY

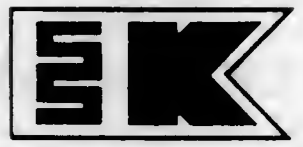
For Hair Spray and Nail Polish (Int. Cl. 3).
First use June 8, 1966.

SN 282,474. Parfumerie L. T. Piver, Paris, France. Filed Oct. 13, 1967.

PIVERLORD

Owner of French Reg. No. 708,682, dated June 16, 1966.
For Perfumes, Rouge, Hair Dressing, Toothpaste and Tooth Powder (Int. Cl. 3).

SN 284,091. S. S. Kresge Company, Detroit, Mich. Filed Nov. 3, 1967.



For Toothpaste and Mouth Washes (Int. Cl. 3).
First use on or before Mar. 1, 1967.

SN 285,559. Lancôme S.A., Paris, France. Filed Nov. 24, 1967.

The literal translation of the mark is the " 'Ô' of Lancôme." Priority claimed under Sec. 44(d) on French Reg. No. 722,889, dated May 26, 1967.
For Perfumes and Toilet Water (Int. Cl. 3).

SN 285,568. Max Factor & Co., Hollywood, Calif. Filed Nov. 24, 1967.

FORTIFY

For Skin and Hair Conditioners, Tonics, Sprays, Creams, Dressings and Oils (Int. Cl. 3).
First use Oct. 31, 1967.

SN 287,827. Parfums Schiaparelli, Inc., New York, N.Y. Filed Dec. 29, 1967.

SHOCKING DE SCHIAPARELLI POUDRE POUF

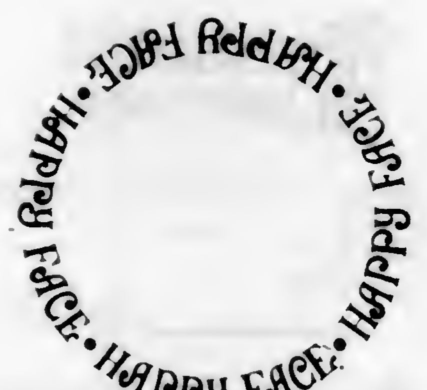
The translation of the words "Poudre Pouf" is "powder puff." Owner of Reg. Nos. 344,590, 415,856, and others.
For Face Powder (Int. Cl. 3).
First use September 1967.

SN 288,954. Richard Hudnut, Morris Plains, N.J. Filed Jan. 16, 1968.

MESMEREYES

For Brush-On Powdered Eye Shadow (Int. Cl. 3).
First use Jan. 5, 1968.

SN 290,281. The Gillette Company, Boston, Mass. Filed Feb. 5, 1968.


HAPPY FACE • HAPPY FACE • HAPPY FACE • HAPPY FACE •

Owner of Reg. No. 796,120.
For Facial Washing Cream (Int. Cl. 3).
First use Jan. 10, 1968.

SN 290,504. Mardora, Inc., West Palm Beach, Fla. Filed Feb. 7, 1968.

For Hand Cream, Body Lotion, Liquid Facial Cleanser, Skin Freshener, Eye Cream, Throat Oil, Masque, Moisture Cream, Cleansing Cream, Night Cream, Astringent, and Hand Lotion (Int. Cl. 3).
First use Dec. 1, 1967.

SN 290,630. Mardora, Inc., West Palm Beach, Fla. Filed Feb. 8, 1968.

For Perfumes, Colognes, Skin Cleansing and Moisturizing Creams and Lotions, Bath Oil, Talcum Powder, Body Deodorants, Hair Rinse and Conditioner, Nail Polish and Nail Polish Remover (Int. Cls. 3 and 5).
First use Dec. 1, 1967.

SN 291,345. Avon Products, Inc., New York, N.Y. Filed Feb. 19, 1968.

TAM O'SHANTER

For Dusting Powder, Cream Sachet, Hand Cream, Skin Cream Lotion, Cologne, Talcum Powder, Bubble Bath and Lip Pomade (Int. Cl. 3).
First use Feb. 2, 1968.

SN 299,334. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden, New York, N.Y. Filed May 29, 1968.

PUFF PUFF

For Dusting Powder (Int. Cl. 3).
First use Jan. 14, 1953.

SN 300,363. Lubin Parfums, Inc., Norwich, N.Y. Filed June 13, 1968.

MONTAGE´

For Moisturizing Lotion Cosmetic Preparation (Int. Cl. 3).
First use June 7, 1968.

SN 300,672. American Home Products Corporation, New York, N.Y. Filed June 18, 1968.

SUDDEN SET

Applicant disclaims the word "Set" apart from the mark as shown.
For Hair Setting Preparation (Int. Cl. 3).
First use June 7, 1968.

SN 301,001. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed June 20, 1968.

THOROUGHBRED

For Toiletries—Namely, After-Shave Lotion (Int. Cl. 3).
First use June 6, 1968.

SN 302,104. Irving Miller, d.b.a. American Leather Ltd., Detroit, Mich. Filed July 5, 1968.

SIR WALTER RALEIGH

"Sir Walter Raleigh" is the name of a long deceased historical person.
For Colognes and After-Shave Lotion (Int. Cl. 3).
First use June 9, 1968.

SN 304,749. American Home Products Corporation, New York, N.Y. Filed Aug. 9, 1968.

PATRIOT

Owner of Reg. No. 383,862.
For Personal Deodorants (Int. Cl. 5).
First use July 10, 1968.

SN 306,342. Consumer Products Inc., Los Angeles, Calif. Filed Aug. 30, 1968.

FEMININETY

For Perfumes and Toilet Water (Int. Cl. 3).
First use July 30, 1968.

SN 306,387. The Mennen Company, Morristown, N.J. Filed Aug. 30, 1968.

KAN

For Family Personal Deodorant (Int. Cl. 5).
First use Aug. 7, 1968.

SN 308,069. Ralston Purina Company, St. Louis, Mo. Filed Sept. 5, 1968.

HORSE GLEAM

Applicant disclaims the word Horse apart from the mark as shown. By doing so, applicant waives none of its common law rights thereto.
For Grooming Oil Compound for Use on Horses (Int. Cl. 3).
First use Aug. 12, 1968.

SN 309,329. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Oct. 10, 1968.

CHIARO

"Chiaro" is the Italian equivalent of "bright" or "light."
For After Shave Lotion (Int. Cl. 3).
First use Sept. 9, 1968.

SN 310,425. The Sovera Company, Winter Haven, Fla. Filed Oct. 24, 1968.

EYES OFF

No claim is made to the word "Eyes" apart from the mark as shown, without waiving any common law rights therein.
For Pads Impregnated With Make-Up Remover Preparation (Int. Cl. 3).
First use Sept. 16, 1968.

SN 314,228. Holiday Magic, San Rafael, Calif. Filed Dec. 11, 1968.

UN-DO

For Cologne, Bath Oil and Creme Sachet (Int. Cl. 3).
First use July 24, 1968.
Subj. to Intf. with SN 307,919.

Class 52 — Detergents and Soaps

SN 285,439. Michigan Hot Rod Association, Centerline, Mich. Filed Nov. 22, 1967.

SHOW CAR

For Upholstery Cleaner, and Vinyl Car Top Cleaner (Int. Cl. 3).
First use Feb. 15, 1966.

SN 292,298. Roberts & Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

MAGI-KLEEN

For Solvent Type Solution for Cleaning Fingerprints, Lint, Dirt, etc. From the Emulsion and Back of Photographic Films (Int. Cl. 3).

First use November 1960.

SN 295,309. Cleveland Technical Center, Inc., Cleveland, Ohio. Filed Apr. 10, 1968.

CLEVE-TEK FTC-6

Owner of Reg. Nos. 787,402, 787,646, and 787,940.

For Cleaner for Floors and Transportation Vehicle Undercarriages (Int. Cl. 3).

First use Feb. 1, 1968.

SN 295,310. Cleveland Technical Center, Inc., Cleveland, Ohio. Filed Apr. 10, 1968.

FTC-6

For Cleaner for Floors and Transportation Vehicle Undercarriages (Int. Cl. 3).

First use Feb. 1, 1968.

SN 298,476. Paul S. Robitaille, d.b.a. I.A.C. Chemical Co., Granby, Mass. Filed May 17, 1968.

SCRAPPY

For Industrial Cleaner and Degreaser (Int. Cl. 1).

First use Apr. 1, 1968.

SN 308,884. Freeman Industries, Inc., Tuckahoe, N.Y. Filed Oct. 4, 1968.

TRAK

For Soap-Free Concentrate for Washing Sensitive Skin (Int. Cl. 3).

First use July 25, 1968.

SN 309,017. Berkeley Hair Goods Corp., New York, N.Y. Filed Oct. 7, 1968.

ALBERENE

For Toupee and Wig Cleaner (Int. Cl. 3).

First use May 10, 1968.

SN 309,421. Chesebrough-Pond's Inc., New York, N.Y. Filed Oct. 11, 1968.

WICKER

For Toilet Soaps (Int. Cl. 3).

First use Sept. 30, 1968.

SN 311,790. Mercantile Stores Company, Inc., New York, N.Y. Filed Nov. 12, 1968.

MERVILLE

For Hair Shampoos and Toilet Soaps (Int. Cl. 3).

First use Mar. 25, 1943, on soap.

SN 318,007. Multi-Care Corporation, Scarsdale, N.Y. Filed Jan. 31, 1969.

STON-YL

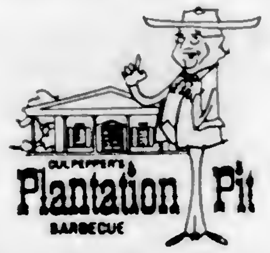
For Cleaners Applied to Outdoor and Indoor Stone and Stone Composition Floors and Stone and Stone Composition Walls (Int. Cl. 3).

First use Aug. 26, 1966.

SERVICE MARKS

Class 100 — Miscellaneous

SN 249,508. Edith Culpepper, executrix of the estate of Joseph Culpepper, deceased, Opa Locka, Fla., assignee of Joseph Culpepper, Opa Locka, Fla. Filed July 5, 1966.

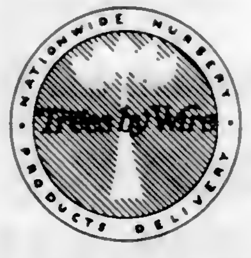


Applicant disclaims the word "Barbecue."

For Restaurant Services (Int. Cl. 42).

First use Dec. 12, 1954.

SN 282,065. Kirk M. Dodge, Overland Park, Kans. Filed Oct. 9, 1967.

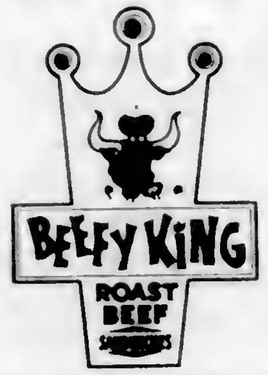


The drawing is lined for the color green.

For Organizing Nurserymen Throughout the Country for Their Mutual Commercial Benefit (Int. Cl. 42).

First use Sept. 18, 1967.

SN 289,962. Beefy King, Inc., Orlando, Fla. Filed Jan. 31, 1968.

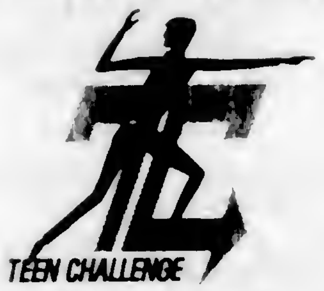


No claim is made to the words "Roast Beef Sandwiches" apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use June 13, 1967.

SN 291,316. The General Council of the Assemblies of God, Springfield, Mo. Filed Feb. 19, 1968.



The drawing is lined for the color red.

For Rendering Spiritual and Material Aid to Juvenile Delinquents (Int. Cl. 42).

First use October 1967.

SN 291,452. Universal Oil Products Company, d.b.a. UOP Bostrom Division, Des Plaines, Ill. Filed Feb. 19, 1968.

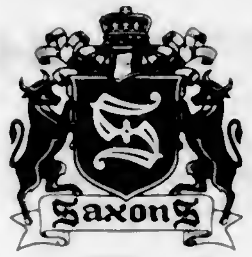
BOSTROM

Owner of Reg. Nos. 535,105, 764,580, and others.

For Research, Design, Development and Manufacture of Seats for Vehicles to the Order and/or Specification of Others (Int. Cl. 42).

First use as early as Dec. 15, 1945.

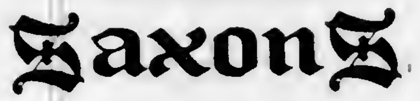
SN 291,900. Saxons Incorporated, Columbus, Ohio. Filed Feb. 26, 1968.



For Restaurant Services (Int. Cl. 42).

First use May 15, 1967.

SN 291,902. Saxons Incorporated, Columbus, Ohio. Filed Feb. 26, 1968.



For Restaurant Services (Int. Cl. 42).

First use May 15, 1967.

SN 299,194. American District Telegraph Company, New York, N.Y. Filed May 28, 1968.

AERO

For Central Station Fire Alarm Service (Int. Cl. 35).

First use on or about Apr. 10, 1920.

SN 300,239. Agway, Inc., De Witt, N.Y. Filed June 12, 1968.

MILLOVER

For Lime Spreading Services (Int. Cl. 42).

First use Mar. 10, 1967.

SN 301,847. Michael G. Iacocca, Allentown, Pa. Filed July 2, 1968.

AMERICAN-ITALIAN HALL OF FAME

Owner of Reg. No. 786,546.

For Promoting and Organizing Events and Programs To Pay Tribute to Persons of Italian Ancestry Who Have Favorably Contributed to American Culture and History (Int. Cl. 42).

First use Dec. 14, 1967.

SN 304,705. The Only Place, Inc., Canyon, Tex. Filed Aug. 8, 1968.

THE ONLY PLACE

For Restaurant Services (Int. Cl. 42).

First use Jan. 27, 1968.

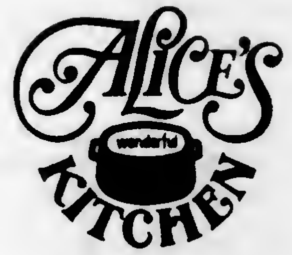
SN 308,354. Redi-Care Corporation, St. Paul, Minn. Filed Sept. 27, 1968.

REDI-CARE

For Rental of Hospital and Health Equipment for Home Use (Int. Cl. 42).

First use on or about Nov. 1, 1967.

SN 308,998. Restaurant Associates Industries, Inc., New York, N.Y. Filed Oct. 7, 1968.



Applicant disclaims the exclusive right to the word "Kitchen" apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Sept. 30, 1968.

SN 309,208. Restaurant Associates Industries, Inc., New York, N.Y. Filed Oct. 9, 1968.

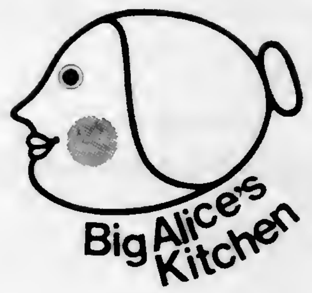
ALICE'S WONDERFUL KITCHEN

Applicant disclaims the exclusive right to the word "Kitchen" apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Sept. 30, 1968.

SN 312,696. Restaurant Associates Industries, Inc., New York, N.Y. Filed Nov. 20, 1968.

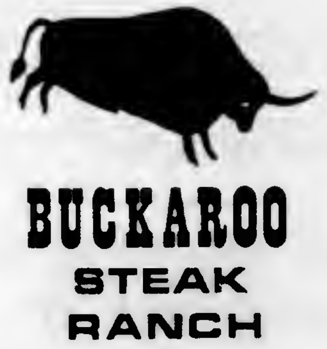


Applicant disclaims the exclusive right to the word "Kitchen" apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Nov. 18, 1968.

SN 318,503. Buckaroo Steak Ranches, Inc., St. Louis, Mo. Filed Feb. 6, 1969.



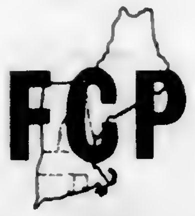
Without relinquishing any common law right therein, the word "Steak" is disclaimed apart from the mark as shown. Owner of Reg. No. 844,745.

For Restaurant Services (Int. Cl. 42).

First use June 23, 1967.

Class 101—Advertising and Business

SN 265,058. Foreign Car Parts Inc. of New England, Allston, Mass. Filed Feb. 20, 1967.

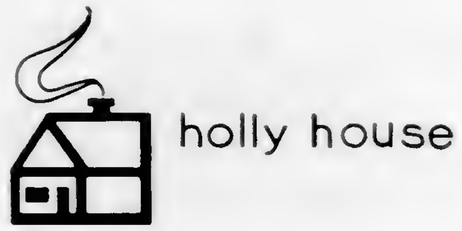


No registration rights are claimed for the outline map of New England apart from the mark shown, but applicant waives none of its common law rights in the mark or any feature thereof.

For Distribution Services in the Field of Automotive Parts for Foreign Passenger Cars (Int. Cl. 35).

First use March 1964.

SN 268,308. Duane L. Gilliland, d.b.a. Holly House, Fort Wayne, Ind. Filed Apr. 4, 1967.

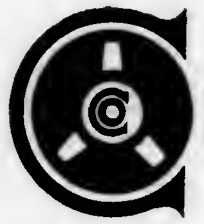


Applicant disclaims the word "House" apart from the mark as shown.

For Distributorship Services in the Field of Sundries, for Example, Calendars, Zip Code Directories and Cheese (Int. Cl. 35).

First use Nov. 29, 1966.

SN 276,789. Computer Aid Companies, Inc., Dallas, Tex. Filed July 24, 1967.



For Analyzing the Problems of Others, and Designing and Utilizing Computer Systems and Data Acquisition and Processing Systems and Equipment To Define and Implement Solutions to Such Problems (Int. Cl. 35).

First use on or about Apr. 19, 1967.

SN 279,526. Bestmart, Inc., Cleveland, Ohio. Filed Sept. 1, 1967.

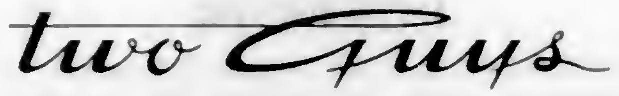
BESTMART

Owner of Reg. Nos. 732,816 and 734,320.

For Retail Food Market Service and Technical Assistance to Retail Food Markets in All Phases of Their Business (Int. Cl. 35).

First use Aug. 17, 1961.

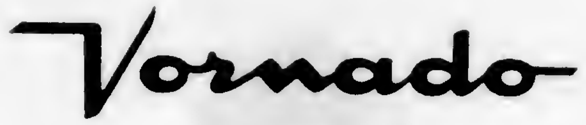
SN 281,145. Vornado, Inc., Garfield, N.J. Filed Sept. 25, 1967.



For Retail Department Store Services (Int. Cl. 35).

First use on or about May 1, 1947.

SN 281,146. Vornado, Inc., Garfield, N.J. Filed Sept. 25, 1967.

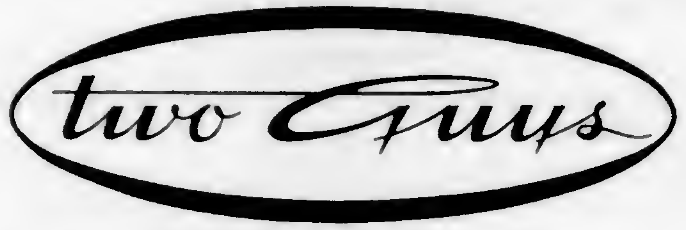


Owner of Reg. Nos. 509,417, 765,868, and others.

For Retail Department Store Services (Int. Cl. 35).

First use on or about Nov. 4, 1959.

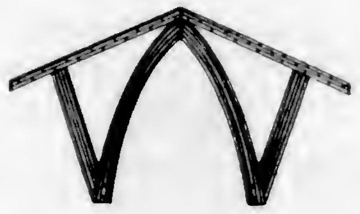
SN 282,153. Vornado, Inc., Garfield, N.J. Filed Oct. 9, 1967.



For Retail Department Store Services (Int. Cl. 35).

First use on or about May 1, 1947.

SN 282,585. Robert B. Horton, d.b.a. Wood-Lam Structures, Oklahoma City, Okla. Filed Oct. 16, 1967.

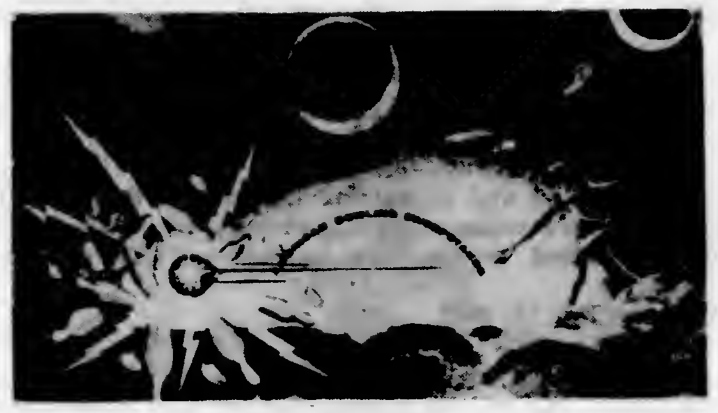


The lining which appears on the drawing is not symbolic of color but is a feature of the mark.

For Furnishing Services as a Manufacturers' Representative in the Building Materials Industry (Int. Cl. 35).

First use Mar. 20, 1966.

SN 282,664. American Bowling Sweepstakes, Inc., Los Angeles, Calif. Filed Oct. 17, 1967.

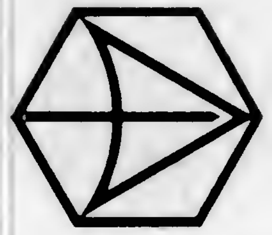


Applicant disclaims the entire verbal portion of the mark

For Conducting Bowling Contests To Promote the Business of Bowling Operators (Int. Cl. 35).

First use Dec. 2, 1966.

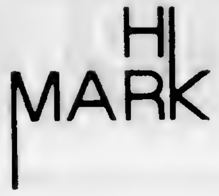
SN 287,830. Progress Heat Sealing Co., Inc., New York, N.Y. Filed Dec. 29, 1967.



For Creating and Designing of Advertising Specialties for Others (Int. Cl. 35).

First use Jan. 24, 1967.

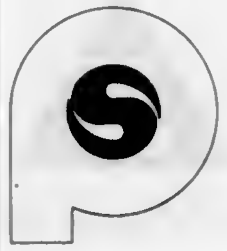
SN 288,327. K-H Associates of Evansville, Inc., d.b.a. Great States Personnel System, Evansville, Ind. Filed Jan. 8, 1968.



For Employment Counseling Services (Int. Cl. 35).

First use July 1, 1967.

SN 295,164. Pharmstat, Inc., Los Angeles, Calif. Filed Apr. 8, 1968.



For Providing Specialized Temporary Personnel in the Pharmaceutical Field (Int. Cl. 35).

First use Mar. 14, 1968.

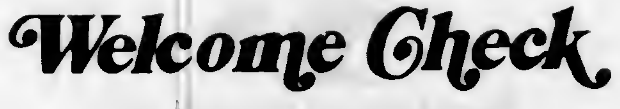
SN 298,924. Child World, Inc., Dedham, Mass. Filed May 23, 1968.

CHILD WORLD

For Mail-Order Services Dealing in Baby Furniture and Toys (Int. Cl. 35).

First use at least as early as September 1956.

SN 299,386. Telecredit, Inc., Los Angeles, Calif. Filed May 29, 1968.



For Reporting the Financial Responsibility of Persons To Enable Participating Merchants To Provide a Check Cashing Service (Int. Cl. 35).

First use Dec. 15, 1967.

SN 299,831. Computer Services Corporation, Des Moines, Iowa. Filed June 6, 1968.

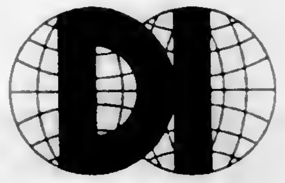
HOSPAK

For Electronic Data Processing System Services Offered by Applicant Particularly to Hospitals and Like Entities for Recording and Maintaining Any and All Types of Records Thereof (Int. Cl. 35).

First use Mar. 8, 1968.

Subj. to Intf. with SN 302,087.

SN 300,692. Drake International Services Limited, Toronto, Ontario, Canada. Filed June 18, 1968.



Owner of Canadian Reg. No. 142,054, dated Sept. 24, 1965.

For Services as an Employment Agency for Placing Employees in Permanent Positions, and for Services in Supplying Companies With Temporary Employees, Such as Stenographers, Clerks, Other Office Workers, and Technical, Industrial, Marketing, Sales, and Administrative Personnel (Int. Cl. 35).

SN 301,349. Margaret B. Lamble, Portland, Oreg. Filed June 25, 1968.

PATHMAKERS

For Family and Household Services—Namely, Supplying Domestic Help, Housekeepers, Cooks, Maids, Gardeners, Nurses, Home Companions, Home Maintenance Help, and Personnel for the Home Care of the Elderly (Int. Cl. 35).

First use August 1967.

SN 301,824. Alan Drey Company, Inc., Chicago, Ill. Filed July 2, 1968.

DUPLI-MATCH

For Rental of Lists of Names and Addresses (Int. Cl. 35).

First use Apr. 15, 1968.

SN 302,087. Information Management Incorporated, San Francisco, Calif. Filed July 5, 1968.

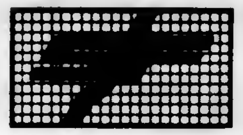
HOSPACT

For Providing Computerized Hospital Patient Accounting Packages for Sale to Hospitals by Computer Service Centers (Int. Cl. 35).

First use Feb. 5, 1968.

Subj. to Intf. with SN 299,831.

SN 306,037. Sales Force, Inc., Knoxville, Tenn. Filed Aug. 27, 1968.



For Manufacturers' Representative Services in the Field of Outdoor Sports Equipment and Supplies (Int. Cl. 35).

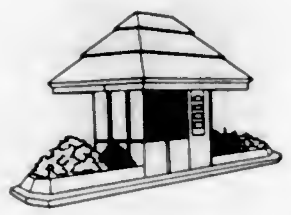
First use Oct. 20, 1965.

SN 308,351. Information Company of America, Philadelphia, Pa. Filed Sept. 27, 1968.

ica

For Information Retrieval Services (Int. Cl. 35).
First use June 26, 1968.

SN 308,423. Fotomat Corporation, La Jolla, Calif. Filed Sept. 30, 1968.



For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).
First use Sept. 17, 1968; Nov. 21, 1966, in a different form.

SN 308,754. Toledo Broadway Distributors, Inc., Toledo, Ohio. Filed Oct. 3, 1968.

PET BAZAAR

The word "Pet" is disclaimed apart from the mark as shown.
For Pet Store Services (Int. Cl. 35).
First use June 20, 1968.

SN 313,386. R.E.L. Enterprises, Inc., Los Angeles, Calif. Filed Dec. 2, 1968.

FINANCIAL SEARCH ASSOCIATES

For Providing Financial and Accounting Executive Personnel for Permanent Employment by Others (Int. Cl. 35).
First use Aug. 30, 1967.

SN 315,001. All Tapes Distributing Inc., Chicago, Ill. Filed Dec. 23, 1968.

For Distributing Prerecorded Tapes to Department Stores and Other Consumer Outlets for Resale to Consumers (Int. Cl. 35).
First use on or about Aug. 6, 1968.

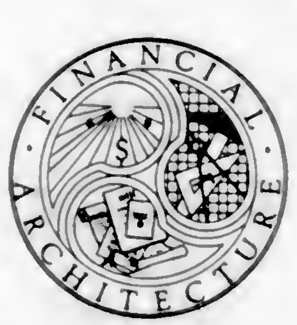
Class 102 — Insurance and Financial

SN 271,818. Merchants Mutual Agency, Inc., Grand Rapids, Mich. Filed May 18, 1967.

YOUR PROTECTION IS OUR PROFESSION

For General Insurance Agency Services (Int. Cl. 36).
First use September 1956.

SN 296,538. M. J. Huber Corporation, New York, N.Y. Filed Apr. 25, 1968.



Applicant disclaims each of the words "Financial" and "Architecture," respectively, apart from the mark as shown.
For Advisory Services—Namely, Insurance, Estate Planning, Employee Benefit Plans, Taxes, Trusts and Investments (Int. Cl. 36).
First use Nov. 7, 1967.

SN 301,811. Alpha Research Corporation, Atlanta, Ga. Filed July 2, 1968.

ALPHA

For Investment Adviser and Manager, Including Investment Research, Counsel, Advice and Management; in the Management and Administration of Investment Companies and Funds; and as Broker, Dealer, Underwriter and Distributor of Securities and Investments (Int. Cl. 36).
First use May 21, 1968.

SN 304,507. The Standard of America Life Insurance Company, Park Ridge, Ill. Filed Aug. 6, 1968.

For Life, Accident and Health Insurance Underwriting (Int. Cl. 36).
First use in or about April 1966.

SN 306,472. First National Bank of Toledo, Toledo, Ohio. Filed Sept. 3, 1968.

1N

For Banking Services (Int. Cl. 36).
First use Aug. 1, 1968.

SN 307,124. National Bank of North America, West Hempstead, N.Y. Filed Sept. 11, 1968.

For Banking Services (Int. Cl. 36).
First use on or about May 8, 1967.

SN 308,183. Broadway Bank and Trust Company, Paterson, N.J. Filed Sept. 25, 1968.

FAMILY RESERVE CHECKING ACCOUNT

Applicant disclaims the words "Checking Account" apart from the mark as shown.
For Personal Checking Services (Int. Cl. 36).
First use Aug. 10, 1967.

SN 308,184. Broadway Bank and Trust Company, Paterson, N.J. Filed Sept. 25, 1968.

FRCA

For Personal Checking Services (Int. Cl. 36).
First use Aug. 10, 1967.

Class 103 — Construction and Repair

SN 291,151. Global Marine Inc., Los Angeles, Calif. Filed Feb. 15, 1968.

GLOBAL MARINE

For Exploratory and Production Drilling for Hydrocarbons in the Offshore (Int. Cl. 37).
First use Nov. 1, 1958.

SN 292,807. Omark Industries, Inc., Portland, Oreg. Filed Mar. 8, 1968.

COLFORM

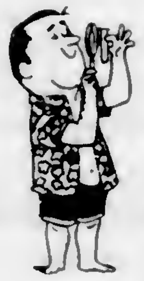
For Making of Precision Small Parts to Exact Specification of Customers (Int. Cl. 37).
First use Aug. 24, 1967.

SN 300,738. Orkin Exterminating Company, Inc., Atlanta, Ga. Filed June 18, 1968.

ORKINGUARD

Owner of Reg. No. 568,404.
For Pest Control Services (Int. Cl. 37).
First use on or about May 15, 1968.

SN 304,567. Marvin H. Allred, d.b.a. Allred's Pool Supplies, Santa Ana, Calif., assignee of Allred's Pool Supplies, Inc., Garden Cove, Calif. Filed Aug. 7, 1968.



For Swimming Pool Repair and Maintenance Services (Int. Cl. 37).
First use in or about January 1958.

Class 105 — Transportation and Storage

SN 295,329. Great Lakes Overseas, Inc., Chicago, Ill. Filed Apr. 10, 1968.

Scanlake line

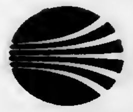
The word "Line" is disclaimed apart from the mark as shown.
For Arranging for the Transportation of Freight by Ship (Int. Cl. 39).
First use Mar. 1, 1968.

SN 302,491. Consolidated Freightways Corporation of Delaware, Menlo Park, Calif. Filed July 11, 1968.

CF

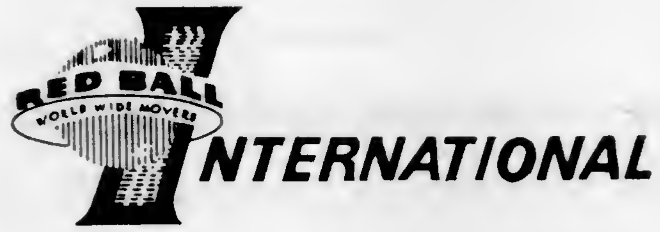
The mark consists of a fanciful showing of the letters "CF." Owner of Reg. Nos. 716,270, 726,352, and 815,192.
For Transporting the Goods of Others by Motor Truck, and Arranging for the Transport of Goods by Rail, Ship and Aircraft (Int. Cl. 39).
First use March 1955.

SN 304,056. Continental Air Lines, Inc., Los Angeles, Calif. Filed Aug. 1, 1968.



For Air Transportation of Persons and Property (Int. Cl. 39).
First use Oct. 15, 1967.

SN 307,611. American Red Ball Transit Company, Inc., Indianapolis, Ind. Filed Sept. 18, 1968.



The words "World Wide Movers" are disclaimed apart from the mark as shown. The drawing is lined for the colors red and grey. Owner of Reg. Nos. 588,852 and 832,718.
For Moving and Shipping Household Goods and General Commodities by Motor Truck (Int. Cl. 39).
First use July 15, 1968.

Class 106 — Material Treatment

SN 286,925. The Franklin Mint, Inc., Yeadon, Pa., by change of name from General Numismatics Corporation, Yeadon, Pa. Filed Dec. 14, 1967.

THE FRANKLIN MINT

For Custom Coinage of Non-Monetary Coins; Tokens; Medals; Medallions; and Souvenir, Novelty and General Non-Monetary Coinage Products (Int. Cl. 40).
First use Apr. 28, 1965.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

870,278. POLY-B-D. Sinclair Oil Corporation, by merger from Sinclair Petrochemicals, Inc. SN 182,668. Pub. 3–9–65. Filed 12–9–63.

870,279. PROCESS 40. The Permalux Company. MULTIPLE CLASS (Classes 1 and 50). SN 272,403. Pub. 3–18–69. Filed 5–25–67.

870,280. MOWILITH. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. MULTIPLE CLASS (Classes 1, 5, 6, and 16). SN 275,192. Pub. 3–18–69. Filed 7–3–67.

870,281. NEOLANGITE. Cork Manufacturing Company Limited. SN 280,858. Pub. 3–18–69. Filed 9–21–67.

870,282. ZUG WJ MARTIN. W. & J. Martin Limited. SN 285,033. Pub. 3–18–69. Filed 11–16–67.

870,283. CLIMATITE. Shawinigan Chemicals Limited. SN 288,647. Pub. 3–18–69. Filed 1–11–68.

870,284. FOAMPAK. Foam-Pak Corporation. SN 290,955. Pub. 3–18–69. Filed 2–13–68.

Class 2—Receptacles

870,285. GILAC. Gilac S.A.R.L. MULTIPLE CLASS (Classes 2, 13, 32, 44, and 50). SN 287,207. Pub. 3–18–69. Filed 12–19–67.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

870,286. UNI-KIT. Koszegi Leather & Vinyl Products, Inc. SN 284,089. Pub. 3–18–69. Filed 11–6–67.

870,287. RALIDE. Ralide, Inc. SN 291,099. Pub. 3–18–69. Filed 2–14–68.

870,288. DESIGN OF A SPACEMAN. Biarritz Shoes. MULTIPLE CLASS (Classes 3 and 39). SN 292,647. Pub. 3–18–69. Filed 3–7–68.

Class 4—Abrasives and Polishing Materials

870,289. LEATHERFOAM. Leatherfoam, Inc. SN 284,487. Pub. 3–18–69. Filed 11–9–67.

870,290. THIS AND DESIGN. This Corporation. SN 295,981. Pub. 3–18–69. Filed 4–18–68.

870,291. NO. 27 LIQUID EBONY. Robert E. Roeser, d.b.a. Cleanbright Distributing Co. SN 297,318. Pub. 3–18–69. Filed 5–3–68.

870,292. ZIPPIDI-DO. Coastal Abrasive & Tool Company, Inc. SN 298,200. Pub. 3–18–69. Filed 5–15–68.

870,293. OXZALUMA 40. American Abrasive Company. SN 298,680. Pub. 3–18–69. Filed 5–21–68.

870,294. REPRESENTATION OF A JEWEL. Abrasive Products, Inc. SN 302,368. Pub. 3–18–69. Filed 7–10–68.

870,295. BALL AND DESIGN. Ball Industries. SN 303,960. Pub. 3–18–69. Filed 7–31–68.

870,296. NATURE'S OWN. The Drackett Company. SN 303,987. Pub. 3–18–69. Filed 7–31–68.

870,297. NATURE'S BEST. The Drackett Company. SN 303,988. Pub. 3–18–69. Filed 7–31–68.

870,298. BESTOW. The Drackett Company. SN 305,416. Pub. 3–18–69. Filed 8–19–68.

Class 5—Adhesives

870,280. (See Class 1 for this trademark.)

Class 6—Chemicals and Chemical Compositions

870,280. (See Class 1 for this trademark.)

870,299. GREEN HOUSE. Farmers Union Central Exchange, Incorporated. CONSOLIDATED CERTIFICATE. SN 309,562, pub. 3–11–69, filed 10–14–68, Cl. 6; SN 273,494, pub. 3–11–69, filed 6–9–67, Cl. 10.

870,300. TETRADINE. West Chemical Products, Inc. SN 279,762. Pub. 3–18–69. Filed 9–6–67.

870,301. OUT-CIDE. Madison Chemical Corporation. SN 283,680. Pub. 3–18–69. Filed 10–30–67.

870,302. PALACE PET PRODUCTS AND DESIGN. Puppy Palace Enterprises, Inc. MULTIPLE CLASS (Classes 6, 18, 46, and 52). SN 285,285. Pub. 3–18–69. Filed 11–21–67.

870,303. 155. Amchem Products, Inc. SN 301,320. Pub. 3–4–69. Filed 6–25–68.

870,304. PRIMAZE. Geigy Chemical Corporation. SN 301,738. Pub. 3–18–69. Filed 7–1–68.

870,305. EZZIN. Geigy Chemical Corporation. SN 301,739. Pub. 3–18–69. Filed 7–1–68.

870,306. FIRODAL. Geigy Chemical Corporation. SN 301,740. Pub. 3–18–69. Filed 7–1–68.

870,307. CARAGARD. Geigy Chemical Corporation. SN 301,741. Pub. 3–18–69. Filed 7–1–68.

870,308. STERNCO AND DESIGN. Sternco Industries, Inc. SN 304,835. Pub. 3–18–69. Filed 8–9–68.

870,309. TETRAMET. Abbott Laboratories. SN 307,706. Pub. 3–18–69. Filed 9–19–68.

Class 7—Cordage

870,310. SOUPAK. Southern Mills, Inc. SN 299,167. Pub. 3–18–69. Filed 5–27–68.

Class 8—Smokers' Articles, Not Including Tobacco Products

870,311. SONY. Sony Corporation. SN 304,822. Pub. 3–18–69. Filed 8–9–68.

Class 9—Explosives, Firearms, Equipments, and Projectiles

870,312. STOCK LO-KATER BY PELLANT. Earl Pellant. SN 298,778. Pub. 3–18–69. Filed 5–22–68.

870,313. AQUAFLEX. Imperial Chemical Industries Limited. SN 307,106. Pub. 3–18–69. Filed 9–11–68.

Class 10—Fertilizers

870,299. CONSOLIDATED CERTIFICATE. See Class 6.

870,314. FOR THE QUICK KICK AND THE LONG PULL AND DESIGN OF A HORSE AND MULE. Escambia Chemical Corporation. SN 174,756. Pub. 1–7–64. Filed 8–9–63.

870,315. GROMIX. Garden Products, Inc. SN 267,030. Pub. 3–18–69. Filed 3–17–67.

870,316. NUTRI-RAPID. Doggett-Fison Company. SN 299,657. Pub. 3–18–69. Filed 6–4–68.

870,317. TERRA-PEUTIC. Lee Harvey. SN 303,796. Pub. 1–28–69. Filed 7–29–68.

Class 12—Construction Materials

870,318. FLECTO. The Flecto Company, Inc. CONSOLIDATED CERTIFICATE. SN 290,362, pub. 1–28–69. filed 2–6–68, Cls. 12 and 20; SN 267,745, pub. 3–11–69. filed 3–28–67, Cl. 16.

870,319. RANDOM PLANK. Pacific Wood Products Company. SN 288,638. Pub. 7–23–68. Filed 1–11–68.

870,320. FINNFORM. Plywood & Door Manufacturers Corporation. SN 293,884. Pub. 3–18–69. Filed 3–22–68.

870,321. DECO-LURE. SCM Corporation. SN 294,316. Pub. 3–18–69. Filed 3–27–68.

870,322. AFCO. GAF Corporation, by merger from American Felt Company. SN 299,061. Pub. 3–18–69. Filed 5–27–68.

870,323. BIG BEAR. Wetsel Enterprises. SN 303,637. Pub. 2–4–69. Filed 7–25–68.

870,324. ETRUSCAN. The Cambridge Tile Manufacturing Company. SN 304,667. Pub. 3–18–69. Filed 8–8–68.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

870,285. (See Class 2 for this trademark.)

870,325. DRESS UP YOUR HOME! National Lock Co. SN 263,103. Pub. 3–18–69. Filed 1–23–67.

870,326. PORTA-PIPE. L. B. Foster Company. SN 284,646. Pub. 6–11–68. Filed 11–13–67.

870,327. ACCO. Gary Industries, Inc., d.b.a. Acco Products. SN 289,582. Pub. 3–18–69. Filed 1–25–68.

870,328. BAND LOK. The National Screw & Manufacturing Company. SN 290,512. Pub. 2–4–69. Filed 2–7–68.

870,329. UNI-STAT. Siks Manufacturing, Inc. SN 292,223. Pub. 3–18–69. Filed 2–29–68.

870,330. E-Z-ON. Beneke Corporation. SN 293,793. Pub. 3–18–69. Filed 3–21–68.

870,331. SANITET. Sani-Seat Inc. SN 295,848. Pub. 3–18–69. Filed 4–17–68.

870,332. DURA-LOC. The Delron Company, Inc. SN 296,817. Pub. 3–18–69. Filed 4–29–68.

870,333. REPRESENTATION OF NAIL AND DESIGN. Bliss & Laughlin Industries Incorporated, assignee of Threaded Nails, Inc. SN 299,175. Pub. 3–18–69. Filed 5–27–68.

870,334. MIRACLE MAID ETC. AND DESIGN. The West Bend Company. SN 299,607. Pub. 3–18–69. Filed 6–3–68.,

Class 14—Metals and Metal Castings and Forgings

870,335. DYNAMAX. Latrobe Steel Company. SN 283,013. Pub. 12–24–68. Filed 10–20–67.

870,336. LR. Cyclops Corporation. SN 295,122. Pub. 3–18–69. Filed 4–8–68.

Class 16—Protective and Decorative Coatings

870,280. (See Class 1 for this trademark.)

870,318. CONSOLIDATED CERTIFICATE. See Class 12.

870,337. SHAKE 'N SPRAY AND DESIGN. Bel-Aire Paint Company. SN 286,411. Pub. 3–18–69. Filed 12–7–67.

870,338. TUFWEAR. Garry R. Perkins. SN 288,640. Pub. 3–18–69. Filed 1–11–68.

870,339. NITE-BRITE. United Gilsonite Laboratories. SN 303,084. Pub. 3–18–69. Filed 7–18–68.

870,340. VIP. Brooklyn Paint & Varnish Co., Inc. SN 305,915. Pub. 3–18–69. Filed 8–26–68.

870,341. STOPS RUST! Rust-Oleum Corporation. SN 305,982. Pub. 3–18–69. Filed 8–26–68.

870,342. MELAMINATE. Lilly Chemical Products, Inc. SN 306,064. Pub. 3–18–69. Filed 8–27–68.

870,343. PRESERV-A-TONE. M & H Laboratories, Inc. SN 306,790. Pub. 3–18–69. Filed 9–6–68.

Class 17—Tobacco Products

870,344. NEPTUNE AND DESIGN OF SAILING VESSEL. Theodorus Niemeijer N.V., d.b.a. Theodorus Niemeyer N.V. SN 310,712. Pub. 3–18–69. Filed 10–28–68.

870,345. GREAT DANE AND DESIGN. James B. Russell, Inc. SN 310,924. Pub. 3–18–69. Filed 10–30–68.

870,346. DD (DESIGN). R. J. Reynolds Tobacco Company. SN 312,163. Pub. 3–18–69. Filed 11–14–68.

870,347. SAVE. The American Tobacco Company. SN 312,377. Pub. 3–18–69. Filed 11–18–68.

Class 18—Medicines and Pharmaceutical Preparations

870,302. (See Class 6 for this trademark.)

870,348. JOY 2 AND DESIGN. Glenn Sales Co., Inc. SN 275,047. Pub. 12–24–68. Filed 6–29–67.

870,349. NEOCITRAN. Salada Foods Ltd. SN 292,529. Pub. 3–18–69. Filed 2–23–68.

870,350. TYROLIN. Armour Pharmaceutical Company. SN 294,003. Pub. 2–4–69. Filed 3–25–68.

870,351. PROSYMASUL. American Cyanamid Company. SN 296,003. Pub. 3–18–69. Filed 4–19–68.

870,352. CONCOR. Thomas H. Lamoreaux, d.b.a. H. Thomas Company. SN 296,433. Pub. 3–18–69. Filed 4–24–68.

870,353. DOR-C. The Wander Company. SN 296,601. Pub. 3–18–69. Filed 4–25–68.

870,354. WORMERPELS. Agway, Inc. SN 300,319. Pub. 3–18–69. Filed 6–13–68.

870,355. OPTIVAL. White Laboratories, Inc. SN 311,425. Pub. 3–18–69. Filed 11–5–68.

870,356. DONOREST. American Home Products Corporation. SN 311,641. Pub. 3–18–69. Filed 11–8–68.

Class 19—Vehicles

870,357. NOVO. Novo Industrial Corporation. MULTIPLE CLASS (Classes 19, 21, 23, and 31). SN 269,444. Pub. 3–18–69. Filed 4–18–67.

870,358. WISCONSIN FAST BACK AND DESIGN. Wisconsin Trailer Company, Inc. SN 276,376. Pub. 1–14–69. Filed 7–19–67.

870,359. AIRFLOAT. Airfloat Corporation, assignee of Vega Enterprises. SN 281,649. Pub. 3-18-69. Filed 10-2-67.

870,360. POWRMITE AND DESIGN. Floyd W. Kuecker. SN 284,674. Pub. 3-18-69. Filed 11-13-67.

870,361. GASTON ANDREY AND DESIGN. Gaston Andrey Inc. SN 285,640. Pub. 3-18-69. Filed 11-27-67.

870,362. TRIDENT. Trident Cars Limited. SN 295,387. Pub. 3-18-69. Filed 4-10-68.

870,363. LAHER. Laher Spring & Electric Car Corp. SN 300,711. Pub. 3-18-69. Filed 6-18-68.

870,364. OLYMPIAN. Universal Oil Products Company. SN 301,378. Pub. 3-18-69. Filed 6-25-68.

870,365. SPORTCAT. Hudson River Boat Company. SN 305,828. Pub. 3-18-69. Filed 8-23-68.

870,366. JOLLY ROGER. Lazott Company. SN 306,674. Pub. 3-18-69. Filed 9-5-68.

870,367. BONAIR. Bonair Boats, Inc. SN 311,816. Pub. 3-18-69. Filed 11-12-68.

Class 20 — Linoleum and Oiled Cloth

870,318. CONSOLIDATED CERTIFICATE. See Class 12.

Class 21 — Electrical Apparatus, Machines, and Supplies

870,357. (See Class 19 for this trademark.)

870,368. KOYO. Koyo Seiko Co., Ltd. SN 112,551. Pub. 10-3-61. Filed 1-26-61.

870,369. QUADRUS. Allmanna Svenska Elektriska Aktiebolaget. SN 255,275. Pub. 9-10-68. Filed 9-28-66.

870,370. SONUSWITCH. Sonus Corporation. SN 264,255. Pub. 3-18-69. Filed 2-8-67.

870,371. K. KSC Semiconductor Corporation, by assignment and change of name from KSC Semi Conductor Corporation. SN 267,042. Pub. 7-2-68. Filed 3-17-67.

870,372. STYLIZED K. KSC Semiconductor Corporation, by assignment and change of name from KSC Semi Conductor Corporation. SN 267,043. Pub. 7-2-68. Filed 3-17-67.

870,373. STYLIZED K. KSC Semiconductor Corporation, by assignment and change of name from KSC Semi Conducductor Corporation. SN 267,044. Pub. 7-2-68. Filed 3-17-67.

870,374. STYLIZED K. KSC Semiconductor Corporation, by assignment and change of name from KSC Semi Conductor Corporation. SN 267,045. Pub. 7-2-68. Filed 3-17-67.

870,375. CRYSTALUME. The Heifetz Company. SN 275,758. Pub. 3-18-69. Filed 7-11-67.

870,376. COMDEL. Comdel, Inc. SN 276,643. Pub. 3-18-69. Filed 7-24-67.

870,377. AMPLITWIN. The Telex Corporation. SN 278,254. Pub. 3-18-69. Filed 8-14-67.

870,378. MOLESTROBE. Mole-Richardson Co. SN 280,241. Pub. 3-18-69. Filed 9-13-67.

870,379. JUDCO ETC. AND DESIGN. Electronized Chemicals Corporation. SN 284,638. Pub. 3-18-69. Filed 11-13-67.

870,380. ADEMCO AND DESIGN. Pittway Corporation. SN 287,669. Pub. 3-18-69. Filed 12-27-67.

870,381. DYNALIFE. Continental Oil Company. SN 290,829. Pub. 3-18-69. Filed 2-12-68.

870,382. PANTHER LITE. Clevite Corporation. SN 291,585. Pub. 3-18-69. Filed 2-21-68.

870,383. REFRACTRON. Sony Corporation. SN 291,781. Pub. 3-18-69. Filed 2-23-68.

870,384. DOG-ALARM. F. Richard Mansfield. SN 292,397. Pub. 3-18-69. Filed 3-4-68.

870,385. GIBSON AND DESIGN. Gibson, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 292,833. Pub. 3-18-69. Filed 3-11-68.

870,386. DOWVUE. Dow Jones & Company, Inc. SN 293,916. Pub. 3-18-69. Filed 3-22-68.

870,387. RMS. RMS Electronics, Inc. SN 294,656. Pub. 3-18-69. Filed 4-1-68.

870,388. CITGO AND DESIGN. Cities Service Oil Company. SN 295,308. Pub. 3-18-69. Filed 4-10-68.

870,389. WALL-LITER. Infranor of North America, Inc. SN 297,565. Pub. 3-18-69. Filed 5-7-68.

870,390. BBR AND DESIGN. Birnbach Radio Company Inc. SN 298,317. Pub. 3-18-69. Filed 5-16-68.

870,391. QUARTZELLIPSOIDAL. Capitol Stage Lighting Co., Inc. SN 298,418. Pub. 3-18-69. Filed 5-17-68.

870,392. SUPERSONIC. Supersonic Radio Mfg. Co. (Pvt.), Ltd. SN 298,490. Pub. 3-18-69. Filed 5-16-68.

870,393. REGALOY. Guardian Electric Manufacturing Co. SN 298,595. Pub. 3-18-69. Filed 5-20-68.

870,394. HELIMAX. Espey Mfg. & Electronics Corp. SN 298,929. Pub. 3-18-69. Filed 5-23-68.

870,395. VISI-TRIP. Square D Company. SN 299,048. Pub. 3-18-69. Filed 5-24-68.

870,396. STRATOPHONIC. Harman-Kardon, Incorporated. SN 299,457. Pub. 3-18-69. Filed 5-31-68.

870,397. CURFLOW. Curlator Corporation. SN 300,690. Pub. 3-18-69. Filed 6-18-68.

870,398. WELLBOW. Wells Television, Inc. SN 301,287. Pub. 3-18-69. Filed 6-24-68.

870,399. CUC. Superior Continental Corporation. SN 301,654. Pub. 3-18-69. Filed 6-28-68.

870,400. ALPHA-LITE. Pinlites Inc. SN 302,120. Pub. 3-18-69. Filed 7-5-68.

870,401. DUNLEE. Dunlee Corp. SN 303,284. Pub. 3-18-69. Filed 7-22-68.

870,402. STUDIO PRO 120. LTV Ling Altec, Inc. SN 303,533. Pub. 3-18-69. Filed 7-24-68.

870,403. CHATTERBOX. Kleer-Vu Industries, Inc. SN 304,547. Pub. 3-18-69. Filed 8-7-68.

Class 22 — Games, Toys, and Sporting Goods

870,404. SUBMARINE. Kent Rubber Corporation. SN 269,190. Pub. 3-18-69. Filed 4-14-67.

870,405. C U B. Gentex Corporation. SN 293,822. Pub. 3-18-69. Filed 3-21-68.

870,406. CHAMPIONSHIP. Northwestern Golf Company. SN 299,375. Pub. 3-18-69. Filed 5-29-68.

870,407. GOLD SIGNATURE. Northwestern Golf Company. SN 299,578. Pub. 3-18-69. Filed 6-3-68.

870,408. HALL OF FAME. Northwestern Golf Company. SN 299,579. Pub. 3-18-69. Filed 6-3-68.

870,409. LORD BYRON. Northwestern Golf Company. SN 299,697. Pub. 3-18-69. Filed 6-4-68.

870,410. DOLL TOP SECRET. Thompson Fishing Tackle Company, Inc. SN 299,888. Pub. 3-18-69. Filed 6-6-68.

870,411. TORQUE CONTROL. Plas-Steel Products, Inc. SN 300,105. Pub. 3-18-69. Filed 6-10-68.

870,412. SKY-SLIDE. Sky-Slides International, Inc. SN 301,363. Pub. 3-18-69. Filed 6-25-68.

870,413. DUOSPHERE. A. G. Spalding & Bros. Inc. SN 302,455. Pub. 3-18-69. Filed 7-10-68.

870,414. ZAP-A-BUBBLE. Wham-O Mfg. Co. SN 305,382. Pub. 3-18-69. Filed 8-19-68.

870,415. MAGIC-MAKER. Mattel, Inc. SN 310,406. Pub. 3-11-69. Filed 10-24-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

870,357. (See Class 19 for this trademark.)

870,416. PORTA-WASH. H. D. Hudson Manufacturing Company, assignee of Manly Dee Randle. SN 252,893. Pub. 3-12-68. Filed 8-22-66.

870,417. MULTIMATIC. Portland Iron Works. SN 275,301. Pub. 5-7-68. Filed 7-3-67.

870,418. TWIN-POWER REMOTE CONTROL SWEDEN LTD. STOCKHOLM AND DESIGN. Remote Control Sweden Limited AB. SN 276,867. Pub. 3-18-69. Filed 7-26-67.

870,419. MOCO. Moulton Irrigation Company. SN 277,687. Pub. 3-18-69. Filed 8-7-67.

870,420. ROLL-GARD. Deere & Company. SN 280,573. Pub. 3-18-69. Filed 9-18-67.

870,421. PUMP MATE. Flint & Walling Manufacturing Co., Inc. SN 280,580. Pub. 3-18-69. Filed 9-18-67.

870,422. VETCOA AND DESIGN. Ohlinger Industries, Inc. SN 281,103. Pub. 3-18-69. Filed 9-25-67.

870,423. ULV. James C. Price, d.b.a. The Hi-Fog Company. SN 282,392. Pub. 3-18-69. Filed 10-12-67.

870,424. STOMPER. Stone Conveyor Co., Inc. SN 284,055. Pub. 3-18-69. Filed 11-2-67.

870,425. CAPCO AND DESIGN. Capco Manufacturing Corp. SN 284,131. Pub. 4-30-68. Filed 11-6-67.

870,426. PLASTI-JACK. Stromberg-Carlson Products, Inc. SN 284,246. Pub. 3-18-69. Filed 11-6-67.

870,427. TERRY-MATIC. Adolph Saurer Limited. SN 285,101. Pub. 3-18-69. Filed 11-17-67.

870,428. ATECO AND DESIGN. American Tractor Equipment Corporation. SN 285,513. Pub. 3-18-69. Filed 11-24-67.

870,429. ONEIDACRAFT. Oneida Ltd. SN 286,772. Pub. 3-18-69. Filed 12-12-67.

870,430. TECHTEX. Techniservice Corporation. SN 288,385. Pub. 3-18-69. Filed 1-8-68.

870,431. ELEC-CRETE-TROL. The Jaeger Machine Company. SN 288,435. Pub. 3-18-69. Filed 1-9-68.

870,432. HYDROLANE. Dallas Smith Engineering Corp. SN 291,494. Pub. 3-18-69. Filed 2-20-68.

870,433. TARTAN. Tartan Industries, Inc. SN 292,029. Pub. 3-18-69. Filed 2-27-68.

870,434. BRIKSAWMATIC. Clipper Manufacturing Company, Inc. SN 293,230. Pub. 3-18-69. Filed 3-14-68.

870,435. LOW PROFILE. U.S. Textile Machine Company. SN 294,098. Pub. 3-18-69. Filed 3-25-68.

870,436. FEDERAL. Federal Press Company. SN 294,607. Pub. 3-18-69. Filed 4-1-68.

870,437. PROFI-MILL. C.R.O. Engineering Co. Inc. SN 294,917. Pub. 3-18-69. Filed 4-4-68.

870,438. SPEEDSCAVEL. Thiokol Chemical Corporation. SN 295,399. Pub. 3-18-69. Filed 4-11-68.

870,439. ZEE-MATIC. National-Spencer, Inc. SN 295,551. Pub. 3-18-69. Filed 4-12-68.

870,440. DURAMAX. The Johnson Rubber Company. SN 296,024. Pub. 3-18-69. Filed 4-19-68.

870,441. KENNAMEX. Kennametal Inc. SN 300,822. Pub. 3-18-69. Filed 6-19-68.

870,442. SABRE. Litton Business Systems, Inc. SN 301,081. Pub. 3-18-69. Filed 6-21-68.

870,443. FIGURE OF MAN. A.J.L. Corporation. SN 301,315. Pub. 3-18-69. Filed 6-25-68.

870,444. ELF. Her Majesty Underwear Company. SN 301,530. Pub. 3-18-69. Filed 6-27-68.

870,445. PORT-A-VAC. American Packaging Corporation. SN 301,687. Pub. 3-18-69. Filed 7-1-68.

870,446. BUHR ECONOMATIC. Buhr Machine Tool Company. SN 301,698. Pub. 3-18-69. Filed 7-1-68.

870,447. S SIMMS AND DESIGN. T. S. Simms & Co. Limited. SN 301,775. Pub. 3-18-69. Filed 7-1-68.

870,448. R. Rockland, Inc. SN 301,859. Pub. 3-18-69. Filed 7-2-68.

870,449. JOHNSON AND DESIGN. Amsted Industries Incorporated. SN 301,900. Pub. 3-18-69. Filed 7-3-68.

870,450. MATTISON. Mattison Machine Works. SN 302,097. Pub. 3-18-69. Filed 7-5-68.

870,451. BAKER-YORK. Otis Elevator Company. SN 302,442. Pub. 3-18-69. Filed 7-10-68.

870,452. SONY. Sony Corporation. SN 304,829. Pub. 3-18-69. Filed 8-9-68.

870,453. SPEED-EEZ. Marlan Company. SN 311,208. Pub. 3-18-69. Filed 11-4-68.

Class 26 — Measuring and Scientific Appliances

870,454. HYDROFLUID TRIPOD. National Cine Equipment, Inc. SN 266,907. Pub. 3-18-69. Filed 3-16-67.

870,455. FOTOMAT. Werkzeugmaschinenfabrik Oerlikon Bührle & Co. SN 284,258. Pub. 12-24-68. Filed 11-6-67.

870,456. SENTRY. The Bissett-Berman Corporation. SN 285,192. Pub. 3-18-69. Filed 11-20-67.

870,457. RDK AND DESIGN. Argonaut Associates, Inc. SN 285,641. Pub. 3-18-69. Filed 11-27-67.

870,458. PAYCOMP. Mintex, Inc. SN 285,932. Pub. 3-18-69. Filed 11-30-67.

870,459. MARTIN WELLS. Martin Wells Pty. Limited. SN 292,115. Pub. 3-18-69. Filed 2-28-68.

870,460. CCA AND DESIGN. Computer Corporation of America. SN 292,261. Pub. 3-18-69. Filed 3-1-68.

Class 27 — Horological Instruments

870,461. MEMODATE. Le Coultre Watches, Inc. SN 285,029. Pub. 3-18-69. Filed 11-16-67.

870,462. MEMOVOX. Le Coultre Watches, Inc. SN 285,030. Pub. 3-18-69. Filed 11-16-67.

870,463. MISCELLANEOUS DESIGN. Benrus Watch Company, Inc. SN 288,423. Pub. 3-18-69. Filed 1-9-68.

870,464. SICATRON. Montres Sicura S.A. SN 290,005. Pub. 3-18-69. Filed 1-31-68.

870,465. JACQUES CARPENTIER. United States Sales Corp. SN 295,574. Pub. 3-18-69. Filed 4-12-68.

870,466. PACER. Benrus Watch Company, Inc. SN 296,099. Pub. 3-18-69. Filed 4-22-68.

870,467. THUNDERBIRD. Benrus Watch Company, Inc. SN 296,101. Pub. 3-18-69. Filed 4-22-68.

870,468. CRTR. Carter Case Inc. MULTIPLE CLASS (Classes 27 and 28). SN 298,196. Pub. 3-18-69. Filed 5-15-68.

Class 28 — Jewelry and Precious-Metal Ware

870,468. (See Class 27 for this trademark.)

870,469. LOVALIER. The Richelieu Corp. SN 254,066. Pub. 3-18-69. Filed 9-8-66.

870,470. BENNINGTON. Oneida Ltd. SN 285,751. Pub. 3-18-69. Filed 11-28-67.

870,471. GOLDEN WEAVE. Textron Inc. SN 301,275. Pub. 3-18-69. Filed 6-24-68.

870,472. MINI DOT AND DESIGN. Mida Mfg. Inc. SN 301,854. Pub. 3-18-69. Filed 7-2-68.

870,473. MICRO DOT AND DESIGN. Mida Mfg. Inc. SN 301,855. Pub. 3-18-69. Filed 7-2-68.

870,474. CALIENTE. Carole Accessories, d.b.a. Carole, Inc. SN 309,420. Pub. 3-18-69. Filed 10-11-68.

Class 30 — Crockery, Earthenware, and Porcelain

870,475. ROYAL COPENHAGEN DENMARK AND DESIGN. Den Kongelige Porcelainsfabrik A/S. SN 283,639. Pub. 3–18–69. Filed 10–30–67.

870,476. RENAISSANCE. Interpace Corporation, by change of name from International Pipe & Ceramics Corporation. SN 287,364. Pub. 3–18–69. Filed 12–21–67.

Class 31 — Filters and Refrigerators

870,357. (See Class 19 for this trademark.)

870,477. AEC AND DESIGN. Application Engineering Corporation. SN 289,379. Pub. 3–18–69. Filed 1–23–68.

870,478. BREW 'N TOSS BLICKMAN AND DESIGN. S. Blickman, Inc. SN 294,575. Pub. 3–18–69. Filed 4–1–68.

Class 32 — Furniture and Upholstery

870,285. (See Class 2 for this trademark.)

870,479. CAMEO SUPREME. National Mattress Company. SN 299,037. Pub. 3–18–69. Filed 5–24–68.

870,480. STEWARD. Krueger Metal Products, Inc. SN 299,678. Pub. 3–18–69. Filed 6–4–68.

870,481. DIPLOMAT. Krueger Metal Products, Inc. SN 299,680. Pub. 3–18–69. Filed 6–4–68.

870,482. DEPUTY. Krueger Metal Products, Inc. SN 299,681. Pub. 3–18–69. Filed 6–4–68.

870,483. PERMA-MESH. Flex-O-Lators, Inc. SN 307,323. Pub. 3–18–69. Filed 9–13–68.

870,484. DUCKBILL. Young Spring & Wire Corporation. SN 308,168. Pub. 3–18–69. Filed 9–24–68.

Class 33 — Glassware

870,485. CHUG-A-MUG. Anchor Hocking Glass Corporation. SN 268,934. Pub. 1–28–69. Filed 4–12–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

870,486. NESCO. Nelson Sales Company. SN 274,447. Pub. 3–18–69. Filed 6–21–67.

870,487. JETTOR. Jettor Sales Co., Inc. SN 287,918. Pub. 3–18–69. Filed 1–2–68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

870,488. NAPA AND DESIGN. National Automotive Parts Association. SN 264,843. COLLECTIVE MARK. Pub. 3–18–69. Filed 2–16–67.

870,489. W AND DESIGN. The Weatherhead Company. SN 292,521. Pub. 3–18–69. Filed 3–5–68.

Class 36 — Musical Instruments and Supplies

870,385. (See Class 21 for this trademark.)

870,490. TALIESIN. The Frank Lloyd Wright Foundation. MULTIPLE CLASS (Classes 36 and 38). SN 287,850. Pub. 3–18–69. Filed 1–2–68.

870,491. HISSING CYMBAL. The Ohio Art Company. SN 295,758. Pub. 3–18–69. Filed 4–16–68.

870,492. CIRCLE OF SOUND. Zenith Radio Corporation. SN 296,605. Pub. 3–18–69. Filed 4–25–68.

870,493. HUNTER HORN (DESIGN). Bowmar Records, Inc. MULTIPLE CLASS (Classes 36 and 38). SN 301,872. Pub. 3–18–69. Filed 7–3–68.

870,494. TON-KLAR. Chicago Musical Instrument Co. SN 312,432. Pub. 3–18–69. Filed 11–18–68.

870,495. JOLLY JACK. Worldwide Musical Instrument Co., Inc. SN 312,713. Pub. 3–18–69. Filed 11–20–68.

Class 37 — Paper and Stationery

870,496. FOLL-O-DEX. Victor Silber. SN 262,208. Pub. 3–18–69. Filed 1–9–67.

870,497. A CLEAN GLASS AND DESIGN. Roll-O-Sheets, Inc. SN 274,775. Pub. 3–18–69. Filed 6–26–67.

870,498. BETTER SELLING THROUGH BETTER PRESENTATION. Sales Tools, Inc. SN 279,863. Pub. 3–18–69. Filed 9–7–67.

870,499. CLASSIC. The Bates Manufacturing Company. SN 285,385. Pub. 2–25–69. Filed 11–22–67.

870,500. STARTONE ROTO. Consolidated Papers, Inc. SN 295,118. Pub. 3–18–69. Filed 4–8–68.

870,501. PATHMARK. Supermarkets General Corporation, by change of name and assignment from Louket Markets, Inc. SN 295,538. Pub. 3–18–69. Filed 4–12–68.

870,502. RHYTHM·WRITER. Capitol Records, Inc. SN 299,809. Pub. 3–18–69. Filed 6–6–68.

Class 38 — Prints and Publications

870,490. (See Class 36 for this trademark.)

870,493. (See Class 36 for this trademark.)

870,503. FREAKOUT! Herbert L. Cohen and Frank (NMI) Zappa (joint owners). SN 259,809. Pub. 3–18–69. Filed 12–1–66.

870,504. AMERICAN DOCUMENTATION. American Society for Information Science, by change of name from American Documentation Institute. SN 277,419. Pub. 3–18–69. Filed 8–3–67.

870,505. KNIT-WIT. Anthony J. Ciroli. MULTIPLE CLASS (Classes 38 and 43). SN 277,628. Pub. 3–18–69. Filed 8–7–67.

870,506. MARVEL. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 277,923. Pub. 3–11–69. Filed 8–9–67.

870,507. MAN'S WORLD. Magazine Management Co., Inc., assignee, by mesne assignment, of Magazine Management Company. SN 278,714. Pub. 2–4–69. Filed 8–21–67.

870,508. CAR LIFE. Bond Publishing Company. SN 279,166. Pub. 12–24–68. Filed 8–28–67.

870,509. THE PHYSICIAN SPEAKS THE VOICE OF MEDICINE AND DESIGN. Blaise F. Alfano. SN 279,352. Pub. 3–18–69. Filed 8–30–67.

870,510. GROW-GUIDE. The Hardy Company. SN 279,555. Pub. 3–18–69. Filed 9–1–67.

870,511. VOICE A CORD AND DESIGN. Margaret D. Wheeler. SN 280,737. Pub. 3–18–69. Filed 9–19–67.

870,512. JOB SCOPE ETC. AND DESIGN. Carlson Publications, Inc. SN 282,436. Pub. 3–18–69. Filed 10–13–67.

870,513. FAMOUS PHOTOGRAPHERS MAGAZINE. Famous Photographers School, Inc. SN 285,827. Pub. 3–18–69. Filed 11–29–67.

870,514. SINGLES CRITIQUE. R. H. Smith, Jr., d.b.a. Smith Enterprises. SN 290,661. Pub. 3–18–69. Filed 2–8–68.

870,515. PARKERCHART. Ike Tennessee Parker. SN 291,766. Pub. 3–18–69. Filed 2–23–68.

870,516. MATTERS OF INTEREST. National Depositors Cooperative Association. SN 291,998. Pub. 3–18–69. Filed 2–27–68.

870,517. CHARMERS. Hallmark Cards, Incorporated. SN 294,622. Pub. 3–18–69. Filed 4–1–68.

870,518. JET LINE AND DESIGN. Vac-Hyd Processing Corporation. SN 298,070. Pub. 3–18–69. Filed 5–13–68.

870,519. THE NITPICKER. CCM: Schaar Scientific, Inc. SN 298,195. Pub. 3–18–69. Filed 5–15–68.

870,520. POST·J. The American Chemical Society. SN 300,512. Pub. 3–18–69. Filed 6–17–68.

870,521. TRAFFIC STOPPERS AND DESIGN. Traffic Stoppers Company. SN 302,779. Pub. 3–18–69. Filed 7–15–68.

870,522. FINGER THINGS. Thomas J. Mullin, d.b.a. The Finger Things Company. SN 303,332. Pub. 3–18–69. Filed 7–22–68.

870,523. DEFIANCE AND DESIGN. Keith Clark, Inc. SN 304,738. Pub. 3–18–69. Filed 8–9–68.

870,524. THERMOSCOPE. Tracor, Inc. SN 305,166. Pub. 3–18–69. Filed 8–14–68.

870,525. CHEMSPHERE. Standard Oil Company. SN 308,078. Pub. 3–18–69. Filed 9–24–68.

870,526. LAZARILLO. McGraw-Hill, Inc. SN 309,142. Pub. 3–18–69. Filed 10–8–68.

Class 39 — Clothing

870,288. (See Class 3 for this trademark.)

870,527. CONFETTI COLLECTION BY LOVE. Joseph Love, Inc. SN 266,054. Pub. 1–14–69. Filed 3–6–67.

870,528. ITALIAN ROOM. Gayar Shoe Corp. SN 281,882. Pub. 3–18–69. Filed 10–5–67.

870,529. GOLDEN DAYS. J. P. Stevens & Co., Inc. SN 285,951. Pub. 3–18–69. Filed 11–30–67.

870,530. MELLOCRAFT. J. P. Stevens & Co., Inc. SN 285,953. Pub. 3–18–69. Filed 11–30–67.

870,531. BEGGARS BUSH. Michaels Stern & Company, Inc. SN 299,738. Pub. 3–18–69. Filed 6–5–68.

870,532. HOLIDAISIES. Union Camp Corporation. SN 303,717. Pub. 3–18–69. Filed 7–26–68.

870,533. THORNGARD. Boss Manufacturing Company. SN 303,981. Pub. 3–18–69. Filed 7–31–68.

870,534. SEAMS-RITE. Becton, Dickinson and Company. SN 310,018. Pub. 3–18–69. Filed 10–21–68.

Class 40 — Fancy Goods, Furnishings, and Notions

870,535. HAIRLON. Franklin Tsu. SN 278,626. Pub. 6–4–68. Filed 8–1–67.

870,536. LOLITA. Sally Beauty Company, Inc. SN 294,527. Pub. 3–18–69. Filed 3–29–68.

870,537. HAIRNEL. Trend Imports Corp. SN 298,765. Pub. 3–18–69. Filed 5–21–68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

870,538. CAPICELLA. Fabrics by Joyce, Inc. SN 300,810. Pub. 1–7–69. Filed 6–19–68.

870,539. SLUMBERON. Allied Stores Corporation. SN 302,029. Pub. 3–18–69. Filed 7–5–68.

Class 43 — Thread and Yarn

870,505. (See Class 38 for this trademark.)

Class 44 — Dental, Medical, and Surgical Appliances

870,285. (See Class 2 for this trademark.)

870,540. AIRSTRIP. T. J. Smith & Nephew, Limited. SN 285,155. Pub. 3–18–69. Filed 11–17–67.

870,541. SPOZAPAD. Foremost-McKesson, Inc., d.b.a. Gentec Hospital Supply Company. SN 288,208. Pub. 3–18–69. Filed 1–5–68.

870,542. SHARP. Hayakawa Electric Co. Ltd. SN 300,591. Pub. 3–18–69. Filed 6–17–68.

870,543. AID-AL. Aamed, Inc. SN 305,177. Pub. 3–18–69. Filed 8–15–68.

870,544. DURA-GRIP. The Lawton Company, Inc. SN 307,746. Pub. 3–18–69. Filed 9–19–68.

870,545. T·STIKS. A. W. Lewin. SN 307,849. Pub. 3–18–69. Filed 9–20–68.

870,546. MAXI-MATE. Simmons Company. SN 308,235. Pub. 3–18–69. Filed 9–25–68.

870,547. SEPTI-SCRUB. W. R. Grace & Co. SN 308,889. Pub. 3–18–69. Filed 10–4–68.

870,548. DUAL FINISH. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 308,920. Pub. 3–18–69. Filed 10–4–68.

870,549. WINDOW-WALL. C. R. Bard, Inc. SN 310,296. Pub. 3–18–69. Filed 10–23–68.

Class 46 — Foods and Ingredients of Foods

870,302. (See Class 6 for this trademark.)

870,550. KENTUCKY. American Home Products Corporation, by merger from E. J. Brach & Sons. SN 178,773. Pub. 5–10–66. Filed 10–11–63.

870,551. FARM (DESIGN). Pet Incorporated, assignee of Sue Ann Food Products Corporation. SN 252,694. Pub. 3–18–69. Filed 8–18–66.

870,552. SHIRA KIKU AND DESIGN. Nishimoto Trading Co., Ltd. SN 265,095. Pub. 3–18–69. Filed 2–20–67.

870,553. NU STAR. A. E. Staley Manufacturing Company, assignee of Morningstar-Paisley, Inc. SN 266,563. Pub. 3–18–69. Filed 3–13–67.

870,554. BODY BUILD. Carnation Company. SN 278,869. Pub. 3–18–69. Filed 8–23–67.

870,555. S (DESIGN). Societe Agricole les Fermiers Reunis des Flandres. SN 281,826. Pub. 3–18–69. Filed 10–4–67.

870,556. DRI-LOK. Green & Green, Inc. SN 283,250. Pub. 3–18–69. Filed 10–24–67.

870,557. MISCELLANEOUS DESIGN. National Federation of Coffee Growers of Colombia. SN 283,543. Pub. 3–18–69. Filed 10–27–67.

870,558. CHESTERFIELD FARMS AND DESIGN. Chesterfield Farms, Inc. SN 285,650. Pub. 3–18–69. Filed 11–27–67.

870,559. EL ALCAZAR. Fabrica de Dulces y Chocolates El Alcazar, S.A. SN 286,422. Pub. 3–18–69. Filed 12–7–67.

870,560. MISCELLANEOUS DESIGN. Borman Food Stores, Inc. SN 287,879. Pub. 3–18–69. Filed 1–2–68.

870,561. MISCELLANEOUS DESIGN. Artel Inc. SN 288,928. Pub. 3–18–69. Filed 1–16–68.

870,562. POGO. Artel Inc. SN 288,929. Pub. 3–18–69. Filed 1–16–68.

870,563. HANCOCK'S COUNTRY BRAND AND DESIGN. Hancock's Old Fashion Country Ham, Inc. SN 289,503. Pub. 3–18–69. Filed 1–24–68.

870,564. PRAIRIE FRIED CHICKEN AND DESIGN. Auto-Dine Corporation, d.b.a. Auto-Dine. SN 291,241. Pub. 3–18–69. Filed 2–16–68.

870,565. TVP. Archer Daniels Midland Company. SN 300,338. Pub. 3–18–69. Filed 6–13–68.

870,566. RANCHETTES. Schweigert Meat Co. SN 300,625. Pub. 3–18–69. Filed 6–17–68.

870,567. DIXIE DUDES. A. H. Robins Company, Incorporated. SN 302,968. Pub. 3–18–69. Filed 7–17–68.

870,568. MANOR HOUSE. Wagner Bros. Feed Corp., d.b.a. Manor House Products. SN 303,848. Pub. 3–18–69. Filed 7–29–68.

870,569. PRIDE PACK AND DESIGN. Larry Celle, d.b.a. Linden Associated Growers. SN 305,368. Pub. 3–18–69. Filed 8–19–68.

870,570. KABOOMS. General Mills, Inc. SN 310,393. Pub. 3–18–69. Filed 10–24–68.

870,571. SUM-FUN. R. J. Reynolds Foods, Inc. SN 310,412. Pub. 3–18–69. Filed 10–24–68.

870,572. PENDEX. Penick & Ford, Limited. SN 310,419. Pub. 3–18–69. Filed 10–24–68.

870,573. X-CELSWEET. Penick & Ford, Limited. SN 310,420. Pub. 3–18–69. Filed 10–24–68.

870,574. PENSWEET. Penick & Ford, Limited. SN 310,422. Pub. 3–18–69. Filed 10–24–68.

Class 47 — Wines

870,575. YAGO SANT'GRIA ESPUMATE AND DESIGN. Bodegas Rioja Santiago, S.A., d.b.a. Rioja Santiago, S.A. SN 291,830. Pub. 3–18–69. Filed 2–26–68.

Class 49 — Distilled Alcoholic Liquors

870,576. ROYAL LABEL. Joseph E. Seagram & Sons, Inc. SN 310,036. Pub. 3–18–69. Filed 10–21–68.

Class 50 — Merchandise Not Otherwise Classified

870,279. (See Class 1 for this trademark.)

870,285. (See Class 2 for this trademark.)

870,577. TIRE TENT. Sales Promotion Products, Inc. SN 303,826. Pub. 3–18–69. Filed 7–29–68.

Class 51 — Cosmetics and Toilet Preparations

870,578. COLOR YOUR LIPS "KISSABLE." Cosmetically Yours, Inc. SN 249,505. Pub. 3–18–69. Filed 7–5–66.

870,579. ISLAND MIST. Island Mists, Ltd. SN 267,041. Pub. 3–18–69. Filed 3–17–67.

870,580. POCKETEER. Avon Products, Inc. SN 274,396. Pub. 3–18–69. Filed 6–21–67.

870,581. DOLLY FACE. Yardley of London, Inc. SN 275,004. Pub. 12–24–68. Filed 6–28–67.

870,582. VOLAR. The Upjohn Company. SN 276,895. Pub. 3–18–69. Filed 7–26–67.

870,583. CANDY. D'Elya, Inc. SN 291,844. Pub. 3–18–69. Filed 2–26–68.

870,584. BURNISHED LEATHER. The Mennen Company. SN 293,395. Pub. 3–18–69. Filed 3–15–68.

870,585. SILK PAJAMAS. American Home Products Corporation. SN 294,568. Pub. 3–18–69. Filed 4–1–68.

870,586. SOUL BROTHER. Stacy, Inc. SN 294,682. Pub. 3–18–69. Filed 4–1–68.

870,587. SPORTS CENTER CELEBRITY. Carley, Inc. SN 296,105. Pub. 2–4–69. Filed 4–22–68.

870,588. CORDUROY. Avon Products, Inc. SN 297,941. Pub. 2–4–69. Filed 5–13–68.

870,589. JON PIERRE. Beauty Industries, Inc. SN 298,498. Pub. 3–18–69. Filed 5–20–68.

870,590. ARGOSY. The Mennen Company. SN 300,720. Pub. 3–18–69. Filed 6–18–68.

870,591. DELICOLORS. Richard Hudnut. SN 301,073. Pub. 3–18–69. Filed 6–21–68.

870,592. MINARET. Avon Products, Inc. SN 301,179. Pub. 3–18–69. Filed 6–24–68.

870,593. SHEER TINT. Helena Rubinstein, Inc. SN 302,895. Pub. 11–12–68. Filed 7–17–68.

870,594. LIKE HOT. The Gillette Company. SN 303,742. Pub. 3–18–69. Filed 7–29–68.

870,595. FASHION SET AND DESIGN. Gem, Incorporated. SN 307,064. Pub. 3–18–69. Filed 9–11–68.

870,596. WASHKINS. Colgate-Palmolive Company. SN 307,707. Pub. 3–18–69. Filed 9–19–68.

870,597. APPLE CHEEKS. Carter-Wallace, Inc. SN 307,920. Pub. 3–18–69. Filed 9–23–68.

Class 52 — Detergents and Soaps

870,302. (See Class 6 for this trademark.)

870,598. FERRODEX. MacDermid of Bristol, Inc. SN 186,370. Pub. 2–2–65. Filed 2–10–64.

870,599. MOELLE GARNIER. Laboratoire Garnier, Societe Anonyme. SN 286,946. Pub. 3–18–69. Filed 12–14–67.

870,600. NAVAL JELLY. Arcane Trading Corporation, d.b.a. Meredith Separator Co. SN 287,443. Pub. 3–18–69. Filed 12–22–67.

870,601. MU–7. Misco Industries, Inc. SN 290,869. Pub. 3–18–69. Filed 2–12–68.

870,602. CHEM-MATE. Madison Chemical Corporation. SN 292,944. Pub. 3–18–69. Filed 3–11–68.

Service Marks

Class 100 — Miscellaneous

870,603. AUTOSCAN. Autoscan, Inc. SN 241,624. Pub. 3–18–69. Filed 3–23–66.

870,604. GHOST SERVICES. S. A. Dansyear, d.b.a. Ghost Services. SN 263,827. Pub. 3–18–69. Filed 2–2–67.

870,605. CHORE-TIME. Chore-Time Equipment, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 267,013. Pub. 3–18–69. Filed 3–17–67.

870,606. PROFESSIONAL NURSING HOMES OF AMERICA AND DESIGN. Professional Nursing Homes of America, Inc. SN 267,446. Pub. 3–18–69. Filed 3–23–67.

870,607. BETTOR WEATHER. Mortimer Russell Dock. SN 267,820. Pub. 3–18–69. Filed 3–30–67.

870,608. MANURE-RAIN. Agpro, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 269,612. Pub. 3–18–69. Filed 4–20–67.

870,609. LUCKY STEER AND DESIGN. Lucky Steer Steak Houses, Inc. SN 275,674. Pub. 3–18–69. Filed 7–10–67.

870,610. MEDICENTER OF AMERICA A NICE PLACE TO GET WELL AND DESIGN. Medicenters of America, Inc. SN 276,847. Pub. 3–18–69. Filed 7–26–67.

870,611. MISCELLANEOUS DESIGN. Comarecs Inc. SN 277,267. Pub. 3–18–69. Filed 8–1–67.

870,612. INTERNATIONAL SHRIMP COUNCIL AND DESIGN. International Shrimp Council, Inc. SN 280,421. Pub. 3–18–69. Filed 9–15–67.

870,613. SUR LE POUCE AND DESIGN. Gaston Wacker. SN 288,042. Pub. 3–18–69. Filed 1–3–68.

870,614. C & S INCORPORATED. Communications and Systems, Incorporated. SN 289,485. Pub. 3–18–69. Filed 1–24–68.

870,615. PH PHILLY HOAGIE ETC. AND DESIGN. Robert T. Mitton, Jr., d.b.a. Philly Hoagie & Steak Shops. SN 290,742. Pub. 3–18–69. Filed 2–9–68.

870,616. SOIL TESTING SERVICES INC AND DESIGN. Soil Testing Services, Inc. SN 294,679. Pub. 3–18–69. Filed 4–1–68.

870,617. AMPROTECTION AND DESIGN. Merck & Co., Inc. SN 295,352. Pub. 3–18–69. Filed 4–10–68.

870,618. SEA HOST AND DESIGN. Sea Host, Inc. SN 298,677. Pub. 3–18–69. Filed 5–21–68.

870,619. MISCELLANEOUS DESIGN. Lachmann, Inc., assignee of Mini-Chef, Inc. SN 301,948. Pub. 3–18–69. Filed 7–3–68.

Class 101 — Advertising and Business

870,620. ACTIVE SIGN COMPANY OF AMERICA ETC. AND DESIGN. William A. Zubbrick, d.b.a. Active Sign Company of America. SN 247,863. Pub. 3–18–69. Filed 6–13–66.

870,621. A VILLAGE REALTY. Barbara Moore Neitz, d.b.a. A Village Realty, and Acreage Brokers of America. SN 269,338. Pub. 3–18–69. Filed 4–17–67.

870,622. FIRST GIRL AND DESIGN. First Girl, Inc. SN 278,960. Pub. 3–18–69. Filed 8–24–67.

870,623. MIDEM. Mip-TV Marche International du Disque et de l'Edition Musicale-International Record and Music Publishing Market. SN 281,906. Pub. 3–18–69. Filed 10–5–67.

870,624. PHARMA-SCRIPTS. Pharma-Scripts, Inc. SN 282,205. Pub. 3–18–69. Filed 10–10–67.

870,625. UNITEL. United Motel Management Corp. SN 286,216. Pub. 3–18–69. Filed 12–4–67.

870,626. CASH ROULETTE. Glendinning Companies, Inc. SN 286,662. Pub. 3–18–69. Filed 12–11–67.

870,627. AO (DESIGN). R.E.L. Enterprises, Inc. SN 294,078. Pub. 3–18–69. Filed 3–25–68.

870,628. GW (DESIGN). General Wholesalers Inc. SN 294,932. Pub. 3–18–69. Filed 4–4–68.

870,629. AL/COM. Applied Logic Corporation. SN 303,736. Pub. 3–18–69. Filed 7–29–68.

Class 102 — Insurance and Financial

870,630. OK CHARGE. Old Kent Bank and Trust Company. SN 280,724. Pub. 3–18–69. Filed 9–19–67.

870,631. FLEXACCOUNT. City Products Corporation, d.b.a. Barker Bros. SN 286,502. Pub. 2–4–69. Filed 12–8–67.

870,632. MISCELLANEOUS DESIGN. The Home Life Insurance Company of America. SN 288,317. Pub. 3–18–69. Filed 1–8–68.

870,633. DIAL-A-QUOTE. Dial A Quote Corp. SN 291,366. Pub. 3–18–69. Filed 2–19–68.

870,634. JH AND DESIGN. John Hancock Mutual Life Insurance Company. SN 296,154. Pub. 3–18–69. Filed 4–22–68.

870,635. U (DESIGN). Northwestern Mutual Insurance Company. SN 300,101. Pub. 3–18–69. Filed 6–10–68.

870,636. P (DESIGN). People's Savings Bank. SN 300,615. Pub. 3–18–69. Filed 6–17–68.

870,637. GOLDEN 65. Continental Casualty Company. SN 302,361. Pub. 3–18–69. Filed 7–10–68.

Class 103 — Construction and Repair

870,605. (See Class 100 for this trademark.)

870,608. (See Class 100 for this trademark.)

870,638. TW. Teer, Wickwire & Company. SN 269,236. Pub. 3–18–69. Filed 4–14–67.

870,639. DYNA CAR CLINIC. Dyna Car Clinic, Incorporated. SN 270,768. Pub. 3–18–69. Filed 5–5–67.

870,640. FMS FLEET MAINTENANCE SERVICE AND DESIGN. Fleet Maintenance Service, Inc. SN 273,753. Pub. 3–18–69. Filed 6–13–67.

870,641. DRIVE WITH CARE AND BUY SINCLAIR. Sinclair Oil Corporation, by merger from Sinclair Refining Company. SN 278,828. Pub. 3–18–69. Filed 8–22–67.

Class 105 — Transportation and Storage

870,642. MISCELLANEOUS DESIGN. Allied Van Lines, Inc. SN 260,808. Pub. 3–18–69. Filed 12–15–66.

870,643. APCOA AND DESIGN. ITT Consumer Services Corporation. SN 264,418. Pub. 4–1–69. Filed 2–10–67.

870,644. UNITOURS. Unitours Inc. SN 294,873. Pub. 3–18–69. Filed 4–3–68.

870,645. SEA-LAND. Sea-Land Service, Inc. SN 310,985. Pub. 3–18–69. Filed 10–31–68.

Class 107 — Education and Entertainment

870,646. SYNCRETISM. Syncretism Productions, Inc. SN 273,126. Pub. 3–18–69. Filed 6–5–67.

870,647. TRAIN DESIGN. National Railroad Institute, Inc. SN 284,226. Pub. 3–18–69. Filed 11–6–67.

870,648. RANCHORAMA. Gold Seal Company. SN 284,368. Pub. 3–18–69. Filed 11–8–67.

870,649. PHYSICIANS JOURNAL OF THE AIR. The National Science Network, Inc. SN 287,454. Pub. 3–18–69. Filed 12–22–67.

870,650. THE RABBLE. Kenneth M. Harris. SN 293,627. Pub. 3–18–69. Filed 3–19–68.

870,651. THE FREE DESIGN. Almitra Music Co., Inc. SN 296,935. Pub. 3–18–69. Filed 4–30–68.

870,652. NEW YORK RANGERS AND DESIGN. Madison Square Garden Corporation. SN 299,635. Pub. 3–18–69. Filed 6–4–68.

870,653. WHITE HELMET (DESIGN). Chicago Cardinals Football Club, d.b.a. St. Louis Football Cardinals. SN 302,554. Pub. 3–18–69. Filed 7–12–68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

870,682. Middlebrooke-Lancaster, Inc., Brooklyn, N.Y. SN 282,910. Filed P.R. 10–19–67; Am. S.R. 2–5–69.

LADY MIDDLEBROOKE

Class 51—Cosmetics and Toilet Preparations

For Face Cream, Perfume, Cologne and Toilet Water (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Oct. 12, 1967.

SECTION 2

Class 1 — Raw or Partly Prepared Materials

870,654. Asgrow Seed Company (Delaware corporation), Orange, Conn., assignee of Asgrow Seed Company (Connecticut corporation), Orange, Conn. SN 285,104. Filed P.R. 11–17–67; Am. S.R. 12–10–68.

VIGORIZED

For Vegetable Seed (Int. Cl. 31).
First use Aug. 14, 1967.

870,655. Rutland Fire Clay Company, Rutland, Vt. SN 297,150. Filed P.R. 5–2–68; Am. S.R. 2–12–69.

HOBBY PLASTER

The word "Plaster" is disclaimed apart from the mark as shown.

For Plaster of Paris Used for Making Moldings, Castings, Sculptures and the Like (Int. Cl. 28).
First use Aug. 5, 1966.

870,658. Virginia Chemicals Inc., West Norfolk, Va. SN 290,668. Filed 2–12–69.

"EXACT CONTROL" TEST STRIPS

For Test Strips for Scale Remover Cleaning Solutions (Int. Cl. 1).
First use Jan. 22, 1968.

870,659. Roselawn Laboratories, Inc., Miami, Fla. SN 310,033. Filed P.R. 10–21–68; Am. S.R. 2–17–69.

DRI-VIAL

For Diagnostic Reagents for Laboratory and Clinical Biochemistry (Int. Cl. 1).
First use September 1967.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

870,656. Enger-Kress Company, West Bend, Wis. SN 285,125. Filed P.R. 11–17–67; Am. S.R. 2–20–69.

SUPER SKINNY

For Men's and Women's Billfolds of Leather, Cloth or Like Material (Int. Cl. 18).
First use Nov. 7, 1967.

Class 6 — Chemicals and Chemical Compositions

870,657. Elmo F. Brennom, d.b.a. Rol-Products, Rockford, Ill. SN 277,622. Filed P.R. 8–7–67; Am. S.R. 10–4–68.

NO-BUBBLE

For Liquid Chemical Composition for Application to Wax Dental Patterns In Order To Condition the Patterns So As To Adhesively Receive Casting Investment Material Therearound and Also To Prevent Bubble Formation After Investment of the Patterns in the Casting Investment Material (Int. Cl. 5).
First use on or about June 15, 1967.

Class 12 — Construction Materials

870,660. The Flintkote Company, New York, N.Y. SN 253,302. Filed P.R. 8–29–66; Am. S.R. 2–12–69.

STUKO-BAK

For Asphalt-Saturated Felt and Kraft Paper Sheet Materials (Int. Cl. 19).
First use prior to Dec. 31, 1955.

870,661. Interoceanic Commodities Corporation, d.b.a. Henry Weis Manufacturing Co., Elkhart, Ind. SN 261,298. Filed P.R. 12–22–66; Am. S.R. 1–25–68.

WEIS

The word "Weis" is a German word meaning "wise." Owner of Reg. Nos. 538,536 and 564,015.

For Metal Partitions and Doors, and Shower and Toilet Compartments (Int. Cl. 6).
First use Nov. 15, 1966.

Class 16 — Protective and Decorative Coatings

870,662. James E. Swett, d.b.a. California Coatings Co., San Francisco, Calif. SN 271,658. Filed P.R. 5–16–67; Am. S.R. 1–16–69.

gun kote

For Vinyl Phenolic Protective Coating for Firearms (Int. Cl. 2).
First use Feb. 14, 1966.

Class 17 — Tobacco Products

870,663. Peterson's Ltd., Inc., New York, N.Y. SN 300,961. Filed P.R. 6–20–68; Am. S.R. 1–13–69.

TABACALERA

For Cigars (Int. Cl. 34).
First use 1962.

Class 21 — Electrical Apparatus, Machines, and Supplies

870,664. Fedtro, Inc., Rockville Centre, N.Y. SN 310,279. Filed P.R. 10–23–68; Am. S.R. 1–31–69.

POLICE ALARM

For Electric Automobile Passenger Alarms (Int. Cl. 12).
First use Jan. 16, 1968.

Class 22 — Games, Toys, and Sporting Goods

870,665. Hasbro Industries, Inc., Pawtucket, R.I., by change of name from Hassenfeld Bros. Inc., Pawtucket, R.I. SN 269,883. Filed P.R. 4–24–67; Am. S.R. 1–21–69.

LETTER STICKS

For Equipment Sold as a Unit for Playing a Toy Word Game (Int. Cl. 28).
First use on or about Oct. 12, 1966.

870,666. Milton Bradley Company, Springfield, Mass. SN 280,008. Filed P.R. 9–11–67; Am. S.R. 1–16–69.

JIGSAW PUZZLE CADDY

For Packaging Device Permitting the Transporting and Storing of a Jig Saw Puzzle (Int. Cl. 28).
First use May 1, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

870,667. Arthur W. Alexander and Elsie M. Alexander (joint owners), d.b.a. Crank Shaft Co., Los Angeles, Calif. SN 264,007. Filed P.R. 2–6–67; Am. S.R. 2–10–69.

SIDE SLOT

For Pistons (Int. Cl. 7).
First use May 27, 1966.

870,668. Edward W. Schultz, Homewood, Ill. SN 282,480. Filed P.R. 10–13–67; Am. S.R. 2–6–69.

DUNG HOE

For Waste Removal Scoops (Int. Cl. 8).
First use July 20, 1967.

870,669. John Scaduto, d.b.a. Slater Screw Machine Tool Company, Warren, Mich. SN 290,195. Filed P.R. 2–2–68; Am. S.R. 2–13–69.

SLATER

For All Types of Tooling for Automatics and Turret Lathes and Chuckers—Namely, Shave Tool Holders, Recess Tool Holders, Knurling Tool Holders, Dovetail Tool Holders, Shaving Supports, and Recess Milling Attachments (Int. Cl. 7).
First use March 1966.

Class 26 — Measuring and Scientific Appliances

870,670. Plastic Spectacle Lens Company, Inc., Raleigh, N.C. SN 263,290. Filed P.R. 1–25–67; Am. S.R. 3–11–69.

PARABOLOID

For Contact Lens (Int. Cl. 9).
First use on or about Jan. 1, 1966.

Class 29 — Brooms, Brushes, and Dusters

870,671. Paul D. Crawford, d.b.a. Crawford Industries, Brown Deer, Wis. SN 292,083. Filed P.R. 2–28–68; Am. S.R. 2–27–69.

CLUB 'N SPIKE CLEANER

For Bottle and Brush Assembly Used for Cleaning Golf Clubs and Golf Spikes (Int. Cl. 21).
First use Sept. 1, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

870,672. Kast-Kap Company, Kansas City, Mo. SN 268,499. Filed P.R. 4-6-67 ; Am. S.R. 9-3-68.

KAST-KAP

For Orthopedic Toe Sock (Int. Cl. 10).
First use Mar. 24, 1967.

Class 46 — Foods and Ingredients of Foods

870,673. Sanyo Shokuhin Kabushiki Kaisha, Maebashi, Japan. SN 256,139. Filed P.R. 10-10-66 ; Am. S.R. 2-25-69.

NAGASAKI TANMEN

Applicant disclaims any exclusive right to the term "Tanmen" apart from the mark as shown.

For Noodles and a Soup Base Sold as a Single Unit (Int. Cl. 30).

First use August 1964 ; in commerce May 25, 1965.

870,674. R.G.B. Laboratories, Inc., Kansas City, Mo. SN 264,368. Filed P.R. 2-10-67 ; Am. S.R. 2-12-69.

REAL WHIP

For Non-Dairy Whipped Topping for Use Primarily on Desserts (Int. Cl. 30).
First use Jan. 16, 1967.

870,675. Virginia Holsum Bakeries, Inc., Bluefield, W. Va. SN 290,117. Filed P.R. 2-1-68 ; Am. S.R. 3-6-69.

FROSTY DUNKERS

For Doughnuts (Int. Cl. 30).
First use on or about Sept. 1, 1966.

870,676. General Foods Corporation, White Plains, N.Y. SN 293,120. Filed P.R. 3-13-68 ; Am. S.R. 3-4-69.

LIGHT-CAL

For Reduced Calorie Frozen Fruits (Int. Cl. 5).
First use Feb. 28, 1968.

870,677. O'Donnell-Usen Fisheries Corporation, Boston, Mass. SN 295,757. Filed P.R. 4-16-68 ; Am. S.R. 3-7-69.

KRUNCHEE

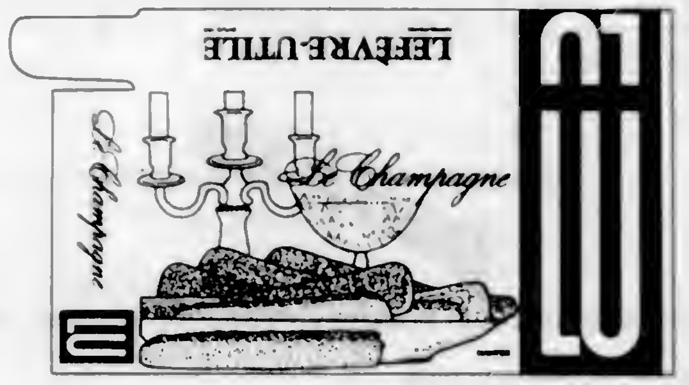
For Frozen Fish Fillets (Int. Cl. 29).
First use Jan. 23, 1968.

870,678. Hartz Mountain Products Corp., New York, N.Y. SN 309,454. Filed 10-11-68.

SNACK SACK

For Bird Food (Int. Cl. 31).
First use Oct. 2, 1967.

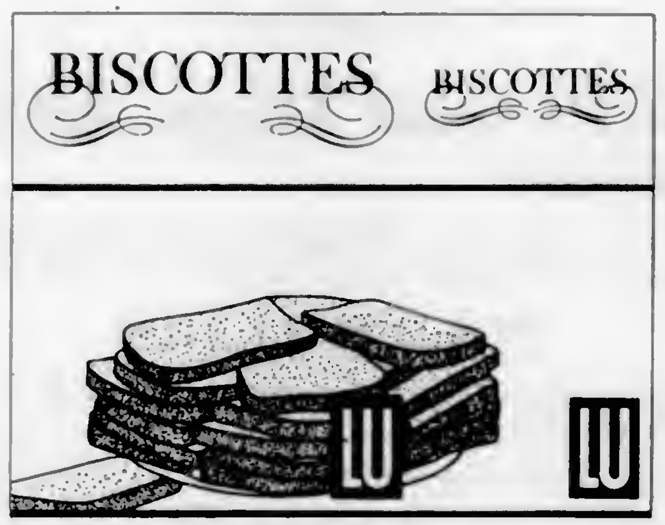
870,679. Lefevre-Utile, Nantes (Loire Atlantique), France. SN 310,570. Filed 10-25-68.



The French words "Le Champagne" can be translated as "the champagne." Owner of French Reg. No. 11,222, dated May 14, 1964 ; and U.S. Reg. Nos. 623,642, 767,938, and 767,939.

For Biscuits and Cookies (Int. Cl. 30).

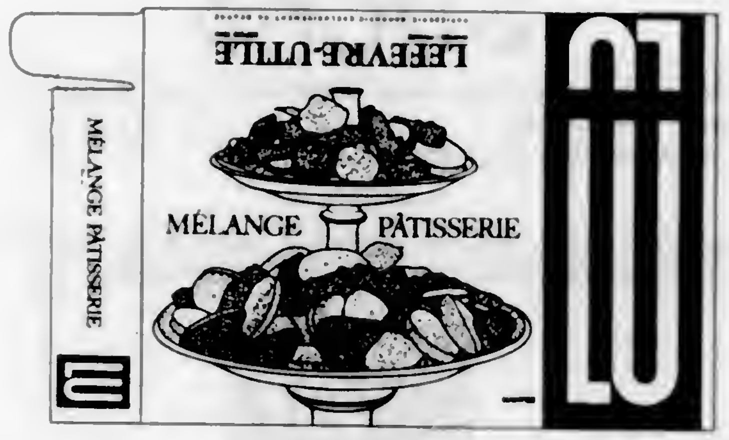
870,680. Lefevre-Utile, Nantes (Loire Atlantique), France. SN 310,571. Filed 10-25-68.



The French word "Biscottes" is the French equivalent of "zwieback." Owner of French Reg. No. 11,223, dated May 14, 1964 ; and U.S. Reg. Nos. 623,642, 767,938, and 767,939.

For Zwieback (Int. Cl. 30).

870,681. Lefevre-Utile, Nantes (Loire Atlantique), France. SN 310,572. Filed 10-25-68.



The French words "Melange Patisserie" can be translated as "pastry mixture." Owner of French Reg. No. 11,270, dated Sept. 18, 1964 ; and U.S. Reg. Nos. 623,642, 767,938, and 767,939.

For Cookies and Biscuits (Int. Cl. 30).

Class 51 — Cosmetics and Toilet Preparations

870,682. See Section 1 (Combined Certificate).

870,683. Richard Hudnut, Morris Plains, N.J. SN 289,611. Filed P.R. 1-25-68 ; Am. S.R. 2-28-69.

SUMMERSHINE

For Lipstick (Int. Cl. 3).
First use Jan. 17, 1968.

870,684. Richard Hudnut, Morris Plains, N.J. SN 289,614. Filed P.R. 1-25-68 ; Am. S.R. 2-28-69.

BOMBASTICKS

For Lipstick (Int. Cl. 3).
First use Jan. 17, 1968.

870,685. Estee Lauder Incorporated, New York, N.Y. SN 293,369. Filed P.R. 3-15-68 ; Am. S.R. 3-6-69.

SUPER PERFUME

For Perfume (Int. Cl. 3).
First use Feb. 29, 1968.

Class 52 — Detergents and Soaps

870,682. See Section 1 (Combined Certificate).

870,686. J. D. Benson Corporation, Highland Park, Ill. SN 286,081. Filed P.R. 12-4-67 ; Am. S.R. 2-24-69.

CABINET CARE

For Combined Preparation for Cleaning and Preserving Wood (Int. Cl. 3).

First use on or about Nov. 15, 1967.

870,687. J. D. Benson Corporation, Highland Park, Ill. SN 286,083. Filed P.R. 12-4-67 ; Am. S.R. 2-24-69.

PANEL CARE

For Combined Preparation for Cleaning and Preserving Wood (Int. Cl. 3).

First use on or about Nov. 15, 1967.

870,688. La Chemise Lacoste, Paris, France. SN 303,175. Filed P.R. 7-19-68 ; Am. S.R. 2-13-69.

LACOSTE

Priority claimed under Sec. 44(d) on French Reg. No. 740,211, dated Apr. 24, 1968.

For Toilet Soaps (Int. Cl. 3).

Service Marks

Class 100 — Miscellaneous

870,689. Automatic Retailers of America, Inc., Philadelphia, Pa. SN 276,524. Filed P.R. 7-21-67 ; Am. S.R. 12-12-68.

COFFEE SYSTEM

For Providing Coffee to Business, Industry, Schools, Colleges, Hospitals and the Like, By means of Installed and Serviced Equipment Provided With Operational Ingredients for Producing Hot Coffee (Int. Cl. 42).

First use Oct. 17, 1966.

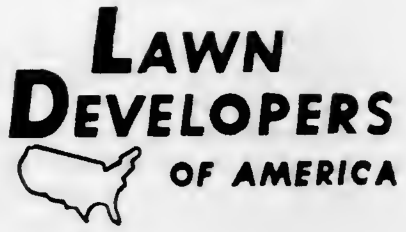
870,690. National Distillers and Chemical Corporation, New York, N.Y. SN 285,935. Filed P.R. 11-30-67 ; Am. S.R. 11-6-68.

Pay-As-You-Package

For Leasing Plastic Containers and Contamination Detection Apparatus (Int. Cl. 42).

First use Aug. 24, 1967.

870,691. L.D.A. Incorporated, Hialeah, Fla. SN 299,237. Filed P.R. 5-28-68 ; Am. S.R. 3-4-69.



For Lawn Care Service (Int. Cl. 42).
First use on or about Aug. 1, 1967.

Class 101 — Advertising and Business

870,692. Dimensional Lithographers, Inc., New York, N.Y. SN 301,126. Filed P.R. 6-24-68 ; Am. S.R. 2-7-69.

KWIK KOLOR

For Printing and Lithography (Int. Cl. 35).
First use Jan. 18, 1968.

TRADEMARK REGISTRATIONS RENEWED

72,247. HEYDEN. Cl. 1 (Int. Cl. 5). 1-12-09.
73,099. DOMINO. Cl. 46 (Int. Cl. 30). 3-16-09.
73,124. JOB. Cl. 8 (Int. Cl. 34). 3-16-09.
73,155. SOAMIN. Cl. 6 (Int. Cl. 5). 3-23-09.
73,834. MARVEL. Cl. 2 (Int. Cl. 16). 5-25-09.
74,002. SAVARIN. Cl. 46 (Int. Cl. 30). 6-8-09.
74,153. SACKETT. Cl. 12 (Int. Cl. 19). 6-22-09.
74,710. REPRESENTATION OF RUNNING HARE. Cl. 23 (Int. Cl. 8). 8-3-09.
74,984. LAGOLINE. Cl. 16 (Int. Cl. 2). 8-24-09.
75,266. BAKELITE. Cl. 6 (Int. Cl. 1). 9-14-09.
250,601. "KNIGHT-O-REST" AND RECTANGULAR DESIGN. Cl. 32 (Int. Cl. 20). 12-11-28.
250,771. CHRYSON'S. Cl. 38 (Int. Cl. 16). 12-18-28.
250,772. KING SOLOMON. Cl. 46 (Int. Cl. 29). 12-18-28.
250,846. CHRYSON'S. Cl. 37 (Int. Cl. 16). 12-18-28.
250,855. GUMPTION. Cl. 52 (Int. Cl. 3). 12-18-28.
250,908. "EP" AND DIAMOND DESIGN. Cl. 28 (Int. Cl. 14). 12-18-28.
252,023. CENTURY. Cl. 38 (Int. Cl. 16). 1-22-29.
252,469. "ARCHCREST" AND DESIGN. Cl. 39 (Int. Cl. 25). 2-5-29.
252,957. "THERMOGUIDE" AND DESIGN. Cl. 26 (Int. Cl. 9). 2-19-29.
253,644. DELCO. Cl. 21 (Int. Cl. 9). 3-5-29.

253,833. WHERE STYLE BEGINS. Cl. 39 (Int. Cl. 25). 3-5-29.
254,005. TRICOSAL. Cl. 12 (Int. Cl. 19). 3-12-29.
254,581. REPRESENTATION OF MAN AND BOTTLE. Cl. 45 (Int. Cl. 32). 3-26-29.
254,900. FORD. Cl. 5 (Int. Cl. 12). 4-2-29.
255,490. ACE HI. Cl. 46 (Int. Cls. 30 and 31). 4-23-29.
255,582. "GREAT LAKES" AND DESIGN. Cl. 19 (Int. Cl. 12). 4-23-29.
256,125. SUDSMOR. Cl. 52 (Int. Cl. 3). 5-7-29.
256,511. EVERSEAL. Cl. 16 (Int. Cl. 2). 5-21-29.
256,622. AVIATOR. Cl. 22 (Int. Cl. 16). 5-21-29.
257,016. AFTERGLOW. Cl. 51 (Int. Cl. 3). 5-28-29.
257,320. THE CHEMIST. Cl. 38 (Int. Cl. 16). 6-4-29.
257,661. NUFORZA. Cl. 15 (Int. Cl. 4). 6-18-29.
257,856. TRIUMPH. Cl. 22 (Int. Cl. 16). 6-18-29.
258,625. SUPERSOL. Cl. 16 (Int. Cl. 2). 7-9-29.
259,194. STARLIGHT. Cl. 51 (Int. Cl. 3). 7-23-29.
259,195. TRAWLER. Cl. 46 (Int. Cl. 29). 7-23-29.
260,092. MIRACLE. Cl. 46 (Int. Cl. 31). 8-13-29.
260,263. TIDEWATER. Cl. 46 (Int. Cl. 29). 8-20-29.
260,553. FRU-TEE. Cl. 45 (Int. Cl. 32). 8-27-29.
260,673. NU-ART. Cl. 50 (Int. Cl. 16). 8-27-29.
260,725. THE AERONAUT. Cl. 27 (Int. Cl. 14). 8-27-29.
442,650, DURALOY ETC. AND DESIGN. Cl. 14 (Int. Cl. 6). 5-10-49.
442,934. CA-SAL. Cl. 46 (Int. Cl. 30). 6-21-49.
443,090. TOOLGRAPH. Cl. 26 (Int. Cl. 9). 7-12-49.
443,199. PH^{4} AND DESIGN. Cl. 18 (Int. Cl. 5). 8-9-49.
502,623. TROXEL AND DESIGN. Cl. 19 (Int. Cl. 12). 10-5-48.
504,106. STERLING. Cl. 31 (Int. Cl. 11). 11-23-48.
504,313. FLASH A CALL AND DESIGN. Cl. 21 (Int. Cl. 9). 11-30-48.
506,096. PI. Cl. 38 (Int. Cl. 16). 1-25-49.
506,204. IN LINE. Cl. 40 (Int. Cl. 26). 2-1-49.
506,482. SPEER AND DESIGN. Cl. 21 (Int. Cl. 9). 2-8-49.
506,877. SUNFLOUR AND DESIGN. Cl. 46 (Int. Cl. 30). 2-22-49.
506,924. INKY. Cl. 46 (Int. Cl. 31). 2-22-49.
507,032. THE BARRISTER. Cl. 17 (Int. Cl. 34). 2-22-49.
507,074. WEST RIDING. Cl. 42 (Int. Cl. 24). 2-22-49.
507,161. 110 PER CENTER. Cl. 39 (Int. Cl. 25). 3-1-49.
507,162. IMMACULATE MAC. Cl. 39 (Int. Cl. 25). 3-1-49.
507,385. DR. GEORGE W. CARVER CURTIS AND DESIGN. Cl. 46 (Int. Cl. 29). 3-8-49.
507,394. DREAM. Cl. 40 (Int. Cl. 8). 3-8-49.
507,419. AUNT ELLEN'S. Cl. 40 (Int. Cl. 16). 3-8-49.
507,435. ANNULAR BAND (BLUE). Cl. 6 (Int. Cls. 1 and 3). 3-8-49.
507,436. RECTANGULAR BAND. Cl. 6 (Int. Cls. 1 and 3). 3-8-49.
507,550. DR. GEORGE W. CARVER CURTIS AND DESIGN. Cl. 51 (Int. Cls. 3 and 5). 3-15-49.
507,559. CTS. Cl. 21 (Int. Cl. 9). 3-15-49.
507,567. REPRESENTATION OF A COW. Cl. 46 (Int. Cl. 1). 3-15-49.
507,580. RANGER. Cl. 23 (Int. Cl. 16). 3-15-49.
507,595. IVERS-LEE. Cl. 23 (Int. Cl. 7). 3-15-49.
507,645. ALTERNATE. Cl. 46 (Int. Cl. 31). 3-15-49.
507,646. BLUE PETER. Cl. 46 (Int. Cl. 29). 3-15-49.
507,668. FRESH. Cl. 51 (Int. Cl. 5). 3-15-49.
507,820. MILFORD. Cl. 23 (Int. Cl. 8). 3-22-49.
507,925. GY-KIL. Cl. 6 (Int. Cl. 5). 3-22-49.
508,010. NO-SHOK. Cl. 21 (Int. Cls. 9 and 11). 3-22-49.
508,053. THE DATED. Cl. 39 (Int. Cl. 25). 3-29-49.
508,079. SURESWEET. Cl. 46 (Int. Cl. 32). 3-29-49.
508,091. RILEY AND DESIGN. Cl. 19 (Int. Cl. 12). 3-29-49.
508,146. RECTOTRUCK. Cl. 21 (Int. Cl. 9). 4-5-49.
508,225. SIMPLICITY. Cl. 38 (Int. Cl. 16). 4-5-49.
508,260. CLEX. Cl. 42 (Int. Cl. 24). 4-5-49.
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748,248. MM MASS MARKETING. Cl. 38.
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784,323. TELSTAR. Cl. 21. 2-2-65.
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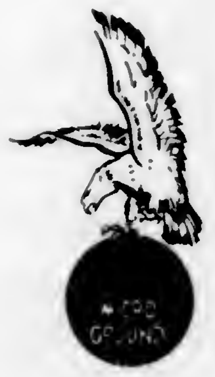
TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

442,099. PESTMASTER. Cl. 6. 2–22–49. Michigan Chemical Corporation, St. Louis, Mich. Amended: In the statement, column 1, lines 7 and 8 "in powder form used for the control of insects" is deleted.

513,992. MICRO GROUND AND DESIGN. Cl. 23. 8–23–49. Loring Coes Company, Worcester, Mass. Amended to appear:



515,545. KIDDE AND DESIGN. Cls. 2, 6, 21, 23, and 26. 9–27–49. Walter Kidde & Company, Inc., Belleville, N.J. Amended: In the statement, column 1, line 17, the comma, first occurrence is deleted and *and* is inserted, and in lines 17, 18 and 19, "and chemical preparations used in the treatment of fibrous materials," is deleted.

688,341. OFFICIAL STEAMSHIP GUIDE INTERNATIONAL. Cl. 38. 11–17–59. Transportation Guides, Inc., New York, N.Y. Amended to appear:

Official
Steamship Guide
International

764,042. MR. BLUE LAKE. Cl. 46. 1–28–64. Associated Blue Lake Green Bean Canners, Inc., Portland, Oreg. Corrected: In the statement, column 1, line 2, "association" should be deleted and *corporation* should be inserted.

804,090. THRAX. Cl. 6. 2–22–66. Madison Chemical Corporation, Maywood, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.

865,120. A WORLD OF PROTECTION AND DESIGN. Cl. 102. 2–18–69. Meridian Mutual Insurance Company, Indianapolis, Ind. Corrected: In the statement, column 2, line 2, after "owners" *, farmowners and automobile* should be inserted.

867,683. AUT-O-TER. Cl. 52. 4–1–69. Aut-O-Kar Wash Corporation, by change of name from Automatic Car Wash Distributors, Inc., Dallas, Tex. Corrected: In the statement, column 1, line 1, "Auto" should be deleted and *Aut* should be inserted.

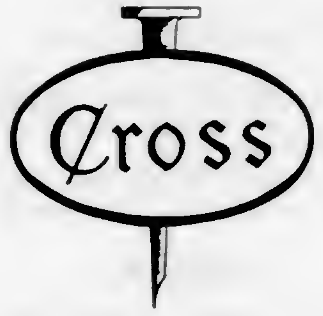
867,876. NKF AND DESIGN. Cl. 26. 4–8–69. N.V. Nederlandsche Kabelfabrieken, Delft, Netherlands. Corrected: In the statement, column 1, line 3, "Delt" should be deleted and *Delft* should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

286,989. Sept. 8, 1931. W. W. Cross & Company, Incorporated, Portland, Maine. Pub. by Emhart Corporation, Bloomfield, Conn.



For Tacks.

Class 15 — Oils and Greases

178,279. Jan. 8, 1924. The Battenfeld Grease & Oil Company, Kansas City, Mo. Pub. by Southwest Grease & Oil Co. (Kansas City), Inc., Kansas City, Mo.

Bat's

For Lubricating Grease.

Class 18 — Medicines and Pharmaceutical Preparations

391,170. Oct. 28, 1941. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

KAPSEALS

For Preparation Used in Treatment of Heart Conditions, etc.

Class 19 — Vehicles

441,301. Nov. 16, 1948. Lockheed Aircraft Corporation, Burbank, Calif. Pub. by registrant.

STARLINER

For Airplanes and Structural Parts Therefor (Int. Cl. 12).

Class 39 — Clothing

398,284. Oct. 20, 1942. Sterling Hosiery Company, Chicago, Ill. Pub. by Heyman Distributing Co., Chicago, Ill.

wiggle your toes
in
Sterling
HOSE

For Men's, Women's and Children's Hosiery.

Class 46 — Foods and Ingredients of Foods

255,735. Apr. 30, 1929. Cadbury Brothers, Limited, Bournville, Birmingham, England. Pub. by registrant.

BOURNVILLE

For Chocolate (Int. Cl. 30).

Class 51 — Cosmetics and Toilet Preparations

347,733. July 6, 1937. Jean Jordeau, Inc., South Orange, N.J. Pub. by Estee Lauder, Incorporated, New York, N.Y.

CAMOUFLAGE

For Face Powders and Talcum Powders.

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JUNE 3, 1969

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A.J.L. Corp., New York, N.Y. 870,443, pub. 3–18–69. Cl. 23.
AV Co. : *See*—
  Briney, Bert H.
Aamed, Inc., Forest Park, Ill. 870,543, pub. 3–18–69. Cl. 44.
Abbott Laboratories, North Chicago, Ill. 870,309, pub. 3–18–69. Cl. 6.
Abrasive Products, Inc., South Braintree, Mass. 870,294, pub. 3–18–69. Cl. 4.
Acco Products : *See*—
  Gary Industries, Inc.
Acreage Brokers of America : *See*—
  Neitz, Barbara M.
Active Sign Co. of America : *See*—
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Addison-Semmes Corp., Racine, Wis. 748,236, canc. Cl. 37.
Advance Productions, Inc., Kansas City, Mo. 748,212, canc. Cl. 107.
Advance Seed Co., Phoenix, Ariz., to Ferry-Morse Seed Co., Mountain View, Calif. 511,749, ren. 6–3–69. Cl. 1.
Agpro, Inc., Santa Rosa, Calif. 870,608, pub. 3–18–69. Multiple Class (Classes 100 and 103).
Agway, Inc., De Witt, N.Y. 870,354. Cl. 18.
Air Reduction Co., Inc. : *See*—
  Speer Carbon Co.
Airfloat Corp., from Vega Enterprises, Decatur, Ill. 870,359, pub. 3–18–69. Cl. 19.
Alexander, Arthur W., and Elsie M. Alexander, d.b.a. Crank Shaft Co., Los Angeles, Calif. 870,667. Cl. 23.
Alfano, Blaise F., Melrose, Mass. 870,509, pub. 3–18–69. Cl. 38.
Allen, David D., d.b.a. Enhance Fashion Wigs, Bergenfield, N.J. 745,531, canc. Cl. 40.
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Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden. 870,369, pub. 9–10–68. Cl. 21.
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  Fontaine Truck Equipment Co., Inc.
Amchem Products, Inc., Ambler, Pa. 870,303, pub. 3–4–69. Cl. 6.
American Abrasive Co., Westfield, Mass. 870,293, pub. 3–18–69. Cl. 4.
American Can Co., New York, N.Y. 747,996, canc. Cl. 2.
American Chemical Society, The, Washington, D.C. 870,520, pub. 3–18–69. Cl. 38.
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American Home Products, New York, N.Y., from E. J. Brach & Sons, Chicago, Ill. 870,550, pub. 5–10–66. Cl. 46.
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American Home Products Corp., New York, N.Y. 870,585, pub. 3–18–69. Cl. 51.
American Institute of Chemists, Inc., The, New York, N.Y. 257,320, ren. 6–3–69. Cl. 38.
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American Lacquer Solvents Co., Valley Forge, Pa. 514,197, ren. 6–3–69. Cl. 52.
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American Tobacco Co., The, New York, N.Y. 870,347, pub. 3–18–69. Cl. 17.
American Tractor Equipment Corp., Oakland, Calif. 870,428, pub. 3–18–69. Cl. 23.
Ampa, Inc., Charlottesville, Va. 748,103, canc. Cl. 32.
Ampco Metal, Inc., Milwaukee, Wis. 510,185, ren. 6–3–69. Cl. 13.
Amsted Industries Inc., Chicago, Ill. 870,449, pub. 3–18–69. Cl. 23.
Anchor Hocking Glass Corp., Lancaster, Ohio. 870,485, pub. 1–28–69. Cl. 33.
Andrey, Gaston, Inc., Watertown, Mass. 870,361, pub. 3–18–69. Cl. 19.
Application Engineering Corp., Elk Grove Village, Ill. 870,477, pub. 3–18–69. Cl. 31.
Applied Logic Corp., Princeton, N.J. 870,629, pub. 3–18–69. Cl. 101.
Arcane Trading Corp., d.b.a. Meredith Separator Co., Kansas City, Mo. 870,600, pub. 3–18–69. Cl. 52.
Archer Daniels Midland Co., Minneapolis, Minn. 870,565, pub. 3–18–69. Cl. 46.
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Armour Pharmaceutical Co., Chicago, Ill. 870,350, pub. 2–4–69. Cl. 18.
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Asgrow Seed Co., from Asgrow Seed Co., Orange, Conn. 870,654. Cl. 1.
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  Worobey, Alexander.
Babson Bros. Co., Oak Brook, Ill. 511,817, ren. 6–3–69. Cl. 38.
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Baker, Mabel K., d.b.a. Colonial Candle Co. of Cape Cod, Bernstable, to Colonial Candle Co. of Cape Cod, Inc., Hyannis, Mass. 513,223, ren. 6–3–69. Cl. 15.
Ball Industries, El Segundo, Calif. 870,295, pub. 3–18–69. Cl. 4.
Baracuta (Clothiers) Ltd., Manchester, England. 747,915, canc. Cl. 42.
Bard, C. R., Inc., Murray Hill, N.J. 870,549, pub. 3–18–69. Cl. 44.
Barker Bros. : *See*—
  City Products Corp.
Bates, C. J., & Son, to C. J. Bates & Son, Inc., Chester, Conn. 506,204, ren. 6–3–69. Cl. 40.
Bates, C. J., & Son, Inc. : *See*—
  Bates, C. J., & Son.
Bates Mfg. Co., The, Orange, N.J. 870,499, pub. 2–25–69. Cl. 37.
Battenfeld Grease & Oil Co., The, by Southwest Grease & Oil Co. (Kansas City), Inc., Kansas City, Mo. 178,279, 12(c) pub. 6–3–69. Cl. 15.
Baveas, John, New Bedford, Mass. 748,227, canc. Cl. 22.
Beacon Pharmacal Co. : *See*—
  Stacks, Irving H.
Beard, Samuel S., & Co., New York, N.Y., to S. A. Schonbrunn & Co. Inc., Palisades Park, N.J. 74,002, ren. 6–3–69. Cl. 46.
Beauty Industries, Inc., Springfield, N.J. 870,589, pub. 3–18–69. Cl. 51.
Becton, Dickinson & Co. : *See*—
  Ivers-Lee Co.
Becton, Dickinson and Co., East Rutherford, N.J. 870,534, pub. 3–18–69. Cl. 39.
Bel-Aire Paint Co., Los Angeles, Calif. 870,337, pub. 3–18–69. Cl. 16.
Bell Electric Co., Chicago, Ill. 508,010, ren. 6–3–69. Cl. 21.
Beneke Corp., Columbus, Miss. 870,330, pub. 3–18–69. Cl. 13.
Benrus Watch Co., Inc., New York, N.Y. 870,463, pub. 3–18–69. Cl. 27.

Benrus Watch Co., Inc., Ridgefield, Conn. 870,466–7, pub. 3–18–69. Cl. 27.

Benson, J. D., Corp., Highland Park, Ill. 870,686–7. Cl. 52.

Bentz, Horst W., d.b.a. Melitta-Werke Bentz & Sohn, Westfalen, Germany. 748,225, canc. Cl. 13.

Bentz, Horst W., d.b.a. Melitta-Werke Bentz & Sohn, Westfalen, Germany. 748,232, canc. Cl. 30.

Bentz, Horst W., d.b.a. Melitta-Werke Bentz & Sohn, Westfalen, Germany. 748,234, canc. Cl. 31.

Bentz, Horst W., d.b.a. Melitta-Werke Bentz & Sohn, Westfalen, Germany. 748,253, canc. Cl. 46.

Bergson Products, Inc., Plainville, Mass. 748,220–1, canc. Cl. 2.

Bernard, B. A., & Co., Inc., Camden, N.J. 748,093, canc. Cl. 22.

Biarritz Shoes, Biarritz, France. 870,288, pub. 3–18–69. Multiple Class (Classes 3 and 39).

Birnbach Radio Co. Inc., New York, N.Y. 870,390, pub. 3–18–69. Cl. 21.

Bissett-Berman Corp., The, Santa Monica, Calif. 870,456, pub. 3–18–69. Cl. 26.

Black, Thomas, & Son (Greenock) Ltd., Port Glasgow, Scotland. 748,095, canc. Cl. 22.

Blackton-Fifth Ave., Ltd., New York, N.Y. 509,014, ren. 6–3–69. Cl. 39.

Blickman, S., Inc., Weehawken, N.J. 870,478, pub. 3–18–69. Cl. 31.

Bliss & Laughlin Industries Inc., Oak Brook, from Threaded Nails, Inc., Skokie, Ill. 870,333, pub. 3–18–69. Cl. 13.

Bobadilla y Cia: *See*—
Fernandez, Manuel, y Cia S.A.

Bonair Boats, Inc., Mission, Kans. 870,367, pub. 3–18–69. Cl. 19.

Bond Publishing Co., Newport Beach, Calif. 870,508, pub. 12–24–68. Cl. 38.

Borman Food Stores, Inc., Detroit, Mich. 870,560, pub. 3–18–69. Cl. 46.

Boss Mfg. Co., Kewanee, Ill. 870,533, pub. 3–18–69. Cl. 39.

Bowmar Records, Inc., Glendale, Calif. 870,493, pub. 3–18–69. Multiple Class (Classes 36 and 38).

Boyajian, Setrak K., d.b.a. Precision Testing Laboratories, Worcester, Mass. 612,561, canc. Cl. 37.

Brach, E. J., & Son: *See*—
American Home Products Corp.

Bradford Bros., Inc., Placentia, Calif. 260,092, ren. 6–3–69. Cl. 46.

Bradford, Elva H., d.b.a. Presto Mange Remedy Co., Oklahoma City, Okla. 510,599, ren. 6–3–69. Cl. 18.

Bradley, Milton, Co., Springfield, Mass. 870,666. Cl. 22.

Brennom, Elmo F., d.b.a. Rol-Products, Rockford, Ill. 870,657. Cl. 6.

Briney, Bert H., d.b.a. AV Co., Denver, Colo. 748,110, canc. Cl. 38.

Brooklyn Paint & Varnish Co., Inc., Brooklyn, N.Y. 870,340, pub. 3–18–69. Cl. 16.

Buhr Machine Tool Co., Ann Arbor, Mich. 870,446, pub. 3–18–69. Cl. 23.

Bulova Watch Co., Inc., Flushing, N.Y. 260,725, ren. 6–3–69. Cl. 27.

Bulova Watch Co., Inc., Flushing, N.Y. 511,764, ren. 6–3–69. Cl. 27.

Burroughs Wellcome & Co. (U.S.A.) Inc.: *See*—
Wellcome, Henry S.

CCM: Schaar Scientific, Inc., Chicago, Ill. 870,519, pub. 3–18–69. Cl. 38.

C.R.O. Engineering Co., Inc., Brookfield, Wis. 870,437, pub. 3–18–69. Cl. 23.

CTS Corp.: *See*—
Chicago Telephone Supply Co.

Cadbury Bros., Ltd., Bournville, Birmingham, England. 255,735, 12(c) pub. 6–3–69. Cl. 46.

California Coatings Co.: *See*—
Swett, James E.

California Fruit Exchange, Sacramento, Calif. 512,046, ren. 6–3–69. Cl. 46.

California Milling Corp., to California Milling Corp., Los Angeles, Calif. 255,490, ren. 6–3–69. Cl. 46.

Cambridge Tile Mfg. Co., The, Cincinnati, Ohio. 870,324, pub. 3–18–69. Cl. 12.

Canfield Oil Co., Cleveland, Ohio. 748,055, canc. Cl. 12.

Capco Mfg. Corp., Miami, Fla. 870,425, pub. 4–30–68. Cl. 23.

Capitol Records, Inc., Los Angeles, Calif. 870,502, pub. 3–18–69. Cl. 37.

Capitol Stage Lighting Co., Inc., New York, N.Y. 870,391, pub. 3–18–69. Cl. 21.

Carley, Inc., Haddonfield, N.J. 870,587, pub. 2–4–69. Cl. 51.

Carlson Publications, Inc., Huntington, N.Y. 870,512, pub. 3–18–69. Cl. 38.

Carnation Co., Los Angeles, Calif. 746,987, canc. Cl. 46.

Carnation Co., Los Angeles, Calif. 870,554, pub. 3–18–69. Cl. 46.

Carole Accessories, d.b.a. Carole, Inc., Los Angeles, Calif. 870,474, pub. 3–18–69. Cl. 28.

Carole, Inc.: *See*—
Carole Accessories.

Carter Products, Inc., New York, N.Y. 746,154, canc. Cl. 18.

Carter-Wallace, Inc., New York, N.Y. 870,597, pub. 3–18–69. Cl. 51.

Case, Carter, Inc., New York, N.Y. 870,468, pub. 3–18–69. Multiple Class (Classes 27 and 28).

Castle & Cooke, Inc.: *See*—
Paulus Bros. Packing Co.

Celle, Larry, d.b.a. Linden Associated Growers, Linden, Calif. 870,569, pub. 3–18–69. Cl. 46.

Century Co., The, New York, N.Y., to The Meredith Corp., Des Moines, Iowa. 252,023, ren. 6–3–69. Cl. 38.

Chemische Fabrik, Gruenau Landshoff & Meyer Aktiengesellschaft, Gruenau, Germany, to The Triscosal Co., San Francisco, Calif. 254,005, ren. 6–3–69. Cl. 12.

Chesterfield Farms, Inc., Chesterfield, Mo. 870,558, pub. 3–18–69. Cl. 46.

Chicago Cardinals Football Club, d.b.a. St. Louis Football Cardinals, St. Louis, Mo. 870,653, pub. 3–18–69. Cl. 107.

Chicago Musical Instrument Co., Chicago, Ill. 870,494, pub. 3–18–69. Cl. 36.

Chicago Telephone Supply Co., to CTS Corp., Elkhart, Ind. 507,559, ren. 6–3–69. Cl. 21.

Chore-Time Equipment, Inc., Milford, Ind. 870,605, pub. 3–18–69. Multiple Class (Classes 100 and 103).

Chryson's Inc., Los Angeles, Calif., to Jostens, Inc., Owatonna, Minn. 250,771, ren. 6–3–69. Cl. 38.

Chryson's, Inc., Los Angeles, Calif., to Jostens, Inc., Owatonna, Minn. 250,846, ren. 6–3–69. Cl. 37.

Church & Dwight Co. Inc., New York, N.Y. 507,435–6, ren. 6–3–69. Cl. 6.

Church & Dwight Co., Inc., New York, N.Y. 507,567, ren. 6–3–69. Cl. 46.

Ciroll, Angthony J., Medford, Mass. 870,505, pub. 3–18–69. Multiple Class (Classes 38 and 43).

Cities Service Oil Co., Tulsa, Okla. 870,388, pub. 3–18–69. Cl. 21.

City Products Corp., d.b.a. Barker Bros., Des Plaines, Ill. 870,631, pub. 2–4–69. Cl. 102.

Clark, Keith, Inc., New York, N.Y. 870,523, pub. 3–18–69. Cl. 38.

Clark Thread Co., The, Wilmington, Del., and Clarkdale, Ga., to Coats & Clark Inc., New York, N.Y. 508,725, ren. 6–3–69. Cl. 43.

Clean-A-Mat Corp. of America: *See*—
Vamco Corp.

Cleanbright Distributing Co.: *See*—
Roeser, Robert E.

Clevite Corp., Cleveland, Ohio. 870,382, pub. 3–18–69. Cl. 21.

Clipper Mfg. Co., Inc., Grandview, Mo. 870,434, pub. 3–18–69. Cl. 23.

Clover Industries, Inc., Tonawanda, N.Y. 748,175, canc. Cl. 50.

Coast Fishing Co., Wilmington, Calif., to The Quaker Oats Co., Chicago, Ill. 250,772, ren. 6–3–69. Cl. 46.

Coastal Abrasive & Tool Co., Inc., Trumbull, Conn. 870,292, pub. 3–18–69. Cl. 4.

Coats & Clark Inc.: *See*—
Clark Thread Co., The.

Coes, Loring, Co., Worcester, Mass. 513,992. Am. 7(d). Cl. 23.

Cohen, George, Sons & Co., London, England. 748,079, canc. Cl. 21.

Cohen, Herbert L., and Frank Zappa, Los Angeles, Calif. 870,503, pub. 3–18–69. Cl. 38.

Colgate-Palmolive Co., New York, N.Y. 745,040, canc. Cl. 6.

Colgate-Palmolive Co., New York, N.Y. 870,596, pub. 3–18–69. Cl. 51.

Colonial Candle Co. of Cape Cod: *See*—
Baker, Mabel K.

Colonial Candle Co. of Cape Cod, Inc.: *See*—
Baker, Mabel K.

Comarecs Inc., Washington, D.C. 870,611, pub. 3–18–69. Cl. 100.

Comdel, Inc., South Hamilton, Mass. 870,376, pub. 3–18–69. Cl. 21.

Communications & Systems, Inc., Falls Church, Va. 870,614, pub. 3–18–69. Cl. 100.

Computer Corp. of America, Houston, Tex. 870,460, pub. 3–18–69. Cl. 26.

Consolidated Cosmetics, assor. to Consolidated Cosmetics, Chicago, Ill., to Les Parfums De Dana, Inc., New York, N.Y. 512,335, ren. 6–3–69. Cl. 51.

Consolidated Papers, Inc., Wisconsin Rapids, Wis. 870,500, pub. 3–18–69. Cl. 37.

Constable, Arnold, & Co., Inc., to Arnold Constable Corp., New York, N.Y. 508,053, ren. 6–3–69. Cl. 39.

Constable, Arnold, Corp.: *See*—
Constable, Arnold, & Co., Inc.

Continental Casualty Co., Chicago, Ill. 870,637, pub. 3–18–69. Cl. 102.

Continental Oil Co., Ponca City, Okla. 870,381, pub. 3–18–69. Cl. 21.

Cork Mfg. Co. Ltd., London, England. 870,281, pub. 3–18–69. Cl. 1.

Cork Specialty Co.: *See*—
Liptex, Inc.

Cosmetically Yours, Inc., Yonkers, N.Y. 870,578, pub. 3–18–69. Cl. 51.

Crank Shaft Co.: *See*—
Alexander, Arthur W., and Elsie M. Alexander.

Crawford Industries: *See*—
Crawford, Paul D.

Crawford, Paul D., d.b.a. Crawford Industries, Brown Deer, Wis. 870,671. Cl. 29.

Crest Foods Co., Inc.: *See*—
M. & S. Dairy Specialties.

Cross, W. W., & Co., Inc., Portland, Maine, by Emhart Corp., Bloomfield, Conn. 286,989, 12(c) pub. 6–3–69. Cl. 13.

Curlator Corp., East Rochester, N.Y. 870,397, pub. 3–18–69. Cl. 21.

Curtis, A. W., Jr., d.b.a. A. W. Curtis Laboratories, to A. W. Curtis Laboratories, Inc., Detroit, Mich. 507,385, ren. 6–3–69. Cl. 46.

Curtis, A. W., Jr., d.b.a. A. W. Curtis Laboratories, to A. W. Curtis Laboratories, Inc., Detroit, Mich. 507,550, ren. 6–3–69 Cl. 51.

Curtis, A. W., Laboratories: *See*—
Curtis, A. W., Jr.

Curtis Laboratories, Inc.: *See*—
Curtis, A. W., Jr.

Cyclops Corp., Pittsburgh, Pa. 870,336, pub. 3–18–69. Cl. 14.

Dallas Smith Engineering Corp., Phoenix, Ariz. 870,432, pub. 3–18–69. Cl. 23.

Dansyear, S. A., d.b.a. Ghost Services, Coral Gables, Fla. 870,604, pub. 3–18–69. Cl. 100.

Decker Communications, Inc.: *See*—
Printers' Ink Publishing Co. Inc.

Deep Run Packing Co., Inc.: *See*—
Smith, Willard H.

Deere & Co., Moline, Ill. 870,420, pub. 3–18–69. Cl. 23.

Delco-Remy Corp., Anderson, Ind., and Dayton, Ohio, to General Motors Corp., Detroit, Mich. 253,644, ren. 6–3–69. Cl. 21.

Delron Co., Inc., The, Santa Ana, Calif. 870,332, pub. 3–18–69. Cl. 13.

D'Elya, Inc., New York, N.Y. 870,583, pub. 3–18–69. Cl. 51.

Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. 870,475, pub. 3–18–69. Cl. 30.

Dial A Quote Corp., New York, N.Y. 870,633, pub. 3–18–69. Cl. 102.

Diamond Crystal Salt Co.: *See*—
Jefferson Island Salt Co.

Diamond National Corp., New York, N.Y. 747,999, canc. Cl. 2.

Dimensional Lithographers, Inc., New York, N.Y. 870,692. Cl. 101.

Dimock, Stuart J., d.b.a. Utility Products Co, Oregon City, Oreg. 748,186, canc. Cl. 52.

Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 512,222, ren. 6–3–69. Cl. 16.

Do Good Products Co.: *See*—
Smith, Charles F.

Dock, Mortimer R., New York, N.Y. 870,607, pub. 3–18–69. Cl. 100.

Doggett-Fison Co., Moonachie, N.J. 870,316, pub. 3–18–69. Cl. 10.

Dow Jones & Co., Inc., New York, N.Y. 870,386, pub. 3–18–69. Cl. 21.

Drackett Co., The, Cincinnati, Ohio. 870,296–8, pub. 3–18–69. Cl. 4.

Dunlee Corp., Bellwood, Ill. 870,401, pub. 3–18–69. Cl. 21.

Duplex Vending Corp.: *See*—
Vamco Corp.

Du Pont de Nemours, E. I., & Co., Wilmington, Del. 513,853, ren. 6–3–69. Cl. 5.

Du Pont de Nemours, E. I., & Co., Wilmington, Del. 748,042, canc. Cl. 6.

Duraloy Co., The, Scottdale, Pa. 442,650, ren. 6–3–69. Cl. 14.

Duz Co., Inc., The, New York, N.Y., to The Hewitt Soap Co., Inc., Dayton, Ohio. 256,125, ren. 6–3–69. Cl. 52.

Dyna Car Clinic, Inc., Media, Pa. 870,639, pub. 3–18–69. Cl. 103.

E-Z Opener Bag Co., Taylorville, Ill., to Gulf States Paper Corp., Tuscaloosa, Ala. 73,834, ren. 6–3–69. Cl. 2.

Elderwood Citrus Assn., Woodlake, to Paloma Citrus Fruit Assn., Visalia, Calif. 507,645, ren. 6–3–69. Cl. 46.

Electronized Chemicals Corp., Burlington, Mass. 870,379, pub. 3–18–69. Cl. 21.

Emerson Electric Mfg. Co., St. Louis, Mo., from U.S. Electrical Motors Inc., Los Angeles, Calif. 748,080, canc. Cl. 21.

Emhart Corp.: *See*—
Cross, W. W., & Co., Inc.

Enger-Kress Co., West Bend, Wis. 870,656. Cl. 3.

Enhance Fashion Wigs: *See*—
Allen, David D.

Espey Mfg. & Electronics Corp., Saratoga Springs, N.Y. 870,394, pub. 3–18–69. Cl. 21.

Estee Lauder, Inc.: *See*—
Jordeau, Jean, Inc.

Estee Lauder Inc., New York, N.Y. 870,685. Cl. 51.

Evenson, Lawrence A., d.b.a. Myal Products Co., La Crosse, Wis. 748,188, canc. Cl. 52.

Everseal Mfg. Co., Inc., New York, N.Y., to Everseal Mfg. Co., Inc., Ridgefield, N.J. 256,511, ren. 6–3–69. Cl. 16.

Excambia Chemical Corp., New York, N.Y. 870,314, pub. 1–7–64. Cl. 10.

Fabrica de Dulces y Chocolates El Alcazar, S.A., Tijuana, Mexico. 870,559, pub. 3–18–69. Cl. 46.

Fabrics by Joyce, Inc., New York, N.Y. 870,538, pub. 1–7–69. Cl. 42.

Famous Photographers School, Inc., Westport, Conn. 870,513, pub. 3–18–69. Cl. 38.

Far Eastern Commerce Corp., New York, N.Y. 784,323, canc. Cl. 21.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt, am Main, Germany. 870,280, pub. 3–18–69. Multiple Class (Classes 1, 5, 6, and 16).

Farmers Union Central Exchange, Inc., South St. Paul, Minn. 870,299, pub. 3–11–69. Multiple Class (Classes 6 and 10).

Federal Press Co., Elkhart, Ind. 870,436, pub. 3–18–69. Cl. 23.

Fedtro, Inc., Rockville Centre, N.Y. 870,664. Cl. 21.

Fernandez, Manuel, y Cia S.A., d.b.a. Bobadilla y Cia, Cadiz, Spain. 748,164, canc. Cl. 49.

Ferry-Morse Seed Co.: *See*—
Advance Seed Co.

First Girl, Inc., Chicago, Ill. 870,622, pub. 3–18–69. Cl. 101.

Flecto Co., Inc., The, Oakland, Calif. 870,318, pub. 1–28–69. Multiple Class (Classes 12, 16, and 20).

Fleet Maintenance Service, Inc., South Sioux City, Nebr. 870,640, pub. 3–18–69. Cl. 103.

Flex-o-Lators, Inc., Carthage, Mo. 870,483, pub. 3–18–69. Cl. 32.

Flint & Walling Mfg. Co., Inc., Kendallville, Ind. 870,421, pub. 3–18–69. Cl. 23.

Flintkote Co., The, New York, N.Y. 870,660. Cl. 12.

Florida Oldfards: *See*—
Paschal, Guy.

Foam-Pak Corp., Philadelphia, Pa. 870,284, pub. 3–18–69. Cl. 1.

Folkard & Lawrence, Inc., to Roger La Viale Ltd., New York, N.Y. 507,074, ren. 6–3–69. Cl. 42.

Fontaine Truck Equipment Co., Inc., to Altamil Corp., Birmingham, Ala. 514,620, ren. 6–3–69. Cl. 19.

Ford Motor Co., Dearborn, Mich. 254,900, ren. 6–3–69. Cl. 5.

Foremost-McKesson, Inc., d.b.a. Gentec Hospital Supply Co., New York, N.Y. 870,541, pub. 3–18–69. Cl. 44.

Foster, L. B., Co., Pittsburgh, Pa. 870,326, pub. 6–11–68. Cl. 13.

Fox Specialty Co., Inc., Lowell, Mass. 747,998, canc. Cl. 2.

Frances Citrus Assn., Santa Ana, Calif. 513,286, ren. 6–3–69. Cl. 46.

GAF Corp., New York, N.Y., from American Felt Co., Glenville, Conn. 870,322, pub. 3–18–69. Cl. 12.

Gabriel Co., The, Cleveland, Ohio, to Maremont Corp., Chicago, Ill. 514,479, ren. 6–3–69. Cl. 19.

Garden Products, Inc., South San Francisco, Calif. 870,315, pub. 3–18–69. Cl. 10.

Gary Industries, Inc., d.b.a. Acco Products, Chicago, Ill. 870,327, pub. 3–18–69. Cl. 13.

Gayar Shoe Corp., New York, N.Y. 870,528, pub. 3–18–69. Cl. 39.

Geigy Chemical Corp.: *See*—
Geigy Co., Inc.

Geigy Chemical Corp., Ardsley, N.Y. 748,049, canc. Cl. 6.

Geigy Chemical Corp., Ardsley, N.Y. 748,076, canc. Cl. 18.

Geigy Chemical Corp., Ardsley, N.Y. 870,304–7, pub. 3–18–69. Cl. 6.

Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 507,925, ren. 6–3–69. Cl. 6.

Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 509,688, ren. 6–3–69. Cl. 6.

Gem, Inc., Byhalia, Miss. 870,595, pub. 3–18–69. Cl. 51.

General Aniline & Film Corp., New York, N.Y. 747,987, canc. Cl. 1.

General Foods Corp., White Plains, N.Y. 870,676. Cl. 46.

General Hardward Mfg. Co., Inc., New York, N.Y. 509,227, ren. 6–3–69. Cl. 26.

General Hardward Mfg. Co., Inc., New York, N.Y. 514,351, ren. 6–3–69. Cl. 2.

General Mills, Inc., Minneapolis,, Minn. 748,012, canc. Cl. 6.

General Mills, Inc., Minneapolis, Minn. 870,570, pub. 3–18–69. Cl. 46.

General Motors Corp.: *See*—
Delco-Remy Corp.

General Wholesalers Inc., New York, N.Y. 870,628, pub. 3–18–69. Cl. 101.

Gentec Hospital Supply Co.: *See*—
Foremost-McKesson Inc.

Gentex Corp., New York, N.Y. 870,405, pub. 3–18–69. Cl. 22.

Georgia-Carolina Oil Co., Macon, Ga. 257,661, ren. 6–3–69. Cl. 15.

Ghost Services: *See*—
Dansyear, S.A.

Gibson Art Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 257,856, ren. 6–3–69. Cl. 22.

Gibson, Inc., Kalamazoo, Mich. 870,385, pub. 3–18–69. Multiple Class (Classes 21 and 36).

Gilac S.A.R.L., Oyonnax (Ain), France. 870,285, pub. 3–18–69. Multiple Class (Classes 2, 13, 32, 44, and 50).

Gillette Co., The, Boston, Mass. 870,594, pub. 3–18–69. Cl. 51.

Gilster Milling Co., Chester, Ill. 509,220, ren. 6–3–69. Cl. 46.

Glendinning Companies, Inc., Westport, Conn. 870,626, pub. 3–18–69. Cl. 101.

Glenn Sales Co., Inc., Dallas, Tex. 870,348, pub. 12–24–68. Cl. 18.

Gold Seal Co., Bismarck, N. Dak. 870,648, pub. 3–18–69. Cl. 107.

Goldsmith Bros., New York, N.Y. 745,253, canc. Cl. 5.

Goldsmith Clothing Co., to Marx-Haas Clothing Co., Inc., St. Louis, Mo. 513,270, ren. 6–3–69. Cl. 39.

Goodwill Advertising Co., Boston, Mass. 748,200–1, canc. Cl. 101.

Gossard, H. W., Co., The, now by change of name Associated Apparel Industries, Inc., Chicago, Ill., to Le Monde Corset Co., Saginaw, Mich. 253,833, ren. 6–3–69. Cl. 39.

Grace, W. R., & Co., New York, N.Y. 870,547, pub. 3–18–69. Cl. 44.

Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 507,646, ren. 6–3–69. Cl. 46.

Great Atlantic & Pacific Tea Co., Inc., The: *See*—
Great Atlantic & Pacific Tea Co., The.

Great Lakes Dredge & Dock Co., Chicago, Ill. 255,582, ren. 6–3–69. Cl. 19.

Green & Green, Inc., Houston, Tex. 870,556 ,pub. 3–18–69. Cl. 46.

Grosvenor, C. A., Shoe Co., Worcester, Mass., to Tru-Stitch Moccasin Corp., Malone, N.Y. 509 288, ren. 6–3–69. Cl. 39.

Guardian Electric Mfg. Co., Chicago, Ill. 870,393, pub. 3–18–69. Cl. 21.

Gulf States Paper Corp.: *See*—
E-Z Opener Bag Co.

Gumption Products Co., The: *See*—
Rauh, Elmer.

Gumption Products Ltd.: *See*—
Rauh, Elmer.

Hahn, William, & Co., Washington, D.C. 514,512, ren. 6–3–69. Cl. 39.

Hallemite Mfg. Co., The, Cleveland, Ohio, to Sterling Drug Inc., New York, N.Y. 510,642, ren. 6–3–69. Cl. 12.

Hallmark Cards, Inc., Kansas City, Mo. 870,517, pub. 3–18–69. Cl. 38.

Hamilton Watch Co.: *See—*
  Wallace, R., & Sons Mfg. Co., The.
Hancock, John, Mutual Life Insurance Co., Boston, Mass. 870,634, pub. 3–18–69. Cl. 102.
Hancock's Old Fashion Country Ham, Inc., Franklinville, N.C. 870,563, pub. 3–18–69. Cl. 46.
Hardin's Bakeries: *See—*
  Hardin's Bakeries Management Corp.
Hardin's Bakeries Management Corp., d.b.a. Hardin's Bakeries, Meridian, Miss. 748,128, canc. Cl. 46.
Hardy Co., The, Grand Haven, Mich. 870,510, pub. 3–18–69. Cl. 38.
Harman-Kardon, Inc., Plainview, N.Y. 870,396, pub. 3–18–69. Cl. 21.
Harris, Kenneth M., Pointe Claire, Quebec, Canada. 870,650, pub. 3–18–69. Cl. 107.
Harris-Renwick Co. Ltd., The, Ottawa, Ontario, Canada. 748,119, canc. Cl. 40.
Hartz Mountain Products Corp., New York, N.Y. 870,678. Cl. 46.
Harvey, Lee, Torrance, Calif. 870,317, pub. 1–28–69. Cl. 10.
Hasbro Industries, Inc., from Hassenfeld Bros. Inc., Pawtucket, R.I. 870,665. Cl. 22.
Haspel Brothers, Inc., New Orleans, La. 514,474, ren. 6–3–69. Cl. 39.
Hassenfeld Bros. Inc.: *See—*
  Hasbro Industries, Inc.
Hawaiian Pineapple Co.: *See—*
  Paulus Bros. Packing Co.
Hayakawa Electric Co., Ltd., Osaka, Japan. 870,542, pub. 3–18–69. Cl. 44.
Haywood Publishing Co. of Illinois, Chicago, Ill. 748,239, canc. Cl. 38.
Heifetz Co., The, Clinton, Conn. 870,375, pub. 3–18–69. Cl. 21.
Heminway & Bartlett Mfg. Co., The, New York, N.Y. 513,481, ren. 6–3–69. Cl. 43.
Her Majesty Underwear Co., Mauldin, S.C. 870,444, pub. 3–18–69. Cl. 23.
Hesmer Foods, Inc., Evansville, Ind. 748,152, canc. Cl. 46.
Hewitt Soap Co., Inc., The: *See—*
  Duz Co., Inc., The.
Heyden Chemical Works, The, to Tenneco Chemicals, Inc., New York, N.Y. 72,247, ren. 6–3–69. Cl. 1.
Heyman Distributing Co.: *See—*
  Sterling Hosiery Co.
Hi-Fog Co., The: *See—*
  Price, C. James.
Holzapfels Ltd., Newcastle-Upon-Tyne, England, to International Paint Co., Inc., New York, N.Y. 74,984, ren. 6–3–69. Cl. 16.
Home Life Insurance Co. of America, The, Philadelphia, Pa. 870,632, pub. 3–18–69. Cl. 102.
Hopkinsville Milling Co., Hopkinsville, Ky. 506,877, ren. 6–3–69. Cl. 46.
House of Windsor, Inc.: *See—*
  Wolf Brothers & Co.
Hudnut, Richard, Morris Plains, N.J. 870,591, pub. 3–18–69. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 870,683–4. Cl. 51.
Hudson, H. D., Mfg. Co., Chicago, Ill., from Manly Dee Randle, Dallas, Tex. 870,416, pub. 3–12–68. Cl. 23.
Hudson River Boat Co., Santa Barbara, Calif. 870,365, pub. 3–18–69. Cl. 19.
Hunt, C. Howard, Pen Co., Camden, N.J., to Hunt Mfg. Co., Philadelphia, Pa. 507,580, ren. 6–3–69. Cl. 23.
Hunt Mfg. Co.: *See—*
  Hunt, C. Howard, Pen Co.
ITT Consumer Services Corp., New York, N.Y. 870,643, pub. 4–1–69. Cl. 105.
Illinois Tool Works, to Illinois Tool Works, Inc., Chicago, Ill. 443,090, ren. 6–3–69. Cl. 26.
Illinois Tool Works, Inc.: *See—*
  Illinois Tool Works.
Imperial Chemical Industries Ltd., London, England. 870,313, pub. 3–18–69. Cl. 9.
Infranor of North America, Inc., Berlin, Conn. 870,389, pub. 3–18–69. Cl. 21.
Inland Steel Co., Chicago, Ill. 510,895, ren. 6–3–69. Cl. 13.
Inland Steel Co., Chicago, Ill. 511,254, ren. 6–3–69. Cl. 13.
Inter-Communication System of America: *See—*
  Inter-Communication System of America, Inc.
Inter-Communication System of America, Inc., to M. C. Meyer, d.b.a. Inter-Communication System of America, Chicago, Ill. 504,313, ren. 6–3–69. Cl. 21.
International Minerals & Chemical Corp., Skokie, Ill. 748,028, canc. Cl. 6.
International Paint Co., Inc.: *See—*
  Holzapfels Ltd.
International Pipe & Ceramics Corp.: *See—*
  Interpace Corp.
International Shrimp Council, Inc., Washington, D.C. 870,612, pub. 3–18–69. Cl. 100.
Interoceanic Commodities Corp., d.b.a. Henry Weis Mfg. Co., Elkhart, Ind. 870,661. Cl. 12.
Interpace Corp., from International Pipe & Ceramics Corp., Los Angeles, Calif. 870,476, pub. 3–18–69. Cl. 30.
Island Mists, Ltd., New York, N.Y. 870,579, pub. 3–18–69. Cl. 51.
Ivers-Lee Co., to Becton, Dickinson & Co., Newark, N.J. 507,595, ren. 6–3–69. Cl. 23.
Jaeger Machine Co., The, Columbus, Ohio. 870,431, pub. 3–18–69. Cl. 23.
Jefferson Island Salt Co., Louisville, Ky., to Diamond Crystal Salt Co., St. Clair, Mich. 514,093, ren. 6–3–69. Cl. 46.
Jettor Sales Co., Inc., Elmwood Park, Ill. 870,487, pub. 3–18–69. Cl. 34.
Johnson Rubber Co., The, Middlefield, Ohio. 870,440, pub. 3–18–69. Cl. 23.
Jordeau, Jean, Inc., South Orange, N.J., by Estee Lauder, Inc., New York, N.Y. 347,733, 12(c) pub. 6–3–69. Cl. 51.
Jostens, Inc.: *See—*
  Chryson's Inc.
KSC Semiconductor Corp., Chelmsford, from KSC Semiconductor Corp., West Newton, Mass. 870,371–4, pub. 7–2–68. Cl. 21.
Kantro, Jerome, d.b.a. Jerome Kantro Co., Salinas, Calif. 748,145, canc. Cl. 46.
Kantro, Jerome, Co.: *See—*
  Kantro, Jerome.
Kare Products, Inc., Atlanta, Ga. 746,352, canc. Cl. 52.
Kare Products, Inc., Atlanta, Ga. 746,378, canc. Cl. 103.
Kast-Kap Co., Kansas City, Mo. 870,672. Cl. 44.
Kendall Co., The, Walpole, Mass. 508,260, ren. 6–3–69. Cl. 42.
Kennametal Inc., Latrobe, Pa. 870,441, pub. 3–18–69. Cl. 23.
Kent Rubber Corp., Jericho, N.Y. 870,404, pub. 3–18–69. Cl. 22.
Ke-Nu Products, Inc., Los Angeles, Calif. 748,187, canc. Cl. 52.
Kidde, Walter, & Co., Inc., Belleville, N.J. 515,545. Am. 7(d). Multiple Class (Classes 2, 6, 21, 23, and 26).
Kleer-Vu Industries, Inc., New York, N.Y. 870,403, pub. 3–18–69. Cl. 21.
Knapp-Sherriff-Koelle: *See—*
  Texas Citrus Fruit Growers Exchange.
Knapp-Sherriff-Koelle, Inc.: *See—*
  Texas Citrus Fruit Growers Exchange.
Koehler, Charles, & Son Inc., Baldwin, N.Y. 748,050, canc. Cl. 6.
Koszegi Leather & Vinyl Products, Inc., South Bend, Ind. 870,286, pub. 3–18–69. Cl. 3.
Koyo Seiko Co., Ltd., Osaka, Japan. 870,368, pub. 10–3–61. Cl. 21.
Krueger Metal Products, Inc., Green Bay, Wis. 870,480–2, pub. 3–18–69. Cl. 32.
Kuecker, Floyd W., La Crosse, Wis. 870,360, pub. 3–18–69. Cl. 19.
L.D.A. Inc., Hialeah, Fla. 870,691. Cl. 100.
LTV Ling Altec, Inc., Anaheim, Calif. 870,402, pub. 3–18–69. Cl. 21.
Laboratoire Garnier, Societe Anonyme, Paris, France. 870,599, pub. 3–18–69. Cl. 52.
La Chemise Lacoste, Paris, France. 870,688. Cl. 52.
Lachmann, Inc., Chicago, Ill., from Mini-Chef, Inc., Niles, Mich. 870,619, pub. 3–18–69. Cl. 100.
Laher Spring & Electric Car Corp., Oakland, Calif. 870,363, pub. 3–18–69. Cl. 19.
La Madrilena, S.A., Mexico City, Mexico. 748,165, canc. Cl. 49.
Lamoreaux, Thomas H., d.b.a. H. Thomas Co., Grand Rapids, Mich. 870,352, pub. 3–18–69. Cl. 18.
Latrobe Steel Co., Latrobe, Pa. 870,335, pub. 12–24–68. Cl. 14.
La Viale, Roger, Ltd.: *See—*
  Folkard & Lawrence, Inc.
Lawton Co., Inc., The, New York, N.Y. 870,544, pub. 3–18–69. Cl. 44.
Lax & Burgheimer, Inc., New York, N.Y. 513,271, ren. 6–3–69. Cl. 39.
Lazott Co., Stow, Mass. 870,366, pub. 3–18–69. Cl. 19.
Leadership Resources, Inc., Washington, D.C. 748,241, canc. Cl. 38.
Leatherfoam, Inc., South Bend, Ind. 870,289, pub. 3–18–69. Cl. 4.
Le Coultre Watches, Inc., New York, N.Y. 870,461–2, pub. 3–18–69. Cl. 27.
Lefevre-Utile, Nantes (Loire Atlantique), France. 870,679–81. Cl. 46.
Le Monde Corset Co.: *See—*
  Gossard, H. W., Co., The.
Les Parfums De Dana, Inc.: *See—*
  Consolidated Cosmetics.
Lever Brothers Co.: *See—*
  Armand Co., The.
Lewin, A. W., New York, N.Y. 870,545, pub. 3–18–69. Cl. 44.
Lilly Chemical Products, Inc., Gardner, Mass. 870,342, pub. 3–18–69. Cl. 16.
Linden Associated Growers: *See—*
  Celle, Larry.
Liptex, Inc., d.b.a. Cork Specialty Co., Denver, Colo. 748,172, canc. Cl. 50.
Litton Business Systems, Inc., New York, N.Y. 870,442, pub. 3–18–69. Cl. 23.
Lockheed Aircraft Corp., Burbank, Calif. 441,301, 12(c) pub. 6–3–69. Cl. 19.
Loewenstein, Hermann, Inc., New York, N.Y. 748,219, canc. Cl. 1.
Louket Markets, Inc.: *See—*
  Supermarkets General Corp.
Love, Joseph, Inc., New York, N.Y. 870,527, pub. 3–18–69. Cl. 39.
Loyd, L. W., Co., Inc., South Pittsburg, Tenn. 514,180–1, ren. 6–3–69. Cl. 9.
Lucky Steer Steak Houses, Inc., Fort Wayne, Ind. 870,609, pub. 3–18–69. Cl. 100.
M & H Laboratories, Inc., Chicago, Ill. 870,343, pub. 3–18–69. Cl. 16.
M. & S. Dairy Specialties, assor. to Crest Foods Co., to Crest Foods Co., Inc., Ashton, Ill. 442,934, ren. 6–3–69. Cl. 46.
MacDermid of Bristol, Inc., Bristol, Conn. 870,598, pub. 2–2–65. Cl. 52.
Macklanburg-Duncan Co., to Macklanburg-Duncan Co., Oklahoma City, Okla. 260,673, ren. 6–3–69. Cl. 50.

Madison Chemical Corp., Maywood, Ill. 804,090, cor. Cl. 6.
Madison Chemical Corp., Maywood, Ill. 870,301, pub. 3–18–69. Cl. 6.
Madison Chemical Corp., Maywood, Ill. 870,602, pub. 3–18–69. Cl. 52.
Madison Foods: *See—*
  Nashville Agricultural & Normal Institute, The.
Madison Square Garden Corp., New York, N.Y. 870,652, pub. 3–18–69. Cl. 107.
Magazine Management Co.: *See—*
  Magazine Management Co., Inc.
Magazine Management Co., Inc., from Magazine Management Co., d.b.a. Marvel Comics Group, New York, N.Y. 870,506–7, pub. 3–18–69. Cl. 38.
Mailmaster Photolabs: *See—*
  Mastercolor of New England, Inc.
Maison Pierre Bardou-Job, to Societe Job Anciens Etablissements Bardou-Job & Pauilhac, Perpignan, France. 73,124, ren. 6–3–69. Cl. 8.
Mallory, P. R., & Co. Inc., Indianapolis, Ind. 508,146, ren. 6–3–69. Cl. 21.
Manly Dee Randle: *See—*
  Hudson, H. D., Mfg. Co.
Manor House Products: *See—*
  Wagner Bros. Feed Corp.
Mansfield, F. Richard, New York, N.Y. 870,384, pub. 3–18–69. Cl. 21.
Maremont Corp.: *See—*
  Gabriel Co., The.
Marlan Co., Chicago, Ill. 870,,453, pub. 3–18–69. Cl. 23.
Martin, W. & J., Ltd., Renfrew, Scotland. 870,282, pub. 3–18–69. Cl. 1.
Marvel Comics Group: *See—*
  Magazine Management Co., Inc.
Marx-Haas Clothing Co.: *See—*
  Goldsmith Clothing.
Mastercolor of New England, Inc., d.b.a. Mailmaster Photolabs, Boston, Mass. 748,269, canc. Cl. 106.
Mattel, Inc., Hawthorne, Calif. 870,415, pub. 3–11–69. Cl. 22.
Mattison Machine Works, Rockford, Ill. 870,450, pub. 3–18–69. Cl. 23.
McCain-Wright, Inc., to Swopes Red Cross Shoes, Inc., St. Louis, Mo. 252,469, ren. 6–3–69. Cl. 39.
McGraw-Edison Co.: *See—*
  Western Laundry Press.
McGraw-Hill, Inc., New York, N.Y. 870,526, pub. 3–18–69. Cl. 38.
Medicenters of America, Inc., Memphis, Tenn. 870,610, pub. 3–18–69. Cl. 100.
Melchers Distilleries, Ltd., Montreal, Quebec, Canada. 748,264, canc. Cl. 49.
Melitta-Werke Bentz & Sohn: *See—*
  Bentz, Horst W.
Mennen Co., The, Morristown, N.J. 870,584, pub. 3–18–69. Cl. 51.
Mennen Co., The, Morristown, N.J. 870,590, pub. 3–18–69. Cl. 51.
Merck & Co., Inc., Rahway, N.J. 870,617, pub. 3–18–69. Cl. 100.
Meredith Corp., The: *See—*
  Century Co., The.
Meredith Separator Co.: *See—*
  Arcane Trading Corp.
Meridian Mutual Insurance Co., Indianapolis, Ind. 865,120, cor. Cl. 102.
Merory Flavors, Inc., Boonton, N.J. 748,251, canc. Cl. 46.
Meyer, Milton C.: *See—*
  Inter-Communication System of America, Inc.
Michigan Chemical Corp., St. Louis, Mich. 442,099. Am. 7(d). Cl. 6.
Mida Mfg., Inc., Philadelphia, Pa. 870,472–3, pub. 3–18–69. Cl. 28.
Middlebrooke-Lancaster, Inc., Brooklyn, N.Y. 870,682. Multiple Class (Classes 51 and 52).
Middleby, Joseph, Jr., Inc., to Joseph Middleby, Jr., Inc., Boston, Mass. 260,553, ren. 6–3–69. Cl. 45.
Midwest Acceptance Co.: *See—*
  Town & Country Securities Corp.
Milani Foods, Inc.: *See—*
  Milani, Louis, Foods, Inc.
Milani, Louis, Foods, Inc., Maywood, to Milani Foods, Inc., Los Angeles, Calif. 512,733, ren. 6–3–69. Cl. 46.
Mini-Chef, Inc.: *See—*
  Lachmann, Inc.
Minneapolis Show Case & Fixture Co., Minneapolis, Minn., to Sterling Industries, Inc., New Richmond, Wis. 504,106, ren. 6–3–69. Cl. 31.
Minneapolis Star & Tribune Co., d.b.a. San Fernando Valley Times Today, from San Fernando Valley Times Co., North Hollywood, Calif. 748,238, canc. Cl. 38.
Mintex, Inc., New York, N.Y. 870,458, pub. 3–18–69. Cl. 26.
Mip-TV Marche International du Disque et de l'Edition Musicale—International Record and Music Publishing Market, Paris, France. 870,623, pub. 3–18–69. Cl. 101.
Misco Industries, Inc., Wichita, Kans. 870,601, pub. 3–18–69. Cl. 52.
Mitton, Robert T., Jr., d.b.a. Philly Hoagie & Steak Shops, Largo, Fla. 870,615, pub. 3–18–69. Cl. 100.
Modern Handcraft, Inc., Kansas City, Mo. 507,419, ren. 6–3–69. Cl. 40.
Modern Toys, Inc., Brooklyn, N.Y. 748,086, canc. Cl. 22.
Mole-Richardson Co., Hollywood, Calif. 870,378, pub. 3–18–69. Cl. 21.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 508,623–4, ren. 6–3–69. Cl. 6.
Monsanto Co.: *See—*
  Monsanto Chemical Co.
Montgomery Ward & Co., Inc.: *See—*
  Superior Felt & Bedding Co.
Montres Sicura S.A., Grenchen, Soleure, Switzerland. 870,464, pub. 3–18–69. Cl. 27.
Morningstar-Paisley, Inc.: *See—*
  Staley, A. E., Mfg.
Moulton Irrigation Co., Somerset, Wis. 870,419, pub. 3–18–69. Cl. 23.
Mud Control Laboratories, Inc., Oklahoma City, Okla. 748,009–10, canc. Cl. 6.
Mullin, Thomas J., d.b.a. Finger Things Co., The, New York, N.Y. 870,522, pub. 3–18–69. Cl. 38.
Myal Products Co.: *See—*
  Evenson, Lawrence A.
N.V. Nederlandsche Kabelfabrieken, Delft, Netherlands. 867,876, cor. Cl. 26.
Nashville Agricultural & Normal Institute, The, d.b.a. Madison Foods, Madison, Tenn. 748,135, canc. Cl. 46.
National Automotive Parts Association, Chicago, Ill. 870,488, pub. 3–18–69. Cl. 35.
National Cine Equipment, Inc., New York, N.Y. 870,454, pub. 3–18–69. Cl. 26.
National Depositors Cooperative Association, Great Neck, N.Y. 870,516, pub. 3–18–69. Cl. 38.
National Distillers & Chemical Corp., New York, N.Y. 870,690. Cl. 100.
National Federation of Coffee Growers of Columbia, New York, N.Y. 870,557, pub. 3–18–69. Cl. 46.
National Fidelity Life Insurance Co., Kansas City, Mo. 748,206, canc. Cl. 102.
National Lock Co., Rockford, Ill. 870,325, pub. 3–18–69. Cl. 13.
National Mattress Co., Huntington, W. Va. 870,479, pub. 3–18–69. Cl. 32.
National Plastic Products Co., Inc., Odenton, Md. 747,865, canc. Cl. 29.
National Railroad Institute, Inc., Atlanta, Ga. 870,647, pub. 3–18–69. Cl. 107.
National Science Network, Inc., The, New York, N.Y. 870,649, pub. 3–18–69. Cl. 107.
National Screw & Mfg. Co., The, Cleveland, Ohio. 870,328, pub. 2–4–69. Cl. 13.
National-Spencer, Inc., Wichita, Kans. 870,439, pub. 3–18–69. Cl. 23.
Neitz, Barbara M., d.b.a. A Village Realty, and Acreage Brokers of America, Framingham, Mass. 870,621, pub. 3–18–69. Cl. 101.
Nelson Sales Co., Kansas City, Mo. 870,486, pub. 3–18–69. Cl. 34.
Nestle-Le Mur Co., The, New York, N.Y. 514,807, ren. 6–3–69. Cl. 51.
Niemeijer, Theodorus, N.V., d.b.a. Theodorus Niemeyer N.V., Groningen, Netherlands. 870,344, pub. 3–18–69. Cl. 17.
Nishimoto Trading Co., Ltd., Kobe, Japan. 870,552, pub. 3–18–69. Cl. 46.
Nix-A-Mite Systems, Inc., Murfreesboro, Tenn. 748,046, canc. Cl. 6.
Northwestern Golf Co., Chicago, Ill. 870,406–9, pub. 3–18–69. Cl. 22.
Northwestern Mutual Insurance Co., Seattle, Wash. 870,635, pub. 3–18–69. Cl. 102.
Notions Unlimited, Inc., Atlanta, Ga. 748,120, canc. Cl. 40.
Novo Industrial Corp., New York, N.Y. 870,357, pub. 3–18–69. Multiple Class (Classes 19, 21, 23, and 31).
O'Donnell-Usen Fisheries Corp., Boston, Mass. 870,677. Cl. 46.
Ohio Art Co., The, Bryan, Ohio. 870,491. Cl. 36.
Ohlinger Industries, Inc., Phoenix, Ariz. 870,422, pub. 3–18–69. Cl. 23.
Old Kent Bank & Trust Co., Grand Rapids, Mich. 870,630, pub. 3–18–69. Cl. 102.
Oneida Ltd., Oneida, N.Y. 870,429, pub. 3–18–69. Cl. 23.
Oneida Ltd., Oneida, N.Y. 870,470, pub. 3–18–69. Cl. 28.
Otis Elevator Co., New York, N.Y. 870,451, pub. 3–18–69. Cl. 23.
Oulevay S.A., Morges, Vaud, Switzerland. 748,124–5, canc. Cl. 46.
Outside Venetian Blind Co.: *See—*
  Tasco Corp.
Pacific Wood Products Co., Los Angeles, Calif. 870,319, pub. 7–23–68. Cl. 12.
Paloma Citrus Fruit Assn.: *See—*
  Elderwood Citrus Assn.
Pan American Airways, Inc., to Pan American World Airways, Inc., New York, N.Y. 510,452, ren. 6–3–69. Cl. 105.
Pan American World Airways, Inc.: *See—*
  Pan American Airways, Inc.
Panigel, Marcel, New York, N.Y. 748,167, canc. Cl. 50.
Parke, Davis & Co., Detroit, Mich. 391,170, 12(c) pub. 6–3–69. Cl. 18.
Parker, Ike T., Cumberland, R.I. 870,515, pub. 3–18–69. Cl. 38.
Paschal, Guy, d.b.a. Florida Oldfarms, Tallevast, Fla. 748,130, canc. Cl. 46.
Paulus Bros. Packing Co., Salem, Oreg., to Castle & Cooke, Inc., d.b.a. Hawaiian Pineapple Co., Honolulu, Hawaii. 513,676, ren. 6–3–69. Cl. 46.
Pellant, Earl, Hollywood, Calif. 870,312, pub. 3–18–69. Cl. 9.
Pengad Companies, Inc., The, Bayonne, N.J. 748,229–30, canc. Cl. 22.
Penick & Ford, Ltd., Cedar Rapids, Iowa. 870,572–4, pub. 3–18–69. Cl. 46.
People's Savings Bank, Providence, R.I. 870,636, pub. 3–18–69. Cl. 102.
Perkins, Garry R., West Chicago, Ill. 870,338, pub. 3–18–69. Cl. 16.
Permafrost Corp., Carlstadt, N.J. 748,169, canc. Cl. 50.

Permalux Co., The, Aurora, Ill. 870,279, pub. 3–18–69. Cl. 1.
Pet Inc., St. Louis, Mo., from Sue Ann Food Products Corp., Chicago, Ill. 870,551, pub. 3–18–69. Cl. 46.
Peterson's Ltd., Inc., New York, N.Y. 870,663. Cl. 17.
Petroleum Publishing Co., The, Tulsa, Okla. 508,769, ren. 6–3–69. Cl. 38.
Pharma-Craft Corp., The, New York, N.Y., to Wallace & Tiernan Inc., East Orange, N.J. 507,668, ren. 6–3–69. Cl. 51.
Pharma-Scripts, Inc., New York, N.Y. 870,624, pub. 3–18–69. Cl. 101.
Philly Hoagie & Steak Shops: *See—*
  Mitton, Robert T., Jr.
Physicians & Hospitals Supply Co. Inc., d.b.a. Ulmer Pharmacal Co., Minneapolis, Minn. 514,241, ren. 6–3–69. Cl. 18.
Piccard, Lucien, Sales Corp., to Lucien Piccard Watch Corp., New York, N.Y. 512,049, ren. 6–3–69. Cl. 27.
Piccard, Lucien, Watch Corp.: *See—*
  Piccard, Lucien, Sales Corp.
Pinlites Inc., Fairfield, N.J. 870,400, pub. 3–18–69. Cl. 21.
Pittway Corp., Northbrook, Ill. 870,380, pub. 3–18–69. Cl. 21.
Plas-steel Products, Inc., Walkerton, Ind. 870,411, pub. 3–18–69. Cl. 22.
Plastic Spectacle Lens Co., Inc., Raleigh, N.C. 870,670. Cl. 26.
Plas-Ties Co., Santa Ana, Calif. 748,224, canc. Cl. 7.
Plywood & Door Manufacturers Corp., Bronx, N.Y. 870,320, pub. 3–18–69. Cl. 12.
Pomeroy, John, Hazel Park, Mich. 748,136, canc. Cl. 46.
Portland Iron Works, Portland, Oreg. 870,417, pub. 5–7–68. Cl. 23.
Potter-McCune Co., McKeesport, Pa. 782,997, canc. Cl. 101.
Precision Testing Laboratories: *See—*
  Boyajian, Setrak K.
Presto Mange Remedy Co.: *See—*
  Bradford, Elva H.
Price, James C.; d.b.a. Hi-Fog Co., The, Montebello, Calif. 870,423, pub. 3–18–69. Cl. 23.
Printers' Ink Publishing Co. Inc., to Decker Communications, Inc., New York, N.Y. 506,096, ren. 6–3–69. Cl. 38.
Procter & Gamble Co., The, Cincinnati, Ohio. 508,386–8, ren. 6–3–69. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 508,391–2, ren. 6–3–69. Cl. 52.
Professional Nursing Homes of America, Inc., Kansas City, Mo. 870,606, pub. 3–18–69. Cl. 100.
Puiforcat-Orfevre Societe Anonyme: *See—*
  Saks & Co.
Puppy Palace Enterprises, Inc., Philadelphia, Pa. 870,302, pub. 3–18–69. Multiple Class (Classes 6, 18, 46, and 52).
Purcell, Donald J., University City, Mo. 748,087, canc. Cl. 22.
Pure Oil Co., The. Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 508,385, ren. 6–3–69. Cl. 21.
Quaker Oats Co., The: *See—*
  Coast Fishing Co.
R.E.L. Enterprises, Inc., Los Angeles, Calif. 870,627, pub. 3–18–69. Cl. 101.
R.G.B. Laboratories, Inc., Kansas City, Mo. 870 674. Cl. 46.
RMS Electronics, Inc., Bronx, N.Y. 870,387, pub. 3–18–69. Cl. 21.
Ralide, Inc., Athens, Tenn. 870,287, pub. 3–18–69. Cl. 3.
Rauh, Elmer, d.b.a. The Gumption Products Co., Dayton, Ohio, to Gumption Products Ltd., London, England. 250,855, ren. 6–3–69. Cl. 52.
Remote Control Sweden Ltd., AB, Bromma, Sweden. 870,418, pub. 3–18–69. Cl. 23.
Rexall Drug and Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 870,548, pub. 3–18–69. Cl. 44.
Reynolds, R. J., Foods, Inc., New York, N.Y. 870,571, pub. 3–18–69. Cl. 46.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 870,346, pub. 3–18–69. Cl. 17.
Richelieu Corp., The, Holbrook, N.Y. 870,469, pub. 3–18–69. Cl. 28.
Riley (Coventry) Ltd., Coventry, England, to Riley Motors Ltd., Cowley, England. 508,091, ren. 6–3–69. Cl. 19.
Riley Motors Ltd.: *See—*
  Riley (Coventry) Ltd.
Robins, A. H., Co., Inc., Richmond, Va. 870,567, pub. 3–18–69. Cl. 46.
Rockland, Inc., Winter Garden, Fla. 870,448, pub. 3–18–69. Cl. 23.
Roeser, Robert E., d.b.a. Cleanbright Distributing Co., Bronx, N.Y. 870,291, pub. 3–18–69. Cl. 4.
Roll-o-Sheets, Inc., St. Louis, Mo. 870,497, pub. 3–18–69. Cl. 37.
Rol-Products: *See—*
  Brennom, Elmo F.
Roselawn Laboratories, Inc., Miami, Fla. 870,659. Cl. 6.
Ross & Roberts, Inc., Stratford, Conn. 747,988, canc. Cl. 1.
Rothenberg & Schloss Cigar Co., Kansas City, Mo. 512,532, ren. 6–3–69. Cl. 17.
Rubinstein, Helena, Inc., New York, N.Y. 870,593, pub. 11–12–68. Cl. 51.
Russell, James B., Inc., New York, N.Y. 870,345, pub. 3–18–69. Cl. 17.
Rust-Oleum Corp., Evanston, Ill. 870,341, pub. 3–18–69. Cl. 16.
Rutland Fire Clay Co., Rutland, Vt. 870,655. Cl. 1.
SCM Corp., Cleveland, Ohio. 870,321, pub. 3–18–69. Cl. 12.
Saben, Benjamin, d.b.a. Saben Safety Enterprises, Los Angeles, Calif. 748,117, canc. Cl. 38.
Saben Safety Enterprises: *See—*
  Saben, Benjamin.
Sackett Plaster Board Co., New York, N.Y., to United States Gypsum Co., Chicago, Ill. 74,153, ren. 6–3–69. Cl. 12.
Saffacol, Inc., Northfield, Ill. 748,148, canc. Cl. 46.
St. Louis Football Cardinals: *See—*
  Chicago Cardinals Football Club.
Saks & Co., New York, N.Y., to Puiforcat-Orfevre Societe Anonyme, Paris, France. 250,908, ren. 6–3–69. Cl. 28.
Salada Foods Ltd., Ontario, Canada. 870,349, pub. 3–18–69. Cl. 18.
Sales Promotion Products, Inc., Cleveland, Ohio. 870,577, pub. 3–18–69. Cl. 50.
Sales Tools, Inc., Chicago, Ill. 870,498, pub. 3–18–69. Cl. 37.
Sally Beauty Co., Inc., New Orleans, La. 870,536, pub. 3–18–69. Cl. 40.
San Fernando Valley Times Co., North Hollywood, Calif. 748,237, canc. Cl. 38.
San Fernando Valley Times Co.: *See—*
  Minneapolis Star & Tribune Co.
Sani-Seat Inc., Chicago, Ill. 870,331, pub. 3–18–69. Cl. 13.
Santiago, Bodegas Rioja, S.A., d.b.a. Rioja Santiago, S.A., Haro (Logrono), Spain. 870,575, pub. 3–18–69. Cl. 47.
Santiago, Rioja, S.A.: *See—*
  Santiago, Bodegas Rioja, S.A.
Sanyo Shokuhin Kabushiki Kaisha, Maebashi City, Japan. 870,673. Cl. 46.
Saurer, Adolph, Ltd., Arbon, Switzerland. 870,427, pub. 3–18–69. Cl. 23.
Scaduto, John, d.b.a. Slater Screw Machine Tool Co., Warren, Mich. 870,669. Cl. 23.
Scally's Imperial Importing Co., Brooklyn, N.Y. 511,097, ren. 6–3–69. Cl. 46.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 512,857, ren. 6–3–69. Cl. 44.
Schonbrunn, S. A., & Co. Inc.: *See—*
  Beard, Samuel S., & Co.
Schultz, Edward W., Homewood, Ill. 870,668. Cl. 23.
Schweigert Meat Co., Minneapolis, Minn. 870,566, pub. 3–18–69. Cl. 46.
Scott Paper Co., Philadelphia, Pa. 748,106, canc. Cl. 37.
Scovill Mfg. Co., Waterbury, Conn. 512,451, ren. 6–3–69. Cl. 21.
Scripto, Inc., Atlanta, Ga. 513,800, ren. 6–3–69. Cl. 37.
Sea Host, Inc., New York, N.Y. 870,618, pub. 3–18–69. Cl. 100.
Seagram, Joseph E., & Sons, Inc., New York, N.Y. 870,576, pub. 3–18–69. Cl. 49.
Sea-Land Service, Inc., Elizabeth, N.J. 870,645, pub. 3–18–69. Cl. 105.
Seaman Enterprises, Inc., Cincinnati, Ohio. 748,081, canc. Cl. 21.
Seamless Rubber Co., The: *See—*
  Rexall Drug and Chemical Co.
Sensenbrenner, A., Sons, Los Angeles, Calif., to Universal International Cigar Corp., New York, N.Y. 512,431, ren. 6–3–69. Cl. 17.
Sensenbrenner, A., Sons, Los Angeles, Calif., to Universal International Cigar Corp., New York, N.Y. 513,061, ren. 6–3–69. Cl. 17.
Sensenbrenner, A., Sons, Los Angeles, Calif., to Universal International Cigar Corp., New York, N.Y. 513,076, ren. 6–3–69. Cl. 17.
Shawinigan Chemicals Ltd., Montreal, Quebec, Canada. 870,283, pub. 3–18–69. Cl. 1.
Shepard Engineering Co., St. Louis, Mo. 748,089, canc. Cl. 22.
Siks Mfg., Inc., Bronx, N.Y. 870,329, pub. 3–18–69. Cl. 13.
Silber, Victor, Brooklyn, N.Y. 870,496, pub. 3–18–69. Cl. 37.
Simmons Co., New York, N.Y. 870,546, pub. 3–18–69. Cl. 44.
Simms, T. S., & Co. Ltd., Saint John, New Brunswick, Canada. 870,447, pub. 3–18–69. Cl. 23.
Simonds Abrasive Co., Philadelphia, Pa., to Wallace-Murray Corp., New York, N.Y. 513,204, ren. 6–3–69. Cl. 4.
Simplicity Pattern Co. Inc., New York, N.Y. 508,225, ren. 6–3–69. Cl. 38.
Sinclair Oil Corp., from Sinclair Refining Co., New York, N.Y. 870,641, pub. 3–18–69. Cl. 103.
Sinclair Oil Corp., from Sinclair Petrochemicals, Inc., New York, N.Y. 870,278, pub. 3–9–65. Cl. 1.
Sinclair Petrochemicals, Inc.: *See—*
  Sinclair Oil Corp.
Sinclair Refining Co.: *See—*
  Sinclair Oil Corp.
Sky-Slides International, Inc., Glendale, Calif. 870,412, pub. 3–18–69. Cl. 22.
Slater Screw Machine Tool Co.: *See—*
  Scaduto, John.
Smith, Charles F., d.b.a. Do Good Products Co., Los Angeles, Calif. 748,182, canc. Cl. 51.
Smith Enterprises: *See—*
  Smith, R. H., Jr.
Smith, R. H., Jr., d.b.a. Smith Enterprises, Sherman Oaks, Calif. 870,514, pub. 3–18–69. Cl. 38.
Smith, T. J., & Nephew, Ltd., Hull, England. 870,540, pub. 3–18–69. Cl. 44.
Smith, Willard H., d.b.a. Smithstone Kennel Supply Co., to Deep Run Packing Co., Inc., Dublin, Pa. 506,924, ren. 6–3–69. Cl. 46.
Smithstone Kennel Supply Co.: *See—*
  Smith, Willard H.
Societa Anonima Delle Terme Di S. Pellegrino, S. Pellegrino, to Terme Di S. Pellegrina S.p.A., Milan, Italy. 254,581, ren. 6–3–69. Cl. 45.
Societe Agricole Les Fermiers Reunis des Flandres, Steenvoorde (Nord), France. 870,555, pub. 3–18–69. Cl. 46.
Societe de Distribution Raymond Oliver Societe a Responsabilite Limitee, Paris, France. 746,295, canc. Cl. 46.
Societe Job Anciens Etablissements Bardou-Job & Paulihac: *See—*
  Maison Pierre Bardou-Job.
Soil Testing Services, Inc., Northbrook, Ill. 870,616, pub. 3–18–69. Cl. 100.

Sonus Corp., Natick, Mass. 870,370, pub. 3–18–69. Cl. 21.
Sony Corp., Tokyo, Japan. 870,311, pub. 3–18–69. Cl. 8.
Sony Corp., Tokyo, Japan. 870,383, pub. 3–18–69. Cl. 21.
Sony Corp., Shinagawa-Ku, Tokyo, Japan. 870,452, pub. 3–18–69. Cl. 23.
Southern Mills, Inc., Atlanta, Ga. 870,310, pub. 3–18–69. Cl. 7.
Southern Pharmacal Co., Inc., Brentwood, Mo. 443,199, ren. 6–3–69. Cl. 18.
Southgate Brokerage Co., Inc., to Southgate Foods, Inc., Norfolk, Va. 259,195, ren. 6–3–69. Cl. 46.
Southgate Foods, Inc.: *See—*
  Southgate Brokerage Co., Inc.
Southwest Grease & Oil Co. (Kansas City), Inc.: *See—*
  Battenfeld Grease & Oil Co., The.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 870,413, pub. 3–18–69. Cl. 22.
Speer Carbon Co., Saint Marys, Pa., to Air Reduction Co., Inc., New York, N.Y. 506,482, ren. 6–3–69. Cl. 21.
Square D Co., Park Ridge, Ill. 870,395, pub. 3–18–69. Cl. 21.
Stacks, Irving H., d.b.a. Beacon Pharmacal Co., Boston, Mass. 748,077, canc. Cl. 18.
Stacy, Inc., Providence, R.I. 870,586, pub. 3–18–69. Cl. 51.
Staley, A. E., Mfg. Co., Decatur, Ill., from Morningstar-Paisley, Inc., New York, N.Y. 870,553, pub. 3–18–69. Cl. 46.
Standard Oil Co., Flemington, N.J. 870,525, pub. 3–18–69. Cl. 38.
Standard Oil Co. of California, San Francisco, Calif. 514,163, ren. 6–3–69. Cl. 15.
Standard Playing Card Co., Chicago, Ill., to The United States Playing Card Co., Cincinnati, Ohio. 256,622, ren. 6–3–69. Cl. 22.
Stenographic Machines, Inc., Chicago, to Stenographic Machines, Inc., Skokie, Ill. 514,021, ren. 6–3–69. Cl. 23.
Sterling Drug Inc.: *See—*
  Hallemite Mfg. Co., The.
  U.S. Sanitary Specialties Corp.
Sterling Hosiery Co., by Heyman Distributing Co., Chicago, Ill. 398,284, 12(c) pub. 6–3–69. Cl. 39.
Sterling Industries, Inc.: *See—*
  Minneapolis Show Case & Fixture Co.
Stern, Michaels & Co., Inc., Rochester, N.Y. 870,531, pub. 3–18–69. Cl. 39.
Sternco Industries, Inc., Harrison, N.J. 870,308, pub. 3–18–69. Cl. 6.
Stevens, J. P., & Co., Inc., New York, N.Y. 511,773, ren. 6–3–69. Cl. 42.
Stevens, J. P., & Co., Inc., New York, N.Y. 870,529–30, pub. 3–18–69. Cl. 39.
Stone Conveyor Co., Inc., Honeoye, N.Y. 870,424, pub. 3–18–69. Cl. 23.
Stone, Harry E., d.b.a. American Lacquer Solvents Co., Norristown, to American Lacquer Solvents Co., Valley Forge, Pa. 258,625, ren. 6–3–69. Cl. 16.
Strategic Materials Corp., New York, N.Y. 748,211, canc. Cl. 106.
Stresen-Reuter, Fred'k A., Inc., Bensenville, Ill. 748,054, canc. Cl. 6.
Stromberg-Carlson Products, Inc., Traverse City, Mich. 870,426, pub. 3–18–69. Cl. 23.
Sue Ann Food Products Corp.: *See—*
  Pet Inc.
Sunshine Art Studios, Inc., Springfield, Mass. 748,116, canc. Cl. 38.
Super Market Publishing Co., Inc., New York, N.Y. 748,248, canc. Cl. 38.
Superior Continental Corp., Hickory, N.C. 870,399, pub. 3–18–69. Cl. 21.
Superior Felt & Bedding Co., to Montgomery Ward & Co., Inc., Chicago, Ill. 250,601, ren. 6–3–69. Cl. 32.
Supermarkets General Corp., Cranford, from Louket Markets, Inc., Jersey City, N.J. 870,501, pub. 3–18–69. Cl. 37.
Supersonic Radio Mfg. Co. (Pvt.), Ltd., Rhodesia, Africa. 870,392, pub. 3–18–69. Cl. 21.
Sweet-Orr & Co., Inc., New York, N.Y. 507,161–2, ren. 6–3–69. Cl. 39.
Swett, James E., d.b.a. California Coatings Co., San Francisco, Calif. 870,662. Cl. 16.
Swopes Red Cross Shoes, Inc.: *See—*
  McCain-Wright, Inc.
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  Taylor Instrument Companies.
Syncretism Productions, Inc., New York, N.Y. 870,646, pub. 3–18–69. Cl. 107.
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  Tappan Stove Co., The.
Tappan Stove Co., The, to The Tappan Co., Mansfield, Ohio. 510,406, ren. 6–3–69. Cl. 34.
Tappan Stove Co., The, to The Tappan Co., Mansfield, Ohio. 511,696, ren. 6–3–69. Cl. 34.
Tartan Industries, Inc., Duncansville, Pa. 870,433, pub. 3–18–69. Cl. 23.
Tasco Corp., d.b.a. Outside Venetian Blind Co., assor. to J. E. Bush, d.b.a. Outside Venetian Blind Co., to J. E. Bush, Dallas, Tex. 510,225, ren. 6–3–69. Cl. 12.
Taylor Instrument Companies, to Sybron Corp., Rochester, N.Y. 252,957, ren. 6–3–69. Cl. 26.
Taylor & Sledd, Inc., Richmond, Va. 260,263, ren. 6–3–69. Cl. 46.
Techniservice Corp., Lester, Pa. 870,430, pub. 3–18–69. Cl. 23.
Teer, Wickwire & Co., Jackson, Mich. 870,638, pub. 3–18–69. Cl. 103.
Telex Corp., The, Tulsa, Okla. 870,377, pub. 3–18–69. Cl. 21.
Tenneco Chemicals, Inc.: *See—*
  Heyden Chemical Works, The.
Terme Di S. Pellegrino S.p.A.: *See—*
  Societa Anonmia Delle Terme Di S. Pellegrino.
Texas Citrus Fruit Growers Exchange, Mission, to Knapp-Sherriff-Koelle, Inc., d.b.a. Knapp-Sherriff-Koelle, Donna, Tex. 508,079, ren. 6–3–69. Cl. 46.
Texas Refinery Corp., Fort Worth, Tex. 748,063, canc. Cl. 16.
Textron Inc., Providence, R.I. 870,471, pub. 3–18–69. Cl. 28.
Thiokol Chemical Corp., Bristol, Pa. 870,438, pub. 3–18–69. Cl. 23.
This Corp., Camden, N.J. 870,290, pub. 3–18–69. Cl. 4.
Thomas, H., Co.: *See—*
  Lamoreaux, Thomas H.
Thompson Fishing Tackle Co., Inc., Knoxville, Tenn. 870,410, pub. 3–18–69. Cl. 22.
Thompson, Henry G., Co., The: *See—*
  Thompson, Henry G., & Son Co., The.
Thompson, Henry G., & Son Co., The, to The Henry G. Thompson Co., New Haven, Conn. 507,820, ren. 6–3–69. Cl. 23.
Thompson Industries Co., Inc., Los Angeles, Calif. 813,799, canc. Cl. 12.
Threaded Nails, Inc.: *See—*
  Bliss & Laughlin Industries Inc.
Tip-Top Products Co., Omaha, Nebr. 507,394, ren. 6–3–69. Cl. 40.
Town & Country Securities Corp., d.b.a. Midwest Acceptance Co., Fort Wayne, Ind. 748,207, canc. Cl. 102.
Tracor, Inc., Austin, Tex. 870,524, pub. 3–18–69. Cl. 38.
Traffic Stoppers Co., Philadelphia, Pa. 870,521, pub. 3–18–69. Cl. 38.
Transportation Guides, Inc., New York, N.Y. 688,341. Am. 7(d). Cl. 38.
Trend Imports Corp., New York, N.Y. 870,537, pub. 3–18–69. Cl. 40.
Trident Cars Ltd., Woodbridge, Suffolk, England. 870,362, pub. 3–18–69. Cl. 19.
Triscosal Co., The: *See—*
  Chemische Fabrik, Gruenau Landshoff & Meyer Aktiengesellschaft.
Troxel Mfg. Co., The, Elyria, Ohio, to The Troxel Mfg. Co., Moscow, Tenn. 502,623, ren. 6–3–69. Cl. 19.
Tru-Stitch Moccasin Corp.: *See—*
  Grosvenor, C. A., Shoe Co.
Tsu, Franklin, Kowloon, Hong Kong. 870,535, pub. 6–4–68. Cl. 40.
Uithoornsche Conservenfabriken "De Hoorn" N.V., Uithoorn, Netherlands. 748,153, canc. Cl. 46.
Ulmer Pharmacal Co.: *See—*
  Physicians & Hospitals Supply Co., Inc.
Union Camp Corp., New York, N.Y. 870,532, pub. 3–18–69. Cl. 39.
Union Carbide Corp.: *See—*
  Baekeland, Leo H.
Union Oil Co. of California: *See—*
  Pure Oil Co., The.
United Gilsonite Laboratories, Scranton, Pa. 870,339, pub. 3–18–69. Cl. 16.
United Motel Management Corp., New York, N.Y. 870,625, pub. 3–18–69. Cl. 101.
United Newspapers Magazine Corp., New York, N.Y. 748,246–7, canc. Cl. 38.
U.S. Electrical Motors Inc.: *See—*
  Emerson Electric Mfg. Co.
United States Gypsum Co.: *See—*
  Sackett Plaster Board Co.
U.S. Marketing, Inc., New Orleans, La. 748,223, canc. Cl. 6.
United States Playing Card Co., The: *See—*
  Gibson Art Co., The.
  Standard Playing Card Co.
United States Sales Corp., North Hollywood, Calif. 870,465, pub. 3–18–69. Cl. 27.
U.S. Sanitary Specialties Corp., Chicago, Ill., to Sterling Drug Inc., New York, N.Y. 509,283, ren. 6–3–69. Cl. 16.
U.S. Textile Machine Co., Scranton, Pa. 870,435, pub. 3–18–69. Cl. 23.
Unitours Inc., Los Angeles, Calif. 870,644, pub. 3–18–69. Cl. 105.
Universal International Cigar Corp.: *See—*
  Sensenbrenner, A., Sons.
Universal Mfg. Co., Bossier City, La. 748,094, canc. Cl. 22.
Universal Oil Products Co., Des Plaines, Ill. 870,364, pub. 3–18–69. Cl. 19.
Upjohn Co., The, Kalamazoo, Mich. 870,582, pub. 3–18–69. Cl. 51.
Usines Metallurgiques de Vallorbe, Vallorbe, Switzerland. 74,710, ren. 6–3–69. Cl. 23.
Utility Products Co.: *See—*
  Dimock, Stuart J.
Vac-Hyd Processing Corp., Detroit, Mich. 870,518, pub. 3–18–69. Cl. 38.
Vamco Corp., Brooklyn, N.Y., from Clean-A-Mat Corp. of America, Toledo, Ohio. 748,097–8, canc. Cl. 24.
Vapor Products Co.: *See—*
  Williams, Arthur J.
Vega Enterprises: *See—*
  Airfloat Corp.
Virginia Chemicals Inc., West Norfolk, Va. 870,658. Cl. 6.
Virginia Holsum Bakeries, Inc., Bluefield, W. Va. 870,675. Cl. 46.
Vista Pharmaceuticals, Inc., New York, N.Y. 748,072, canc. Cl. 18.
Wacker, Gaston, Quebec, Canada. 870,613, pub. 3–18–69. Cl. 100.
Wagner Bros. Feed Corp., d.b.a. Manor House Products, Brooklyn, N.Y. 870,568, pub. 3–18–69. Cl. 46.
Wallace, R., & Sons Mfg. Co., The, Wallingford, Conn., to Hamilton Watch Co., Lancaster, Pa. 509,860, ren. 6–3–69. Cl. 28.

Wallace, R., & Sons Mfg. Co., The, Wallingford, Conn., to Hamilton Watch Co., Lancaster, Pa. 511,794, ren. 6–3–69. Cl. 28.
Wallace & Tiernan Inc. : *See*—
  Pharma-Craft Corp., The.
Wallace-Blakeslee, Inc. : *See*—
  Atlas Advertising, Inc.
Wallace-Murray Corp. : *See*—
  Simonds Abrasive Co.
Wander Co., The, Lincoln, Nebr. 870,353, pub. 3–18–69. Cl. 18.
Weatherhead Co., The, Cleveland, Ohio. 870,489, pub. 3–18–69. Cl. 35.
Weeks, Evert D. : *See*—
  Armand Co., The.
Weinstein, Seymour, Brooklyn, N.Y. 748,085, canc. Cl. 22.
Weis, Henry, Mfg. Co. : *See*—
  Interoceanic Commodities Corp.
Wellcome, Henry S., London, England, to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 73,155, ren. 6–3–69. Cl. 6.
Wells, Martin, Pty. Ltd., St. Marys, New South Wales, Australia. 870,459, pub. 3–18–69. Cl. 26.
Wells Television, Inc., New York, N.Y. 870,398, pub. 3–18–69.
Werkzeugmaschinenfabrik Oerlikon Buhrle & Co., Zurich, Switzerland. 870,455, pub. 12–24–68. Cl. 26.
West Bend Co., The, West Bend, Wis. 870,334, pub. 3–18–69. Cl. 13.
West Chemical Products, Inc., Long Island City, N.Y. 870,-300, pub. 3–18–69. Cl. 6.
Westab Inc. : *See*—
  Western Tablet & Stationery Corp.
Western Laundry Press, Salt Lake City, Utah, to McGraw-Edison Co., Elgin, Ill. 508,571, ren. 6–3–69. Cl. 24.
Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 509,656, ren. 6–3–69. Cl. 37.
Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 511,169, ren. 6–3–69. Cl. 37.
Wetsel Enterprises, Sacramento, Calif. 870,323, pub. 2–4–69. Cl. 12.
Wham-O Mfg. Co., San Gabriel, Calif. 870,414, pub. 3–18–69. Cl. 22.
Wheeler, Margaret D., Hollywood, Calif. 870,511, pub. 3–18–69. Cl. 38.
Wheeling Steel Corp., to Wheeling-Pittsburgh Steel Corp., Wheeling, W. Va. 512,402, ren. 6–3–69. Cl. 13.
Wheeling-Pittsburgh Steel Corp. : *See*—
  Wheeling Steel Corp.
White Laboratories, Inc., Kenilworth, N.J. 870,355, pub. 3–18–69. Cl. 18.
Williams, Arthur J., d.b.a. Vapor Products Co., Orlando, Fla. 748,047, canc. Cl. 6.
Wisconsin Trailer Co., Inc., Richfield, Wis. 870,358, pub. 1–14–69. Cl. 19.
Wohl Shoe Co., St. Louis, Mo. 514,440, ren. 6–3–69. Cl. 39.
Wolf Brothers & Co., Red Lion, to House of Windsor, Inc., Windsor, Pa. 507,032, ren. 6–3–69. Cl. 17.
Wondercraft, Inc., York, Pa. 748,091, canc. Cl. 22.
Worldwide Musical Instrument Co., Inc., New York, N.Y. 870,-495, pub. 3–18–69. Cl. 36.
Worobey, Alexander, d.b.a. Awor Medical Products, Portland, Oreg. 745,073, canc. Cl. 18.
Wright, Frank Lloyd, Foundation, The, Scottsdale, Ariz. 870,-490, pub. 3–18–69. Multiple Class (Classes 36 and 38).
Wyandotte Chemicals Corp., Wyandotte, Mich. 748,193, canc. Cl. 52.
Yardley of London, Inc., Totowa, N.J. 870,581, pub. 12–24–68. Cl. 51.
Young Spring & Wire Corp., Detroit, Mich. 870,484, pub. 3–18–69. Cl. 32.
Zenith Radio Corp., Chicago, Ill. 870,492, pub. 3–18–69. Cl. 36.
Zubbrick, William A., d.b.a. Active Sign Co. of America, Chicago, Ill. 870,620, pub. 3–18–69. Cl. 101.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
June 10, 1969 Volume 863 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of April 1969

Examiner affirmed	167
Examiner affirmed in part	16
Examiner reversed	22
Total	205

Disclaimers

3,311,819.—*John S. Miller,* Poland, Ohio. AUTOMATIC BILLET SCANNING APPARATUS WITH EDGE SENSING MEANS FOR REVERSING SCAN. Patent dated Mar. 28, 1967. Disclaimer filed Mar. 24, 1969, by the assignee *Republic Steel Corporation.*

Hereby enters this disclaimer to claims 1, 2, 3, 5, 6 and 7 of said patent.

3,316,041.—*Donald E. Nelson,* Statesville, N.C. MODULAR DISPLAY CASE. Patent dated Apr. 25, 1967. Disclaimer filed Sept. 9, 1968, by the assignee, *Kewaunee Technical Furniture Company.*

Hereby enters this disclaimer to claims 1, 4, 7 and 10 through 15 of said patent.

Certificates of Correction for the Week of June 10, 1969

3,313,636
3,343,318
3,345,171
3,355,505
3,355,901
3,358,411
3,358,460
3,362,789
3,365,960
3,366,166
3,369,467
3,371,013
3,373,005
3,373,280
3,374,320
3,384,713

Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Tuesday, August 26, 1969.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be filed in the Patent Office together with a $35 fee not later than July 25, 1969.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Bldg. 3, 11th Floor, Room C16, Crystal Plaza or by mail directed to the attention of the Clerk of the Committee on Enrollment, U.S. Patent Office, Washington, D.C., 20231.

EDWIN L. REYNOLDS,
May 15, 1969. *Chairman, Committee on Enrollment.*

Dedications

2,700,655.—*Herbert A. Endres,* Cuyahoga Falls, and *James W. Shaw, Jr.,* Akron, Ohio, and *Harold B. Pullar,* Magnolia, Ark. RUBBER COMPOSITIONS. Patent dated Jan. 25, 1955. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

2,809,179.—*Herbert A. Endres,* Silver Lake, and *James W. Shaw, Jr.,* Akron, Ohio, and *Harold B. Pullar,* Magnolia, Ark. RUBBER BARYTES COMPOSITIONS AND METHODS OF PREPARATION. Patent dated Oct. 8, 1957. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

2,921,919.—*Herbert A. Endres,* Silver Lake, Ohio, and *Walter F. Winters,* Winnetka, Ill. RUBBERIZED MINERAL-TAR COMPOSITION AND PROCESS OF MAKING SAME. Patent dated Jan. 19, 1960. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

3,127,367.—*Herbert A. Endres,* Silver Lake, and *Warren W. Burr,* West Richfield, Ohio. METHOD AND APPARATUS FOR ADDING LATEX TO HOT BITUMEN. Patent dated Mar. 31, 1964. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

3,202,623.—*Herbert A. Endres,* Cuyahoga Falls, Ohio, *Harold B. Pullar,* Hot Springs, Ark., and *Paul W. Gilkeson, Jr.,* Houston, Tex. PROCESS OF PREPARING RUBBERIZED COMPOSITIONS. Patent dated Aug. 24, 1965. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

New Applications Received During April 1969

Patents	8989
Designs	450
Plant Patents	6
Reissues	19
Total	9464

Issue—June 10, 1969

Patents	1301	No. 3,448,460 to No. 3,449,760, incl.
Designs	61	No. 214,356 to No. 214,416, incl.
Plant Patents	6	No. 2,890 to No. 2,895, incl.
Reissues	6	No. 26,601 to No. 26,606, incl.
Total	1374	

3,253,521.—*Herbert A. Endres,* Silver Lake, Ohio. FLEXIBLE PAVING COMPOSITION. Patent dated May 31, 1966. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

3,254,045.—*Edward A. Sinclair,* Kent, Ohio. METHOD FOR MANUFACTURE OF RUBBERIZED BITUMEN. Patent dated May 31, 1966. Dedication filed Jan. 17, 1969, by the assignee, *The Goodyear Tire & Rubber Company.*

Hereby dedicates to the people of the United States the entire term of said patent.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 19, 1969

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4–24–67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	8–22–66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1–18–67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*7–21–66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1–05–67
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5–19–67
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10–13–66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*5–25–66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	3–08–67
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	7–12–67
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	6–18–68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	9–01–67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5–02–67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	5–15–67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	3–27–68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	12–26–67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	9-15-67

Total number of pending applications (excluding Designs)	186, 359
Total number of Design applications pending	3, 376

Expiration of patents: The patents within the range of numbers indicated below expire during June 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,598,659 to 2,601,678, inclusive
Plant Patents	Numbers 1,101 to 1,109, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

In re Herman Hoeksema

No. 7778. Decided August 8, 1968

[55 CCPA 1493; 399 F.2d 329; 158 USPQ 596]

1. Patentability—Compound—Enabling Disclosure—No Obvious Method of Preparation.

"We are certain, however, that the invention as a whole is the claimed compound *and* a way to produce it, wherefore appellant's argument has substance. There has been no showing by the Patent Office in this record that the claimed compound can exist because there is no showing of known or obvious way to manufacture it; hence, it seems to us that the 'invention as a whole,' which section 103 demands that we consider, is not obvious from the prior art of record."

2. Same—Same—Obviousness—35 U.S.C. 103.

"While there are valid reasons based in public policy as to why this defect in the prior art [no obvious method for preparing the claimed compounds] precludes a finding of obviousness under section 103, *In re Brown*, supra, its immediate significance in the present inquiry is that it poses yet another *difference* between the claimed invention and the prior art which must be considered in the context of section 103. So considered, we think the differences between the claimed invention and the prior art [i.e., in addition to novelty] which must be considered as a whole and the prior art are such that the claimed invention would not be obvious within the contemplation of 35 U.S.C. 103."

3. Same—Same—Enabling Disclosure 35 U.S.C. 102 and 103.

"While 35 U.S.C. 102 is not *directly* involved in the issue on review, the conditions for patentability, novelty and loss of right to patent, there stated, may have relevance as to the disclosure which must be found in the prior art to find obviousness of an invention under section 103. In determining the quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains as 'enabling disclosure,' in the present context, a process by which the claimed compound could be made."

4. Same—Same—Same.

We concluded [in *In re Brown*], relying on *In re Le Grice*, supra, and *E. I. du Pont de Nemours & Co.* v. *Ladd*, 328 F.2d 547, 140 USPQ 297 (D.C. Cir. 1964), that the "true test of any prior art relied on to show or suggest that a chemical compound is old, is whether the prior art is such as to place the disclosed 'compound' in the *possession of the public*." 51 CCPA at 1259, 329 F.2d at 1011, 141 USPQ at 249.

5. Same—Same—Same.

While *In re Le Griee* was bottomed on an issue arising under 35 U.S.C. 102 where the reference was a "printed publication," that test [that the prior art be such as to place the disclosed compound "in the possession of the public"] in our view, is also properly applicable to issues arising under 35 U.S.C. 103. See *In re Brown*, supra (pertinent portion quoted above); *Deutsche Gold- und Silber-Scheidcanstalt* v. *Commissioner*, 251 F. Supp. 624, 629–630. 148 USPQ 412, 416 (D.D.C. 1966), affirmed, — F.2d —, 1957 USPQ 549 (D.C. Cir. 1968).

6. Same—Same—Same—No Obvious Method of Preparation Closely Related Compounds.

Thus, upon careful reconsideration it is our view that if the prior art of record fails to disclose or render obvious a method for making a claimed compound, at the time the invention was made, it may not be legally concluded that the compound itself is in the possession of the public. In this context, we say that the absence of a known or obvious process for making the claimed compounds overcomes a presumption that the compounds are obvious, based on close relationships between their structures and those of prior art compounds. The second aspect of the questions presented by this rehearing involves the issue of whether the burden is on the Patent Office to provide the evidence on which to predicate process obviousness. 35 U.S.C. 101 States, in its preamble, that an applicant is *entitled* to a patent *unless* certain patent-defeating provisions are met. The substantive patent-defeating provisions are encompassed in 35 U.S.C. 100–103.

7. Same—Same—Obviousness—Burden of Evidence.

"As we have stated, the Patent Office search resulted in citation of the De Boer reference which, under the prevailing law, rendered appellant's claimed compounds *prima facie* obvious. In other words, its citation shifted to appellant the burden of going forward with contrary evidence. Appellant filed the affidavit, of Dr. Wiley which points out as a fact that De Boer—the only reference being relied on—does not disclose a process for producing the different compounds here claimed. We think that portion of the Wiley affidavit set forth, supra note 7, states facts which were legally sufficient to overcome the position of the Patent Office as to the legal effect under section 103 of the De Boer reference. Appellant's responsibility to overcome this reference as a 'patent-defeating' reference under section 103 at that point in the prosecution was only to overcome De Boer as a reference pertinent to the issue of obviousness under section 103."

8. Same—Same—Same—35 U.S.C. 103.

"We think the Wiley affidavit is clearly sufficient for this purpose. The affidavit points out that there is no indication in the De Boer patent that the fermentation process used to produce De Boer's compounds could be used to produce appellant's compounds. Since we are of the view that the method for making the compounds is an integral part of the 'invention as a whole' which we must consider under section 103, we conclude that the burden of going forward with proofs to support its position as to obviousness of the claimed invention shifted to the Patent Office upon appellant's filing of the Wiley affidavit."

9. Same—Particular Subject Matter—"9-D-Psicofuranosylpurine and 6-Substituted Derivatives."

The refusal of a certain claim on an application entitled "9-D-Psicofuranosylpurine and 6-Substituted Derivatives." As unpatentable over the prior art is reversed.

Appeal from the Patent Office. Serial No. 30,770.

REVERSED.

Earl C. Spaeth, (*Eugene O. Retter*, *George T. Johannesen*, of counsel) for appellant.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before Worley, *Chief Judge*, and Judges Rich, Smith, Almond, and Kirkpatrick[1]

Smith, *J*., delivered the opinion of the court.

In our prior consideration of this appeal, we affirmed the decision of the Patent Office Board of Appeals, which had affirmed the Examiner's rejection of the sole remaining claim of appellant's application,[2] *In re Hoeksema*, 54 CCPA 1618, 379 F.2d 1007, 154 USPQ 169 (1967). Because of the continuing importance of the questions involved, and the strong suggestion of error in our earlier opinion, we granted appellant's petition for a rehearing under the provisions of Rule 7 of this court, 55 CCPA — (October 5, 1967).

The parties filed new briefs, and the case was reargued on January 3, 1968. Upon reconsideration of our previous decision, we have concluded that our previous decision was erroneous and that a proper resolution of the issues requires that we *reverse* the decision of the Board.

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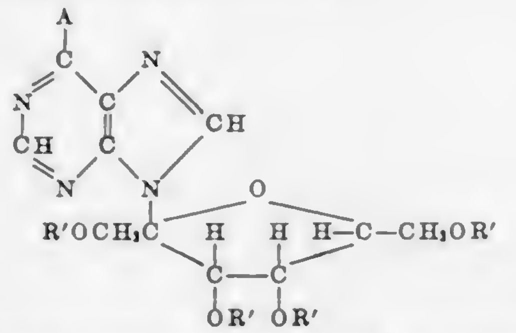
[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Claim 1 in Serial No. 30,770, filed May 23, 1960, for "9-D-Psicofuranosylpurine and 6-Substituted Derivatives." Claims 2 and 11–25 stand allowed.

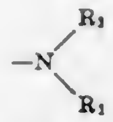
The facts are set forth in our original opinion. We shall assume familiarity with that statement of facts and shall here redevelop only those which we now believe were previously misapprehended or misapplied and require the present decision.

The sole claim on appeal is directed to a chemical compound and reads as follows:

1. An N-psicofuranoside having the formula:

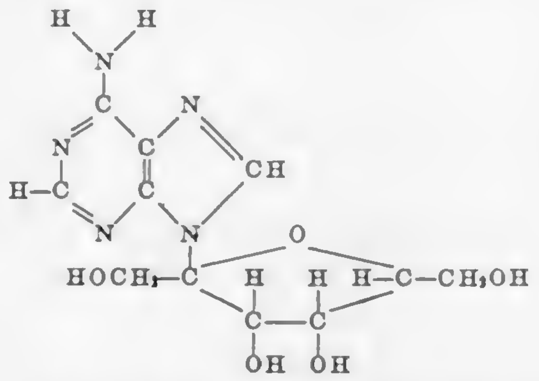


wherein A is selected from the class consisting of hydrogen, the group —XR wherein R is selected from the class consisting of hydrogen, lower-alkyl, and lower-aralkyl, and X is selected from the class consisting of oxygen and sulfur, and the group

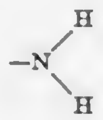


wherein R$_2$ is selected from the class consisting of hydrogen, lower-alkyl, lower-aralkyl, and lower-aryl, and R$_3$ is selected from the class consisting of lower alkyl, lower-aralkyl, and lower-aryl, and R′ is selected from the class consisting of hydrogen, a hydrocarbon carboxylic acid acyl radical containing from two to twelve carbon atoms, inclusive, and a halo-, hydroxy-, lower-alkoxy-, amino-, cyano-, thiocyano-, and nitro-substituted hydrocarbon carboxylic acid acyl radical containing from two to twelve carbon atoms, inclusive.

That claim stands rejected under 35 U.S.C. 103 as unpatentable over prior art, on this record limited solely to the De Boer et al. patent[3] (De Boer) which discloses a compound with the structural formula:



As we noted in our original opinion, the controversy here is limited to the substituent A at the 6-position of the purine ring system. Although a compound having De Boer's structure is not included in the appealed claim since A in the claim cannot be an unsubstituted or primary amino,



the basic structure of the De Boer compound is similar to the structure of appellant's alkylamino and dialkylamino compounds.[4]

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[3] Patent No. 3,094,460, issued June 18, 1963, on an application filed January 20, 1959.

[4] Appellant, in effect, admits that there is such a "structural similarity" between his claimed compounds and the prior art compounds as to raise an "inference of fact" that they are not patentable within the meaning of 35 U.S.C. 103. See *In re Papesch,* 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43 (1963); *In re Victor Mills,* 47 CCPA 1185, 281 F.2d 218, 126 USPQ 513 (1960).

Despite this close structural similarity between the De Boer amino compound and the alkylamino and dialkylamino compounds included in the appealed claim, appellant chose not to submit a showing of unexpected properties in his claimed compounds.[5] Appellant asserted that his compounds were unobvious and patentable without such a showing. He urged that De Boer does not teach one of ordinary skill in the art how to make appellant's claimed compounds, and the Examiner did not cite any other reference telling how they might be made. Therefore, in appellant's view, his claimed compounds are not in possession of the public, *In re Brown*, 51 CCPA 1254, 329 F.2d 1066, 141 USPQ 245 (1964).[6]

In support of his position, appellant submitted an affidavit by Dr. Paul F. Wiley relating to the unavailability to the public of processes for preparing appellant's alkylamino and dialkylamino compounds.[7] Dr. Wiley's qualifications and competence as an expert to state facts and opinion in this area of chemistry were not challenged.

Regarding the Wiley affidavit, the Examiner stated, in his answer:

> The affidavit * * * does not appear to be pertinent to the claim now on appeal because it is directed to the processes by which the De Boer et al. and appellant's compounds are prepared, and shows nothing unobvious for the instantly claimed compound.

Concerning the Wiley affidavit, the Board cited a statement of this court in *In re Riden*, 50 CCPA 1411, 318 F.2d 761, 138 USPQ 112 (1963), to the effect that "the method of making the compounds is a relevant fact to be considered in the question of obviousness of the compounds," 50 CCPA at 1415, 318 F.2d at 764, 138 USPQ at 114–115. But the Board continued:

> * * * This may be so but it is only one factor and, in our opinion, should never be the overriding one which appellant is here, in effect, urging.

Appellant states the first of two central questions to be decided in this rehearing as follows:

> (1) Appellant will admit his compounds are obvious and unpatentable *if* an obvious process is available to make them. Does it follow then that appellant's compounds are unobvious and patentable if an obvious process is *not* available to make them?

Within this context, appellant simplifies that question to: Is process obviousness relevant in deciding compound obviousness?[8]

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[5] Such a showing often has been treated by this court as overcoming a case of "prima facie obviousness" or the "inference of fact" that the compounds are obvious. See, e.g., *In re Papesch,* supra note 4 and cases cited therein.

[6] For the applicability of *In re Brown,* supra, to other factual contexts, see *In re Bird,* 52 CCPA 1290, 1294, 344 F.2d 979, 982, 145 USPQ 418, 420 (1965); *In re Sheppard,* 52 CCPA 859, 864, 339 F.2d 238, 242, 144 USPQ 42, 45 (1964); *Dix-Seal Corp.* v. *New Haven Trap Rock Co.,* 236 F. Supp. 914, 921, 144 USPQ 57, 64 (D.C. Conn. 1964).

[7] After setting forth his qualifications and stating that he had read and understood both appellant's application and the prior art patent, Dr. Wiley stated:

> THAT, 6-amino-9-D-psicofuranosylpurine is a systematic name for "psicofuranine" which is disclosed in column 6, lines 46-62 of the aforesaid patent;
>
> THAT, according to the aforesaid patent, 6-amino-9-D-psicofuranosylpurine is produced by a fermentation process involving the action of a specific microorganism, *S. hygroscopicus* var. decoyinine, in certain aqueous nutrient media;
>
> THAT, *there is no indication in the aforesaid patent* [De Boer] *that the aforesaid fermentation process could be used to produce 6-lower-alkylamino-9-D-psicofuranosylpurines, 6-di-lower-alkylamino-9-D-psicofuranosylpurines, or other 6-substituted-amino-9-D-psicofuranosylpurines;*
>
> THAT, he does not believe the aforesaid fermentation process could be adapted to the production of the aforesaid 6-lower-alkylamino-9-D-psicofuranosylpurines, 6-di-lower-alkylamino-9-D-psicofuranosylpurines, or other 6-substituted-amino-9-D-psicofuranosylpurines;
>
> THAT, *the aforesaid 6-amino-9-psicofuranosylpurine could not be transformed by direct chemical substitution of the 6-amino group to a 6-lower-alkylamino-9-D-psicofuranosylpurine,* a 6-di-lower alkylamino-9-D-psicofuranosylpurine, or other 6-substituted-amino-9-D-psicofuranosylpurines, *and that such transformations could be carried out only by a complex multi-step procedure such as that described in the aforesaid patent application Serial No. 30,770.* [Emphasis added.]

[8] To this extent, appellant has misstated his argument. That process obviousness is relevant in this context is clear from *In re Riden,* supra. See also *In re Chapman*, 53 CCPA 978, 357 F.2d 418, 148 USPQ 711 (1966); *In re Burt*, 53 CCPA 929, 356 F.2d 115, 148 USPQ 548 (1966); *In re Sohechter,* 40 CCPA 1009, 205 F.2d 185, 98 USPQ 144 (1963).

We think appellant really means to say that the question is whether a claimed compound may be said to be legally obvious when no process for making that compound is shown in the prior art relied upon to establish legal obviousness under section 103.

The Solicitor responds to the latter characterization of the question in the affirmative, pointing out that the first question bears on the principle implicit in *In re Brown*, supra that claimed compounds not distinguished in their properties over closely related prior art compounds are unpatentable thereover where the claimed compounds would be "in possession of the public" in that a process for preparing them would be obvious to those of ordinary skill in the art.

In addition, the Solicitor now refers to our prior opinion in which we noted that the facts in this case are closely analogous to those of *In re Riden*, supra, where we stated that the fact that the method of making the claimed compound is relevant, 54 CCPA at —, 379 F.2d at 1010, 154 USPQ at 172.

A recurring problem of analysis which confronted us as we prepared our previous opinion, and which still confronts us after the rehearing, has its genesis in a proper understanding of the issue as framed by appellant. In effect, appellant agrees that since the claimed product is a homolog of a known compound, it would be prima facie "obvious" under 35 U.S.C. 103. But this agreement is conditioned on the proviso that there is in the prior art an "obvious" process by which to make that compound.

In the context of section 103, we are not permitted to fragment a claimed invention in applying that section. The clear mandate of the statute which governs our analysis requires that we consider the *invention as a whole* in making the determination.

Thus, as we apply the statute to the present invention, we must ask first, what is the invention as a whole? Necessarily, by elementary patent law principles, it is the claimed compound, but, so considered, unless there is some known or obvious way to make the compound, the invention is nothing more than a mental concept expressed in chemical terms and formulae on a paper.

[1] We are certain, however, that the invention as a whole is the claimed compound *and* a way to produce it, wherefore appellant's argument has substance. There has been no showing by the Patent Office in this record that the claimed compound can exist because there is no showing of a known or obvious way to manufacture it; hence, it seems to us that the "invention as a whole," which section 103 demands that we consider, is not obvious from the prior art of record.

[2] While there are valid reasons based in public policy as to why this defect in the prior art precludes a finding of obviousness under section 103, *In re Brown*, supra, its immediate significance in the present inquiry is that it poses yet *another difference* between the claimed invention and the prior art which *must* be considered in the context of section 103. So considered, we think the differences between appellant's *invention as a whole* and the prior art are such that the claimed invention would not be obvious within the contemplation of 35 U.S.C. 103.

[3] While 35 U.S.C. 102 is not *directly* involved in the issue on review, the conditions for patentability, novelty and loss of right to patent, there stated, may have relevance as to the disclosure which must be found in the prior art to find obviousness of an invention under section 103. In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention "not novel" or "anticipated" within section 102, the stated test is whether a reference contains an "enabling disclosure," in the present context, a process by which the claimed compound could be made. In *In re Le Grice*, 49 CCPA 1124, 301 F.2d 929, 133 USPQ 365 (1962), we observed that the resolution of this issue required us to determine whether, *as a matter of law*, a reference without such a disclosure constituted a statutory time bar to an applicant's right to a patent. There, the issue was founded on 35 U.S.C. 102(b), not 103, but our conclusions have a certain pertinence here. We concluded, id. at 1134, 301 F.2d at 936, 133 USPQ at 372:

> We think it is sound law, consistent with the public policy underlying our patent law, that before any publication can amount to a statutory bar to the grant of a patent, its disclosure must be such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention.* * * *

In *In re Brown*, supra, this court discussed *In re Von Bramer*, 29 CCPA 1018, 127 F.2d 149, 53 USPQ 345 (1942), commenting that that opinion should not be construed to encompass what had come to be called the "Von Bramer doctrine." There we stated, 51 CCPA at 1257, 329 F.2d at 1009, 141 USPQ at 247:

> * * * This doctrine, which appears to have resulted from *In re Von Bramer et al.*, supra, seems over a period of years to have been tailored in some quarters to a principle which defeats the novelty of a chemical compound on the basis of a mere printed conception or a mere printed contemplation of a chemical "compound" *irrespective of the fact* that the so-called "compound" *described in the reference is not in existence or that there is no process shown in the reference for preparing the compound, or that there is no process known to a person having ordinary skill in the relevant art for preparing the compound.* In other words, a mere formula or a mere sequence of letters which constitute the designation of a "compound," is considered adequate to show that a compound in an application before the Patent Office, which compound is designated by the same formula or the same sequence of letters, is old. We do not think that the *Von Bramer* case should be so construed. [Emphasis added.]
>
> * * * * * * *
>
> To the extent that anyone may draw an inference from the *Von Bramer* case that the *mere* printed conception or the *mere* printed contemplation which constitutes the designation of a "compound" is sufficient to show that such a compound is old, regardless of whether the compound is involved in a 35 U.S.C. 102 or 35 U.S.C. 103 rejection, we totally disagree. * * * [Footnotes omitted.]

[4] We concluded, relying on *In re Le Grice*, supra, and *E. I. du Pont de Nemours & Co.* v. *Ladd*, 328 F.2d 547, 140 USPQ 297 (D.C. Cir. 1964), that the "true test of any prior art relied on to show or suggest that a chemical compound is old, is whether the prior art is such as to place the disclosed 'compound' in the *possession of the public*." 51 CCPA at 1259, 329 F.2d at 1011, 141 USPQ at 249.

[5] While *In re Le Grice* was bottomed on an issue arising under 35 U.S.C. 102 where the reference was a "printed publication," that test, in our view, is also properly applicable to issues arising under 35 U.S.C. 103. See *In re Brown*, supra (pertinent portion quoted above); *Deutsche Gold- und Silber-Scheideanstalt* v. *Commissioner*, 251 F. Supp. 624, 629–630, 148 USPQ 412, 416 (D.D.C. 1966), affirmed, — F.2d —, 157 USPQ 549 (D.C. Cir. 1968).

[6] Thus, upon careful reconsideration it is our view that if the prior art of record fails to disclose or render obvious a method for making a claimed compound, at the time the invention was made, it may not be legally concluded that the compound itself is in the possession of the public.[9] In this context, we say that the absence of a known or obvious process for making the claimed compounds overcomes a presumption that the compounds are obvious, based on close relationships between their structures and those of prior art compounds.

The second aspect of the questions presented by this rehearing involves the issue of whether the burden is on the Patent Office to provide the evidence on which to predicate process obviousness.

35 U.S.C. 101 states, in its preamble, that an applicant is *entitled* to a patent *unless* certain patent-defeating provisions are met. The substantive patent-defeating provisions are encompassed in 35 U.S.C. 100–103.

[7] As we have stated, the Patent Office search resulted in citation of the De Boer reference which, under the prevailing law, rendered appellant's claimed compounds *prima facie* obvious. In other words, its citation shifted to appellant the burden of going forward with contrary evidence. Appellant filed the affidavit of Dr. Wiley which points out as a fact that De Boer—the only reference being relied on—does not disclose a process for producing the different compounds here claimed.

We think that portion of the Wiley affidavit set forth, supra note 7, states facts which were legally sufficient to overcome the position of the Patent Office as to the legal effect under section 103 of the De Boer reference.[10] Appellant's responsibility to overcome this reference as a "patent-defeating" reference under section 103 at that point in the prosecution was ony to overcome De Boer as a reference pertinent to the issue of obviousness under section 103.

[8] We think the Wiley affidavit is clearly sufficient for this purpose. The affidavit points out that there is no indication in the De Boer patent that the fermentation process used to produce De Boer's compounds could be used to produce appellant's compounds. Since we are of the view that the method for making the compounds is an integral part of the "invention as a whole" which we must consider under section 103, we conclude that the burden of going forward with proofs to support its position as to obviousness of the claimed invention shifted to the Patent Office upon appellant's filing of the Wiley affidavit.

[9] The failure of the Patent Office to produce such evidence requires that the decision of the Board be reversed.

REVERSED.

WORLEY, *Chief Judge*, did not participate.

KIRKPATRICK, *J.*, dissenting.

I am unable to agree with the result reached by the majority. The reasons for my dissent appear in the overruled opinion *In re Hoeksema*, 54 CCPA 1618, 379 F.2d 1007, 154 USPQ 169 (1967).

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[9] In *Phillips Petroleum* v. *Ladd*, 219 F. Supp. 366, 138 USPQ 421 (D.D.C. 1963), in considering a rejection arising under 35 U.S.C. 102, the District Court agreed with this court that the mere naked statement of the invention does not put anyone in possession of the invention. That court was careful to note that no process had been shown in the reference for preparing the compound and that no process was known to one of ordinary skill in the art for preparing the compound.

In *Ex parte Wall*, 156 USPQ 95 (P.O. Bd. App. 1964), the Board considered a rejection under 35 U.S.C. 102 of a claim reading "Perfluorostyrene." In reversing the Examiner, the Board commented that the Examiner did not contend that the reference disclosed how perfluorostyrene is made, nor did he point to any extraneous evidence which would indicate that those skilled in the art knew how to make that compound.

[10] We think this approach to be eminently fair to all parties and in accord with the opinion of the Supreme Court in *Graham*, in its requiring that all of the pertinent evidence be considered while yet leaving the primary responsibility for sifting out unpatentable material with the Patent Office *Graham* v. *John Deere Co.*, 383 U.S. 1 at 18, 148 USPQ at 467. It would be practically impossible for an applicant to show that all known processes are incapable of producing the claims compound.

U.S. Court of Customs and Patent Appeals

SCM CORPORATION *v.* ROYAL MCBEE CORPORATION

No. 7976. Decided June 6, 1968

[55 CCPA 1179; 395 F.2d 1018; 158 USPQ 36]

1. TRADEMARK—CONFUSING SIMILARITY—"ELECTRA" AND "ELECTRESS" FOR TYPEWRITERS—TRADEMARK ACT OF 1946, SECTION 2(d).

"It seems clear to us that when 'Electress' and 'Electra' are used on the same goods [electric typewriters], advertised and sold to the public through the same channels of trade, there would be a likelihood of purchaser confusion within the meaning of § 2(d) of the Trademark Act of 1946."

2. SAME—SAME—EVIDENCE—HOUSE MARKS.

"Certain exhibits reflect the parties' *current* practice of associating their house marks 'SCM' and 'Royal' with 'Electra' and 'Electress,' respectively. However, our concern here, of course, is whether 'Electra,' the mark actually registered, and 'Electress,' the mark for which registration is sought, are confusingly similar when applied to the instant goods."

APPEAL from Patent Office. Opposition No. 43,151.

REVERSED.

Strauch, Nolan, Neale, Nies & Kurz, John D. Nies for appellant.

Liddy, Sullivan, Hart, Daniels & Baxley, Francis J. Sullivan (*Joe E. Daniels*, of counsel) for appellee.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK[1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

Royal McBee seeks registration of "Electress" for use on "Typewriting Machines and Parts Thereof." SCM opposes on prior use and registration of its trademark "Electra" for "Electric Typewriters."

After reviewing at some length the testimony and other evidence submitted by the parties, the Trademark Trial and Appeal Board[2] summarized its finding that:

> The record supports opposer's claim of prior rights in the mark "Electra." The goods of the parties, although specifically different in certain physical characteristics, are nevertheless electric typewriters which have been advertised in the same media for substantially similar purposes and which have been sold in many instances through the same retail outlets. Under these circumstances, the marketing of these goods under the same or similar marks is reasonably likely to lead to confusion in trade. Accordingly, this case turns on whether or not "Electress" is confusingly similar to "Electra."

We have found nothing from our review of the record in conflict with the resumé. However, we are not persuaded that the Board correctly concluded that the opposition should be dismissed. It reasoned:

> These marks are alike primarily in that each contains the designation "Electr" as the initial portion. This designation was obviously adopted by the parties to suggest that their respective typewriters are electrically actuated. In this regard, "Electr" is listed in Webster's Third New International Dictionary (Unabridged, 1961) as a combining form denoting electric or electricity. In fact, the dictionary lists more than two hundred words incorporating the letters "electr" to suggest or describe something that possesses an electrical characteristic or feature. Accordingly, it is believed that the differences between the marks "Electress" and "Electra" are sufficient to obviate any likelihood of confusion as to the source of the goods sold thereunder. This conclusion is bolstered by the testimony by one of opposer's area sales managers, referred to above, to the effect that notwithstanding that at least eight dealers within his area have been selling both "Electra" and "Electress" typewriters, not one of them ever indicated that any person has confused applicant's machine with that of opposer.

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] 149 USPQ 904.

Granted that the marks suggest the electrical features of the competing products; that Webster lists more than two hundred words incorporating "electr"; and the testimony of one witness regarding alleged[3] lack of actual confusion, the issue nevertheless is whether Royal's mark "Electress" "so resembles" SCM's mark "Electra," when both are viewed in their entirety in the market place, "as to be likely, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive."[4]

[1] It seems clear to us that when "Electress" and "Electra" are used on the same goods,[5] advertised and sold to the public through the same channels of trade, there would be a likelihood of purchaser confusion within the meaning of § 2(d) of the Trademark Act of 1946.

The decision is reversed.

REVERSED.

RICH, *J.*, dissenting.

I would affirm. While consumers might be confused as to the source of *some* goods concurrently sold under the trademarks "Electra" and "Electress," I do not believe this would be the case when the goods are *electric* typewriters. *Fort Howard Paper Co.* v. *Gulf States Paper Corp.*, 54 CCPA 1375, 376 F.2d 904, 153 USPQ 646 (1967); *E. L. Bruce Co.* v. *American Termicide Co.*, 48 CCPA 762, 285 F.2d 462, 128 USPQ 341 (1960). Furthermore, electric typewriters are so expensive and purchased so infrequently as to assure that considerable care will be exercised in their selection with attention to who made them. It does not appear to me that the majority has given sufficient consideration to the nature of the goods, their cost, the purely descriptive nature of the "Electr" portion of the marks, or the precedents above cited and others of like import.

Furthermore, opposer's own exhibits, presumably attached to its Notice of Opposition to support its case, show that its use of "Electra" in advertising and on the typewriters is in association with "Smith-Corona" and "SCM Corporation," or both. It is not opposer's practice to rely on "Electra" as a primary source designation. This is another reason why, *on this record*, there is no reasonable likelihood of confusion, mistake, or deception. As further rendering it unlikely, the record shows the applicant's commercial practice to be to merchandise "Royal Electress" typewriters so that purchasers know the source to be appellee, not opposer.

It appears to me that the majority has overlooked or given insufficient weight to the foregoing and other factors, as reported at 149 USPQ 904, which led the three-member board to its eminently sound unanimous decision.

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[3] The witness testified:

> XQ4. Have any of these dealers ever suggested to you that anyone has confused your machine with the Electress? A. No, sir, they haven't.

As appellant points out, the record does not show that any of those dealers were ever asked to relate instances of existence of "confusion." The dealers' failure to volunteer such information can hardly be construed as evidence of the presence or absence of actual confusion.

[4] Lanham Act, section 2(d).

[2] [5] Certain exhibits reflect the parties' *current* practice of associating their house marks "SCM" and "Royal" with "Electra" and "Electress," respectively. However, our concern here, of course, is whether "Electra," the mark actually registered, and "Electress," the mark for which registration is sought, are confusingly similar when applied to the instant goods. See *In re Beaunit Mills*, 47 CCPA 755, 758, 274 F.2d 436, 124 USPQ 370, citing *Burton-Dixie Corp.* v. *Restonic Corp.*, 43 CCPA 950, 234 F.2d 668, 110 USPQ 272. See also *Denney* v. *Elizabeth Arden Sales Corp.*, 46 CCPA 790, 263 F.2d 347, 120 USPQ 480, *Sealy, Inc.* v. *Simmons Co.*, 46 CCPA 857, 265 F.2d 934, 121 USPQ 456; *Bellbrook Dairies, Inc.*, v. *Hawthorn-Mellody Farms Dairy, Inc.*, 45 CCPA 842, 253 F.2d 431, 117 USPQ 213; *Hat Corp. of America* v. *John B. Stetson Co.*, 42 CCPA 1001, 223 F.2d 485, 106 USPQ 200.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,602,751, D. M. Robinson, METHOD FOR STERILIZING SUBSTANCES OR MATERIALS SUCH AS FOOD AND DRUGS; **2,680,815**, E. A. Burrill, METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS; **2,729,748**, D. M. Robinson, APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS, **filed** Dec. 6, 1968, D.C. Md. (Baltimore), Doc. 16844, *Electronized Chemicals Corp., High Voltage Engineering Corp.* v. *Rad-Mat Inc., Radiation Dynamics Inc.*

2,614,916, Hoffmann and Schoene, AGRICULTURAL CHEMICAL COMPOSITIONS COMPRISING 1,2-DIHYDROPYRIDAZINE-3,6-DIONE AND ITS SALTS, **filed** July 15, 1968, D.C., E.D.N.C. (New Bern), Doc. 668–C, *Uniroyal, Inc.* v. *FMC Corporation.* Consent judgment dismissed without prejudice, Jan. 27, 1969.

2,643,122, C. C. Beckett, OCCUPANT PROPELLED AMUSEMENT DEVICE, **filed** Aug. 16, 1968, D.C., E.D. Mich. (Detroit), Doc. 31628, *Leigh Heisinger* v. *Johnny Luxem.* Order enjoining defendant from infringing, Dec. 3, 1968.

2,680,815. (See 2,602,751.)

2,724,720, Berger and Ludwig, DICARBAMATES OF SUBSTITUTED PROPANE DIOLS, **filed** May 2, 1968, D.C., S.D. Fla. (Miami), Doc. 68–516–C–JE, *Carter-Wallace, Inc.* v. *Barry-Martin Pharmaceuticals, Inc.* Judgment, patent valid; defendant permanently enjoined, Nov. 27, 1968.

2,727,069, J. P. M. Van Waes, PREPARATION OF UREA, **filed** June 18, 1965, D.C., N.D. Fla. (Pensacola), Doc. PCA-1559, *Stamicarbon, N.V.* v. *Escambia Chemical Corporation.* Order, defendant is liable for infringement of plaintiff's valid patent.

2,729,748. (See 2,602,751.)

2,866,637. (See Re. 24,447.)

2,974,432, Warnock and Hubener, PRESS-FREE CREASE RETAINED GARMENTS AND METHOD OF MANUFACTURE THEREOF; **3,268,915**, same, PROCESS OF MANUFACTURING PRESS-FREE GARMENT WITH RETAINED CREASES, **filed** Sept. 30, 1968, D.C., N.D. Calif. (San Francisco), Doc. 50063, *Levi Strauss & Co.* v. *Koratron Company Inc.* **Same, filed** Oct. 22, 1968, D.C., S.D.N.Y., Doc. 68–C–4184, *Blue Bell, Inc.* v. *Koratron Company, Inc.* **Same, filed** Jan. 29, 1969, D.C., S.D.N.Y., Doc. 69–C–356, *Standard Romper Co. Inc.* v. *Koratron Company Inc.* **Same, filed** Feb. 18, 1969, *Salant & Salant Inc.* v. *Koratron Company Inc.*

2,994,903. (See Re. 24,447.)

3,012,231. (See Re. 24,447.)

3,097,778. (See Re. 24,447.)

3,141,647, H. L. Perazone, VALVE WITH REMOTE CONTROL ACTUATOR, **filed** Jan. 30, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–191–EC, *Cenco Instruments Corporation* v. *Whittaker Corporation.*

3,143,978. (See 3,168,878.)

3,145,006. (See 3,168,878.)

3,145,289, M. Swetlitz, COOKING OVENS PROVIDED WITH REMOVABLE WALL PANELS; **3,241,545**, Reinert and Fliss, POLYTETRAFLUOROETHYLENE COATED COOKING DEVICES; **D. 174,240**, Tappan and Clark, RANGE; **D. 180,069**, T. B. Clark, COOKING RANGE, **filed** Oct. 8, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1666, *General Electric Company* v. *The Tappan Company.* Dismissed with prejudice, Mar. 3, 1967.

3,150,376. (See 3,210,767.)

3,152,793, R. H. Goldberger, PROCESS OF UNIFORMLY BLENDING FINELY DIVIDED CEMENT, SAND AND PIGMENT; **3,179,272**, same, APPARATUS FOR TRANSPORTING AND DISPENSING FINELY DIVIDED SOLID MATERIALS, **filed** Dec. 20, 1968, D.C., S.D.N.Y., Doc. 68–C–5087, *Richard H. Goldberger* v. *The Flintkote Co. and Harry T. Campbell Sons' Corp.*

3,159,316, O'Donnell and Steiman, ATOMIZER PUMP; **3,216,624**, DISPENSER WITH STROKE RESTRICTING OVERCAP, **filed** Dec. 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2120, *Valve Corporation of America* v. *Diamond International Corp. et al.* Dismissed on motion of plaintiff without prejudice, Nov. 12, 1968.

3,168,878, D. Clejan, HITCHES FOR ROAD SEMI-TRAILERS; **3,143,978**, same, FREIGHT TRANSPORTATION SYSTEMS AND METHODS; **3,145,006**, Robinson, Bradfield and Johnson, COLLAPSIBLE TRAILER SUPPORT AND ANCHOR, **filed** May 2, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c765, *General American Transportation Corporation* v. *ACF Industries, Incorporated.* Stipulation and order dismissing all claims and counterclaims, Nov. 13, 1967.

3,170,344, R. E. Marrs, METHOD AND APPARATUS FOR CONTROLLING THE THICKNESS OF ROLLED STRIP MATERIAL; **3,332,263**, Beadle and Maxwell, COMPUTER CONTROL SYSTEM FOR METALS ROLLING MILL, **filed** Dec. 13, 1968, D.C., W.D.N.Y. (Buffalo), Doc. C–1968–399, *Westinghouse Electric Corporation* v. *General Electric Company.*

3,179,272. (See 3,152,793.)

3,210,767, D. E. Isbell, FREQUENCY INDEPENDENT UNIDIRECTIONAL ANTENNAS; **3,150,376**, Carrel and Mayes, MULTI-BAND LOG PERIODIC ANTENNA, **filed** Apr. 8, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c636, *The University of Illinois Foundation* v. *Jerrold Electronics Corporation and R. Cooper, Jr. Inc.* Dismissed without prejudice, Sept. 11, 1967.

3,216,624. (See 3,159,316.)

3,241,545. (See 3,145,289.)

3,268,915. (See 2,974,432.)

3,309,150, G. Marier, SNOWMOBILE SUSPENSION, **filed** Jan. 21, 1969, D.C. District of Columbia (Washington), Doc. C.A. 150–69, *Textron, Inc., Polaris Industries Division and Polaris Industries (Canada) Ltd.* v. *Patex Snowmobiles Ltd.*

3,322,127, C. M. Sachs, ANTI-CREEP BRASSIERE, **filed** Apr. 25, 1968, D.C., N.D. Ga. (Gainesville), Doc. 1220, *International Playtex Corporation* v. *F. W. Woolworth Co.*

3,332,263. (See 3,170,344.)

Re. 24,447, R. M. Bloch, DIAGNOSTIC INFORMATION MONITORING SYSTEM; **2,866,637**, R. A. Pendleton, CONTROL APPARATUS; **2,994,903**, Lawrance and Boehme, TAPE TRANSPORT LOOP CHAMBER APPARATUS; **3,097,778**, R. A. Pendleton, MECHANICAL APPARATUS; **3,012,231**, J. C. Kent, ELECTRICAL APPARATUS FOR STORING DIGITAL INFORMATION, **filed** July 12, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1155, *Honeywell, Inc.* v. *Control Data Corporation.* Order of dismissal granted, June 28, 1967.

D. 174,240. (See 3,145,289.)

D. 180,069. (See 3,145,289.)

D. 204,935, C. M. Sachs, BRASSIERE, **filed** Aug. 29, 1968, D.C., S.D.N.Y., Doc. 68–C–3499, *Montgomery Ward & Co., Inc.* v. *International Playtex Corp.*

D. 205,660, S. Goldman, CERAMIC TILE UNIT, **filed** Dec. 18, 1968, D.C., S.D.N.Y., Doc. 68–C–5048, *International Tile Corp.* v. *Kowa American Corp.*

D. 207,104, M. Tiarks, GAME APPARATUS TO TEST DEXTERITY, **filed** Sept. 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1556, *Patterson International Corp.* v. *Northwestern Corp.* On stipulation cause dismissed with prejudice, Oct. 26, 1967.

D. 210,129, C. A. Ross, COMBINED ELECTRIC GUITAR AMPLIFIER AND LOUD SPEAKER HOUSING UNIT OR SIMILAR ARTICLE, **filed** Jan. 17, 1969, D.C., M.D. Fla. (Tampa), Doc. 69–19–C–T, *Kustom Electronics, Inc.* v. *Southeast Technical Enterprises, Inc.*

D. 212,261, Bolle, Bolle, and Salvage, PAIR OF SUN GLASSES, **filed** Nov. 19, 1968, D.C., S.D.N.Y., Doc. 68–C–4556, *Ritchard Salvage* v. *Riviera Trading Corp.* **Same, filed** Dec. 10, 1968, D.C., S.D.N.Y., Doc. 68–C–4910, *Ritchard Salvage* v. *Magesco Trading Corp.*

D. 212,882, P. R. Austin, ULTRA-CLEAN AIR ENVIRONMENT WORK STATION, **filed** Dec. 10, 1968, D.C., N.J. (Newark), Doc. C–1307–68, *Intertech Enterprises, Ltd.* v. *Atmos-Tech Corporation.*

REISSUES

JUNE 10, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,601

HARDENING OF PHOTOGRAPHIC GELATIN LAYERS

Charles F. H. Allen and Donald M. Burness, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original No. 3,232,761, dated Feb. 1, 1966, Ser. No. 458,764, May 25, 1965. Application for reissue Oct. 16, 1968, Ser. No. 761,351

Int. Cl. G03c *5/30, 1/30*

U.S. Cl. 96—66 **18 Claims**

This invention relates to hardening of photographic gelatin layers by employing certain dialdehyde hardening agents or their bisulfite adducts in developing compositions or prehardener baths.

26,602

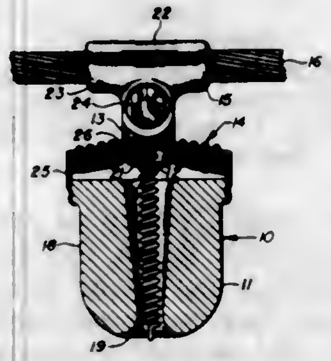
VIBRATION DAMPER FOR TRANSMISSION LINE CONDUCTORS

John J. Taylor, Santa Barbara, Calif., assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Original No. 3,321,569, dated May 23, 1967, Ser. No. 409,444, Nov. 6, 1964. Application for reissue July 31, 1968, Ser. No. 753,812

Int. Cl. H02g *7/14*

U.S. Cl. 174—42 **21 Claims**



A conductor damper for stabilizing transmission line conductors. A flexible coupling device connects an inertial mass to a support carried by the conductor and the coupling device is adapted to impart helical movement to the inertial mass.

26,603

EXCESS AIR CYCLE ENGINE AND AIR SUPPLY MEANS AND METHOD OF OPERATING SAME

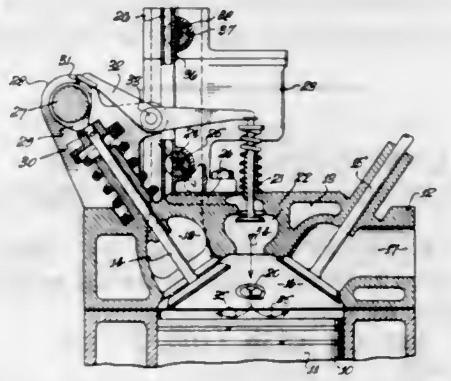
Ernest A. von Seggern, 1051 E. Angeleno, Burbank, Calif. 91500, and Henry E. von Seggern, Rte. 2, Escondido, Calif. 92025

Original No. 3,359,958, dated Dec. 26, 1967, Ser. No. 579,450, Aug. 29, 1966, which is a continuation of Ser. No. 303,116, Aug. 19, 1963, which in turn is a continuation-in-part of Ser. No. 296,311, July 19, 1963. Application for reissue May 10, 1968, Ser. No. 731,355

Int. Cl. F02b *1/06, 23/10, 31/02*

U.S. Cl. 123—75 **13 Claims**

An engine is provided in which separate bodies of working fluid, of which one contains, at least, an excess of air, and the other is an ignitable and combustible fuel-air mixture, are held in stratified relation prior to combustion by means of a system of circulation in which one body of working fluid is placed along an axis and the other body of working fluid circulates around said axis in a plane substantially normal to said axis. The axis of circulation is substantially the same as the length axis of the engine cylinder. The separate bodies of fluid are introduced into the cylinder through separate manifolds each having a flow control valve, but in some forms the two bodies may enter the cylinder through a single intake valve opening into the cylinder. Additional flow control throttles are also provided.



26,604

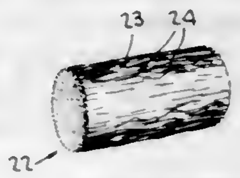
CIGARETTE FILTER PLUG AND PROCESS AND APPARATUS FOR MAKING SAME

Donald T. Dunlap, Charlotte, N.C., assignor to Celanese Corporation, a corporation of Delaware

Original No. 3,190,294, dated June 22, 1965, Ser. No. 764,338, Sept. 30, 1958. Application for reissue June 20, 1967, Ser. No. 653,588

Int. Cl. A27f *7/04, 13/06;* **B01d** *27/00*

U.S. Cl. 131—267 **10 Claims**



1. A shape-retaining cigarette filter plug comprising a plurality of crimped thermoplastic filaments [of total denier ranging from about 60,000 to 120,000 and of individual denier ranging from about 3 to 16,] all of said filaments because of their crimp contacting other filaments at a plurality of spaced locations, the outermost filaments being plasticized and cohered into a shape-retaining surface without loss of their filamentary character, said plug having a smooth surface.

26,605

ELECTRO-SONIC FLUID AMPLIFIER

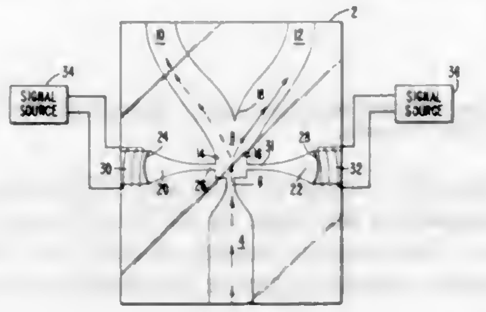
Norman Allen Cargill, Warminster, and Trevor Drake Reader, King of Prussia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Original No. 3,144,037, dated Aug. 11, 1964, Ser. No. 89,863, Feb. 16, 1961. Application for reissue July 7, 1965, Ser. No. 470,304

Int. Cl. F15c *1/08, 1/12, 1/14*

U.S. Cl. 137—81.5 **3 Claims**

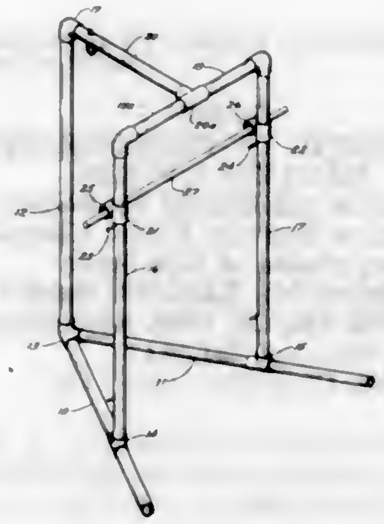
This invention relates to a fluid amplifier which provides a vibrating diaphragm in each of the fluid control signal chambers. These diaphragms may be selectively actuated by electrical means to produce control signals *which switch the amplifier. Furthermore, a plurality of control outlets may be symmetrically arranged around*



the inlet power stream to control divergence of the stream into selected outlets equal in number to the control outlets.

26,606
GYMNASTIC APPARATUS
Peter William Dodge, 112 W. 75th St.,
New York, N.Y. 10023
Original No. 3,189,347, dated June 15, 1965, Ser. No. 264,668, Mar. 12, 1963. Application for reissue June 15, 1967, Ser. No. 653,586
Int. Cl. A63b *1/00, 21/06*
U.S. Cl. 272—62 **5 Claims**

Exercising frame which makes possible the exercise of a maximum number of the muscles of the human body. The frame comprises two angularly attached base members, a back vertical post attached at the joint of the base members, and a pair of front vertical posts attached to an



intermediate point of each base member. Above the head of the user, there is a cross member connecting the tops of the front posts, and a brace connecting the top of the back post with the midpoint of the cross member.

PLANT PATENTS

GRANTED JUNE 10, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,890
PEACH TREE
Jerrold A. Watson, Monetta, S.C. 29105
Filed May 22, 1967, Ser. No. 640,432
Int. Cl. A01h *5/08*
U.S. Cl. Plt.—43 **1 Claim**

1. A new and distinct variety of peach tree substantially as shown and described characterized particularly as to novelty by its high productivity of fruit which may be classified as an early peach ripening earlier than the Coronet and slightly later than the Cardinal, said tree having superior ability to size fruit having an attractive appearance.

2,891
STRAWBERRY PLANT
Harold A. Johnson, Jr., and Harold E. Thomas, Morgan Hill, Calif., assignors to Driscoll Strawberry Associates, Morgan Hill, Calif., a corporation of California
Filed July 10, 1967, Ser. No. 652,377
Int. Cl. A01h *5/08*
U.S. Cl. Plt.—49 **1 Claim**

1. The new and distinct variety of strawberry plant herein described and illustrated, and identified by the characteristics enumerated above.

2,892
STRAWBERRY PLANT
Harold A Johnson, Jr., and Harold E. Thomas, Morgan Hill, Calif., assignors to Driscoll Strawberry Associates, Morgan Hill, Calif., a corporation of California
Filed July 10, 1967, Ser. No. 652,378
Int. Cl. A01h *5/08*
U.S. Cl. Plt.—48 **1 Claim**

1. The new and distinct variety of strawberry plant herein described and illustrated, and identified by the characteristics enumerated above.

2,893
ROSE PLANT
Royden M. Bodley, 4605 SE. Powell Blvd.,
Portland, Oreg. 97206
Filed Aug. 7, 1967, Ser. No. 658,966
Int. Cl. A01h *5/02*
U.S. Cl. Plt.—27 **1 Claim**

1. A new and distinct variety of rose plant of the polyantha class as herein shown and described, characterized particularly as to novelty by its red or deep pink flower color, by its vigorous growth habits, its ability to reproduce rapidly and successfully by cuttings, and its ability to grow well in pots for extended periods of time.

2,894
NECTARINE TREE
Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California
Filed Nov. 13, 1967, Ser. No. 682,688
Int. Cl. A01h *5/08*
U.S. Cl. Plt—41 **1 Claim**

A large to medium size, vigorous nectarine tree which is a regular and productive bearer of large, uniform, globose fruit of clingstone type; the fruit having yellow flesh, and yellow skin partially overspread with red.

2,895
NECTARINE TREE
Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California
Filed Nov. 21, 1967, Ser. No. 684,879
Int. Cl. A01h *5/08*
U.S. Cl. Plt—41 **1 Claim**

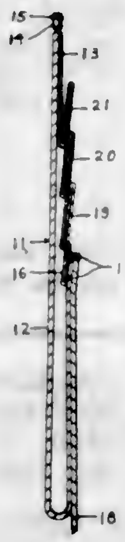
A nectarine tree, of medium size and spreading in growth, which is a regular and productive bearer of large, uniform, globose, late season ripening clingstone fruit having yellow flesh, and yellow skin substantially overspread with bright red at maturity.

PATENTS

GRANTED JUNE 10, 1969

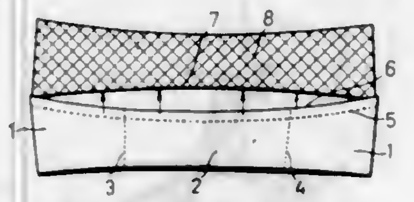
GENERAL AND MECHANICAL

3,448,460
GARMENT CONSTRUCTION
Virginia F. Frank, 636 Kingsbridge Lane,
Ridgewood, N.J. 07450
Filed May 3, 1967, Ser. No. 635,797
Int. Cl. A41d *1/18*
U.S. Cl. 2—74 **1 Claim**



A proportionately enlargeable bloused garment, which is provided with a lining having a plurality of hems, which lining is attached in the garment to provide a blouse effect; upon letting the hems out individually step by step, the blouse waistline is lowered proportionately to the lengthening of the garment.

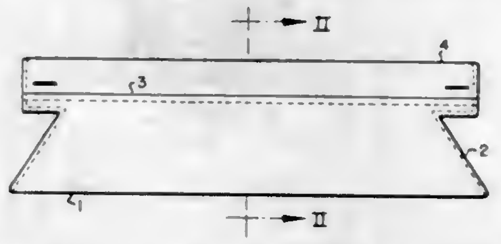
3,448,461
COLLAR, PARTICULARLY A TOP COLLAR
Robert Lenz, deceased, late of Krefeld, Germany, by Aenne Lenz, sole heiress and administratrix, Maternusstrasse 29, Roden-Kirchen, near Cologne, Germany
Filed Aug. 4, 1965, Ser. No. 477,330
Int. Cl. A41b *3/00*
U.S. Cl. 2—131 **2 Claims**



A collar formed by an outer fabric covering and an insert. the covering is folded and folded over both sides of the insert. A longitudinal stitch is made along the fold and one or more cross-stitches through the covering and the insert.

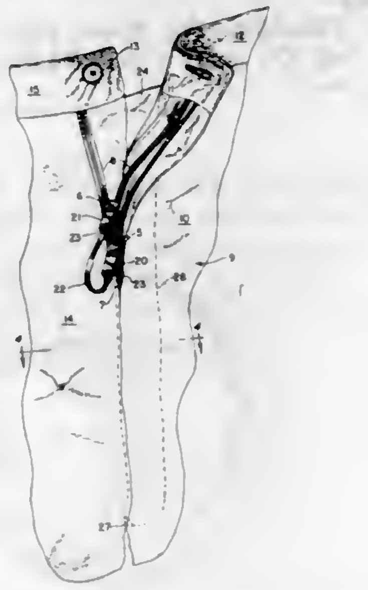
3,448,462
COLLAR AND CUFF-LIKE GARMENT MEMBER AND METHOD OF MAKING IT
Manuel A. Thomas, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396.257
Int. Cl. A41b *3/00, 7/00;* **A41d** *27/08*
U.S. Cl. 2—143 **12 Claims**

An abrasion resistant woven or knitted apparel fabric wherein the uppermost fibers of one face of the fabric are held tightly together by a polymeric coating composition. The fabric is further characterized in that a substantial number of yarns below the coated face thereof have the



ability to move freely relative to adjacent yarns. The fabric is suitable for use in garment members such as collars, lapels, cuffs and the like.

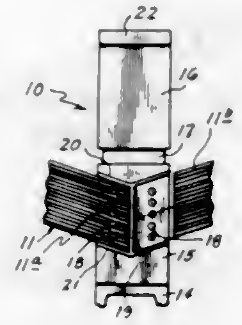
3,448,463
DOUBLE ZIPPERED GARMENTS
Gaetano Milone, 2220 9th Ave., Rockford, Ill. 61108
Filed July 3, 1967, Ser. No. 650,761
Int. Cl. A41d *1/06, 13/02*
U.S. Cl. 2—234 **7 Claims**



A two-zippered garment, such as men's trousers, having the two zippers disposed substantially vertical, one behind the other but offset laterally in substantially parallel relationship longitudinally of the fly to avoid overlapping with consequent objectionable thickness and also offset endwise for a similar reason, the sliders on the two zippers being interconnected by a flexible loop to enable simultaneous opening or closing of the zippers, the loop also permitting locking of the two zippers in closed position by engagement of the loop over the top button on the front of the garment. The same idea is applicable to ladies' skirts with little or no substantial change.

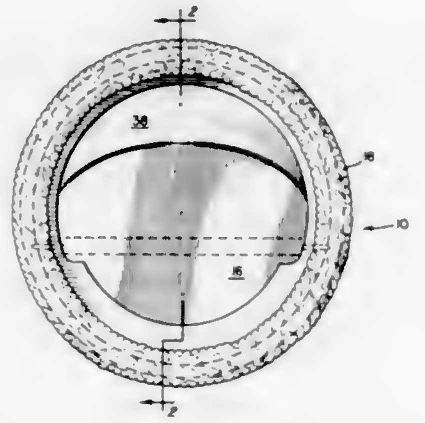
3,448,464
ATTACHMENT OF PLASTIC FASTENERS TO FABRIC ARTICLES
Walter M. Jonas, Easton, Pa., assignors to Sobel Metal Products Inc., West Easton, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1967, Ser. No. 631,270
Int. Cl. A41f *1/00, 19/00*
U.S. Cl. 2—336 **1 Claim**

A fastener member of thermoplastic resin has two plate-like portions disposed against opposite sides of a pierceable fabric, at least one of such portions having pointed projections to pierce the fabric and engage the other plate-like portion, such projections and the plate-like portion engaged thereby being fused to each other, as by the application of thermal energy, high-frequency electrical energy or high-frequency vibrational energy, so as to join together the plate-like portions with the fabric secured therebetween.



3,448,465
PIVOTED BUTTERFLY TYPE HEART VALVE

William S. Pierce, Philadelphia, Pa., Andrew G. Morrow, Rockville, Md., and Douglas M. Behrendt, Winchester, Mass., assignors to the United States of America as represented by the Secretary of Health, Education, and Welfare
Filed July 11, 1966, Ser. No. 564,090
Int. Cl. A61f *1/00;* **F16k** *15/00, 17/00*
U.S. Cl. 3—1 **9 Claims**

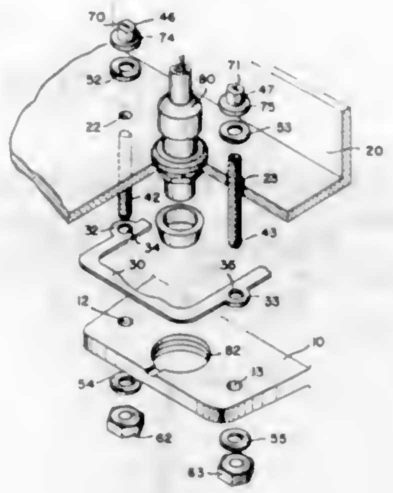


A heart valve constructed of rigid parts, which is long-lasting and which causes less interference with blood flow than previous constructions; it has a rigid plastic, ring-like valve body sewn into place by means of an attached ring of synthetic fabric, and incorporates a central plastic valve disc of air foil cross-section which is eccentrically mounted thereby swinging open in response to the forward flow of blood.

3,448,466
COUPLING BOLT WITH PLASTIC HEAD

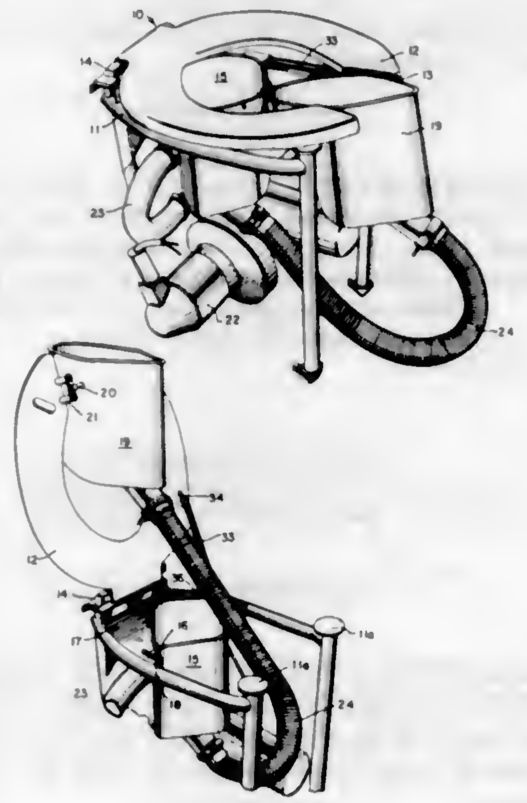
Ioakim Haldopoulos, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,990
Int. Cl. E03d *11/00;* **F16b** *37/14*
U.S. Cl. 4—68 **8 Claims**

This invention involves one or more fastening units for securing a water tank to a toilet bowl. Each fastening unit includes a threaded stud; a plastic head which is internally threaded to receive one end of the threaded stud, the plastic having flattened sides and a cap with a slot therein; and a nut to receive the other end of the threaded stud. The plastic head will be positioned at the bottom of the water tank; the stud will be inserted through openings in the water tank and the toilet bowl; and the nut will be positioned on the bowl side of the unit.



3,448,467
WASTE DISPOSAL SYSTEM

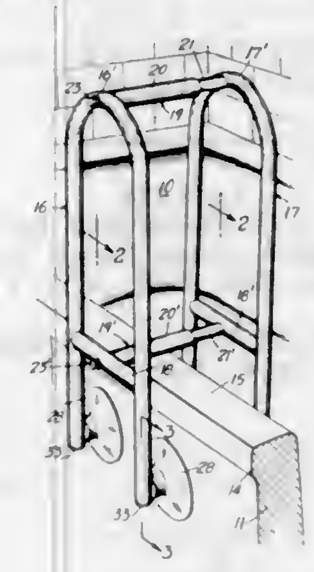
James Smith, West Sayville, N.Y., assignor to Fairchild Hiller Corporation, Bay Shore, N.Y., a corporation of New York
Filed Apr. 13, 1967, Ser. No. 630,730
Int. Cl. A47k *11/02;* **E03d** *1/00, 3/00, 5/00*
U.S. Cl. 4—120 **8 Claims**



A waste collection system with a toilet having a fecal collecting receptacle and a separate receptacle for urine waste pivotally mounted on the seat. The toilet seat is adjustable to any desired height and the urinal receptacle is freely pivotal to any angular position such as to easily collect urine at any height of the seat, thereby accommodating a user of any height. The system also has an exhaust pump which can be used in connection with both the urinal receptacle and fecal collecting receptacle so as to draw air therethrough and vapors and gases therefrom.

3,448,468
OCCUPANT SUPPORT DEVICE FOR BATHTUBS

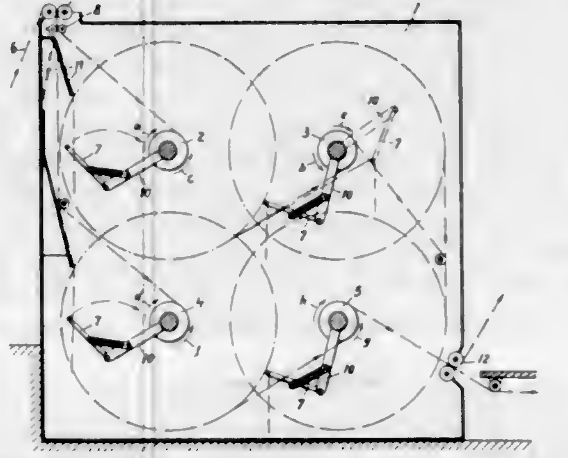
Charles E. Murcott, Valley Drive, Bay Crest, Huntington, N.Y. 11743
Filed Dec. 26, 1967, Ser. No. 693,544
Int. Cl. A47k *3/12*
U.S. Cl. 4—185 **10 Claims**



A device providing a raised handgrip support on a bathtub to assist a person stepping into and out of a bathtub, the device comprising two frames adjustably coupled to move pairs of gripper cups into pressure engagement with inner and outer surfaces of a wall of the bathtub, with portions of the frame projecting above said bathtub wall in presenting raised parts to be gripped by a hand of an occupant.

3,448,469
METHOD AND MEANS FOR THE DELAYED PASSING OF TEXTILE AND OTHER BREADTHS THROUGH A PROCESSING CHAMBER

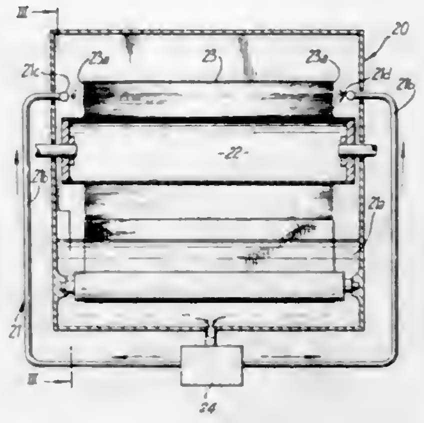
Eduard Küsters, 457 Gladbacher Str., Krefeld, Germany, and Valentin Appenzeller, 13 Am Nagelkreuz, Kempen (Lower Rhine), Germany
Filed Apr. 11, 1967, Ser. No. 630,023
Claims priority, application Germany, Feb. 14, 1967, K 61,418
Int. Cl. D06c *1/00;* **D06f** *37/00*
U.S. Cl. 8—150 **5 Claims**



The following disclosure includes a method and means for exposing breadth of textile or the like to processing by steaming, heating, liquid contact, etc. Two rolls are enclosed as a pair in a chamber and a length of the breadth to be exposed to the processing medium in the chamber is wound on one roll and from this roll by reversing its winding direction is wound on the other roll from which it is unwound by reversal of this roll and pulled from the chamber. More than one pair of rolls may be used.

3,448,470
JIG DYEING

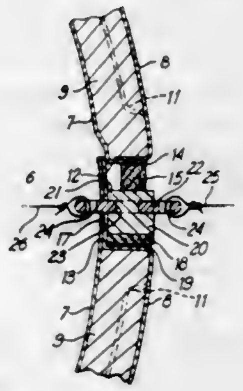
Clifford Newton, Stockport, England, assignor to F. Smith & Co. (Whitworth) Limited, Whitworth, Rochdale, England
Filed May 29, 1967, Ser. No. 642,088
Int. Cl. D06c *1/00;* **D06f** *35/00*
U.S. Cl. 8—151 **12 Claims**



A jig dyer for textile fabrics includes heaters disposed radially inwardly of the rollers to maintain the wound fabric web at a constant temperature. If further includes heaters disposed radially outwardly of the rollers to continually apply heat to the exposed selvedge portions of the wound fabric which would otherwise be subject to continual heat loss during dyeing."

3,448,471
STOWAGES FOR INFLATABLE LIFERAFTS

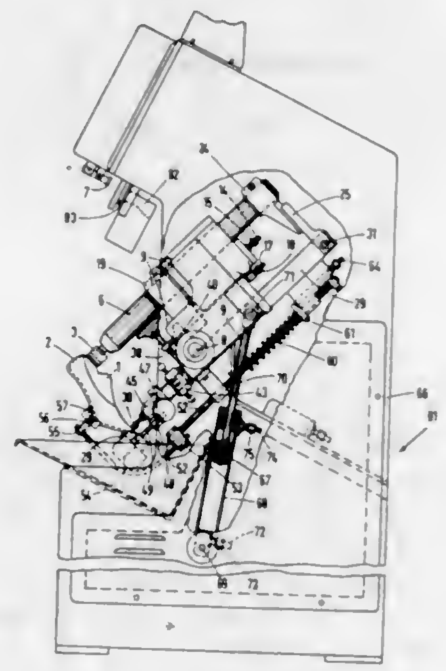
Walter Oldham, Rochdale, England, assignor to Frankenstein Group Limited, a British company
Filed Feb. 13, 1968, Ser. No. 705,133
Claims priority, application Great Britain, Mar. 2, 1967, 9,824/67
Int. Cl. B63c *9/22*
U.S. Cl. 9—11 **5 Claims**



A container for a stowed liferaft provided with self-inflation means operated by a trip-line connected thereto comprises two rigid members which are secured edge-to-edge by mechanical or adhesive means adapted to fail on expansion of said liferaft, a painter-line for tethering the latter to a parent ship or aircraft being attached to the outer end of a resilient plug fluidtightly engaged between said container edges and having said trip-line attached to its inner end. Preferably at least one of the edges aforesaid is formed with a notch whose shape corresponds to the cross-section of the plug, resilient material being interposed between the container edges and also used to line said notch. The trip-line and painter-line may be attached to terminal eyes on a metal plate or other rigid link whose central portion is fixedly embedded in said plug.

3,448,472
COMBINED SHOE HEEL SHAPING AND LASTING MACHINE

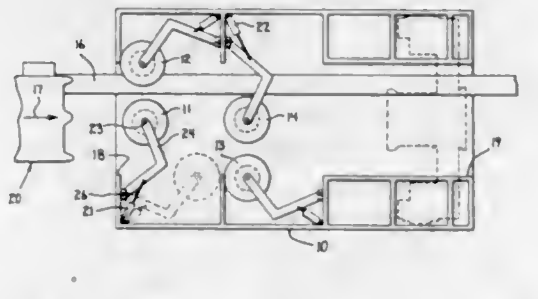
Albert Weinschenk, Seulberg, Germany, assignor to Eugen G. Henkel, a firm of Germany
Filed May 22, 1967, Ser. No. 639,993
Claims priority, application Germany, May 25, 1966, H 59,505
Int. Cl. A43d *21/12, 23/00, 11/12*
U.S. Cl. 12—10.1 **18 Claims**



In a shoe heel shaping and lasting machine, the shoe last is mounted on a last jack which is rotatable between a first position in which the heel of the shoe last faces toward the operator's side of the lasting machine and a second position in which the heel of the shoe last faces away from the operator's side of the lasting machine. In the first position of the shoe last, the upper portion of a shoe which is mounted on the last can be quickly and easily adjusted to center the upper portion of the shoe for a heel shaping and lasting operation which is performed in the second position of the shoe last. In the first position, the longitudinal axis of the shoe last preferably forms an angle of between 20 degrees and 50 degrees with the horizontal, and in its second position, the longitudial axis of the shoe last preferably forms an angle of between 10 degrees and 45 degrees with the vertical, with the heel of the shoe last facing upwardly.

3,448,473
VEHICLE CLEANING BRUSH DRIVE SYSTEM

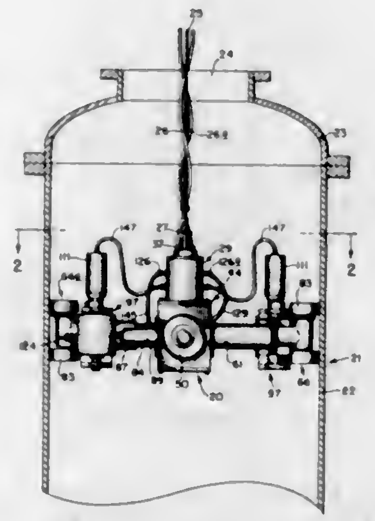
Dale R. Oldham, Phoenix, Ariz., assignor, by mesne assignments, to Earl Dallas Smith, Phoenix, Ariz.
Filed Aug. 28, 1967, Ser. No. 663,874
Int. Cl. B60s *3/06;* **D06f** *45/16*
U.S. Cl. 15—21 **13 Claims**



A hydraulic motor driven vehicle body cleaning brush normally disposed in the path of the vehicle and movable thereby in a horizontal arc about a vertical pivot to follow the contour of the vehicle as it is moved along the ground. An actuator responsive to pressures in the motor supply line at a certain brush load level to trigger a series of valve events reversing the hydraulic motor and thereby reversing the direction of brush rotation. A timing device operative following initiation of the valve events to enable return of the flow direction valve to initial condition, again reversing the hydraulic motor to return the brush rotation to its initial direction.

3,448,474
AUTOCLAVE CLEANING DEVICE

Richard W. Goodrum, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed Apr. 28, 1967, Ser. No. 634,758
Int. Cl. F28g *3/04*
U.S. Cl. 15—56 **10 Claims**

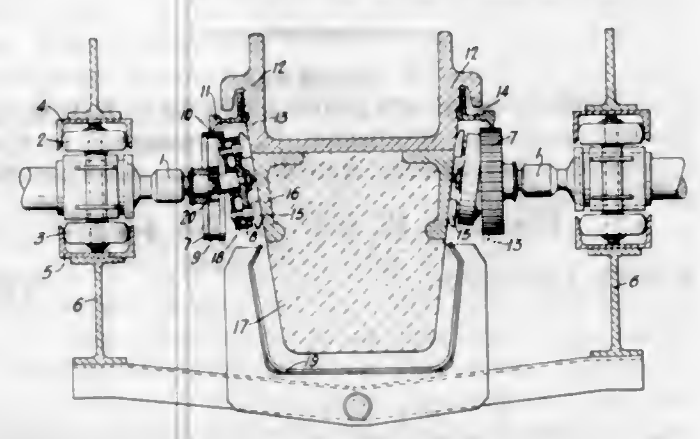


A cleaning device for cleaning the interior walls of a cylindrical vessel. The device is adapted to be inserted through a manway or through the top of a vessel such as an autoclave. A central gear box is mounted on a swivel and has one or more motors mounted thereon. The motors are connected to the drive shafts which extend to each side thereof. The shafts are connected to a wheel assembly adapted to contact the interior sidewall of the vessel and to propel the cleaning device in a circular or spiral path around the interior wall of the vessel. In a preferred embodiment of the present invention an independently rotatable cylindrical brush is mounted at each end of the apparatus in contact with the vessel wall. Each brush is driven by a separate motor. The cleaning device includes an adjustable length arm which permits the device to be used for cleaning vessels of various widths. The independently rotating brushes thoroughly clean any deposit that may be present on the sidewall of the vessel as the device rotates around the interior of the vessel.

3,448,475
APPARATUS FOR CLEANING THE SEALING SURFACES OF COKE OVEN DOORS

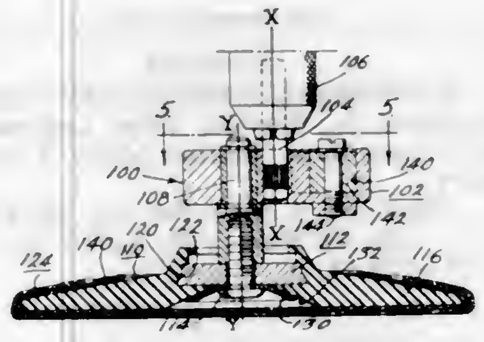
Walter Stanke, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed June 29, 1967, Ser. No. 650,040
Claims priority, application Germany, July 26, 1966, K 59,882
Int. Cl. B23d *79/00*
U.S. Cl. 15—93 **6 Claims**

The apparatus disclosed includes a support frame on which is mounted guides which direct the movement of rotatable cleaning devices that engage and clean the surfaces of door plug and also the sealing strip of a coke-oven door. In one operation all surfaces of a coke-oven door are cleaned on which deposits usually form.



3,448,476
PORTABLE POLISHING DEVICE

Joseph V. Zaccone, Trenton, N.J., assignor to Samuel A. Miller, Maplewood, N.J.
Filed Mar. 6, 1967, Ser. No. 620,942
Int. Cl. A47l *11/08, 11/164;* **G03d** *5/06*
U.S. Cl. 15—97 **1 Claim**

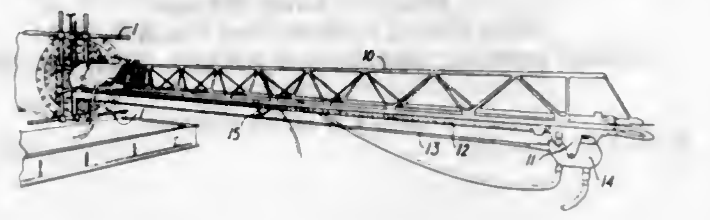


A portable polishing machine having an actuating means including a drive shaft, a housing mounted on the drive shaft for rotation thereby, a pivot shaft rotatably carried by the housing having an axis parallel to, but offset radially from the axis of the drive shaft and a polishing head detachably affixed mounted to said pivot shaft. The housing is counterbalanced by a weight, the center of gravity of which is diametrically opposed to the axis of the pivot shaft, the position of the weight being adjustable radially in a plane through the axis of the pivot shaft and center of gravity of the weight to provide a truly balanced assembly. The polishing head is detachable so that it may be readily changed when desired.

3,448,477
APPLIANCE FOR CLEANING HORIZONTAL OR INCLINED DEVICES CONTAINING BUNDLES OF TUBES

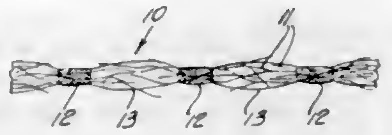
Jean P. Ricordeau, 1, Allee des Peupliers, Mourenx, Basses-Pyrenees, and Pio P. Mior, Cuqueron, Basses-Pyrenees, France
Filed Mar. 27, 1967, Ser. No. 626,109
Claims priority, application France, Nov. 2, 1966, 82,171
Int. Cl. F28g *1/00*
U.S. Cl. 15—104.1 **7 Claims**

Appliance for cleaning bundles of tubes in either horizontal or inclined position including a longitudinal unit carrying at least one cleaning tool with means for moving the unit longitudinally and for 360° rotation and for longitudinal movement of the tools; the latter means using compressed air in combination with a flexible pipe squeezed between two movable rollers.



3,448,478
WIPING CLOTH

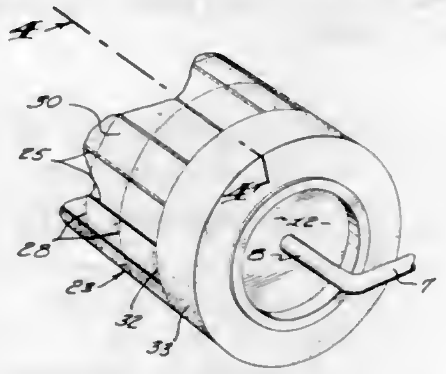
Lawrence M. Nash, East Brunswick, and Donald F. Taylor, Somerset, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed July 1, 1966, Ser. No. 562,373
Int. Cl. B08b *1/00;* **D03d** *11/00*
U.S. Cl. 15—104.93 **6 Claims**



A wiping cloth with a layer of fibers with bonding material distributed throughout the layer in a discontinuous predetermined intermittent pattern of discrete binder areas. The unbonded areas between the bonded areas are puffed and fluffy and the fibers in these unbonded areas are further apart than the fibers within the bonded areas. Furthermore, the unbonded areas contain oil to aid in the pick-up of dirt.

3,448,479
ROLLER APPLICATOR PARTICULARLY ADAPTED FOR COATING ROUGH SURFACES

Mervyn Cademartori, 5679 Los Alamos, Buena Park, Calif. 90620
Filed Oct. 9, 1963, Ser. No. 314,926
Int. Cl. B05c *1/08;* **A46b** *3/00;* **A47l** *13/46*
U.S. Cl. 15—230.11 **1 Claim**

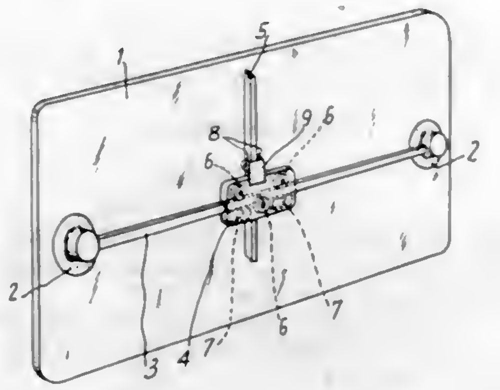


1. A roller applicator comprising: a handle; a drum connected to said handle and mounted for rotation; a sleeve encircling said drum; at least four circumferential slits in said sleeve encircling the drum, one of said slits being adjacent one end of said sleeve, a second of said slits being adjacent the opposite end of said sleeve; a plurality of longitudinal slits entending between said one circumferential slit and said second circumferential slit and crossing said circumferential slits between said one and second slits at a substantial angle, said circumferential and longitudinal slits being spaced substantially equidistant apart, said slits being of a depth substantially equal to the distance between slits, and said longitudinal slits terminating at said one and second circumferential slits.

3,448,480

WINDOW WIPER FOR MOTOR VEHICLES

**Jacques Couget, 23 Rue Pic-Paris, Tours,
Indre-et-Loire, France
Filed Nov. 22, 1966, Ser. No. 596,223
Claims priority, application France, Nov. 25, 1965,
1,468
Int. Cl. B60s** *1/06*
U.S. Cl. 15—250 8 Claims

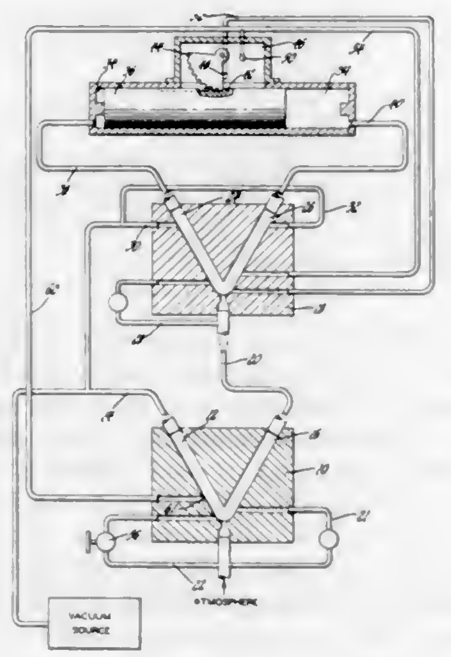


A window wiper for mounting on a window in a vehicle is comprised of means for attaching a support device to the window. A bracket is attached to and is arranged to be movable relative to the support device. Mounted on the bracket is a gravity block which is arranged to be subjected to the forces produced by the motion of the vehicle whereby the bracket moves on the support device. A wiper blade is attached to the bracket and in reaction to the motion of the vehicle, the gravity block causes the bracket to move back and forth on the support device and, in turn, the wiper blade is arranged in moving contact with the window of the vehicle causing a wiping action as it travels in either a rectilinear or curvilinear path due to the manner in which the bracket is affixed to the support device.

3,448,481

FLUID PRESSURE OPERATED WINDSHIELD WIPER SYSTEM

**David L. Jones, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 16, 1967, Ser. No. 616,624
Int. Cl. A47l** *1/02;* **B60s** *1/12;* **F15b** *13/02*
U.S. Cl. 15—250.3 5 Claims

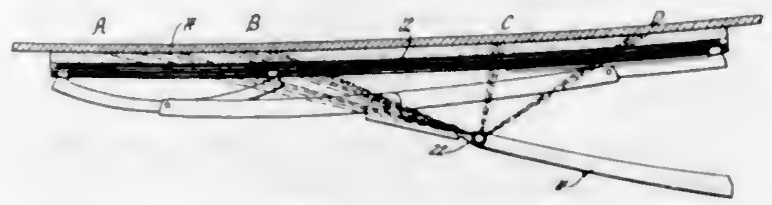


In a preferred form, this disclosure describes a plurality of fluid amplifiers in series, with the output of the second amplifier in the series alternately pressurizing opposite sides of a windshield wiper drive mechanism piston. The first amplifier in the series is a memory type with the second in the series being the "and" logic type with a hysteresis controlled shift-back.

3,448,482

WIPER ARM CARRIED WATER NOZZLE

**Robert A. Close, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,670
Int. Cl. A47l** *1/02;* **B60s** *1/04*
U.S. Cl. 15—250.04 3 Claims

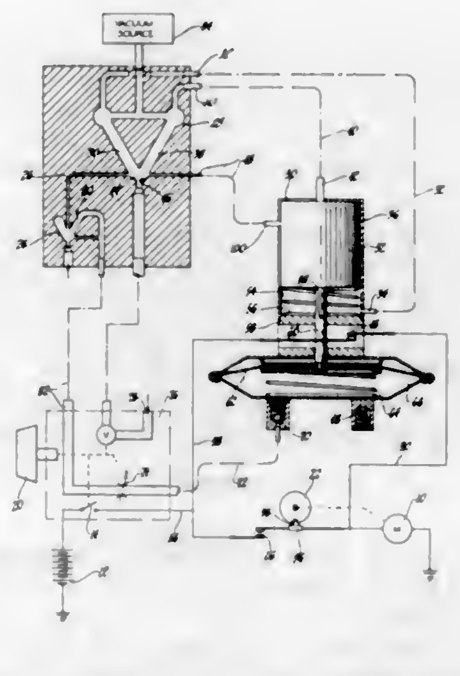


In a preferred form, this disclosure covers a particular type of windshield washer in which the area on a windshield which the wiper covers during a wiping cycle is broken down into substantially equal zones and a fluid dispensing nozzle is provided on the wiper arm near the windshield which dispenses in a directional manner an appropriate amount of fluid to each one of the zones.

3,448,483

WINDSHIELD WIPER CONTROL

**David L. Jones, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,614
Int. Cl. B60s** *1/02;* **A47l** *1/02*
U.S. Cl. 15—250.12 5 Claims



In a preferred form, this disclosure relates to a pulse type windshield wiping system for an automotive vehicle. The system includes a drive motor which is adapted to be intermittently energized, a first means in operative circuit with the motor to control energization and de-energization thereof and which includes an element movable between first and second positions, a fluid motor means including a member movable between first and second positions and which effects movement of the element between its positions when fluid is supplied to the opposite ends of the fluid motor means, and a control means for selectively supplying fluid from a source to the opposite ends of the fluid motor means to effect intermittent energization of the drive motor. The control means includes a first fluid amplifier having an inlet and first and second outlet legs respectively connected to opposite ends of the fluid motor means, a manual control means for connecting the inlet of the fluid amplifier with a pressure source, a second monostable fluid amplifier operatively connected with the first fluid amplifier and the fluid motor means and which is operable in response to movement of said member to its first position to shift the fluid stream flowing through the first fluid amplifier from its first leg to its second leg whereby de-energization of the drive member is effected, and means responsive to movement of the member to its second position for rendering the second fluid amplifier inoperable to bias the fluid stream flowing through the first fluid amplifier and for shifting the fluid stream flowing through the first fluid amplifier from its second leg to its first leg which in turn effects movement of the member toward its first position in which it effects energization of the drive motor.

3,448,484

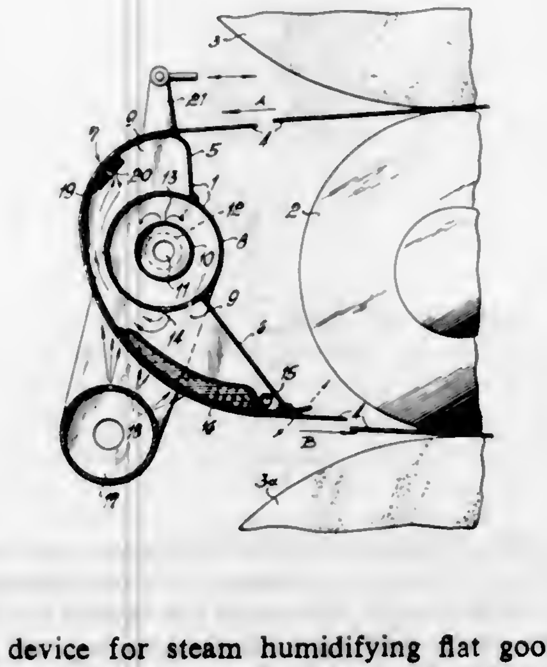
STEAM HUMIDIFYING DEVICE, ESPECIALLY FOR PAPER WEBS

Gernot Müller, Krefeld, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany

Filed May 9, 1966, Ser. No. 548,778

Claims priority, application Germany, May 10, 1965, K 56,069

Int. Cl. B08b *3/00*
U.S. Cl. 15—306 10 Claims

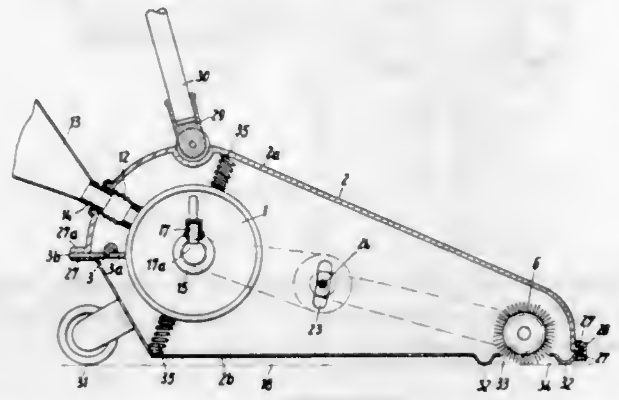


1. A device for steam humidifying flat goods, especially webs of paper, particularly for use in connection with calendars, which comprises: a hollow beam having a curved outer entrance surface area for receiving flat goods in a continuous movement from the respective upper portion of a rotatable roller and also including a releasing surface area for returning the goods passed over said entrance surface area to the respective lower portion of the same roller from which the goods are fed to said entrance area, and steam conveying means leading from the interior of said hollow beam to approximately that surface section of said entrance surface area which will be under the greatest looping pressure when the respective goods are looped around and passed over said curved outer surface of said beam.

3,448,485

SWEEPER

**Eberhard Wörwag, Stuttgart, Germany, assignor to Mauz & Pfeiffer, Stuttgart-Botnang, Germany
Filed Jan. 19, 1966, Ser. No. 521,715
Claims priority, application Germany, Jan. 21, 1965, M 63,866; Apr. 15, 1965, M 64,890
Int. Cl. A47l** *5/00, 9/00*
U.S. Cl. 15—332 6 Claims

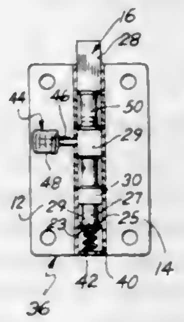


A sweeper with dust withdrawal in which the motor for driving the brush roller is supported by a casing of a fan unit which in its turn is pivotally connected to the sweeper housing and carries supporting means fixedly connected to said casing and supporting said brush roller.

3,448,486

LOCKING HINGE

**Donald L. Wright, Tampa, Fla., assignor to Locking Hinge & Hardware Manufacturing, Inc., Tampa, Fla., a corporation of Florida
Filed Oct. 3, 1966, Ser. No. 583,620
Int. Cl. E05d** *9/00, 15/00;* **E05g** *1/00*
U.S. Cl. 16—128 6 Claims



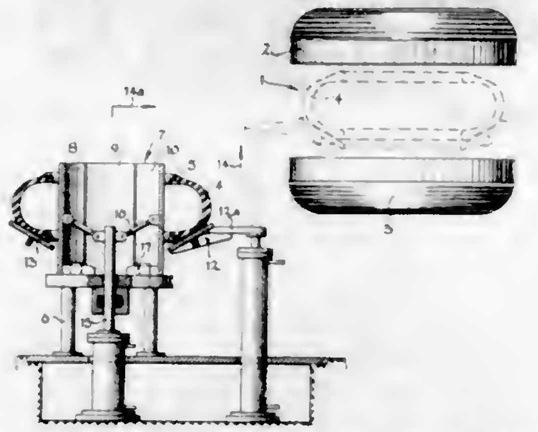
A locking hinge with a sliding adjustable pintle for locking cabinets, doors, lids and the like. The pintle is formed with suitably spaced protrusions and is adjustable to one of two positions. In a locked position the enlarged protrusions of the pintle engage the hinge's kunckles such that the hinge is prevented from turning thereby locking the cabinet. In an open position the protrusions are disengaged from the knuckles and the hinge is free to turn.

3,448,487

CHARGING DEVICE FOR TIRE VULCANIZING PRESSES

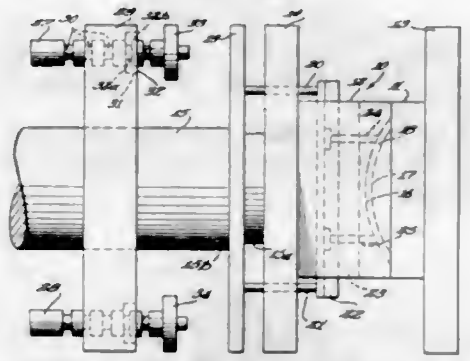
**Karl Warnecke, Isernhagen, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed June 9, 1966, Ser. No. 556,451
Claims priority, application Germany, June 10, 1965, C 36,091
Int. Cl. B29h** *11/00*
U.S. Cl. 18—2 1 Claim

A tire press for shaping and curing an unvulcanized tire which comprises a vulcanizing section having two mold portions for receiving and vulcanizing an unvulcanized tire and also having a bead treating section for flattening the inner diameter of the tire beads prior to the insertion of the unvulcanized tire into said mold sections, boom means being provided which carry a conical tire supporting U-shaped member associated with the tire treating section and being operable after receiving a tire to move the same between said mold portions.



3,448,488
QUICK ADJUSTMENT KNOCK-OUT ROD

Philip Z. Kiraly, West Chester, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,641
Int. Cl. B29f *1/14*
U.S. Cl. 18—2 **10 Claims**

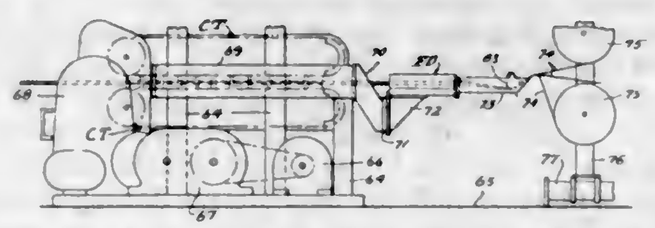


This disclosure is directed to quick adjusting knock-out rods which have particular utility when used in conjunction with injection molding machines. The knock-out rod disclosed herein is preferably formed of a round bar having a plurality of annular notches or undercuts formed at uniform intervals along the length of the bar. The knock-out rod passes through a stationary platen and is retained in position relative to the stationary platen by a split collar. The split collar is designed to be inserted into the stationary platen in more than one orientation thereby effecting adjustment of the knock-out rod a distance and interval less than the distance between the adjacent notches on the rod. Additionally, the quick adjusting knock-out rod disclosed herein is provided with means for fine adjustment of the overall length of the rod.

3,448,489
APPARATUS FOR FORMING ELONGATED ARTICLES FROM FIBER REINFORCED PLASTIC MATERIALS

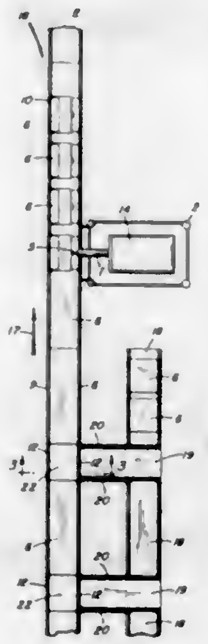
Le Roy R. Boggs, Bristol, Tenn., assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of applications Ser. No. 2,760, Jan. 15, 1960, and Ser. No. 44,050, July 20, 1960. This application June 8, 1961, Ser. No. 115,633
Int. Cl. B29d *3/02;* **B29f** *3/10*
U.S. Cl. 18—4 **6 Claims**

1. Apparatus for forming continuous lengths of fiber reinforced resin articles from fiber reinforcement impregnated with a hardenable liquid resin material, comprising puller mechanism including a frame structure and driven gripping and pulling elements mounted on the frame structure and adapted to frictionally engage the formed articles to effect feed thereof through the apparatus during the forming and hardening of the articles, a forming device having a confining passage therein through which the resin impregnated fiber reinforcement is fed and in which the fiber reinforced resin articles are formed and solidified, mechanism for delivering fiber reinforcement impregnated with a hardenable resin material into the entrance end of the confining passage in said forming device, and mechanism for interconnecting the forming device and the frame of the puller mechanism including means for adjustably varying the angle between the line of pull of the puller mechanism and the axis of the passage in the forming device.



3,448,490
INSTALLATION FOR THE INJECTION OF A SOLE IN A MOULD CLOSED BY A LAST

Petrus Robert De Ryck, Oordegem, Belgium, assignor to Constructiewerkhuizen Van Oordegem, Oordegem, Belgium, a Belgian company
Filed July 6, 1966, Ser. No. 563,121
Claims priority, application Belgium, July 7, 1965, 666,536
Int. Cl. B29f *1/10;* **B29d** *31/00*
U.S. Cl. 18—4 **1 Claim**

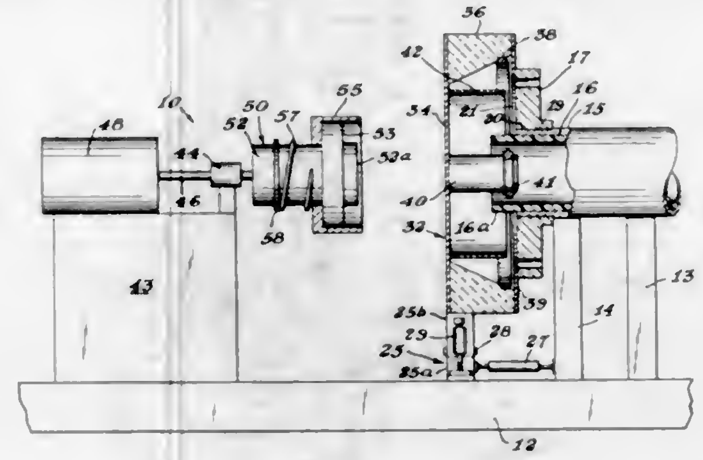


An injection molding installation having an injection head, a series of molds, and means to impart intermittent movement to the molds. The molds are carried by trolleys which move along rails sequentially into and out of the molding position. The installation includes means for replacing and rearranging the order of the trolleys.

3,448,491
APPARATUS FOR FLANGING THERMOPLASTIC LINED PIPES

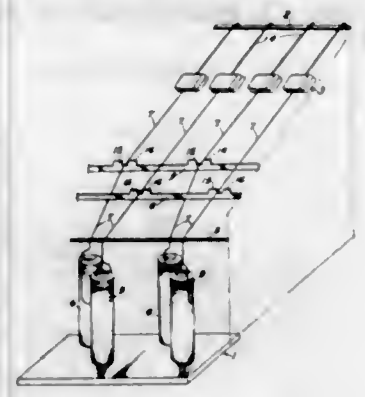
Louis J. Sosnowski, Jr., Sanford, and Samuel L. Haller, Merrill, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 9, 1964, Ser. No. 358,584
Int. Cl. B29c *17/00*
U.S. Cl. 18—19 **4 Claims**

A pipe flanging apparatus is disclosed which is suited to form a flange on a pipe having a thermoplastic resinous lining extending from one end thereof, the apparatus has external and internal radiant heaters which are symmetrically positioned about the extending liner portion and the molding member which engages the heated liner and forms it into a radially extending flange.



3,448,492
SELF-MONITORING ROVING FRAME

Morris M. Bryan, Jr., Jefferson, and Morris W. Roberts, Chamblee, Ga., assignors to The Jefferson Mills, Inc., Jefferson, Ga., a corporation of Georgia
Filed May 15, 1967, Ser. No. 638,438
Int. Cl. D01g *31/00, 1/06;* **D01b** *5/42*
U.S. Cl. 19—.23 **4 Claims**

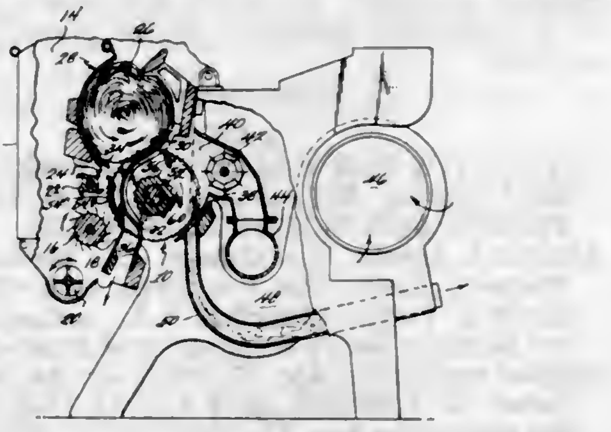


A roving frame having a monitoring means for monitoring the finished roving and for providing an electrical output proportional to the density of the roving. As disclosed, the monitoring means provides an electrical output proportional to each of the plurality of rovings simultaneously drafted by the roving frame and the roving frame is rendered inoperative by a cut-off means responsive to the monitoring means when the density of a roving is not within a predetermined range for a predetermined period of time. The monitoring means also provides an output to an accumulating means so as to provide a summary of the density of a selected length of a roving.

3,448,493
GIN STAND

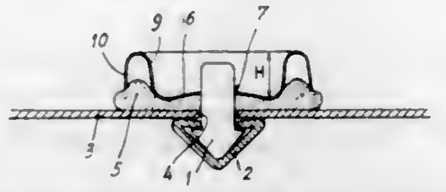
William L. Calhoun, Box 517,
Rayville, La. 71269
Continuation-in-part of application Ser. No. 359,935, Apr. 15, 1964. This application Dec. 30, 1966, Ser. No. 628,183
Int. Cl. D01b *1/08*
U.S. Cl. 19—63 **3 Claims**

An improved gin stand device is provided which includes an eccentric saw and mandril combination. The eccentric combination may be constructed to include: (1) saw blades eccentrically mounted on a mandril in a common direction of throw, (2) saw blades concentrically mounted on a mandril which is itself mounted on an eccentric axis of rotation, or (3) saw blades eccentrically mounted on a mandril in sets wherein separate successive sets have maximum throws which are greater than 90 degrees apart from one another.



3,448,494
FASTENING DEVICES NOTABLY FOR SECURING BEADINGS TO THE BODIES OF VEHICLES

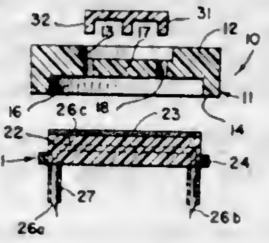
Bernard Boyenval and Albert Labbe, Billancourt, France, assignors to Regie Nationale des Usines Renault and Societe Industrielle et Commerciale des Automobiles Peugeot, Paris, France
Filed May 29, 1967, Ser. No. 641,992
Claims priority, application France, July 15, 1966, 69,503
Int. Cl. F16b *17/00*
U.S. Cl. 24—73 **3 Claims**



Fastener for rapidly securing an element to another element, notably a molding on a panel of an automotive or other vehicle, characterised by a rivet having its head engaged in said molding for pressing same against said panel, said molding being clamped against said panel by a lock washer slipped on the rivet shank and having a dished configuration with an outer peripheral portion turned down to provide a substantially toroidal curved surface which has a height greater than that of said rivet shank.

3,448,495
PLASTIC BUTTON

Milton P. Chernack, West Hempstead, N.Y., and Albert H. Torongo, Jr., Washington Crossing, Pa., assignors, by mesne assignments, to Scurlock, Inc.
Filed June 13 1967, Ser. No. 650,564
Int. Cl. A44b *1/42*
U.S. Cl. 24—96 **8 Claims**



A button is formed of plastic and has a pair of plastic coated metal legs extending from it, the button at its top and sides having the appearance of standard buttons now in use, such as on men's shirts. This button is manufactured by incorporating a plastic coated wire member of U-shape with a molded element, which is cemented to a button body which is made by standard techniques, from standard materials, but which additionally has a recess on the underside. Simulated molded plastic threads may be added.

3,448,496

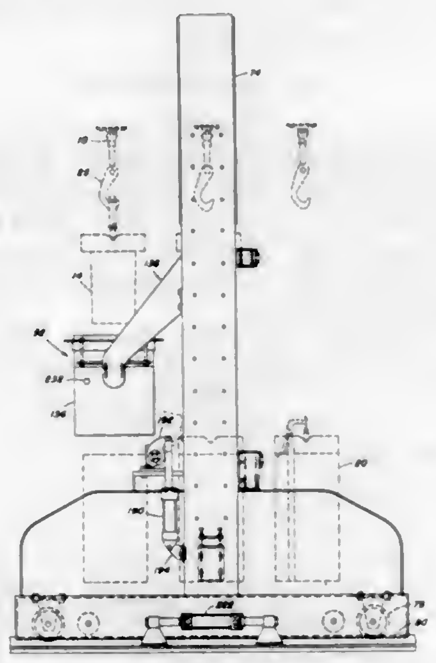
APPARATUS FOR CASTING CERAMIC ARTICLES INCLUDING SEPARATE CLOSED LOOP CONVEYORS FOR MOLDS AND CORES

Alanson J. Arnold, New Orleans, La., Burton Van Dyke, Westport, Conn., Don Van Dyke, Louisville, Ky., and David D. Porter, Metuchen, N.J., assignors to American Standard Inc., a corporation of Delaware

Original application Apr. 22, 1964, Ser. No. 361,847, now Patent No. 3,397,259, dated Aug. 13, 1968. Divided and this application Sept. 15, 1967, Ser. No. 679,275

Int. Cl. B28b *15/00, 17/00*

U.S. Cl. 25—2 **13 Claims**



This application discloses apparatus for manufacturing cast or ceramic articles. The apparatus includes a closed loop conveyor for conveying a plurality of tub molds and a separate closed loop conveyor, which may be an overhead conveyor, for conveying a plurality of core molds. The arrangement employs a single core setting station, through which the conveyors pass, for mating the core and tub molds. The mated molds are moved to a slip pouring station where the cavity or cavities between the molds are filled. After the slip has solidified, the mated molds pass through a core lifting station which removes each core mold from the tub mold and returns the core mold to its overhead conveyor. Thereafter, the cast tank is removed from the tub mold and undergoes treatment and finishing.

3,448,497

CERAMIC FIXTURE CASTING APPARATUS WITH MOLDS FORMING SEPARATE SECTIONS OF SAID FIXTURE AND MEANS MATING SAID SECTIONS

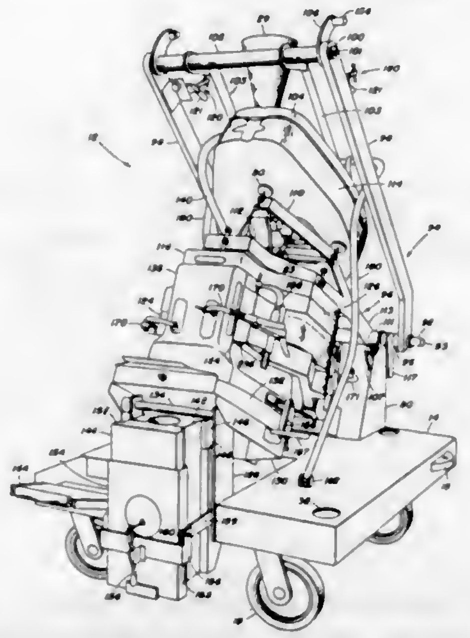
Alanson J. Arnold, New Orleans, Elmer L. McKeough, Arabi, William M. Ripple, Metairie, and Paul W. Schoeffler and Herbert J. Smith, New Orleans, La., assignors to American Standard, Inc., a corporation of Delaware

Filed Apr. 22, 1964, Ser. No. 361,804

Int. Cl. B28b *5/00*

U.S. Cl. 25—29 **30 Claims**

In casting a fixture such as a ceramic water closet, a plurality of molds are mounted for relative movement between various positions, including a first position defining cavities for forming separate sections of the fixture, another position in which said separate sections are joined together, and a further position allowing the cast fixture to be withdrawn from the molds. The molds are arranged on trucks adapted to travel along on endless closed loop path, and means are provided along the path to manipulate the molds to effect an automatic molding operation.



3,448,498

APPARATUS FOR SINGEING CLOTH

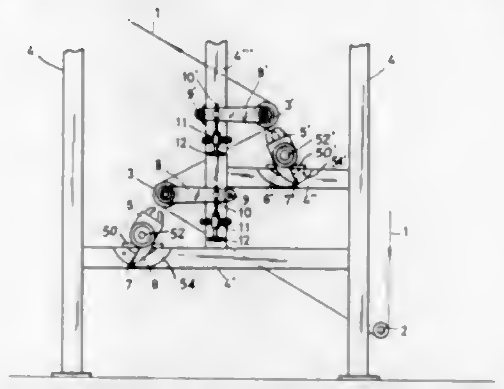
Yoshikazu Sando and Kiyoshi Nakaba, Wakayama-shi, Japan, assignors to Sando Iron Works Co., Ltd., Wakayama-ken, Japan

Filed Jan. 10, 1967, Ser. No. 608,345

Claims priority, application Japan, Jan. 14, 1966, 41/2,050

Int. Cl. D06c *9/00, 23/02*

U.S. Cl. 26—3 **6 Claims**



A device for singeing cloth material comprises a mounting frame with guide rollers over which the cloth to be singed is directed. One of the guide rollers comprises a fluid-cooled roller and the cloth is directed around this fluid-cooled roller. The burner for singeing the material is mounted on a cross support of the frame carrying the guide rollers and it may be pivoted to adjust the position of the flame so that it contacts the material at a selected angle and where the material engages around the fluid-cooled roller.

3,448,499

METHOD OF AND APPARATUS FOR COMPRESSIVELY SHRINKING FABRIC

Alexander Friedrich Czernin, Iver Heath, England, assignor to Pasolds Limited, Langley, Buckinghamshire, England

Filed Oct. 20, 1966, Ser. No. 588,155

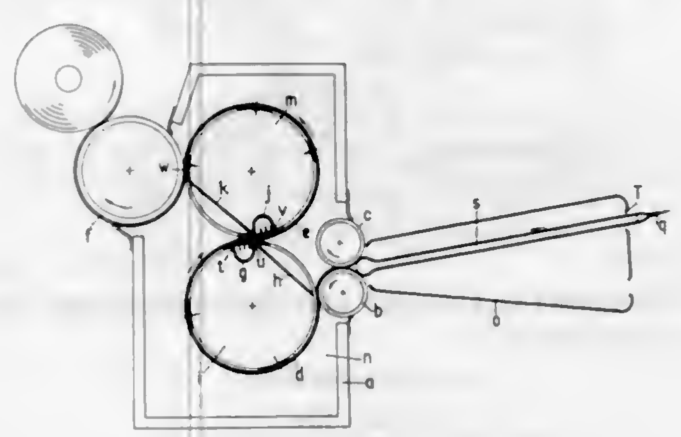
Claims priority, application Great Britain, Nov. 18, 1965, 49,005/65

Int. Cl. D06c *21/00*

U.S. Cl. 26—18.6 **9 Claims**

The compressive shrinking of fabrics in which a fabric which has been rendered compliant is conveyed between

two perforated components movable at different speeds so arranged that a portion of one component is adjacent a portion of the other component. The components are moved so that the adjacent portions move in parallel directions. Pressure differentials are applied across a part of each component to hold the fabric substantially immovably in contact with the faster and slower components at regions immediately before and after the fabric reaches and has passed between the respective adjacent portions.



3,448,500

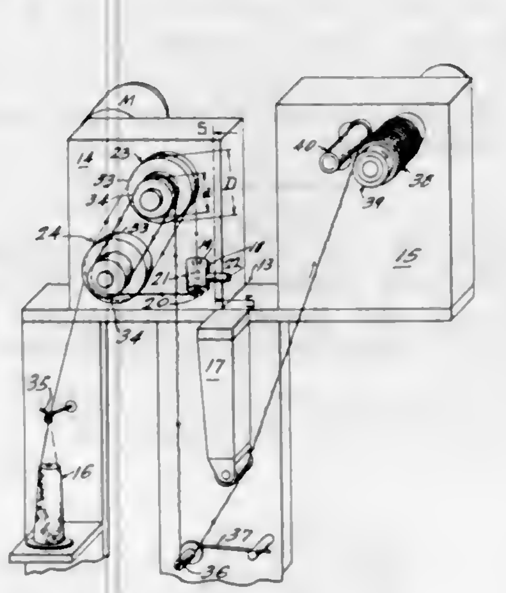
METHOD OF BULKING YARN

Gustav E. Benson, Greenville, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 551,091, May 18, 1966. This application Dec. 29, 1966, Ser. No. 605,700

Int. Cl. D02g *3/22*

U.S. Cl. 28—72 **6 Claims**



A method of producing a bulky textile product from a strand of textile filaments by passing successive increments of the strand through a zone of fluid turbulence at a high linear speed whereby groups of filaments are separated and displaced from those remaining in the strand to form arches or waves extending outwardly from the body of the strand. The zone of fluid turbulence may be provided by an enclosed fluid texturing jet and strand feed and take-up apparatus is used to pass the strand through the fluid jet at a speed such that the energy transferred to said strand filaments is sufficient to form the desired arches but is insufficient to break the groups of filaments or to distort the desired arches into closed loops.

3,448,501

PROCESS FOR THE MANUFACTURE OF A COMPACTED YARN

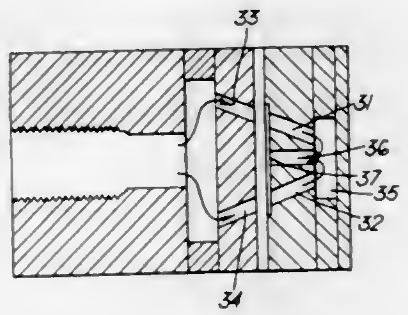
Michel Buzano, Villeurbanne, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

Filed May 15, 1967, Ser. No. 638,431

Claims priority, application France, May 15, 1966, 61,815

Int. Cl. D02g *1/16*

U.S. Cl. 28—72 **8 Claims**



The invention relates to a process and apparatus for interlacing a multifilament yarn in which a fluid is directed transversely to the axis of the running yarn from at least one pair of axially spaced primary nozzles on one side of the yarn. At least one secondary nozzle is positioned to direct fluid from the other side of the yarn at an axial position intermediate the primary nozzles. Preferably the fluid from the primary nozzles is collected and reformed and directed through said secondary nozzle or nozzles.

3,448,502

METHOD OF MANUFACTURING FLEXIBLE SHEET MATERIAL

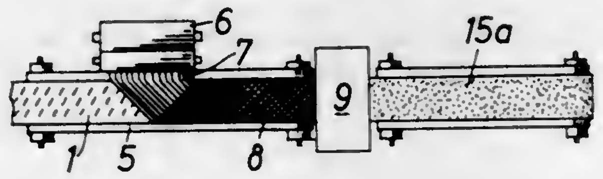
Gunter Horst Tesch, 13 Rte. de Mon Repos, Fribourg, Switzerland

Filed May 25, 1967, Ser. No. 641,310

Claims priority, application Switzerland, May 27, 1966, 7,803/66

Int. Cl. D04h *1/46;* **B32b** *27/12*

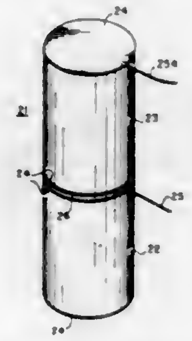
U.S. Cl. 28—72.2 **5 Claims**



A textile material is manufactured from a sheet of solid material and from a loose fibrous web. The sheet of solid material, when needled, has a tendency to split along a predetermined axis into parallel fibrils and a plurality of incisions are first made in the sheet at an angle to the predetermined axis. The incisions are spaced from each other by a predetermined distance. Then the loose fibrous web is placed adjacent to the sheet of base material and the two are needled together. The solid material can be a polypropylene foil which has been stretched from 8 to 10 times its length while heated, and which has a tendency to split into parallel fibrils along the axis of stretching when needled. The fibrous web may include polypropylene fibers or other suitable fibers. The base material and loose fibrous web are preferably needled from both sides to completely shred the base material into separate fibrils which are intermixed with the loose fibrous web. Leaves, paper strips, and the like can also be used as the loose material.

3,448,503
METHOD FOR JOINING PIEZOELECTRIC ELEMENTS

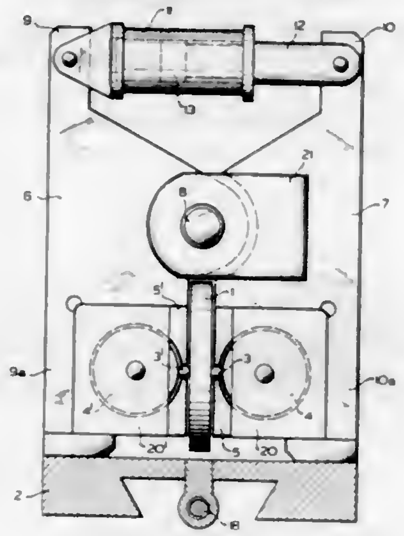
Winfield James Trott and William E. Radford, Orlando, Fla., assignors to the United States of America as represented by the Secretary of the Navy
Original application Sept. 14, 1961, Ser. No. 138,204, now Patent No. 3,179,826, dated Apr. 20, 1965. Divided and this application Oct. 29, 1964, Ser. No. 417,525
Int. Cl. B23k *31/02;* **H04r** *17/00*
U.S. Cl. 29—25.35 **10 Claims**



A method for joining piezoelectric elements by applying a fluid amalgam between electroded surfaces of the piezoelectric elements and by applying low heat and slight pressure so as to cause a solid state diffusion between the amalagm and the electroded surfaces.

3,448,504
SURFACE SMOOTHING ARRANGEMENT

Theodor Dombrowski and Bernhard Kunze, Erkelenz, Germany, assignors to Wilhelm Hegenscheidt Kommanditgesellschaft, Erkelenz, Germany
Filed Dec. 1, 1966, Ser. No. 598,395
Claims priority, application Germany, Dec. 4, 1965, H 57,869
Int. Cl. B24b *39/00*
U.S. Cl. 29—90 **10 Claims**

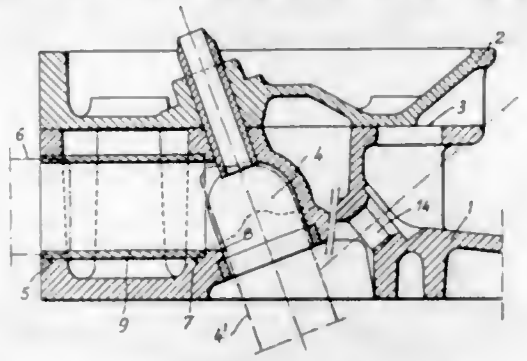


Two slanted smoothing rolls are pressed from opposite sides into rolling contact with a rotating workpiece and transported in radial direction of the workpiece.

3,448,505
METHOD OF MANUFACTURING INTERNAL COMBUSTION ENGINE CYLINDER HEADS

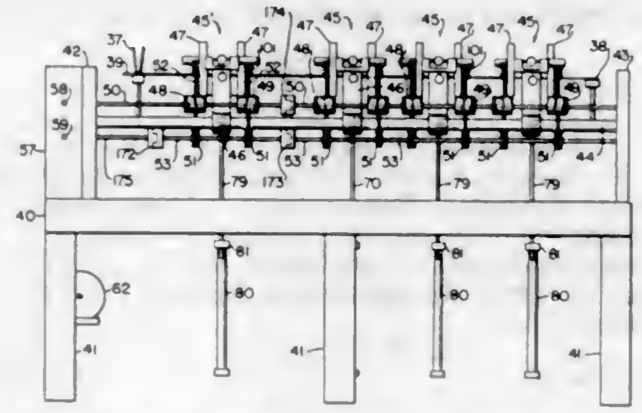
Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Nov. 30, 1964, Ser. No. 414,573
Claims priority, application France, Dec. 10, 1963, 956,656
Int. Cl. B23p *15/00*
U.S. Cl. 29—156.4 **8 Claims**

A method of manufacturing a pressure or chill cast aluminum alloy cylinder head for internal combustion engines, including the steps of machining out bores in a main casting between the valves of the engine and their corresponding manifolds, after which an aluminum alloy tube is inserted and secured in a fluid tight manner into each of said bores.



3,448,506
ROD WRAPPING MACHINE

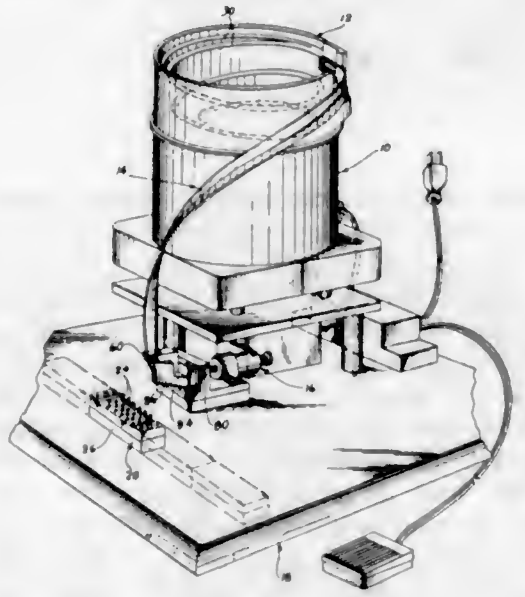
John M. Bishop and Emmett F. Simon, Orange, Calif., assignors to The Conolon Corporation, a corporation of California
Filed Aug. 26, 1966, Ser. No. 575,456
Int. Cl. B65h *81/06*
U.S. Cl. 29—208 **25 Claims**



A device for automatic pattern wrapping of a fishing rod or a like article having a rotating circular head with a sector-like opening and dual drive means to bridge the opening so that the rod may be moved laterally in and out of the rotating head.

3,448,507
CLIP FEEDING AND ATTACHING MACHINE

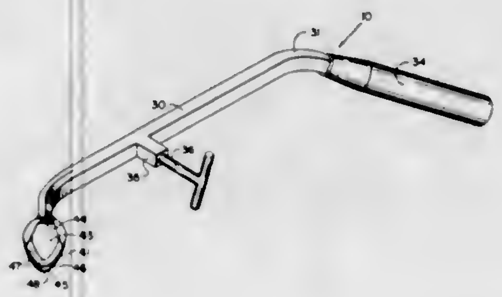
Boris A. Jackson, Manhasset, Stepan Nalbantian, Massapequa, and Benedetto Remondino, New York, N.Y., assignors to U.S. Components Inc., Bronx, N.Y.
Filed Apr. 14, 1967, Ser. No. 630,944
Int Cl. B23q *7/10;* **B65g** *47/26*
U.S. Cl. 29—211 **10 Claims**



A machine which continuously feeds C-clips from a hopper to a vibratory spiral guide rail and then to a clipping tool, said guide rail first aligning the C-clips relative to each other and thereafter reorienting them into operative position relative to the work, and said clipping tool then attaching the aligned and reoriented C-clips to individual work elements.

3,448,508
GLAZER'S OFFSET LOCKING STRIP TOOL

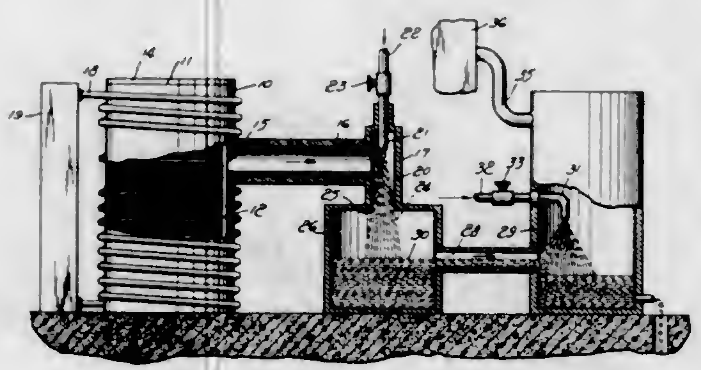
Steven Passage, 6484 Daphne Court, and John L. Turner, 35851 Bettencourt St., both of Newark, Calif. 94560
Filed Aug. 17, 1967, Ser. No. 661,244
Int. Cl. B23p *19/02;* **B25b** *27/00*
U.S. Cl. 29—235 **3 Claims**



This disclosure concerns a tool for installing panels and panes such as glass windows, windshields, wood, plastic, metal and the like, in yieldable mountings where the mounting contains not only a receiving groove for the panel or pane but a locking groove which is opened or spread by the tool while a locking strip is guided therein to the operative locking position, thereby bringing yieldable pressure against the receiving groove to hold the panel in firm, weatherproof, locking engagement, all in a continuous, including around corners and sharp curves, fast and sure manner, with a two-handed grip on the tool.

3,448,509
PROCESSES OF REMOVING PLASTIC INSULATION FROM WIRES AND OF CONTROLLING GASES RESULTING THEREFROM

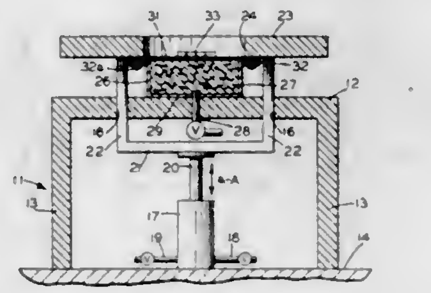
Bernard O'Reilly, Staten Island, N.Y., assignor, by mesne assignments, to Nassau Smelting and Refining Company, Inc., Tottenville, N.Y., a corporation of New York
Filed Feb. 5, 1964, Ser. No. 342,710
Int. Cl. B01d *5/00;* **B08d** *3/00*
U.S. Cl. 29—403 **13 Claims**



A quantity of plastic-insulated wire is placed in a chamber which is then sealed air-tight both to enclose the chamber and to limit the amount of air therein. The wire is heated to a temperature sufficient to reduce the plastic to a crisp residue and to evolve gases from the plastic. The evolved gases are wet-scrubbed to remove obnoxious constituents therefrom. The heating step alone and in combination with the scrubbing step effects the reclamation of unoxidized wire and the control of the evolved gases. The crisp residue is ultimately removed.

3,448,510
METHODS AND APPARATUS FOR SEPARATING ARTICLES INITIALLY IN A COMPACT ARRAY, AND COMPOSITE ASSEMBLIES SO FORMED

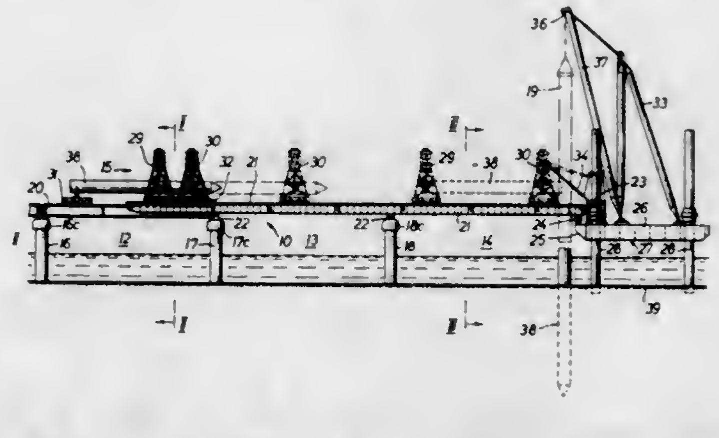
Jacob R. Bippus, Pittsburgh, and Anderson F. Johnson, Jr., Sinking Springs, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of abandoned application Ser. No. 551,709, May 20, 1966. This application Jan. 10, 1968, Ser. No. 696,873
Int. Cl. H01r *39/00;* **B01j** *17/00;* **H01l** *5/00*
U.S. Cl. 29—413 **35 Claims**



The specific embodiments disclosed relate to breaking semiconductor slices into wafers, and handling the freshly formed wafers in such manner as to retain control over them and permit individual handling later. A slice of scribed semiconductor material is broken into discrete wafers and spaced in an oriented array by placing the slice onto a porous deformable substrate, applying vacuum through the deformable substrate to hold the slice in position, and breaking the slice along the scribed lines to form individual discrete wafers. Later, the discrete wafers are spaced apart by stretching the substrate upon which the wafers rest. The latter substrate can be the same as the original deformable substrate or can be a different substrate.

3,448,511
ARRANGEMENT AND METHOD FOR CONSTRUCTING MULTISPAN BRIDGES OR THE LIKE

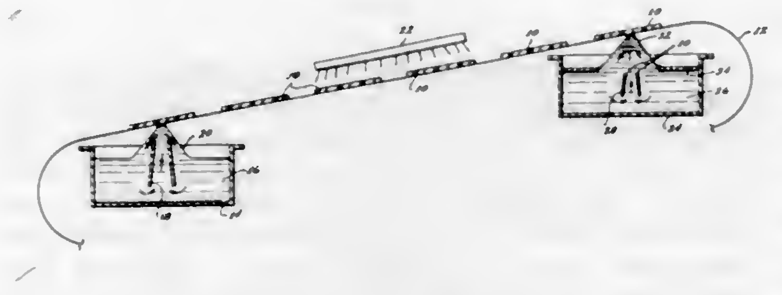
Bruno Suter, Bensberg, near Cologne, Germany, assignor to Strabag Bau-AG., Cologne-Deutz, Germany, a corporation of Germany
Filed Mar. 30, 1967, Ser. No. 627,071
Claims priority, application Germany, Apr. 1, 1966, St 25,196
Int. Cl. B23p *19/00*
U.S. Cl. 29—429 **6 Claims**



Arrangement and method for constructing multispan bridges across water in successive spans from heavy prefabricated elements in which a pair of laterally outward longitudinally displaceable auxiliary girders, cantilevered on already provided longitudinally spaced apart piers at the height at which the bridge is being built, serve as tracks for independently traveling bridge crane means situated thereon, and an independently removable island platform positioned in the water ahead of the free ends of the auxiliary girders serves as support for such free ends when island crane means thereon draw such free ends and in turn the auxiliary girders forward for such support and as working platform, to permit use of said bridge cranes to transport prefabricated elements forward to said free ends and manipulation in conjunction with said island crane of such elements to assemble and construct the next bridge span below and laterally between said auxiliary girders, as the case may be, independently of weather, water and terrain conditions.

3,448,512
METHOD OF SOLDERING

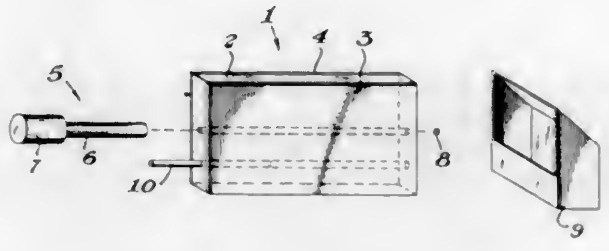
Saba A. Saba, Fountain Valley, Calif., assignor to Electronic Engineering Company of California, a corporation of California
Filed Aug. 26, 1968, Ser. No. 755,155
Int. Cl. B23k *1/00, 35/00*
U.S. Cl. 29—471.1 **1 Claim**



A method of using a solder flux comprising a normally hydrophobic rosin and a hydrophilic organic emulsifying agent, having a flash point greater than the melting point of solder, in an amount sufficient to impart hydrophilic character thereto. A solvent is included to form a liquid solution with the flux. An organic acid can be added, of higher acid number than the rosin, in an amount sufficient to impart an acid number to the flux of from about 130 to about 160.

3,448,513
METHOD FOR MAKING LONG HOLES IN FOAM BODIES

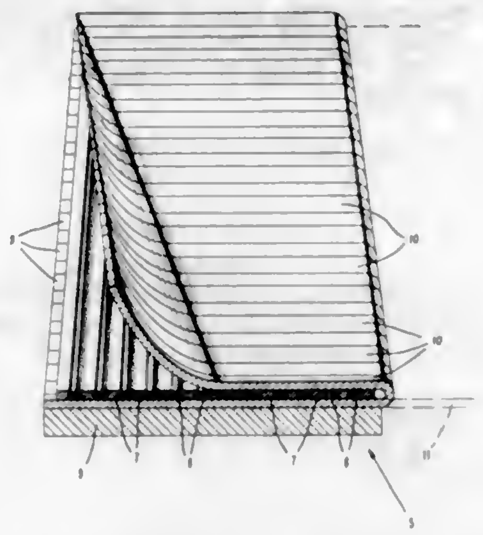
Douglas S. Chisholm and John S. Best, Midland, Mich., assignors to The Dow Chemical Company, Midland,, Mich., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,522
Int. Cl. B28b *1/48;* **B29c** *17/08*
U.S. Cl. 29—525 **7 Claims**



Foam bodies such as foam plastic are provided with a long straight hole such as an edge to edge hole by perforating with a ball projectile or shotgun slug. Rifle and pistol projectiles do not provide desirable long holes.

3,448,514
METHOD FOR MAKING A MEMORY PLANE

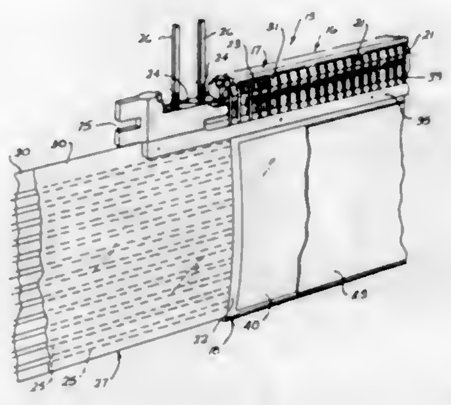
Gilbert R. Reid, Norristown, Pa., and Arthur P. Schultz, Cherry Hill, N.J., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 492,189
Int. Cl. H01f *7/06;* **B41m** *3/08;* **H05k** *3/20*
U.S. Cl. 29—604 **10 Claims**



This invention relates to a method for fabricating a plated wire memory plane. A word line laminate is positioned over a plurality of plated wires and on top of a plurality of embossed ridges, which define grooves in a formable material, in such a manner that a plurality of metallic word lines are positioned orthogonally to the plated wires. The grooves are formed by using an accurately machined template. An epoxy resin is then spread on one-half of the word line laminate after which the template is pressed to form the required grooves. The memory plane is completed by positioning the remaining half of the word laminate upon the top of the formed ridges.

3,448,515
METHOD OF ASSEMBLING A NONDESTRUCTIVE READ-OUT MEMORY

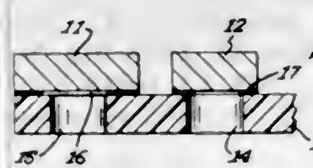
Joseph W. Fagerstrom, Johnstown, and William C. Kent, Gahanna, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 31, 1967, Ser. No. 612,896
Int. Cl. B23p *19/04;* **H01f** *7/06*
U.S. Cl. 29—604 **9 Claims**



A method of assembling elements of a nondestructive read-out memory includes the steps of securing one end of a section of a multiconductor access cable to a support stick and threading one end of each conductor of the access cable through an associated one of a plurality of magnetic cores supported on the stick. The section of the access cable is then folded to place the opposite end thereof adjacent to the support stick, and the ends of each of the conductors are connected together to form individual conductor loops supported by the section of the access cable. An information storage-sensing cable is threaded through an opening formed by the folded section of the access cable, and the folded section of the access cable is bonded to the information storage-sensing cable.

3,448,516
METHOD OF PREPARING PRINTED WIRING

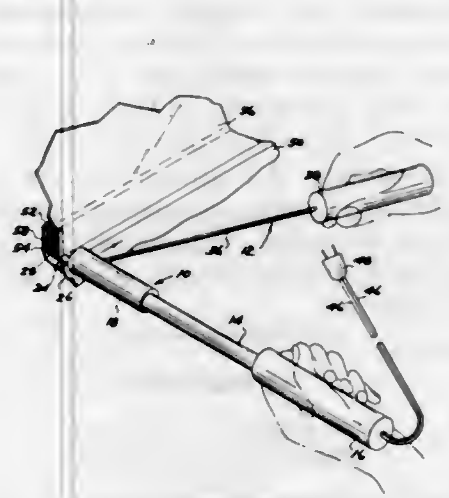
Norman R. Buck, 908 Greenvale, Northfield, Minn. 55057
Filed Feb. 14, 1966, Ser. No. 534,619
Int. Cl. B41m *3/08;* **H05k** *3/00*
U.S. Cl. 29—625 **9 Claims**



A technique for the preparation of printed wiring which utilizes a laminate of a metallic conductor and a substrate, the substrate being pre-punched prior to laminating, with the conductor being bonded to the substrate with a film of an etch resistant adhesive bonding material, and with the thickness of the adhesive bonding material being sufficient to impart an etch resistant capability thereto. A pre-punched substrate-metallic conductor laminate system is coated along the surface of the metallic conductor with a suitable resist substance, and the system is exposed to a chemical milling operation to provide a circuit of the desired configuration.

3,448,517
WINDSHIELD REMOVING TOOL

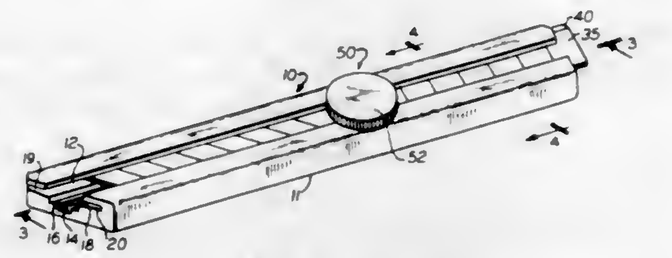
Harry R. Cothery, 17736 Lennane, Detroit, Mich. 48240
Filed Aug. 30, 1965, Ser. No. 483,664
Int. Cl. B26b *11/00, 3/00;* **B25f** *1/00*
U.S. Cl. 30—140 **9 Claims**



A tool for cutting through the material used to seal around the edge of an automobile windshield so that the windshield can be removed. The tool includes a knife having a handle and a puller arm pivotally connected to the handle to aid in pulling the blade of the knife through the material and means for heating the blade to thereby aid in the cutting.

3,448,518
KNIFE

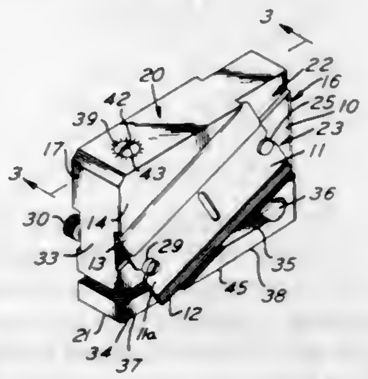
Harry Sklar, 3204 Holland Ave., Bronx, N.Y. 10467
Filed July 27, 1967, Ser. No. 656,502
B26b *3/06, 1/08;* **F41b** *13/02*
U.S. Cl. 30—162 **5 Claims**



A retractable blade knife having an elongate unitary handle with an open channel within which a knife blade is axially retractable. The channel is formed with a lower guide groove accommodating the tip of a securement screw. Overlying the guide groove in the channel is an intermediate blade carriage slideway of greater breadth than said guide groove, slidingly accommodating a blade carriage plate, and overlying the blade holder slideway is an upper blade slideway slidably accommodating the blade for extension or retraction from the handle. A headed thumb screw extends through the blade and in threaded engagement through the blade holder to abut against the bottom of the guide groove, whereby the knife blade may be selectively positioned in varying degrees of extension with respect to the handle.

3,448,519
CONTROLLED DEPTH CUTTER

Philip E. Tobias, Abington, Pa.
(2537 Mt. Carmel Ave., Glenside, Pa. 19038)
Filed Aug. 8, 1967, Ser. No. 659,077
Int. Cl. B26b *29/00, 5/00*
U.S. Cl. 30—293 **7 Claims**

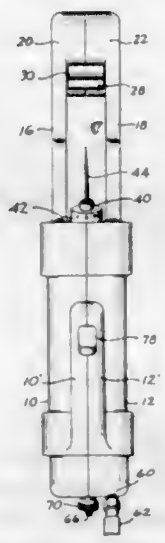


A controlled depth cutter wherein a blade is detachably mounted in a holder which holder has an adjustable foot portion to determine the blade edge exposure with exactitude and which can be used for right or left hand cutting.

3,448,520
APPARATUS FOR VENTING PNEUMATIC TIRES

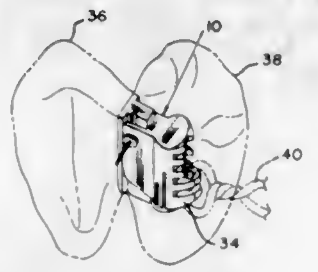
John C. Fuller, 5221 SE. Naef Road, Milwaukie, Oreg. 97222; Gordon W. Fuller, 7320 SW. Landeau, St., Portland, Oreg. 97223; Ralph A. Fuller, 12220 SW. Grant, Tigard, Portland, Oreg. 97223, and William I. Fuller, P.O. Box 123, Wilsonville, Oreg. 97070
Filed Oct. 13, 1965, Ser. No. 495,545
Int. Cl. B26f *1/34, 1/24;* **B32b** *31/16*
U.S. Cl. 30—361 **2 Claims**

Tire venting apparatus includes a piercing member movable relative to a tire bead-receiving recess in the body of the apparatus, to pierce the tire from a point on the tire surface outward of the wheel rim area to an internal point adjacent the tire bead. Means is provided for adjusting the width of the recess and for adjusting the angle of penetration of the piercing member, to accommodate tires of various types and sizes.



3,448,521
DENTAL CONSTRUCTION

Merrill C. Mensor, Jr., San Mateo, Calif. (1469 Bellview Ave., #406, Burlingame, Calif. 94010)
Filed Oct. 22, 1965, Ser. No. 502,020
Int. Cl. A61c *13/22*
U.S. Cl. 32—5 **4 Claims**

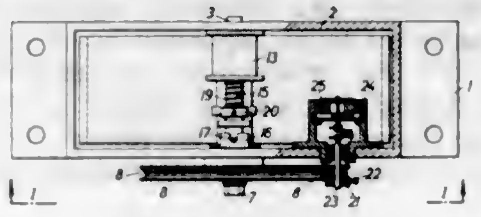


A hinge joint for mounting a dental prosthesis to an anchor tooth. The joint is of the type comprised of normally movably interconnected first and second members adapted to be fixed, respectively, to the anchor tooth and prosthesis to provide for limited relative translation therebetween. It is uniquely characterized in that it incorporates selectively interengageable locking elements on the respective members to provide for locking of the prosthesis relative to the anchor tooth at a fixed reference point.

3,448,522
APPARATUS FOR INDICATING A SUPERELEVATION OF A TRACK

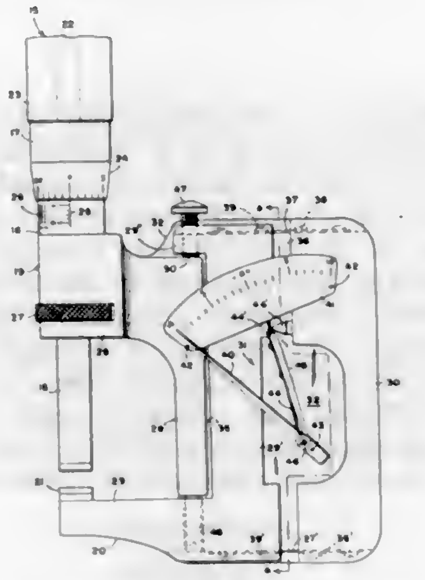
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna I, Austria
Filed Mar. 21, 1967, Ser. No. 624,927
Claims priority, application Austria, Mar. 24, 1966, A 2,829/66
Int. Cl. B61k *9/08;* **E01b** *29/04*
U.S. Cl. 33—145 **7 Claims**

Associated with a track grading machine, an apparatus for indicating the superelevation of a track has a pendulum mounted for pivotal movement in a plane perpendicular to the superelevation. This pivotal movement of the pendulum is mechanically transmitted at an increased ratio to the movable part of a potentiometer which thus produces a varying electrical signal in direct response to the pendulum movement, and this electrical signal may be used to indicate the superelevation and to control its adjustment.



3,448,523
HIGH PRECISION LENGTH-MEASURING AND GAGING INSTRUMENTS HAVING OPTIONALLY-USEABLE DIAL INDICATING MEANS

Charles Sagona, 73 Bay 34th St., Brooklyn, N.Y. 11231
Filed Apr. 18, 1967, Ser. No. 631,743
Int. Cl. G01b *5/02*
U.S. Cl. 33—147 **6 Claims**



Precision indicating type linear-measuring, gaging instruments showing plus or minus variances of measuring standards, affording pointer movement adjustment with locking means to immobilize pointer indication for solid comparator gaging and to protect mechanism when idle. Indicating means utilizes a resilient distortable parallelogram structure; relative movement of parallelograms' opposite sides being translated to move a pointer across a scale, which is a magnified distance of the relative parallelogram movement. All adjustments are positive stops which do not touch delicate indicator mechanism parts. To explain the invention, it is shown incorporated in a micrometer which may be useable per se, or together with indicating means.

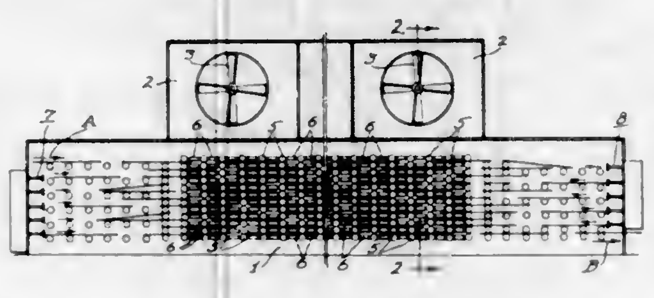
ERRATUM

For Class 33—216 see:
Patent No. 3,448,525

3,448,524
ROLLER DRYER

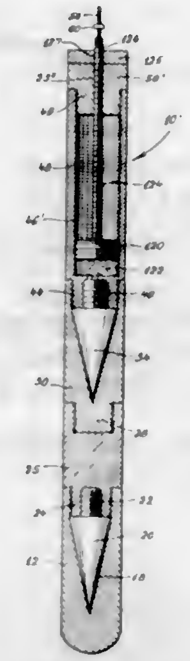
Robert Hildebrand, Oberboihingen, Wurttemberg, Germany
Filed Dec. 19, 1967, Ser. No. 691,818
Int. Cl. F26b *13/04, 3/04*
U.S. Cl. 34—149 **10 Claims**

A multi-deck roller dryer for sheets of material in which the driven rollers are horizontally-spaced in roller planes and nozzle boxes are disposed between the rollers in each plane. The material is conveyed in each deck by the roller plane underlying the sheets and is pressed against the undersides of the rollers in the upwardly adjacent plane whereby $n+2$ roller planes form $n+1$ decks. The nozzle boxes have slits forming the nozzles for effecting contact of the drying medium with the sheets, the slits being disposed at an angle of between 30° and 60° to the direction of travel of the material. Deflector plates are provided for the nozzle slits which are graduated in length with the longest plates furthest from the medium inlet to the box.



3,448,525
PLUMB BOB AND STRAIGHT-EDGE WITH INTERCHANGEABLE PARTS

Mieczyslaw Stanislaw Majewski, % W. Chomut, 102 E. 7th St., New York, N.Y. 10009
Filed Aug. 3, 1967, Ser. No. 658,182
Int. Cl. G01c *15/10*
U.S. Cl. 33—216 **2 Claims**

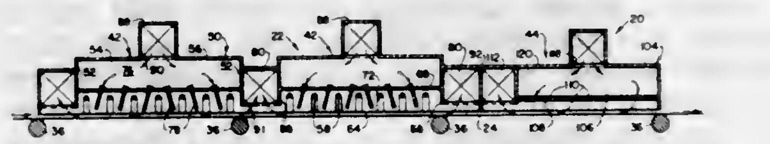


A plumb bob and straight-edge assembly having cylindrical sections with selectable conical tips of different materials. The sections provide for assembling various lengths and weights. A hollow section has a stem and threaded plug engaging the surface of a contained liquid of selectable material and volume.

3,448,526
APPARATUS FOR AND METHOD OF DRYING INK AND OTHER MATERIALS ON A CARRIER

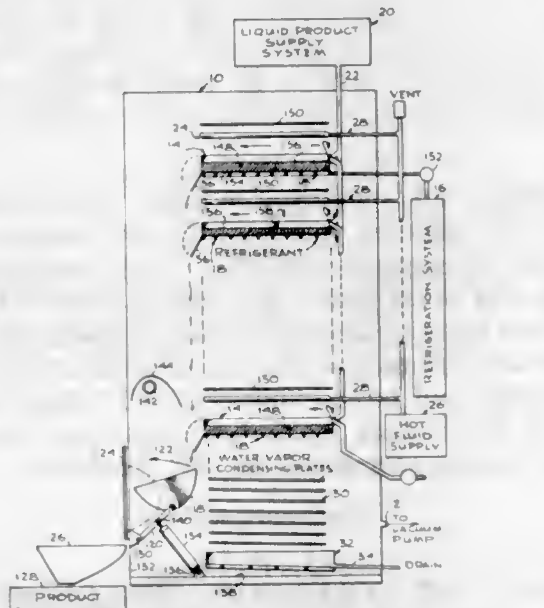
Horace L. Smith, Jr., 301 Lock Lane, Richmond, Va.
Filed July 20, 1967, Ser. No. 654,838
Int. Cl. F26b *3/28*
US. Cl. 34—4 **16 Claims**

Drying apparatus including a support for a carrier having at least one material to be dried thereon; one or more radiant heating units disposed adjacent said support for evolving at least one volatile substance from the material to be dried; and an arrangement associated with each radiant heater for directing a fluid at high velocity against the carrier to prevent it from being overheated and to increase the rate of drying. Methods of drying materials on carriers by a combination of radiant heat and fluid impingement.



3,448,527
QUICK FREEZE-DRYING SYSTEM AND APPARATUS THEREFOR

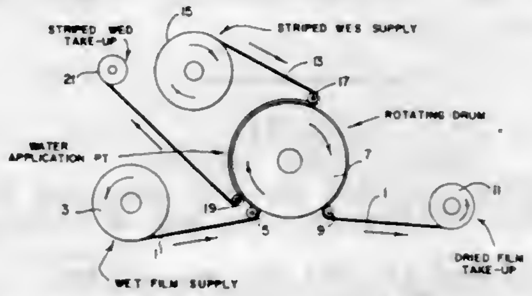
Luis A. Hernandez, Jr., Los Angeles, Calif. (6227 Laurel Grove Ave., North Hollywood, Calif. 91606)
Filed Sept. 20, 1965, Ser. No. 488,354
Int. Cl. F26b *5/06, 5/10*
U.S. Cl. 34—5 **7 Claims**


LIQUID PRODUCT SUPPLY SYSTEM
VENT
REFRIGERANT
REFRIGERATION SYSTEM
HOT FLUID SUPPLY
WATER VAPOR CONDENSING PLATES
TO VACUUM PUMP
DRAIN
PRODUCT CONVEYOR AND/OR PACKAGING SYSTEM

Freeze-drying system and apparatus employing heat transfer by means of direct heat radiation to the quick-frozen product and involving successive removal of thin dried layers of the product as by scraping the exposed product surface to effectively improve efficiency, economy and dried product quality. Also disclosed are system and apparatus for maintaining the dried condition of the removed product.

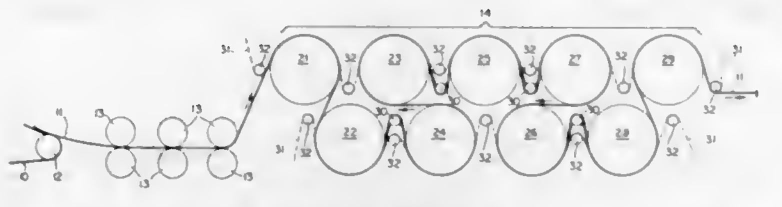
3,448,528
PROCESS AND APPARATUS FOR REMOVING DIFFUSIBLE LIQUID FROM A PERMEABLE SOLID

Frank H. Jackson and Bernard R. Rumbutis, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 26, 1967, Ser. No. 693,542
Int. Cl. F26b *5/16, 13/04*
U.S. Cl. 34—9 **16 Claims**



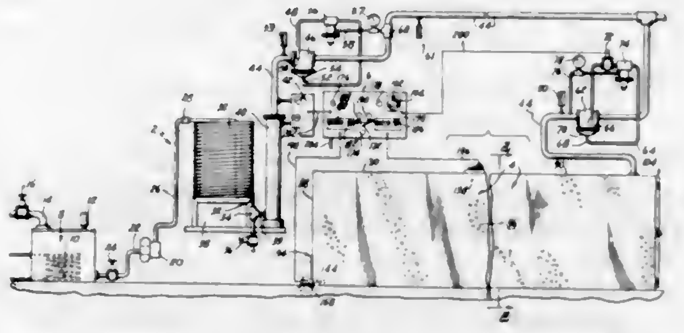
Diffusible liquid is removed from a permeable solid containing such liquid by passing a support having interrupted, solid coating stripes containing a drying agent over the permeable solid in intimate contact therewith. For instance, a moist photographic element is dried by passing a support containing interrupted, solid coating stripes of a poly(ethylene oxide) over the moist photographic element in intimate contact therewith. One embodiment is use of a wet absorbent web to remove residual processing compounds from a processed photographic element before contacting the element with the striped coating.

3,448,529
APPARATUS FOR STABILIZING PAPER WEBS
August S. Erspamer, Drexel Hill, and William R. Sherman, Chester, Pa., assignors to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania
Filed July 13, 1965, Ser. No. 471,573
Int. Cl. F26b *13/04;* **D06c** *3/06*
U.S. Cl. 34—116 **5 Claims**



Apparatus for stabilizing a paper web, comprising a bowed roll disposed intermediate two heated rotatable drums for transversely straining a web passing from one drum to the other drum, the path of travel of said web being such as to undergo the same direction of curvature around said drums and the opposite direction of curvature around said bowed roll, said roll being bowed in a direction to produce maximum transverse stretching of the web during passage of the web thereover.

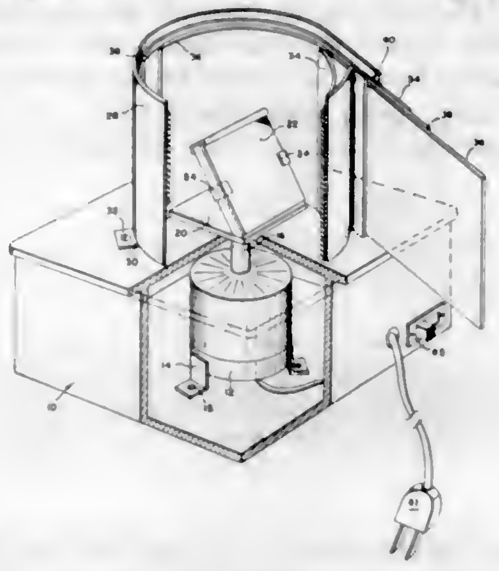
3,448,530
METHOD AND APPARATUS FOR CONDITIONING LOGS TO BE CUT INTO VENEER
Aage W. Mortensen, 2310 NW. 24th Ave., Portland, Oreg. 97210
Filed Mar. 21, 1967, Ser. No. 624,907
Int. Cl. B01f *3/06*
U.S. Cl. 34—13.8 **34 Claims**



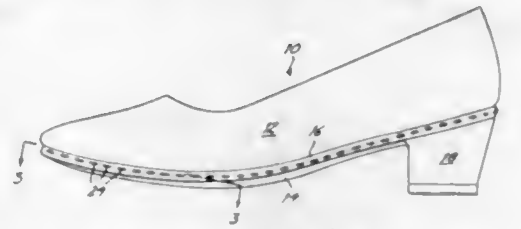
Method and apparatus for uniformly heating and saturating logs or "blocks" in a closed vault to condition the same to be cut into veneer by subjecting the logs to a steaming cycle, a steeping cycle and, if necessary, an optional holding cycle.

3,448,531
DRY COLOR MIXER
James W. Robinson, 1205 Graydon Ave., and Joseph Frank Porter, 900 Brandon Ave., both of Norfolk, Va. 23507
Filed Sept. 13, 1965, Ser. No. 486,997
Int. Cl. G09b *19/00, 25/00*
U.S. Cl. 35—28.3 **8 Claims**

A device for blending the dry colors on a plurality of panels. Means is provided for exposing predetermined portions of each panel. The exposed portions of the colored panels are viewed by means of a rotating mirror.

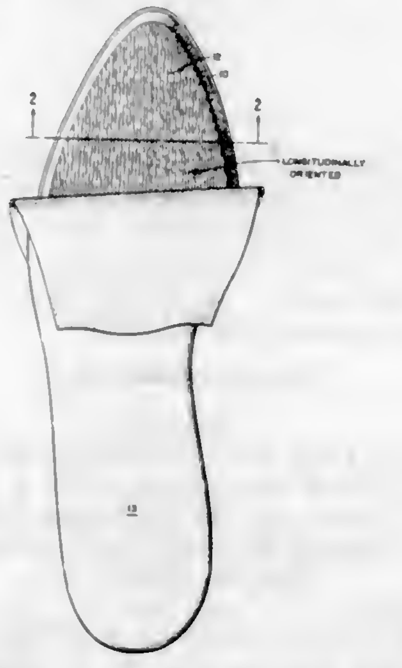


3,448,532
SHOE
Herman H. Turian, Bala Cynwyd, Pa., assignor to Caprini Shoe Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 15, 1967, Ser. No. 638,487
Int. Cl. A43b *13/00, 13/04*
U.S. Cl. 36—25 **3 Claims**



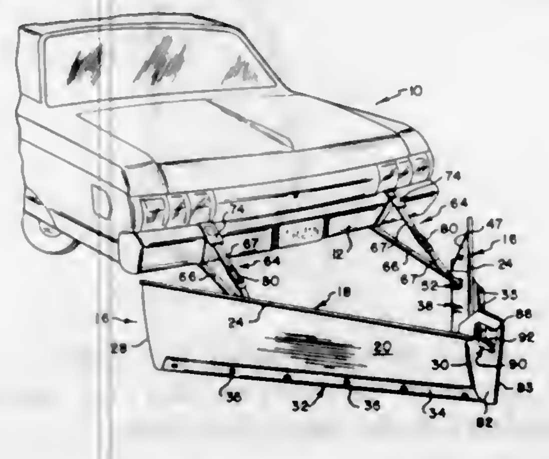
A shoe is constructed so that the periphery of a sole is obscured by a cording.

3,448,533
CUSHION INSOLE
Harry L. Beckwith, Dedham, Mass., assignor to Beckwith-Arden Inc., Watertown, Mass., a corporation of New Hampshire
Filed Jan. 18, 1968, Ser. No. 698,889
Int. Cl. A43b *13/40*
U.S. Cl. 36—44 **3 Claims**



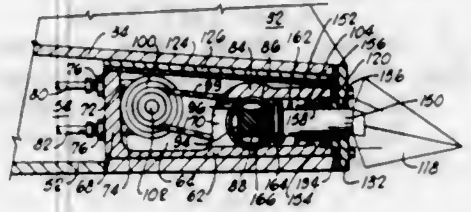
A cushion insole comprising a resilient base ply and a cover enclosing a cushion ply composed of a foamed or blown ionomeric resin having its molecules longitudinally oriented in the insole.

3,448,534
SNOWPLOW FOR VEHICLE
George R. Pipes, South Euclid, and Albert Hollinshead, Novelty, Ohio, assignors to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 20, 1965, Ser. No. 481,227
Int. Cl. E01h *5/06*
U.S. Cl. 37—44 **10 Claims**



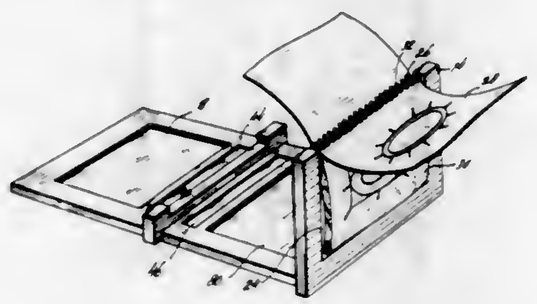
A snowplow for a vehicle including a pair of moldboards with a pivot at one end of said moldboards and a nose plate secured to each of said moldboards and extending therefrom on the opposite side from said pivot such that when the moldboards are angularly disposed to one another the nose plates are in substantially parallel relationship to one another and further wherein the moldboards are substantially parallel to one another the nose plates are disposed angularly to one another so as to provide a supporting stand for the snowplow.

3,448,535
BACK HOE APPARATUS HAVING MOVABLE TEETH
Freddie J. Haynes, Oklahoma City, Okla., assignor to Rockmaster Tools, Inc., Oklahoma City, Okla., a corporation of Oklahoma
Continuation-in-part of application Ser. No. 514,817, Dec. 20, 1965. This application Apr. 22, 1968, Ser. No. 722,990
Int. Cl. E02f *3/28, 5/02, 5/18*
U.S. Cl. 37—141 **20 Claims**



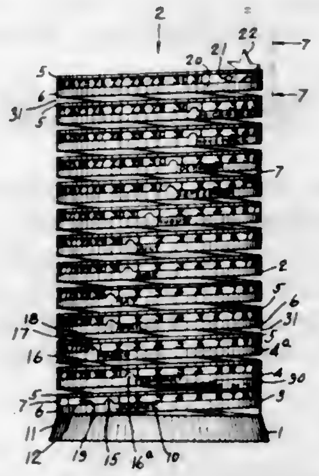
A back hoe apparatus including an articulated boom having a bucket affixed to one end of the boom, and hydraulic power fluid conveying lines extending along the boom to the bucket. Mounted in the bottom of the bucket are a hydraulic motor, a plurality of reciprocably mounted teeth, and means drivingly interconnecting the motor and the teeth. The means drivingly interconnecting the motor with the teeth includes a cam shaft carrying a plurality of lobes which bear against cooperating surfaces of rods secured to the teeth to drive the several teeth in reciprocation, and in out-of-phase relationship with each other. The motor, driving means and teeth are all mounted in a casting or solid block which can be quickly removed from the bottom of the bucket.

3,448,536
BOOK BINDING
David E. Alter, Jr., 1220 East West Highway, Silver Spring, Md. 20910
Filed Feb. 2, 1968, Ser. No. 702,563
Int. Cl. G09f *11/00*
U.S. Cl. 40—104.02 **9 Claims**



A book binding including a cover with an aperture, all book pages being rotatably supported upon an articulated hinge for selective exposure through the cover aperture. By articulating or lifting the hinge from the face of the binding the pages may be rotated so that the front or back of different pages may be exposed through the aperture.

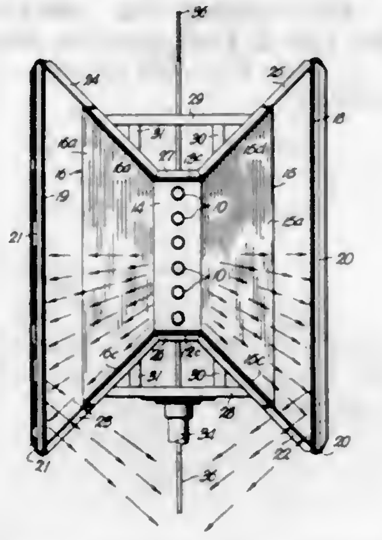
3,448,537
CALENDAR
Wilmar Lewis Prescott, 5361 Russell Ave., Hollywood, Calif. 90028
Filed July 19, 1967, Ser. No. 654,628
Int. Cl. G09d *3/06, 3/10;* **G09f** *11/04*
U.S. Cl. 40—106 **4 Claims**



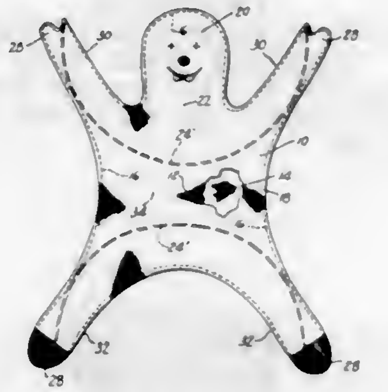
The invention contemplates a calendar of helical coil form, the turns of the coil provided with spaced numbers representative of the dates of different months and with the coils lettered for each month such as January, February, March, etc. A day indicator is provided which is movable between the turns of the coils and is of arcuate form comparable to the curvature of the turns of the helical coil.

3,448,538
TWIN FACE ILLUMINATED AND REFLECTING SIGN
Perry V. Maze, % Maze Sign Service, 701 Morton St., Falls City, Nebr. 68355
Filed July 23, 1965, Ser. No. 474,324
Int. Cl. G09f *13/04*
U.S. Cl. 40—130 **5 Claims**

A twin face illuminated and area illuminating sign having a light reflecting sign face fixedly mounted on either side of a dimensionally smaller light source and spaced therefrom, said face operable to be illuminated by said light source and to reflect light rearwardly thereof in a diffusing and crossing manner to illuminate a substantial area around said sign as well as the faces thereof.



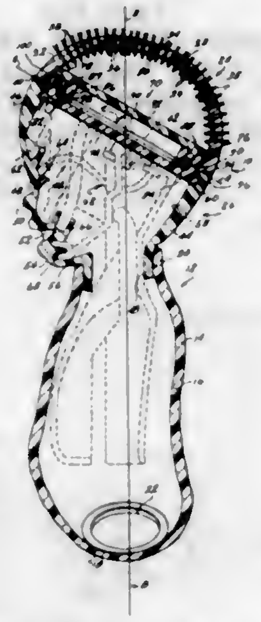
3,448,539
EMBRACING DOLL
Andé G. Hartpence, 32 Grove St., New York, N.Y. 10014
Filed Mar. 14, 1966, Ser. No. 534,183
Int. Cl. A63h *3/04, 9/00*
U.S. Cl. 46—156 **4 Claims**



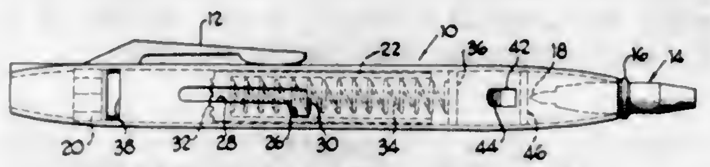
The invention pertains to an embracing doll or similar toy having simulated limbs so disposed that the doll will readily embrace or cling to objects such as the arm or leg of a person, door frames, furniture or the like. The clinging nature of the doll is due to the presence of resilient ring members having free ends disposed in the doll limb portions.

3,448,540
HEAD CONSTRUCTION FOR A FIGURE TOY
John W. Ryan, Los Angeles, Joseph Kossoff, Hawthorne, Louis L. Mucciante, Palos Verdes Peninsula, and Jack L. Lemkin, Torrance, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Feb. 9, 1967, Ser. No. 614,975
Int. Cl. A63h *3/36*
U.S. Cl. 46—164 **5 Claims**

A soft, pliable head for a figure toy is made from polyvinyl chloride using injection molding techniques. A lower head portion is made in one mold and includes an open top lying in a plane forming a predetermined angle with a vertical centre line. An upper head portion is made in another mold and includes an open bottom positionable in the plane of the open top. A rigid platform is positioned in the open top and extends into the open bottom for conforming the head to a predetermined, fixed shape. The open top and the open bottom form a parting line lying within a range of 30°–60° from the vertical centre line at the major diameter of the head so that artificial hair provided on the upper portion of the head will hide the parting line. The 30°–60° range for the open top facilitates injection molding a plurality of internal surfaces at angles between 60° and 90° to the face of the head. The platform means may serve as mechanical attachment means for animating means, as a seal sealing the perforations caused by the artificial hair from a pressurizable body portion of the figure toy and as a reservoir for supplying tears to the figure toy's eyes.

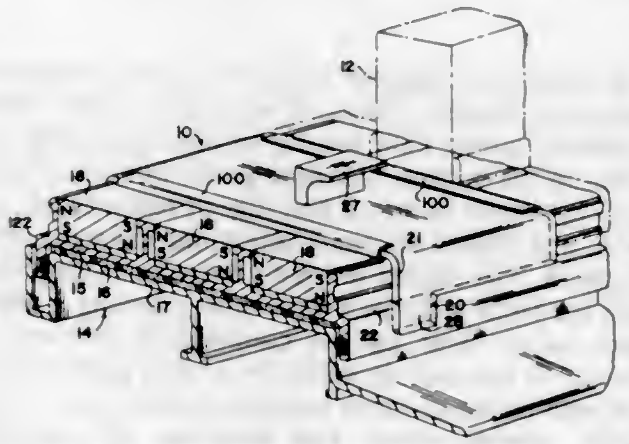


3,448,541
NOVELTY SOUNDING AND PROJECTILE FIRING WRITING INSTRUMENT
Gordon A. Barlow, Evanston, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Jan. 6, 1967, Ser. No. 607,689
Int. Cl. A63h *5/00*
U.S. Cl. 46—175 **4 Claims**



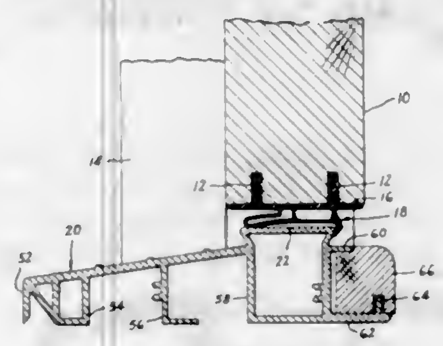
A novelty writing pen which camouflages a weapon while providing the appearance of a writing pen. A portion of the barrel of the pen is hollow and includes a spring and multiple end. Each is operable to either fire a cap or propel a message carrying a projectile on the end of the pen. The pen barrel is also formed to provide an air whistle.

3,448,542
LOCK MEANS FOR SLIDING DOORS AND THE LIKE
Rodney P. Walters, Akron, Ohio, assignor to Weather-Seal, Inc., Barberton, Ohio, a corporation of Ohio
Filed Aug. 7, 1967, Ser. No. 658,871
Int. Cl. E05d *13/04;* **E05c** *19/16*
U.S. Cl. 49—449 **6 Claims**



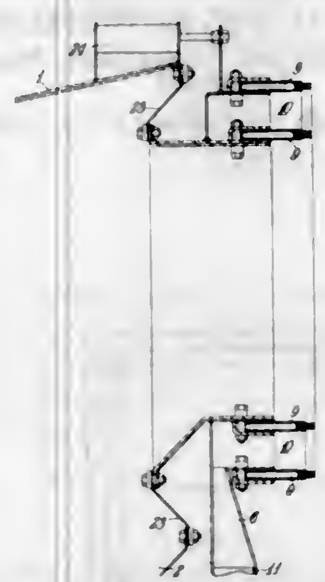
A lock plate for removable engagement with the support means of a slidable door, panel or the like. Such plate mechanically and/or magnetically fixedly engages the support means and is positioned to engage an end of the door to prevent or limit opening movement thereof.

3,448,543
WEATHERSTRIP FOR DOOR SILL AND DOOR ASSEMBLY EMPLOYING SAME
Howard C. Multer, Hartford, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 20, 1968, Ser. No. 710,435
Int. Cl. E06b *1/70, 7/23, 7/16*
U.S. Cl. 49—470 **16 Claims**



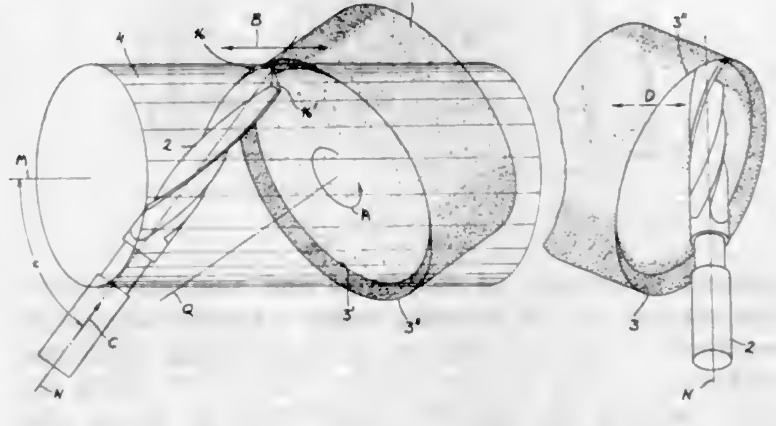
A weatherstrip for mounting on a door to form a seal with the platform of a sill which comprises an integrally formed member having an actuator element adapted to engage the platform of the sill, a sealing element hingedly connected to the base portion of the member and a connecting link between the sealing element and the actuator element to effect deflection of the sealing element upon deflection of the actuator element by the platform of the sill during closing movement of the door.

3,448,544
GRIT BLASTING APPARATUS
Michael Alexandre Pierre Cardon, Montrouge, France, assignor to Vacu-Blast Company, Inc., Belmont, Calif., a corporation of California
Filed Sept. 2, 1966, Ser. No. 577,001
Int. Cl. B24c *3/00*
U.S. Cl. 51—8 **11 Claims**



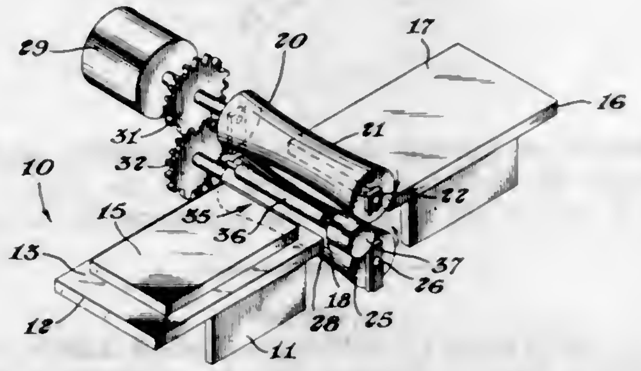
A grit blasting apparatus comprising an enclosure with an open side adapted to contact around it the workpiece to be treated, and means within the enclosure for projecting a stream of abrasive through the said open side onto the workpiece. A sealing means is provided around the boundary of the open side comprising two or more flexible seals with space between them to which a subatmospheric recovery pressure is applied to remove abrasive material and debris particles that pass through the inner seal.

3,448,545
METHOD OF AND MEANS FOR SHARPENING TWIST DRILLS
Vitalie Belousov, Constantin-Jean Alecsandrescu, Gheorghe Zmau, and Mihaita Stan, Iasi, Rumania, assignors to Ministerul Industriei Constructiilor de Masini, Bucharest, Rumania
Filed Sept. 23, 1965, Ser. No. 489,487
Int. Cl. B24b *7/00, 9/00, 19/00*
U.S. Cl. 51—73 **8 Claims**



A twist drill is sharpened by reciprocating it generally rectilineally in a plane passing through the drill axis and along a line including an angle of 40 to 50° with that axis while holding the tip of the drill against a cup-shaped grinding wheel rotating about an axis which is skew to the drill axis and includes with the aforementioned plane an angle of 40 to 50°.

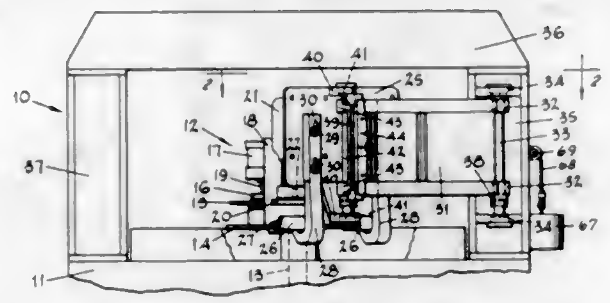
3,448,546
SHAPING APPARATUS
Leo J. Windecker, Midland, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,931
Int. Cl. B24b *5/26*
U.S. Cl. 51—80 **6 Claims**



Plastic foams are readily shaped using inexpensive shaping rolls prepared from plastic foam and using a thermosetting adhesive to carry an abrasive such as sand.

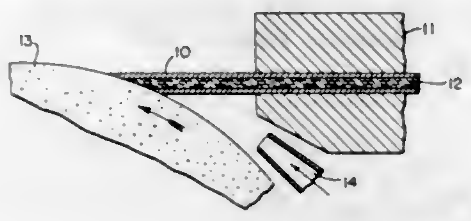
3,448,547
Donald D. Rahrig, Toledo, and Charles W. Ferguson, Perrysburg, Ohio, assignors to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 2, 1965, Ser. No. 511,128
Int. Cl. B24b *7/00, 9/00*
U.S. Cl. 51—99 **6 Claims**

Machine for grinding the edges of plates of glass or other materials. The plates to be ground are horizontally secured on a worktable rotatable about a vertical axis and a grinding unit including a grinding wheel, also rotatable about a vertical axis, is mounted for horizontal swinging movement toward and away from the edges of the glass plates. The means for mounting the grinding unit for swinging movement includes a first horizotal arm pivoted at its outer end, a second horizontal arm secured at one end to the grinding unit and means for coupling the two arms together comprising vertical plates carried at the adjacent inner ends of said arms and angularly adjustable relative to one another about a horizontal axis to maintain the axes of rotation of the grinding wheel and worktable parallel to one another. Means for tilting the plate carrying the grinding unit vertically about said horizontal axis is also provided.



3,448,548
MACHINING OF SMALL BORE METAL TUBING

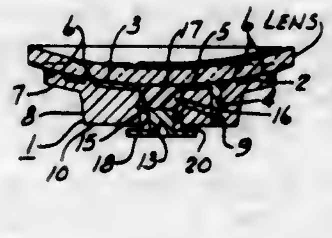
Peter M. F. Watson, Wokingham, Berkshire, England, assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,685
Claims priority, application Great Britain, Oct. 16, 1964, 42,352/64
Int. Cl. B24b *1/00*
U.S. Cl. 51—281 4 Claims



Method of forming the point of a surgical needle by grinding the end of a metal tube while the tube is filled with a core of ice to avoid the formation of burrs.

3,448,549
METHOD OF GENERATING A LENS

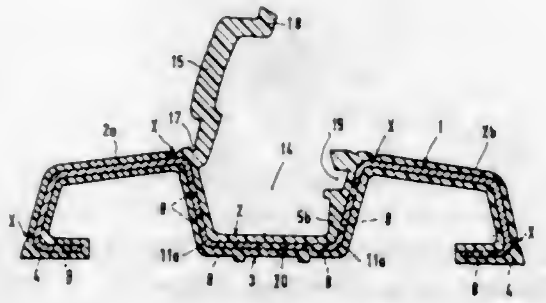
Richard J. McCall, Summer Hill, Pa., assignor, by mesne assignments, to Shuron/Continental Division of Textron Inc., Rochester, N.Y., and Providence, R.I., a corporation of Rhode Island
Filed Apr. 6, 1967, Ser. No. 628,970
Int. Cl. B24b *9/14, 41/06*
U.S. Cl. 51—284 4 Claims



The method of applying a low melting point lens block to cover a lens surface and leaving a window closed by a removable shield plug that seals the ocular vertex lens surface area defined by the window against abrasives when generating and finishing the opposite face of the lens and supporting the low melting point lens block during the process by a permanent material lens block.

3,448,550
COVER MOLDING, PARTICULARLY FOR MOTOR VEHICLE BODIES

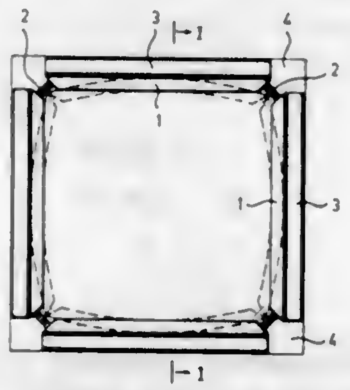
Gerhard Herr, Hochdahler Weg 29, Wuppertal-Vohwinkel, Germany, and Willi O. Treber, Oberstrasse 18, Wuppertal-Elberfeld, Germany
Filed Mar. 6, 1967, Ser. No. 620,782
Int. Cl. B32b *7/06, 1/04;* **E04c** *2/30*
U.S. Cl. 52—98 9 Claims



This disclosure relates to a cover molding, particularly for motor vehicle bodies. The molding comprises a relatively hard carrier and a relatively soft, yieldable covering on said carrier. The covering is formed with indentations, which extend in the longitudinal direction of the molding and define a removable portion of the covering so that the removal of this portion exposes the underlying surface of the carrier.

3,448,551
STRESSED SKIN PANEL CONSTRUCTION

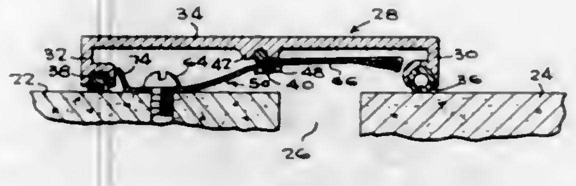
Rudolf Heller, Zurich, Switzerland, assignor to Contraves AG., Zurich, Switzerland
Filed Nov. 13, 1967, Ser. No. 682,096
Claims priority, application Switzerland, Nov. 14, 1966, 16,348/66
Int. Cl. E04b *1/62;* **E04c** *2/34, 2/08*
U.S. Cl. 52—222 14 Claims



A panel includes two sheet-material members arranged in spaced parallel planes. A prestressed frame connects the two members located intermediate the same and is operative to permit limited movement of the members with reference to one another and in the respective plane of the members, to thereby compensate for different thermal expansion or contraction of the two members.

3,448,552
EXPANSION JOINT COVER ASSEMBLY

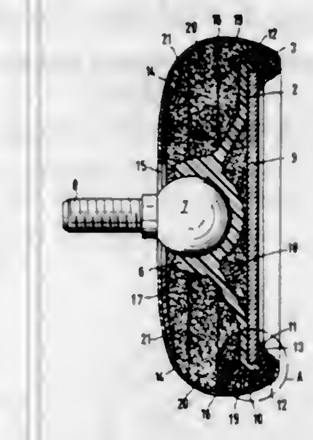
Dale A. Schmitt and Lowell K. Cheatwood, Oklahoma City, Okla., assignors to Metalines, Incorporated, Oklahoma City, Okla., a corporation of Oklahoma
Filed Apr. 5, 1967, Ser. No. 628,615
Int. Cl. E04c *1/34;* **E04d** *1/36;* **E04f** *19/04*
U.S. Cl. 52—287 15 Claims



An expansion joint cover attached to spring clips affixed to a building wherein movement of the cover plate relative to the clips causes the cover to be forced against the building and locked in position by a catch on the clip.

3,448,553
UPHOLSTERED MIRROR, PROCESS OF MANUFACTURING SAID MIRROR AND APPARATUS FOR CARRYING OUT THE PROCESS

Gerhard Herr, Wuppertal-Vohwinkel, and Gert Mahler, Radevormwald, Germany, assignors to Gebr. Happich GmbH., Wuppertal-Elberfeld, Germany
Filed July 28, 1966, Ser. No. 568,537
Claims priority, application Germany, Nov. 9, 1965, H 53,660; Feb. 9, 1966, H 58,483, H 54,562
Int. Cl. B60r *1/04;* **E04b** *1/62;* **A47g** *1/24*
U.S. Cl. 52—400 11 Claims

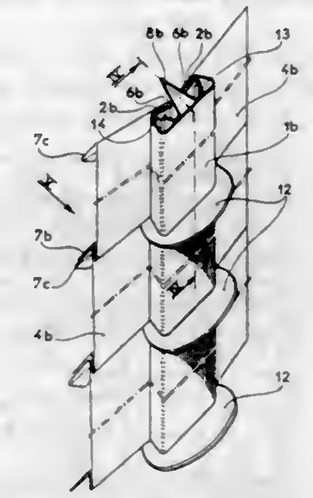


A rear view mirror assembly adapted for mounting in the interior of a motor vehicle, wherein the mirror is surrounded by resilient padding, said padding protruding forward of the optical surface of the mirror in the region of the edges thereof.

3,448,554
VERTICAL WALLS CONSTRUCTED OF UPRIGHTS AND DETACHABLE PANELS AND STRUCTURES COMPRISING THEM

Henri Jean Eugène Apesteguy, Paris, France, assignor to Panoduz Anstalt, Vaduz, Liechtenstein, a company of Liechtenstein
Filed Oct. 11, 1966, Ser. No. 585,950
Claims priority, application France, Oct. 14, 1965, 34,951; Mar. 24, 1966, 54,740
Int. Cl. E04c *1/34, 1/10, 1/30*
U.S. Cl. 52—461 7 Claims

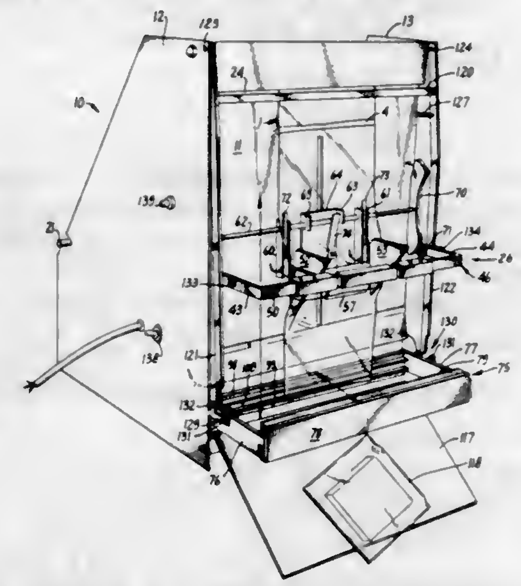
A wall structure formed of sheet material panels having folded vertical edges with an upright member enclosing and engaging the folded edges to tie side edges of the panels to each other. A wedge enclosed within the upright member abuts the inner surface of the upright member



and urges the folded edges of the panels into interlocking engagement with the upright member.

3,448,555
METHOD AND APPARATUS FOR BAGGING ARTICLES

Lyle F. Shabram, P.O. Box 5537, Carmel, Calif. 93921
Filed Aug. 31, 1966, Ser. No. 576,292
Int. Cl. B65b *9/12, 67/04*
U.S. Cl. 53—29 9 Claims

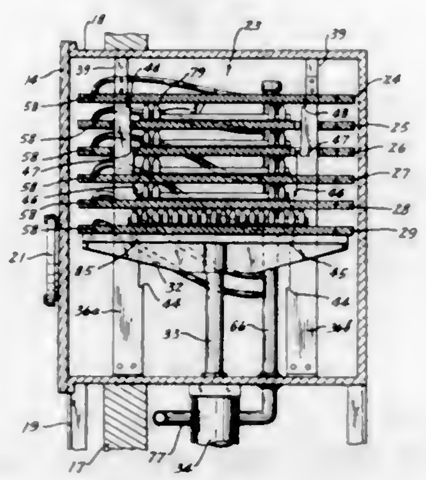


Method and apparatus for bagging articles by means of an elongated ribbon of flattened tubular material that is provided on one of its opposed sides with longitudinally spaced apart slots. The slots are successively opened and the packaged article inserted through the slots and into the spaces between the opposed sides. In one operation the continuous side of the ribbon is then cut between the spaced apart side edges of the slot and the opposed sides are sealed together on both sides of each slot.

3,448,556
APPARATUS FOR PRESERVING BIOLOGICAL AND LIKE PREPARATIONS

Everett Ray Taggart, 5176 SE. 40th St., Des Moines, Iowa 50320
Filed Dec. 6, 1965, Ser. No. 511,706
Int. Cl. B67b *3/24;* **B65b** *63/08;* **F26b** *5/06*
U.S. Cl. 53—102 4 Claims

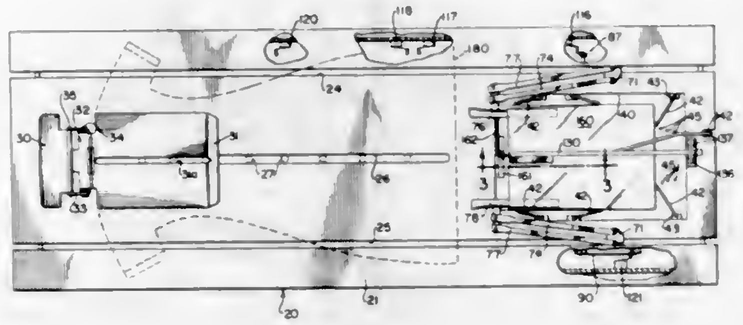
This invention comprises a desiccator apparatus including a vacuum chamber in which at least a trio of vertically movable plates are mounted in vertically spaced positions for holding separate containers therebetween in which materials can be treated, and wherein means are provided for vertically moving the uppermost plate downwardly and the lowermost plate upwardly to effect a stoppering of the containers therebetween, the means operable then to retract the plates to their initial positions for insertion of new containers to be stoppered.



3,448,557

FOLDING AND BAGGING MACHINE

Earl Swaithes, Star City, Ark., assignor to Spartans Industries, Inc., New York, N.Y., a corporation of New York
Filed Apr. 19, 1967, Ser. No. 632,096
Int. Cl. B65b *63/04, 3/02*
U.S. Cl. 53—117 20 Claims



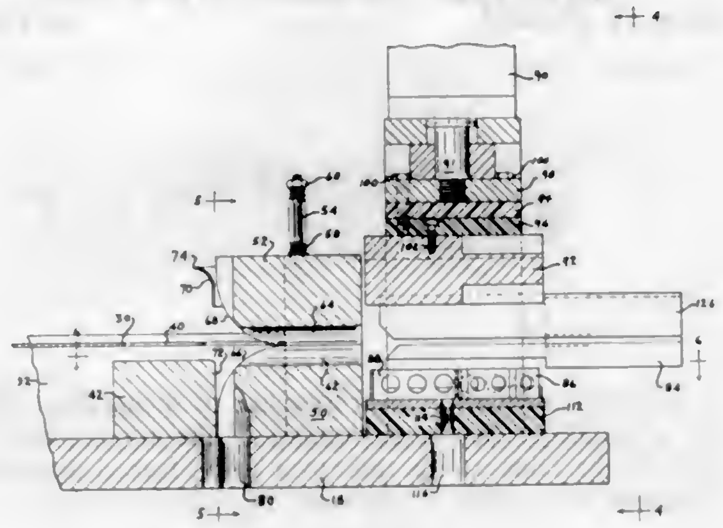
The disclosure here disclosed is a machine for facilitating the folding and bagging of garments such as shirts. The mechanism includes means about which a garment is manually folded together with means for automatically taking a bag or envelope from a magazine, opening the bag, inserting transporting fingers therein, transporting the bag to position encompassing the folding means and garment thereon and removing the fingers from the bag. In a second embodiment additional elements are provided for shaping and pressing a garment collar and modifications made in the basic machine structure to adapt it to this additional operation.

3,448,558

PACKAGING MACHINE

Richard L. Hurtle, 4702 S. Main St., Elkhart, Ind. 46514
Filed May 8, 1967, Ser. No. 636,816
Int. Cl. B65b *47/02, 5/02*
U.S. Cl. 53—141 11 Claims

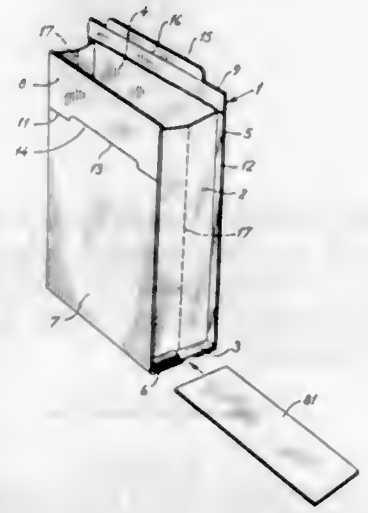
A machine for packaging articles using a blank having a flat foldable card with a window at the center and a sheet of thermoplastic material on one side. The machine includes a mechanism for folding the card into two sections with the article to be wrapped disposed in the window of the card, and a heat sealing assembly for securing the two folded sections together with the thermoplastic material conformed generally to the configuration of the article. A stream of warm air or other heating means softens the plastic material prior to or during the folding operation.



3,448,559

FILLING MACHINES FOR COMPOSITE CONTAINERS

Knud Maro Henrik Bjarno, Stenlose, Denmark, assignor to Fritz Buser AG., Wiler, near Utzenstorf, Switzerland
Filed Aug. 9, 1965, Ser. No. 478,397
Claims priority, application Great Britain, Aug. 10, 1964, 32,492/64
Int. Cl. B65b *5/02, 1/02, 3/02*
U.S. Cl. 53—188 18 Claims

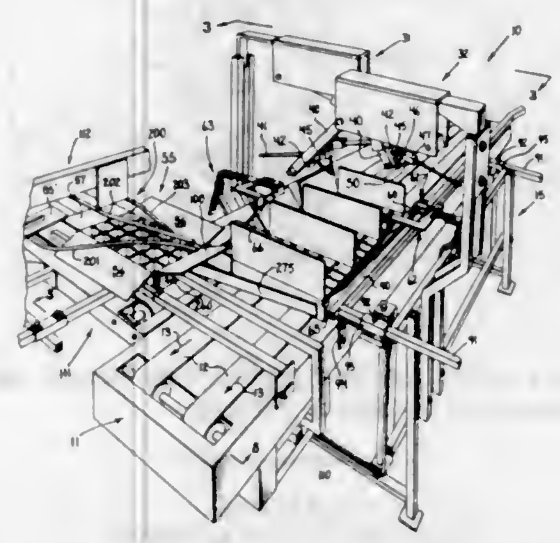


A sequentially operated filling machine for processing collapsed composite containers having an interior bag with a closed bottom and open top supported by relatively stiff external side walls and top and bottom flaps; said machine opening the flat bags, reinforcing the bottom flaps of the composite container to enable the container to stand upright, filling and subsequently sealing the open bag and thereafter closing the top flaps of the composite container.

3,448,560

FOUR FLAP OPENER

James J. Shuttleworth, 1300 Salamonie Ave., Huntington, Ind. 46750
Filed July 29, 1966, Ser. No. 568,914
Int. Cl. B65b *43/39*
U.S. Cl. 53—382 8 Claims

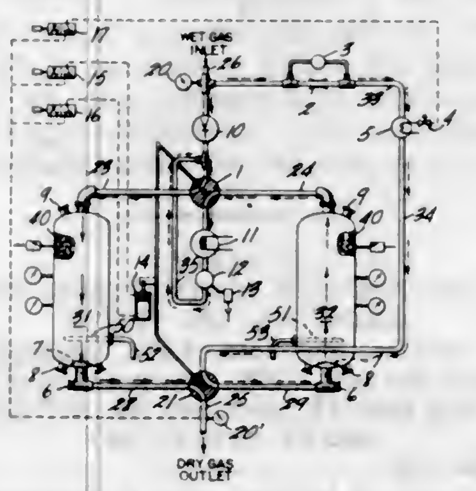


The present invention relates to a flap opener particularly adapted for opening the four flaps of a box prior to packing cans, bottles or the like in the box.

3,448,561

ADSORBENT FRACTIONATOR WITH AUTOMATIC CYCLE CONTROL AND PROCESS

Chesterfield Franklin Seibert and Marcel G. Verrando, Jr., Cortland, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Continuation of application Ser. No. 439,294, Mar. 12, 1965. This application Sept. 5, 1967, Ser. No. 665,645
Int. Cl. B01d *53/04, 53/30*
U.S. Cl. 55—20 18 Claims

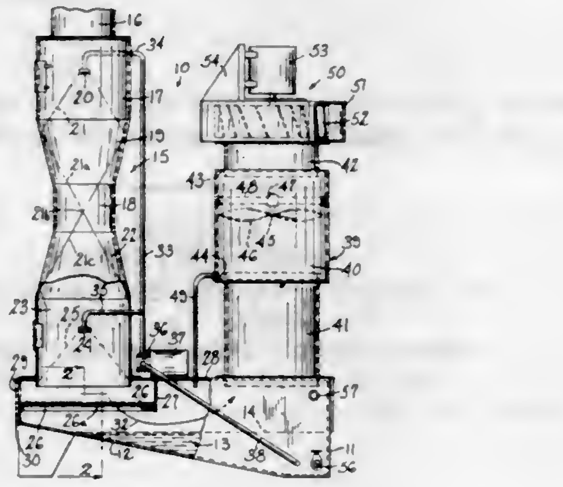


A method and apparatus are provided for adsorbing water vapor from a mixture thereof with a second gas to reduce the water vapor concentration in the mixture to below a permissible maximum concentration. The advance of the leading edge of the moisture front in a sorbent bed is detected by sampling the gas sufficiently far from the end of the bed to prevent the moisture front from leaving the bed, using a gas sampling probe. When the moisture front reaches this point, the adsorption cycle is discontinued, and the bed regenerated.

3,448,562

GAS TREATING APPARATUS AND METHOD

Walter L. Wisting, Madison, Conn., assignor to Wallace-Murray Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 501,025, Oct. 22, 1965. This application July 25, 1967, Ser. No. 660,158
Int. Cl. B01d *47/12, 47/06*
U.S. Cl. 55—90 18 Claims



This disclosure relates to a gas treating apparatus comprising a conduit having a central portion of lesser transverse dimension than the remainder of the conduit, where the central portion is sized for a predetermined gas flow. The walls of the conduit are contoured to direct gas flow into the conduit towards the axis thereof. Liquid sprayed onto the walls of the conduit from a nozzle prior to the central portion is entrained in the directed gas flow so as to form a generally conical secondary screen of liquid across the conduit which converges at the center of the conduit and diverges thereafter to form another screen of liquid through which the gas stream must flow.

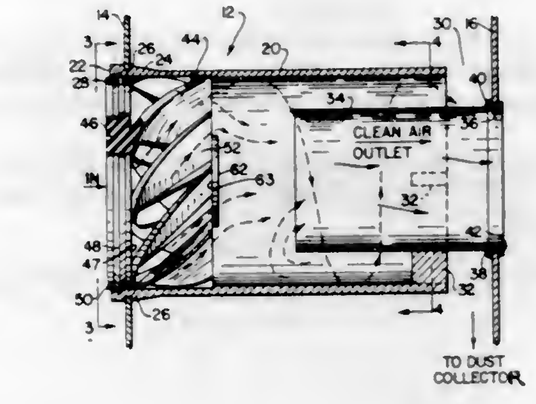
3,448,563

CYCLONE SEPARATOR HAVING SUBSTANTIALLY CENTRALLY LOCATED OPENINGS FOR LOWERING THE PRESSURE DROP ACROSS THE CYCLONE

Harold R. Sobeck, Novelty, Ohio, assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Sept. 19, 1966, Ser. No. 580,522
Int. Cl. B01d *45/12*
U.S. Cl. 55—347 11 Claims

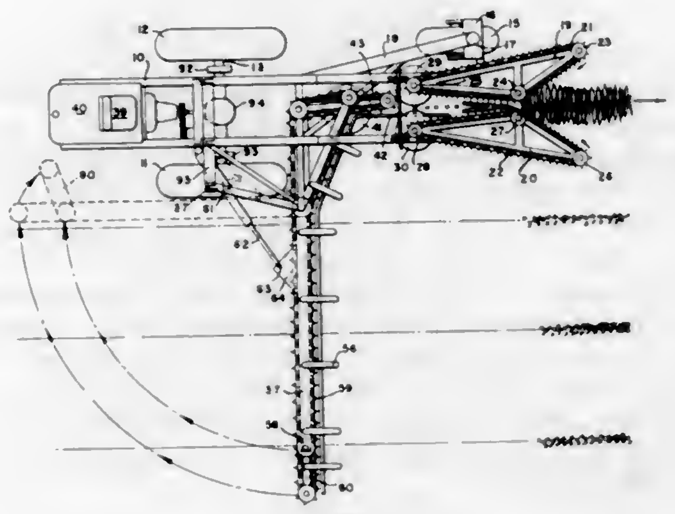
A centrifugal type device for cleaning gas of entrained dust and like particles comprises an inlet tube extending at one end telescopically over a clean air outlet tube to form an annular discharge passage therebetween for air containing concentrated dust, the intake of the inlet tube mounting an integral deflector unit consisting essentially of generally triangular inclined deflector blades secured forwardly at the apex to a shroud and rearwardly at the radially inner corner of the base to an inperforate baffle aligned with the outlet tube, so that the intake is relatively unobstructed to bring a large area of incoming gas to be cleaned into immediate swirl imparting contact with the reflector blades with minimum pressure drop. The deflector blades combining with the baffle to block axial flow of gas through the device except for a plurality of relative small openings of predetermined finite size. The openings are spaced around the periphery of said baffle.

Each opening is defined by the intersection of two adjacent blades and the periphery of said baffle when the device is viewed from the inlet end. These openings result in a reduced pressure drop across the device.



3,448,564
CANE HARVESTER

Herbert J. Chauffe, 250 Lousia St., Jeanerette, La. 70544
Filed May 27, 1966, Ser. No. 553,460
Int. Cl. A01d *45/10, 57/22, 75/02*
U.S. Cl. 56—17 **3 Claims**

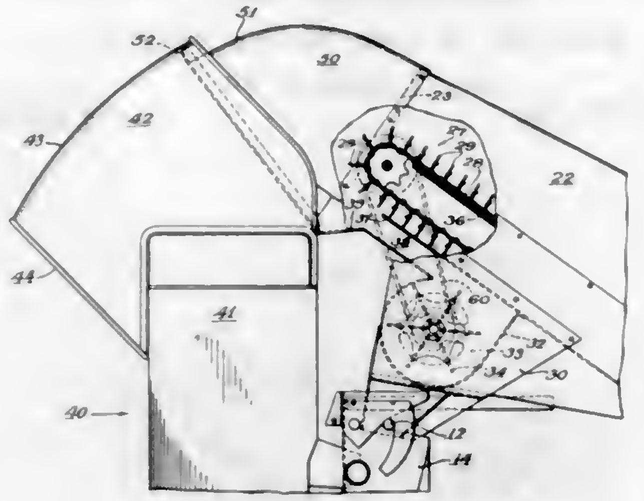


The present invention is directed to a sugar cane harvester having a mobile main frame adapted to travel through a sugar cane field. A supplemental frame carrying a topper and gathering means is pivotally connected to be adjustable as to height relative to the main frame and this supplemental frame also carries with it sticker chain and pressure bar means a portion of which is located rearwardly of the harvester intake and positioned at an obtuse angle to the path of harvester travel to receive the cane and move it laterally of the harvester for deposit on a heap row on the side of the harvester remote from the mobile machine frame without the sugar cane passing through the harvester.

3,448,565
CORN PICKING UNIT

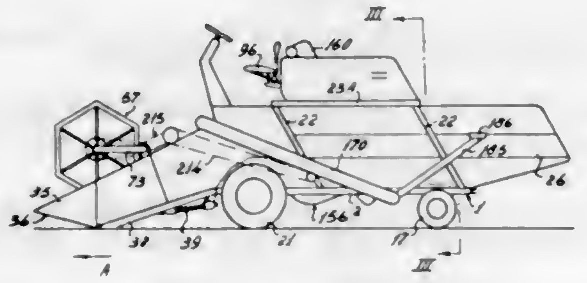
Reynold Barkstrom, Moline, and Ralph L. Sutton, Rock Island, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,427
Int. Cl. A01d *45/02*
U.S. Cl. 56—18 **2 Claims**

A cleaning system for a corn picking unit having a fan and fan casing carried by the upper ends of the first elevator. The discharge duct of the fan casing is arranged to direct a blast of air through the falling material to thus carry away the light debris and permit the more dense material to fall into the hopper.



3,448,566
THRESHING MACHINES

Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed Jan. 20, 1966, Ser. No. 521,849
Claims priority, application Netherlands, Feb. 3, 1965, 6501327
Int. Cl. A01d *41/04, 41/12*
U.S. Cl. 56—21 **45 Claims**

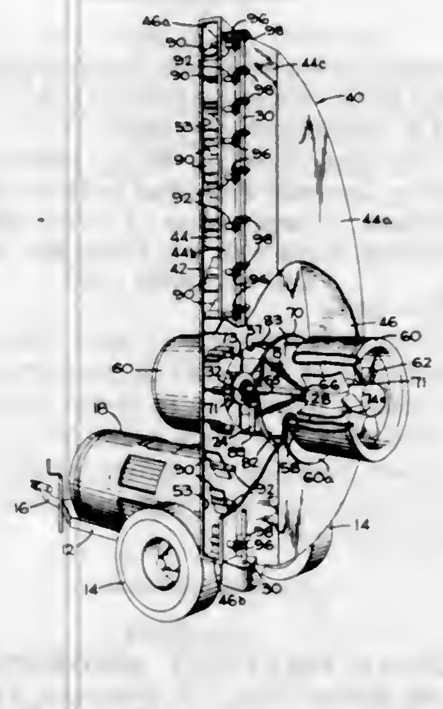


A threshing machine with a cutter at the front end of the machine and a threshing drum is located to the rear of the cutter. A series of conveyors, supporting members and separators are located to the rear of the threshing drum for separating grain from the crop. An endless conveyor is positioned above a perforated supporting member to move crop over the supporting member.

3,448,567
APPARATUS FOR HARVESTING FRUIT GROWING ON TREES

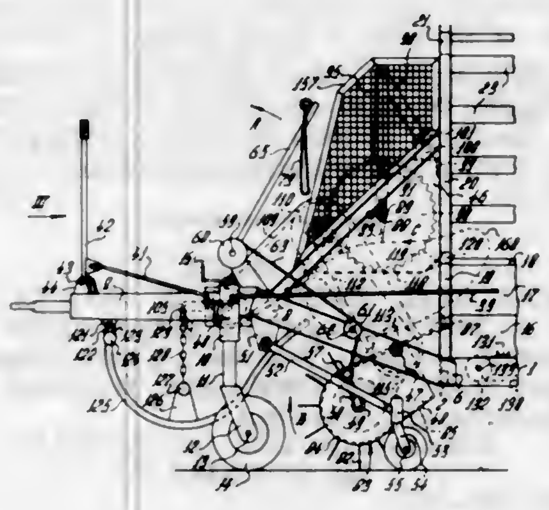
Arthur L. McGee, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,225
Int. Cl. A01g *19/08*
U.S. Cl. 56—328 **3 Claims**

A blower has a housing with a discharge opening aligned in a vertical plane for directing an air current towards a tree to be harvested. A multiplicity of discharge control vanes are mounted within the housing adjacent the discharge opening and are aligned to direct the air current generated by the blower towards at least two focal points spaced in vertical relationship to each other and separated by an area of substantially no air flow. Means are provided for rotating the discharge control vanes in synchronism with each other, causing the focal points of air current to move downwardly along the side of the tree at a rate sufficient to minimize the duration of impingement of the high velocity air current upon any individual tree leaf and at a time interval between each focal point of air current to induce resonant oscillation in the tree limbs causing fruit to snap therefrom.



3,448,568
AGRICULTURAL VEHICLES

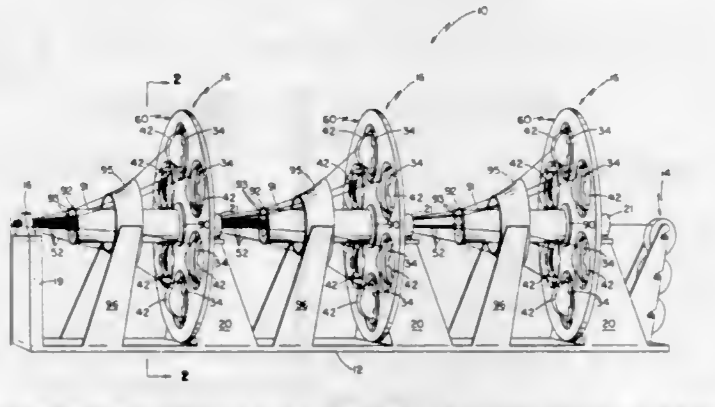
Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., Willemstad, Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles
Filed Dec. 16, 1964, Ser. No. 418,821
Claims priority, application Netherlands, Jan. 2, 1964, 6400001, 6400002, 6400003
Int. Cl. A01d *87/04*
U.S. Cl. 56—351 **25 Claims**



An agricultural vehicle for loading and transporting cut crop having initial crop-guiding part followed by a tined pickup which conveys the cut crop into a feed channel of decreasing size; overhead pins forcing the cut crop into the attached receptacle by moving in a more or less cucumber-shaped path whereby the crop is forced into the receptacle space; there being a moving floor level with the axle of the vehicle supporting wheel selectively moving the crop to the rear away from the feed channel. The rear gate of the receptacle hinged from the top thereof and selectively releasable so as to give away to crop in the receptacle moved by the movable floor as desired.

3,448,569
CABLING APPARATUS

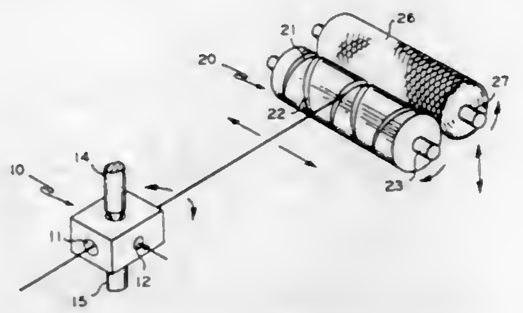
Charles Perrin Brown, Carlisle, and John Rose, Billerica, Mass., assignors to United States Machinery, North Billerica, Mass., a corporation of Massachusetts
Filed Feb. 15, 1968, Ser. No. 705,831
Int. Cl. D02g *3/36;* **D01h** *7/02;* **D07b** *3/02*
U.S. Cl. 57—15 **22 Claims**



A horizontal cabling apparatus for forming wire cables having a series of wire-feed assemblies, each assembly with a fixed stationary central shaft, and a stationary gear ring attached concentrically to the shaft, and a plurality of planetary gear rings sized identical to the stationary gear ring, radially spaced around it, and communicating with it through a plurality of radially spaced intermediate gears. Each planetary gear ring has a central bore for supporting a wire spool for integral movement with it and is attached to a housing which rotates about the central shaft, the planetary gear ring thus, through the intermediate and fixed gears, keeping the wire spools continually horizontal, and the wire spools remaining exposed for easy removal throughout the cable-forming procedure. In some embodiments, the wire is continually fed inwardly towards a centrally located die, and the length and tenison of the wire feed is controlled by an open asymmetric conical control member with an inwardly concave wire-contacting surface, preferably in combination with a threading plate, wires travelling from spools, through the control member and eyelets in the threading plate, to the die.

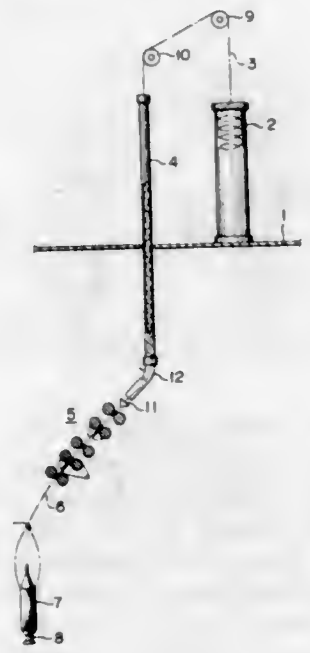
3,448,570
METHOD AND APPARATUS FOR TAKING-UP YARN

Frederick L. Stoller, Greenville, S.C., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 694,970
Int. Cl. D01h *13/26, 7/92, 7/46*
U.S. Cl. 57—34 **5 Claims**



An apparatus for taking-up yarn comprising in combination a grooved windup roller and a package on to which the yarn is wound there is provided the improvement comprising a fluid vortex twisting device positioned in the path of yarn being passed to the grooved windup roller. As the yarn passes through the fluid jet, sufficient false twist is imparted to the yarn bundle to reduce individual filament excursions and present a coherent yarn for entry into the groove of the windup roller.

3,448,571
APPARATUS FOR FEEDING SPINNING MATERIAL TO A SPINNING MACHINE
Ryohei Tsuzuki, 5, Yamazaki-cho,
Handa-shi, Japan
Filed Dec. 29, 1966, Ser. No. 605,661
Claims priority, application Japan, Mar. 7, 1966,
41/13,920
Int. Cl. D01g *23/00*
U.S. Cl. 57—36 8 Claims



Apparatus for feeding spinning material in the form of roving or sliver strands of fiber from packages in an air-conditioned room at a level above a spinning machine. The spinning material is fed through a plurality of vertical, upstanding feed pipes each provided with a curved outlet conduit in which a spring-biased, pivoted plate applies pressure to the spinning material transversely of the path of travel of the spinning material and a restriction in the curved conduit control are effective to cause fiber alignment and to cause a uniform tension draft to be applied to the spinning material passing through the outlet conduit.

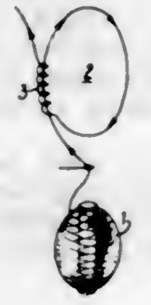
3,448,572
ARRANGEMENT IN A FILAMENT-TREATING MACHINE FOR THREADING THE FILAMENT THROUGH THE MACHINE
Teuvo Meronen, Porttikuja 6, Helsinki 94, Finland
Filed Oct. 26, 1967, Ser. No. 678,271
Claims priority, application Finland, Sept. 22, 1967,
2,538/67
Int. Cl. D01h *13/04, 13/26;* **G03b** *1/56*
U.S. Cl. 57—106 4 Claims

The present invention relates to an arrangement in a filament-treating machine, such as a curling machine, for threading one or several filaments from the top downwards through the machine. The arrangement according to the invention consists of a vertical guide and a slide moving along this guide and carrying a device for securing the filament or filaments to it.

3,448,573
HIGH TENACITY YARNS MADE FROM POLYETHYLENE TEREPHTHALATE, PARTICULARLY FOR SAILCLOTH
William Glen and Kenneth West, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Feb. 12, 1968, Ser. No. 704,552
Int. Cl. D02g *3/02*
U.S. Cl. 57—140 8 Claims

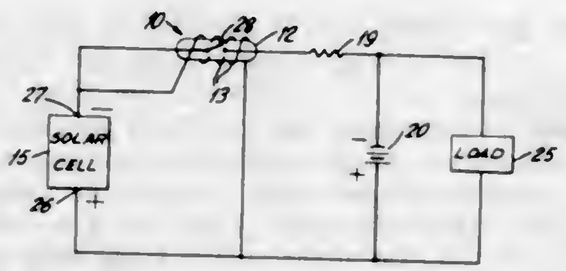
Polyethylene terephthalate twisted yarn having an intrinsic viscosity of at least 0.87 of the polymer from which it is made retains the ability to shrink at least 10% after the twist liveliness has been removed by heating. Sailcloth and safety webbing are woven of this yarn and subsequently subjected to a shrinking operation to produce high strength fabrics.

3,448,574
LINEAR MATERIAL MODIFICATION
Evan Islwyn Jones, 20 Sycamore Crescent,
Macclesfield, Cheshire, England
Filed Aug. 5, 1968, Ser. No. 750,112
Int. Cl. D02g *3/02;* **D01h** *13/26*
U.S. Cl. 57—157 20 Claims



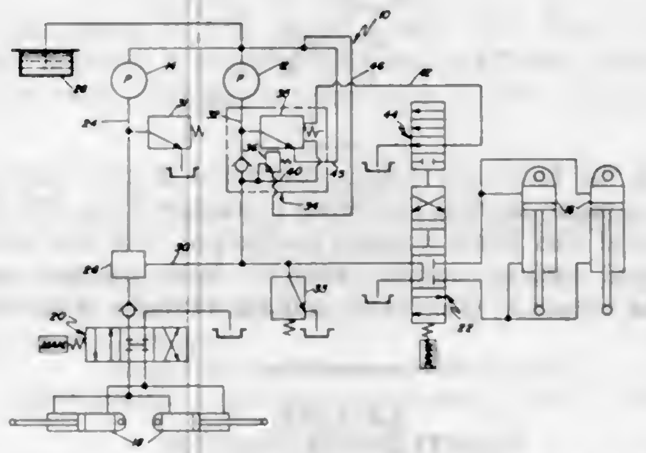
Material travels through a looped path, and leading portion of material is coiled around a trailing portion, both portions traveling in the same direction. Material may be heated prior to and/or during assumption of coiled condition. Tension in coiled leading portion lower than in trailing portion surrounded by coil.

3,448,575
SOLAR CELL RECHARGING MEANS FOR A BATTERY OPERATED WATCH
Theodore S. Grohoski, Woodbury, Conn., assignor to The United States Time Corporation, Waterbury, Conn., a corporation of Connecticut
Filed Sept. 29, 1966, Ser. No. 583,016
Int. Cl. G04c *3/00*
U.S. Cl. 58—23 6 Claims



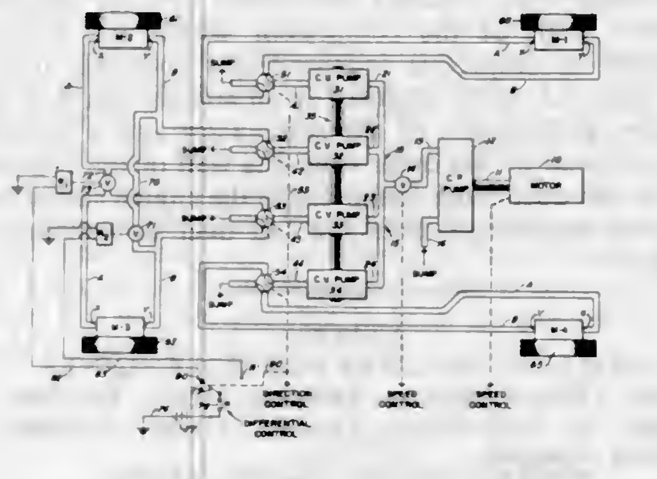
An electric timing device, such as a watch, is powered by a rechargeable battery cell. The battery is charged by a solar cell which may be the dial plate of the timing device. The solar cell controls the operation of a switch, which switch disconnects the solar cell from the battery in the absence of sufficient light to charge the battery.

3,448,576
FLUID CONTROL SYSTEM
William H. Bechman, Morton, and Jack O. Winsor, Peoria, Ill., assignors to Westinghouse Air Brake Company, Peoria, Ill., a corporation of Pennsylvania
Filed Aug. 17, 1967, Ser. No. 661,417
Int. Cl. F15b *11/22*
U.S. Cl. 60—52 10 Claims



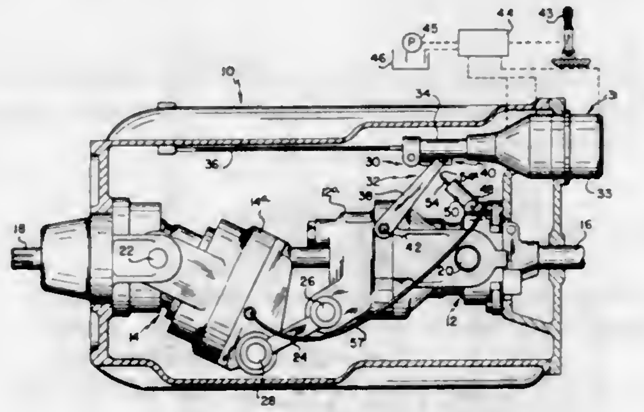
A hydraulic system for a dump truck having hydraulic steering and hydraulic dump body lift assemblies, the system including a large output capacity pump for lifting the body and a small output capacity pump for steering and/or lifting the body. In addition to manual control and maximum pressure relief valves, a dump valve is provided to immediately return fluid from the large capacity pump only to the inlet side of the pump (1) upon dump body overload and (2) when the dump body lift is not being extended.

3,448,577
HYDRAULIC DRIVE SYSTEM
John M. Crawford, 121 Whitworth,
Ponca City, Okla. 74601
Continuation-in-part of application Ser. No. 540,766, Apr. 6, 1966. This application May 27, 1968, Ser. No. 748,139
Int. Cl. B60k *17/10, 17/34;* **F16h** *39/02*
U.S. Cl. 60—53 15 Claims



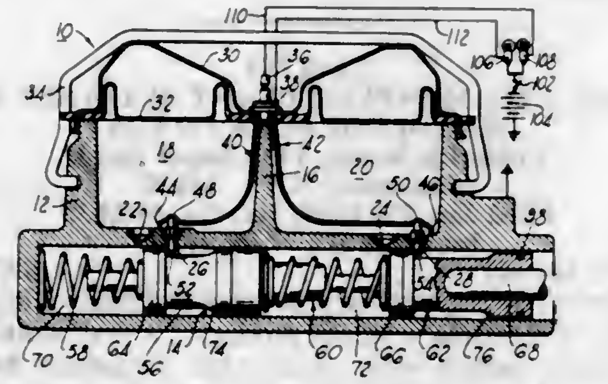
A system for driving the wheels of a vehicle wherein each wheel is connected to a separate hydraulic motor. Each hydraulic motor is hydraulically connected to a constant volume pump and the rotors of the constant volume pumps are connected only to a common shaft. A primary pump supplies fluid to the constant volume pumps in parallel, such that any one of the wheels may be driven by the equivalent of the output pressure of the primary pump times the number of wheels. Controls are provided to vary the speed of at least some of the hydraulic motors and to selectively reverse the direction of rotation of the wheels.

3,448,578
POWER LIMITER CONTROL
Edward J. Bojas, Royal Oak, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 12, 1967, Ser. No. 645,194
Int. Cl. F16d *33/04*
U.S. Cl. 60—53 13 Claims



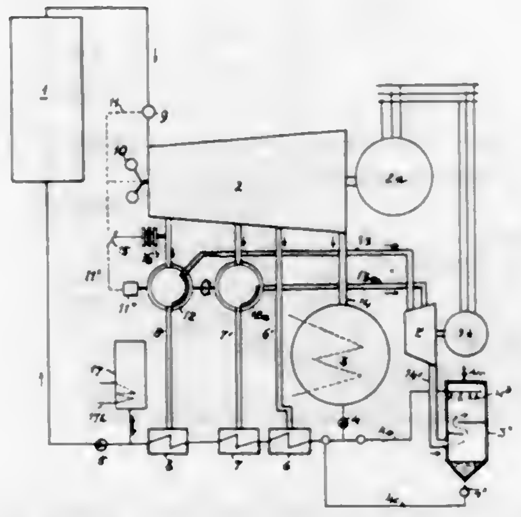
The power limiter control includes a piston and cylinder-type servo motor which is arranged to act on the actuating linkage for a hydrostatic transmission to reduce the drive therethrough. The motor is operated by fluid pressure from the transmission and move the piston rod outwardly of the cylinder when the established drive ratio of the transmission becomes unsatisfactory due to development of a condition of operation to compensate for the condition. Outward movement of the piston rod into engagement with the actuating linkage effects movement of the linkage to reduce the drive ratio of the transmission by changing the relative angular position of a tiltable head pump and hydraulically connected tiltable head motor of the transmission.

3,448,579
FAILURE INDICATOR FOR A MASTER CYLINDER
Raymond A. Reznicek, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,889
Int. Cl. B15b *7/08, 20/00;* **B60t** *17/22*
U.S. Cl. 60—54.6 14 Claims



A master cylinder having a warning system actuating device contained completely within the reservoir chamber of the master cylinder and actuatable by a plunger or pin means extending from the reservoir into the bore of the master cylinder to ride along a surface of a piston therein that is contoured so as to operate the actuating device upon an abnormal travel of the piston within the bore.

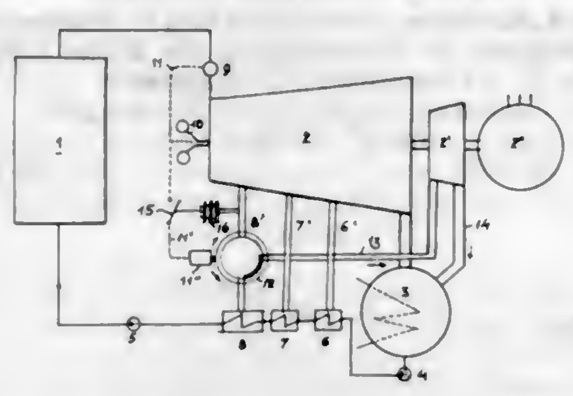
3,448,580
PEAK OUTPUT PRODUCTION IN STEAM TURBINE PLANTS
Frederick Nettel, 173 Chapel Road,
Manhasset, N.Y. 11030
Continuation-in-part of application Ser. No. 698,035, Jan. 15, 1968. This application Feb. 8, 1968, Ser. No. 704,053
Int. Cl. F01k *7/16, 19/00*
U.S. Cl. 60—67 **3 Claims**



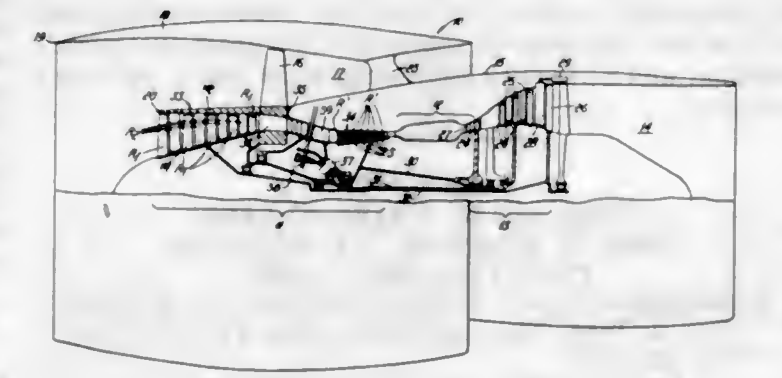
A steam power plant for producing and controlling peak outputs, comprising a steam producer (boiler or reactor), a first multi-stage turbine with surface-type condenser and multi-stage extraction for regenerative feedwater heating, a second steam turbine with jet-type mixing condenser receiving steam from one (or more) extraction stages of the first turbine while using condensate from the first turbine as cooling water in the jet condenser. A first governor controlling the first turbine by varying the steam flow at its inlet when working in the range from zero to rated load, a second governor operative only when the sum output from both turbines exceeds the rated output of the first turbine, when the steam flow at the entrance to the first turbine is kept constant at its rated value, while the second governor varies the steam flow to the second turbine, therefore its output, and simultaneously varies the steam flow to the feedwater heater connected to the same extraction point, so that the steam extraction from the first turbine at this point remains unchanged over the whole combined turbine output range of both turbines, and also the output of the steam producer remains at its rated value.

3,448,581
LARGE STEAM POWER PLANT SUITABLE FOR HANDLING PEAK LOADS
Frederick Nettel, 173 Chapel Road,
Manhasset, N.Y. 11030
Filed Jan. 15, 1968, Ser. No. 698,035
Int. Cl. F01k *7/16, 19/00*
U.S. Cl. 60—67 **6 Claims**

A steam power plant for producing and controlling peak outputs, comprising a steam producer, a first multi-stage condensing turbine with multi-stage extraction for regenerative feedwater heating, a second condensing steam turbine receiving steam from one (or more) extraction stages of the first turbine. A first governor controlling the first turbine by varying the steam flow at its inlet when working in the range from zero to rated load, a second governor operative only when the sum output from both turbines exceeds the rate output of the first turbine, when the steam flow at the entrance to the first turbine is kept constant at its rated value, while the second governor varies the steam flow to the second turbine and therefore its output, and simultaneously varies the steam flow to the feedwater heater connected to the same extraction point, so that the steam extraction from the first turbine at this point remains unchanged over the whole combined turbine output range of both turbines, and also the output of the steam producer remains at its rated value.



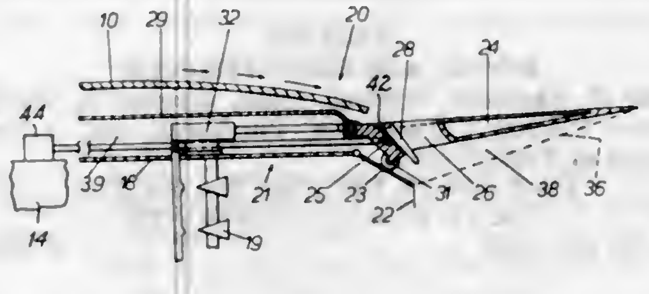
3,448,582
GAS TURBINE ENGINE
Kenneth Edward George Bracey and Paul Alfred Taylor, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Dec. 18, 1967, Ser. No. 691,393
Claims priority, application Great Britain, Jan. 6, 1967, 1,018/66
Int. Cl. F02c *3/06;* **F02k** *3/02*
U.S. Cl. 60—226 **9 Claims**



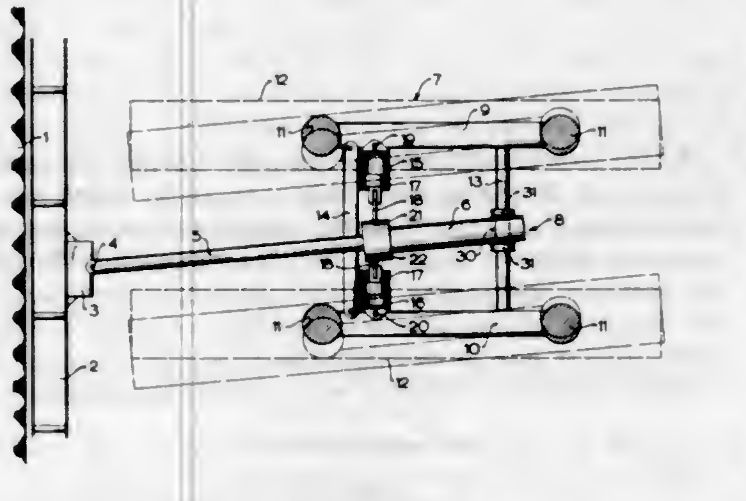
A gas turbine engine has a compressor all of whose bladed stages are constituted by rotor stages, successive rotor stages being attached respectively to inner and outer rotatable walls of the compressor which are drivingly connected to respective independently rotatable turbine rotor stages. A fan is disposed in an annular fan duct surrounding at least part of the compressor and is mounted on and driven by the outer rotatable wall of the compressor, the fan duct being connected to the engine casing only by struts extending across the fan duct downstream of the fan.

3,448,583
EXHAUST NOZZLES FOR JET ENGINES
Addison Charles Maguire, Alvaston, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Nov. 6, 1967, Ser. No. 680,768
Claims priority, application Great Britain, Dec. 23, 1966, 57,805/66
Int. Cl. F02k *1/06, 1/24*
U.S. Cl. 60—271 **13 Claims**

A jet engine exhaust nozzle which has a variable throat area, a fixed outlet area and apertures in structure between the throat and outlet, wherethrough ambient air may be entrained so as to fill what would normally be a low pressure area downstream of the throat and upstream of the outlet at low flight speed. The filling of the space prevents a too rapid expansion of the exhaust gas column and obviates the phenomena known as base drag.



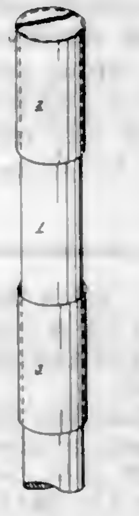
3,448,584
HYDRAULIC CASING UNITS FOR MINE WORKINGS
Hans Rieschel, Essen-Holsterhausen, Germany, assignor to Bergwerksverband GmbH, Essen, Germany, a company of Germany
Filed Feb. 7, 1968, Ser. No. 703,703
Claims priority, application Germany, Feb. 16, 1967, B 91,214
Int. Cl. E01g *5/14, 5/02*
U.S. Cl. 61—45 **3 Claims**



This invention relates to a hydraulic casing unit for mine workings, in particular to a hydraulic casing jack system, with a stepping jack, including a feed cylinder, and a joint, operative at least in the horizontal attitude of the unit, linking the casing unit to a strongpoint for the feed mechanism, hydraulic side thrust jacks being provided between the casing unit and the feed cylinder, and is characterised by the provision of telescopic devices between the side thrust jacks and the stepping jack to avoid application of lateral forces on the casing unit during its advancing steps. The strongpoint for the feed mechanism can, in particular, be constituted by a conveyor disposed transversely of the direction of advance of the unit in front of the working face, which conveyor is advanced by its own stepping jacks or by the feed mechanism of the casing unit.

3,448,585
POLE AND PILE PROTECTOR
Roger G. Vogelsang, 105 Honeycreek Road,
Ada Township, Kent County, Mich. 49330
Filed Aug. 1, 1966, Ser. No. 569,209
Int. Cl. E02d *5/60;* **F16l** *9/14;* **E04b** *1/64*
U.S. Cl. 61—54 **5 Claims**

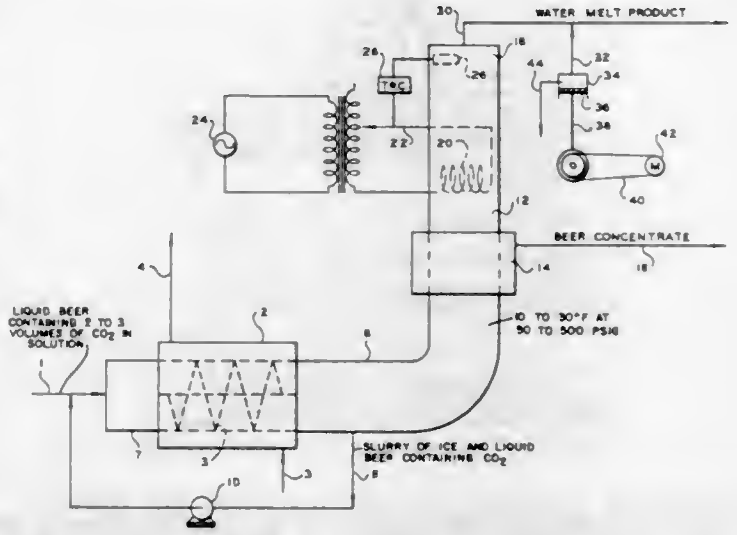
A protective shield for pilings and other such poles formed from a sleeve-like element of heat-shrinkable plastic material encircling such piling along a desired portion of its length and heat-shrunk into tight encircling engagement about the piling at a desired position thereupon.



3,448,586
PROTECTED BURIED MATERIAL AND METHOD OF PROTECTING SAME
Tyson H. Mailen and Roy E. Stansbury, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 15, 1966, Ser. No. 565,404
Int. Cl. F16l *1/00;* **A01n** *9/12*
U.S. Cl. 61—72.1 **6 Claims**

A buried material such as an electric cable having a rubber or plastic covering is protected against rodent damage by adding to the ground or backfill as the cable is buried a rodent repellent material. Although any effective rodent repellent can be used, specifically mentioned in the disclosure are N,N-dimethylsulfonyl dithiocarbonate, for example, N,N-dimethyl-S-methylsulfonyl dithiocarbamate and N,N-dimethyl-S-tert-butyl-sulfonyl dithiocarbamate.

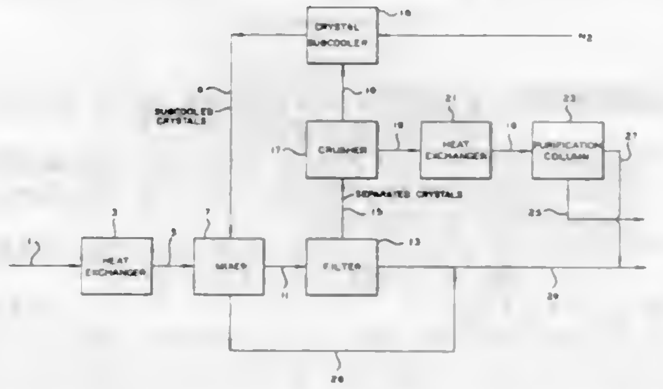
3,448,587
CONCENTRATION OF HIGH GAS CONTENT LIQUIDS
Howard W. Goard and Duane D. Shaul, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,402
Int. Cl. C12c; B01d *9/04*
U.S. Cl. 62—58 **3 Claims**


WATER MELT PRODUCT
BEER CONCENTRATE
LIQUID BEER CONTAINING 2 TO 3 VOLUMES OF CO2 IN SOLUTION
10 TO 30°F AT 50 TO 500 PSIG
SLURRY OF ICE AND LIQUID BEER CONTAINING CO2
TC
M

In a process for concentrating beer having a high gas content of from above 2 to 3 volumes of gas per volume of liquid by passing it as feed to a chilling zone, chilling it to form a crystal slurry, and passing a portion of said slurry to a crystal purification zone, in which crystals are purified, melted to a liquid melt, and the liquid melt separated from the concentrated liquid beer, the improvement comprising recycling the major portion of said slurry from said chilling zone directly back to the feed to said chilling zone without further processing, while maintaining a pressure of 50 to 500 p.s.i.g. in said chilling and purification zones. For best results the amount of said recycle is 80 to about 140 times the amount of said feed to said chilling zone.

3,448,588
CRYSTALLIZATION OF A LIQUID MIXTURE WITH SUBCOOLED CRYSTALS OF ONE COMPONENT OF THE MIXTURE

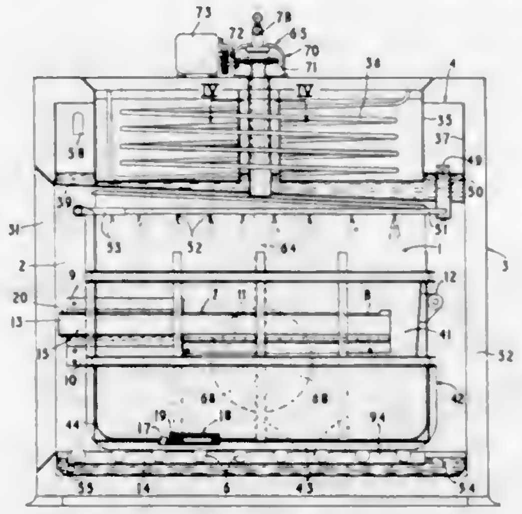
Jack S. Scoggin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 29, 1966, Ser. No. 568,512
Int. Cl. B01d *9/04*
U.S. Cl. 62—58 13 Claims



A method of separation of one component from a liquid mixture by crystallization wherein the liquid mixture is cooled with low temperature subcooled crystals of said component.

3,448,589
MILK COOLING AND COLD STORAGE APPARATUS

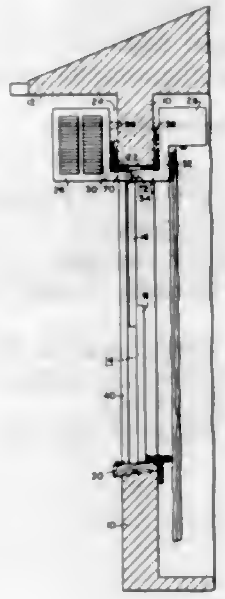
Frederick George Marshall and Greville Sandford Ravenscroft, Warwick, England, assignors to English Rose Kitchen Limited, Perry Barr, England, a British company
Filed Nov. 7, 1967, Ser. No. 681,272
Int. Cl. F25b *49/00, 23/00, 25/02*
U.S. Cl. 62—125 16 Claims



A bulk milk cooling cabinet is disclosed having a removable open top milk storage tank. When located in the cabinet the top of the storage tank is substantially closed by a cooling chamber in which an ice bank is generated and liquid from the cooling chamber is discharged against the sides of the tank. Extending through the top of the cabinet is a removable stirrer combined with means for filling the milk tank and removing milk therefrom. Means are included for weighing the storage tank and contents while housed in the cabinet.

3,448,590
ROOM AIR CONDITIONER

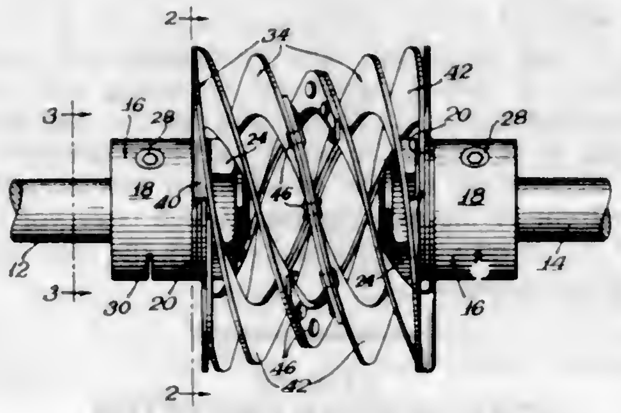
Arthur H. Eberhart, Hilliard, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 16, 1967, Ser. No. 616,574
Int. Cl. F24b *1/02;* **E06b** *7/02*
U.S. Cl. 62—262 6 Claims



Room air conditioning apparatus having an outside section and inside section with a variable width trough therebetween for mounting the apparatus to exterior wall structure above a window with the connection between the sections comprising shallow telescopic extensions in the top part of the window opening. The inside section main portion has an elevated lower face to accommodate drapery or curtain fixtures below the main portion.

3,448,591
SPIRAL DISK DRIVE COUPLING

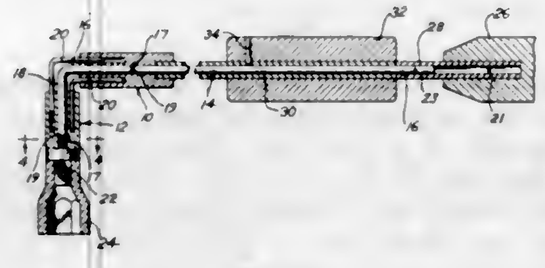
Rudolf A. Spyra, 5344 N. Paulina St., Chicago, Ill. 60640
Filed Dec. 13, 1967, Ser. No. 690,117
Int. Cl. F16d *3/56*
U.S. Cl. 64—15 13 Claims



A drive coupling for transmitting rotation from a drive shaft to a driven shaft wherein flexible and resilient disk-like elements of spiral shape serve to a connection between drive and driven hub elements. The spiral disk elements are formed of a suitable plastic material not subject to fatigue, and thereby the coupling has a long service life. Due to the flexible and resilient character of the spiral disk elements, they can tolerate drive and driven shafts which are out of alignment and which are arranged at various angles relative to each other, even as much as 90°.

3,448,592
ANGLE DRIVE ASSEMBLY

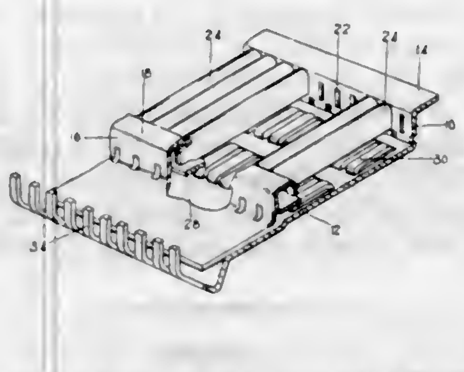
James L. Pool, Clarinda, and Alfred L. von Tersch, Villisca, Iowa, assignors to Lisle Corporation, Clarinda, Iowa, a corporation of Iowa
Filed Aug. 23, 1967, Ser. No. 662,670
Int. Cl. F16d *3/08, 3/44, 3/60*
U.S. Cl. 64—20 4 Claims



An angle drive assembly of the type having a driven head rotated by rotation of a driving head through rotation-imparting angle rods. A stabilizer rod is provided on which the heads are rotatable and is provided with a handle whereby the angle drive assembly may be stabilized with respect to a bolt, nut or the like being rotated by the angle drive assembly. For convenience in rotating the assembly, a rotation-imparting sleeve and handle are also provided whereby the stabilizer handle can be held in one hand (thus conveniently holding the assembly in operating position) while the operator with his other hand may rotate the assembly.

3,448,593
NEEDLE-BEDS FOR DOMESTIC KNITTING MACHINES

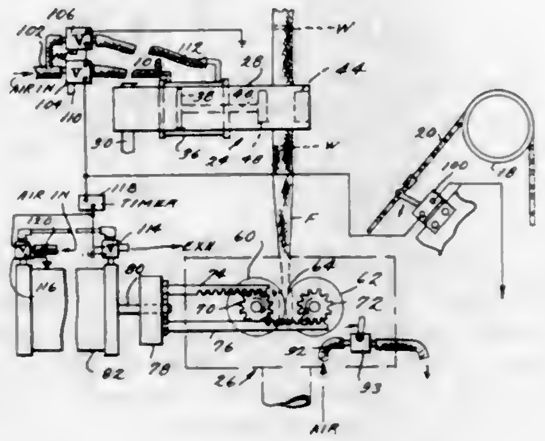
Simeon H. Groom, Johannesburg, Republic of South Africa, assignor to Empisal (Proprietary) Limited, Johannesburg, Republic of South Africa
Filed Mar. 30, 1967, Ser. No. 627,189
Claims priority, application Republic of South Africa, Apr. 1, 1966, 1,920/66
Int. Cl. D04b *15/10*
U.S. Cl. 66—115 4 Claims



The needle-bed of a domestic knitting machine is made up of a series of cross-members secured to a base plate and located between two parallel spaced flanges standing up from the base, each member being individually removable from the assembly, and the cross-members being held in place by locking means acting on them collectively. Forward movement of the needles is limited by a stop surface.

3,448,594
AUTOMATIC SEPARATOR FOR SEPARATING ARTICLES FROM TUBULAR FABRICS

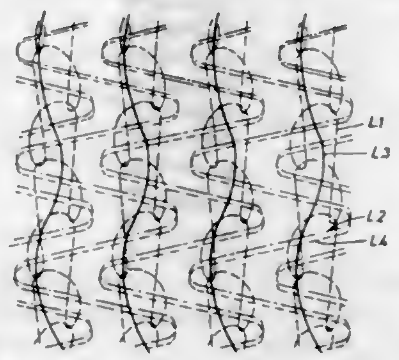
Jack F. Macon, High Point, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Jan. 13, 1967, Ser. No. 609,149
Int. Cl. D04b *35/34*
U.S. Cl. 66—147 19 Claims



An apparatus for successively separating articles from a fabric in a tubular form having a weakened portion between the articles to be separated, the apparatus including a clamping member through which the tubular fabric passes after being produced on a circular knitting machine, the clamping member intermittently clamping the tubular fabric just prior to or at the same time pulling rollers are actuated for exerting a mechanical pull on the tubular fabric to separate the same. The pulling rollers are arranged to permit the tubular fabric to pass therethrough without interference therefrom until such time that the clamping member clamps the tubular fabric.

3,448,595
WARP KNITTED FABRIC SUITABLE FOR BANDAGING AND THE LIKE

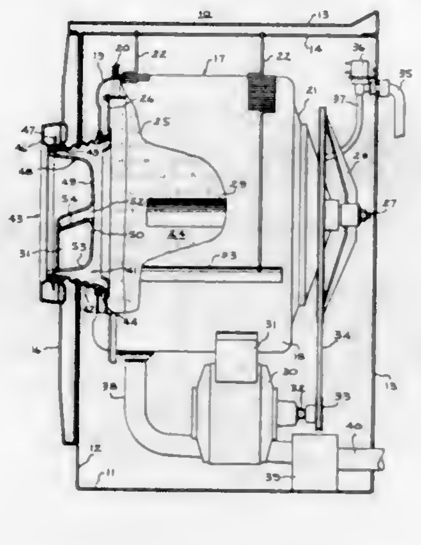
Erich Baltzer, Wolfgang Maydorn, and Herbert Nachilla, Nordhorn, Germany, assignors to Ludwig Povel & Co., K.G., Nordhorn, Germany, a corporation of Germany
Filed May 18, 1966, Ser. No. 550,977
Claims priority, application Germany Oct. 15, 1965, P 37,889
Int. Cl. D04b *21/00;* **A61l** *15/01*
U.S. Cl. 66—193 3 Claims



A warp knit fabric suitable for bandaging and like material including wales of looped, practically non-twisted thread binding thick, highly-twisted, non-elastic walewise extending threads and including sinuously extending transverse threads twisted to a minimum extent and bound in between the thick threads and the looped threads of the wales.

3,448,596
TUMBLE TYPE WASHER WITH FILTER

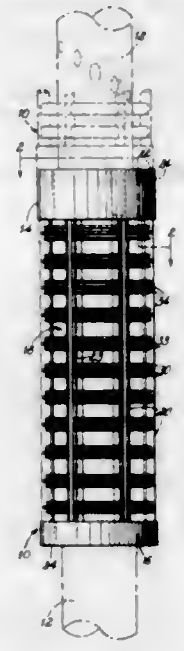
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 26, 1967, Ser. No. 648,904
Int. Cl. D06f *29/00, 21/04*
U.S. Cl. 68—18 8 Claims



A filter is mounted on the access door of a tumble type fabric washing machine. The front of the washer drum is formed to increase agitation of the wash fluid and the inner surface of the door is formed to direct fluid to the filter.

3,448,597
DYE TUBE

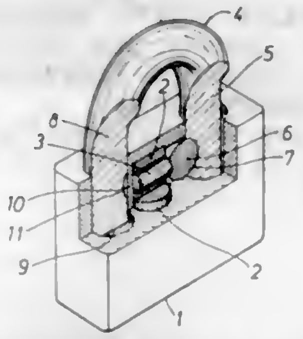
Stanley Livingstone, Charlotte, N.C., assignor to EVA-DUR Products, Inc., Mount Holly, N.C., a corporation of North Carolina
Filed Apr. 11, 1967, Ser. No. 629,959
Int. Cl. D06f *17/00*
U.S. Cl. 68—198 14 Claims



Dye tube for yarn in which bands and uprights define dye openings, dye reservoir grooves and protruding ridges minimize yarn-to-tube contact and provide high dye saturation, and sealing surfaces adjacent the tube ends and a stepped inside tube diameter provide tube-to-tube alignment and sealing when stacked on a perforated dyeing spindle.

3,448,598
PADLOCK

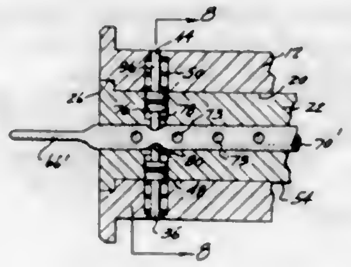
Armas Kalervo Nlilola, Maasalvantie 16, Helsinki 71, Finland
Filed Dec. 13, 1967, Ser. No. 690,239
Claims priority, application Finland, June 15, 1967, 1,675/67
Int. Cl. E05b *67/22*
U.S. Cl. 70—38 1 Claim



This invention relates to a padlock, consisting of a lock case, a lock cylinder inside the case which can be turned with the aid of a key, and a lock cramp the limbs of which are located on either side of the cylinder, a locking ball having been placed between one limb and the cylinder and which ball is pushed into a notch in the said limb when the cylinder is turned into its locking position. At the same height as the locking ball is a locking element in and passing through the cylinder, an end of which is adjacent the ball and protrudes from the cylinder so that when the cylinder is turned into its locking position, this element will push the ball into said notch, the opposite end of the locking element resting against a bridge of material between the cylinder and the opposite limb of the lock cramp, the latter cramp having a notch at the same height as the locking element.

3,448,599
KEY-OPERATED LOCK MOUNTING AND REMOVING ARRANGEMENT

Joseph Schreiber, 18507 Forrer, Detroit, Mich. 48235
Filed Jan. 6, 1967, Ser. No. 607,838
Int. Cl. E05b *9/04, 15/02, 19/02*
U.S. Cl. 70—371 2 Claims

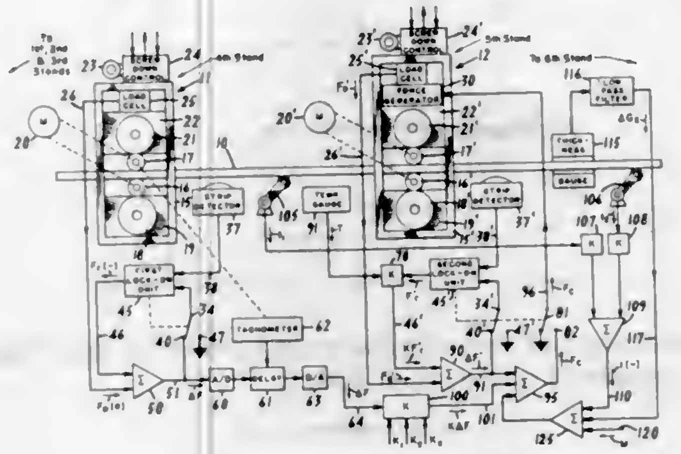


A key operated mechanism for mounting, securing and fastening a lock securely in an appropriate aperture in a door, or the like, by way of a member, or a plurality of members, protruding from the casing of the lock and engaging appropriate recesses in the mounting aperture. The protruding members are retracted flush with the outer surface of the casing when a special key is used to unlock and remove the lock from its mounting aperture.

3,448,600
THICKNESS REDUCTION CONTROL SYSTEM

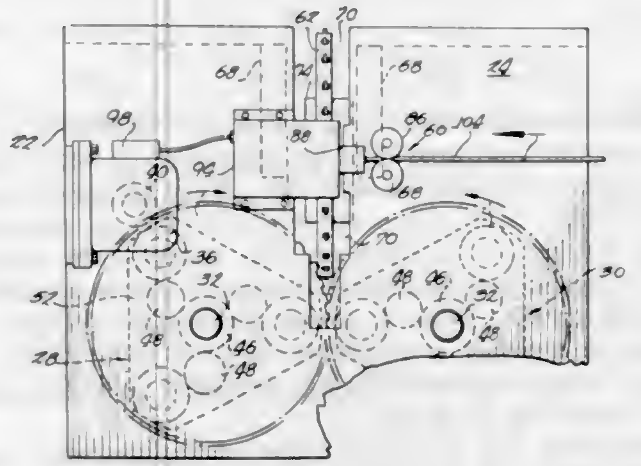
Charles H. Coleman, Groton, and James H. Torrance, Uncasville, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,293
Int. Cl. B21b *31/12, 31/08, 13/00*
U.S. Cl. 72—8 5 Claims

Six stand rolling mills for strip in which the thickness-reducing action of the fifth stand is controlled by applying to the work rolls thereof a variable force computed as a function of the force of the strip on the fourth stand and of other operating parameters. As the leading portion of the strip passes through the fourth and fifth stands, lock-on devices convert signals of the forces of the strip on those stands into reference levels for subsequently obtained values of such signals.



3,448,601
ROTARY FORGING APPARATUS

Lawrence D. Holum, 1119 9th St., Beloit, Wis. 53511
Filed July 26, 1967, Ser. No. 656,269
Int. Cl. B21j *9/04, 11/00;* **B21c** *1/14*
U.S. Cl. 72—185 5 Claims

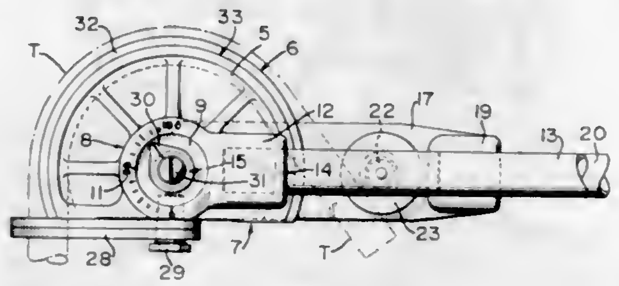


This invention relates to metal forming devices and particularly a rotary forging apparatus and to means for feeding metal forging slugs to such apparatus.

3,448,602
HAND HELD TUBE BENDER

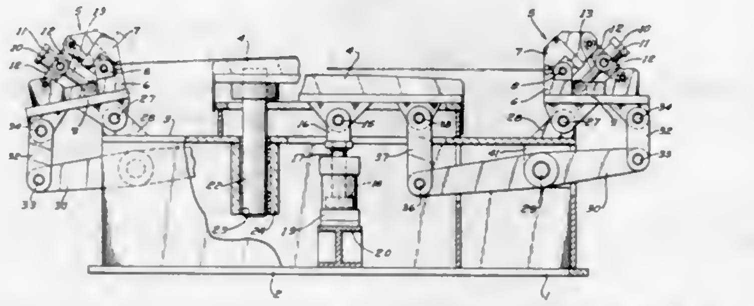
John H. Stanley, Euclid, Ohio, and Duane R. Grossett, Memphis, Tenn., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 24, 1965, Ser. No. 504,576
Int. Cl. B21d *7/02, 9/05*
U.S. Cl. 72—217 2 Claims

There is disclosed a hand tool for bending tubes including a radius block having an in-part circular periphery and a chordal face portion, the periphery having a groove therein shaped to receive and closely engage and fit against one side portion of a tube-to-be-bent, a handle rigidly secured to and projecting from the radius block, a link on which the radius block is supported and a second handle rigidly secured to and projecting from the link and swingable with the link 180° about the radius block periphery to and from positions at opposite sides of the periphery and paralleling the chordal face, a securing member attached to the chordal face and engageable over a tube-to-be-bent to hold it in the radius block groove during a bending operation, and a freely rotatable roller carried on the link with its periphery spaced away from the periphery of the radius block a distance greater than the outside diameter of said tube and having a groove therein shaped to engage and fit snugly against a substantial portion of the tube during bending thereof incidental to a swinging of the link about the center of the radius block.



3,448,603
STRETCH LEVELING MACHINE

Edwin H. Brauer, Cleveland, Ohio, assignor to The Cyril Bath Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 3, 1967, Ser. No. 613,828
Int. Cl. B21d *11/02, 11/04*
U.S. Cl. 72—296 6 Claims

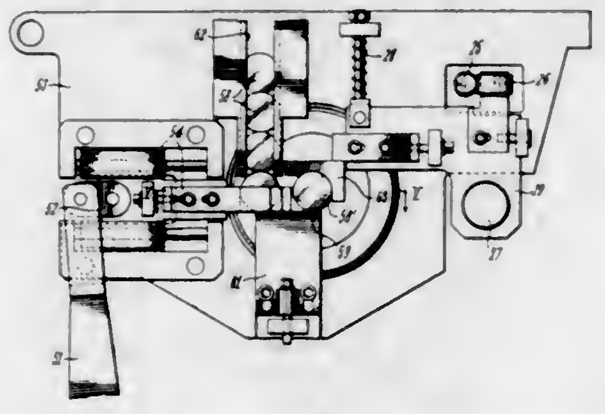


The machine comprises a frame on which a die support is mounted for vertical movement and is raised and lowered by a power cylinder. Stretch heads are pivotally mounted on the frame at opposite ends of the die support for rocking about horizontal axes extending forwardly and rearwardly of the frame. Rock levers are mounted on the frame for rocking about axes parallel to those of the heads, respectively. Each rock lever is connected by a link at one side of its rocking axis to its associated head and is drivingly connected by a link at the opposite side of its axis to the power cylinder so that the stretch heads are rocked away from each other upon raising of the die by the power cylinder.

3,448,604
BLANK FEEDING DEVICE FOR PRESSES

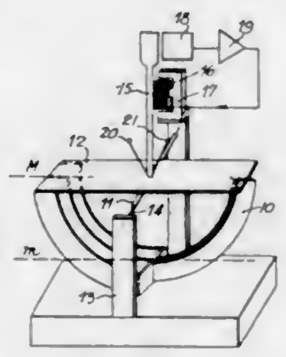
Kurt Finsterwalder, Goeppingen, Germany, assignor to L. Schuler G.m.b.H., Goeppingen, Germany
Filed July 21, 1966, Ser. No. 566,792
Claims priority, application Germany, July 30, 1965, Sch 37,467
Int. Cl. B21d *45/00, 43/06*
U.S. Cl. 72—346 7 Claims

A device for feeding blanks to a horizontal press and for removal of a workpiece from the press including a single slide member having a stepped configuration wherein the leading edges of the steps serve to effect the feeding of the blank and removal of the workpiece from the press respectively, the respective edges being disposed in parallel planes offset from one another by a distance at least equal to the maximum thickness of a blank likely to be employed.



3,448,605
DEVICE FOR MEASURING THE SURFACE TENSION OF LIQUIDS

Sylvain Jean Janssen, Paris, France, assignor to Compagnie des Compteurs, Paris, France, a French company
Filed June 12, 1967, Ser. No. 645,221
Claims priority, application France, June 21, 1966, 66,236, Patent 1,490,649
Int. Cl. G01n *11/00*
U.S. Cl. 73—64.4 3 Claims

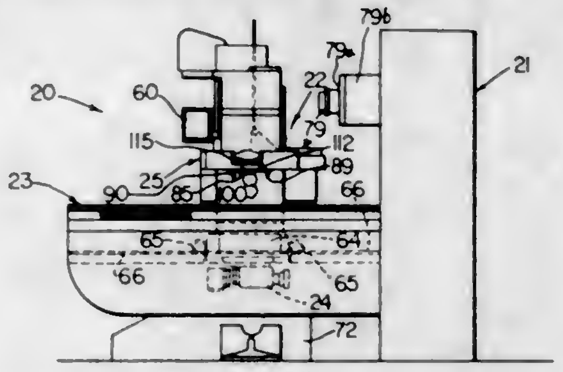


A device for measuring the surface tension of liquids comprises a test body constituted by an assembly of a plurality of thin annular-like plates in the shape of a portion of an annulus, glued together for one half of their arcuate length and parallely spaced from each other for the other half, this assembly being rotatably mounted upon an axis perpendicular to their planes and pivoting around the center of said annulus and an automatic rebalancing power scale is provided for measuring the torque which results from the surface tension exerted on said axis when the test body is partially immersed in the liquid.

3,448,606
MEDICAL DIAGNOSTIC SYSTEM

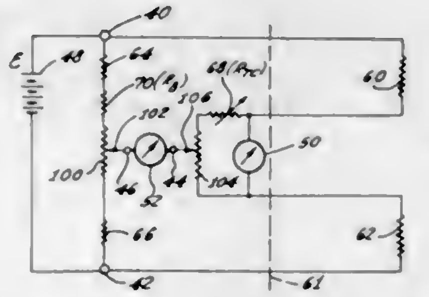
John J. Flaherty, Elk Grove Village, John W. Clark, Winfield, and Peter J. Rosauer, Mount Prospect, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 492,026
Int. Cl. G01n *9/24*
U.S. Cl. 73—67.8 11 Claims

Medical diagnostic system in which a cross-sectional indication of interfaces in a body is obtained by means of an ultrasonic pulse-echo system while a second system provides a plan view indication, the indications being readily correlated to facilitate diagnosis. Preferably, the second system is an X-ray system operative to produce a shadow field pattern and the position of the ultrasonic transmitting and receiving means is preferably indicated in the plan view indication. Specific features of the invention relate to the production of the indications closely adjacent one another and to the support of the ultrasonic transmitting and receiving means in a palpation diaphragm plate guideway of X-ray apparatus.



3,448,607
STRAIN GAUGE TEMPERATURE COMPENSATION SYSTEM

John D. Russell, Malibu, Calif., assignor to Microdot, Inc., South Pasadena, Calif., a corporation of California
Filed Oct. 18, 1965, Ser. No. 497,098
Int. Cl. G01n *25/00;* **G01l** *1/22*
U.S. Cl. 73—88.5 10 Claims



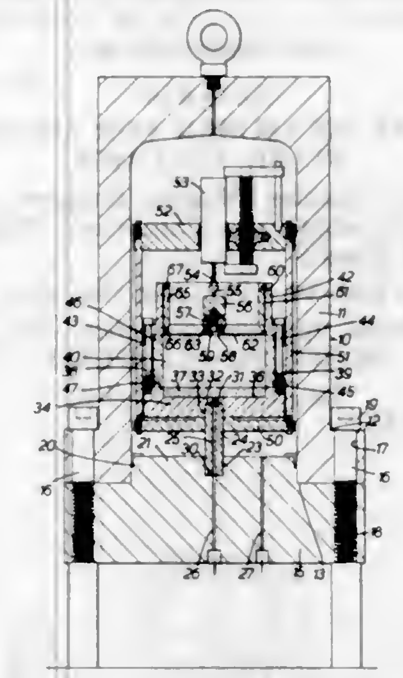
This invention relates to a system for measuring strains in a member and providing an indication of such strains. The system includes at least one strain gauge connected in a bridge with other resistance members, preferably strain gauges, to compensate for temperature changes. The bridge is provided with characteristics to maintain a constant current from a source of constant voltage even when the member is subjected to a variable strain. The output voltage from the bridge provides an indication of such variations in strain.

Preferably the resistors in the bridge constitute strain gauges which are connected to the member so that some of the strain gauges become stressed and others become strained when the member is stressed or strained. In one embodiment, one of the strain gauges becomes strained with changes in temperature but is not affected by stresses or strains in the member being measured. Additional resistors may also be included in the bridge to provide additional compensations for temperature changes.

3,448,608
OEDOMETERS

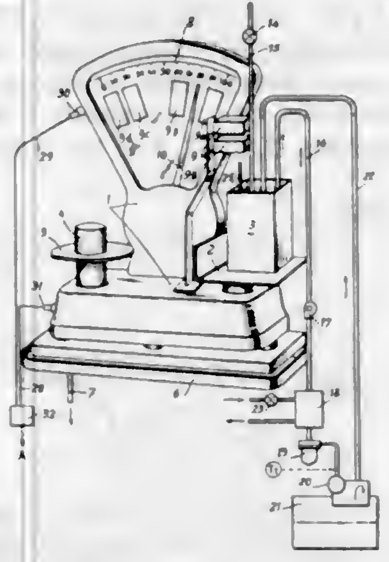
Alan Wilfred Bishop and Angus Evan Skinner, London, England, assignors to Wykeham Farrance Engineering Limited
Filed Mar. 8, 1968, Ser. No. 711,714
Claims priority, application Great Britain, Mar. 9, 1967, 11,169/67
Int. Cl. G01n *3/08*
U.S. Cl. 73—94 7 Claims

This invention relates to oedometers for the testing of geological or manufactured samples. The aim is to maintain a uniform application of pressure over the face of the sample to which pressure is applied and movement of which face is measured to determine the desired characteristics of the sample. The invention provides an oedometer one wall of a testing cell of which is capable of sealing relationship with the remainder of the cell but otherwise being entirely unattached thereto so as to permit the wall to cause consolidation of the sample when a pressure differential is applied across the wall, such consolidation being accompanied by bodily translational movement of the whole wall with respect to the remainder of the cell.



3,448,609
APPARATUS FOR ACCURATELY MEASURING THE SPECIFIC FUEL CONSUMPTION OF INTERNAL COMBUSTION ENGINES

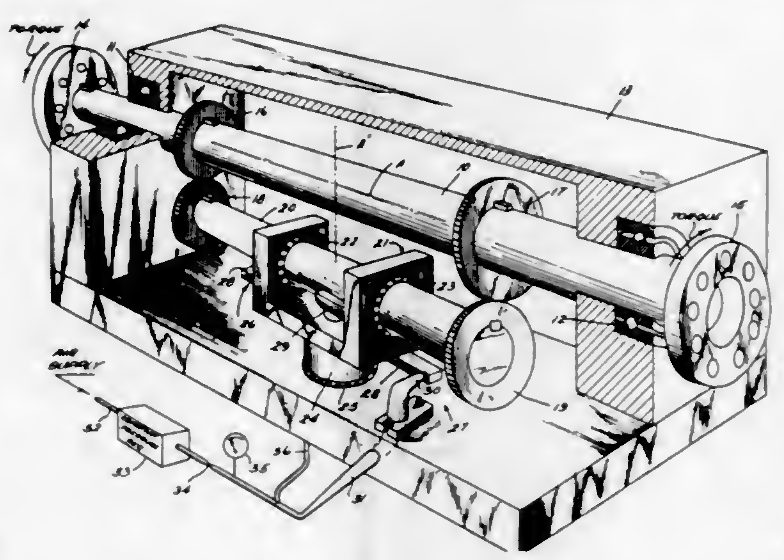
Jean-Paul Sibeud, Lyon, France, assignor to Automobiles M. Berliet, Lyon, Rhone, France
Filed Nov. 29, 1967, Ser. No. 686,473
Claims priority, application France, Dec. 14, 1966, 87,342
Int. Cl. G01m *15/00;* **G01l** *3/26*
U.S. Cl. 73—113 9 Claims



Apparatus for the precision measurement of the specific fuel consumption of an internal combustion engine, wherein the fuel consumed by the engine during a time period is weighed by means of an automatic balance carrying on its pan the vessel containing said fuel and feeding a centrifugal pump connected to the injection system of the engine, the balance pointer, during its movement, causing electromagnetic pick-up means to emit signals controlling the filling of said vessel and the counting of the revolutions per minute of the engine and the time required for consuming a predetermined quantity of fuel, and wherein a device supplying fuel to the engine holds the balance stationary during the pause between successive measurements.

3,448,610
TORQUE METER

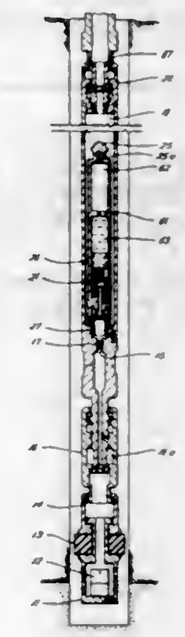
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Substitute for abandoned application Ser. No. 317,320, Oct. 18, 1963. This application Apr. 21, 1967, Ser. No. 632,729
Int. Cl. G01l *3/02*
U.S. Cl. 73—136 8 Claims



A torque meter embodying spaced gears on a shaft driving mating spaced gears on a parallel shaft and measuring displacement of the parallel shaft about an axis transverse thereto.

3,448,611
METHOD AND APPARATUS FOR FORMATION TESTING

Maurice P. Lebourg, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Sept. 29, 1966, Ser. No. 582,956
Int. Cl. E21b *47/06, 47/12*
U.S. Cl. 73—151 28 Claims



Method and apparatus for drill stem testing in a well bore, including a packer, a test valve, and first and second sample chambers connected to said test valve by a passage. A valve mechanism in the passage is arranged to open one chamber while closing the other, and subsequently, to close said one chamber while opening said other chamber. An indicator means between one of the sample chambers and the drill stem provides a signal to the top of the well bore when a predetermined pressure level has developed in said one sample chamber.

3,448,612

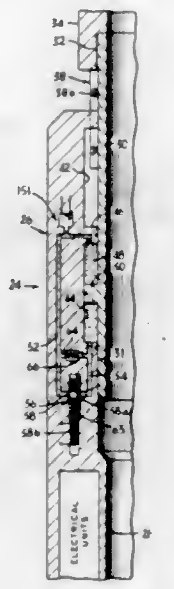
METHOD OF AND APPARATUS FOR TRANSMITTING INFORMATION FROM A SUBSURFACE WELL TOOL TO THE EARTH'S SURFACE

Maurice P. Lebourg Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Jan. 8, 1968, Ser. No. 696,161

Int. Cl. E21b *47/12*

U.S. Cl. 73—151 **21 Claims**



Information on a downhole condition in a well bore detected by a tool lowered into the well bore on a cable or pipe string is transmitted to the surface in the form of changes in the load or distance moved as a function of time occurring upon movement of or efforts to move the cable or pipe up or down the well. The information detected by the tool is produced in or appropriately transferred into the form of digital ("yes-no") signals which are used to selectively arrest relative movement between the tool and cable or pipe through a lost motion coupling. The relative movement or lack of it is evident in the continuously measured and indicated load or rate of movement of the cable or pipe string as a change in load, in the rate of change of load (time-load), or of the distance the cable or pipe moves as related to time and load.

3,448,613

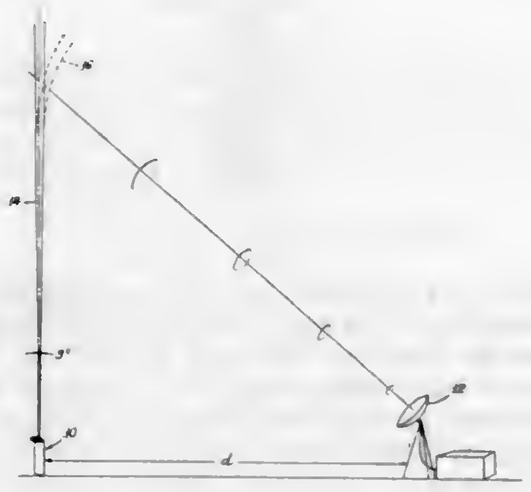
SYSTEM FOR TRACKING AIR CURRENTS

Jacob Kastner, 402 Stanton St., Park Forest, Ill. 60466, and Steven Halverson, 209 W. Elmwood Drive, Chicago Heights, Ill. 60411

Filed Sept. 16, 1966, Ser. No. 580,073

Int. Cl. G01w *1/00*

U.S. Cl. 73—170 **13 Claims**



A device for measuring atmospheric turbulence having a radiation emitting means which emits a beam of ionizing radiation into the atmosphere to ionize a column of air. A wave means detects signals reflected from the ionized column and determines the presence of air turbulence by displacements and distortions of the ionized air column.

3,448,614

TURBINE MEASURER FOR METERING FLUID VOLUMES

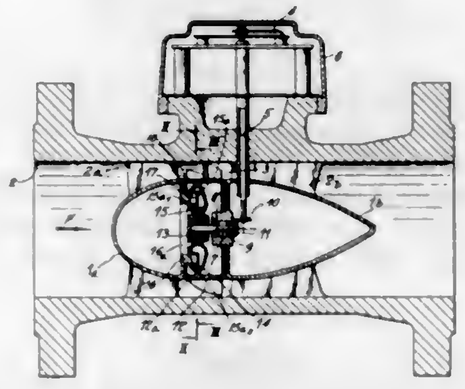
Martial Henri Mathias Muger, Bagneux, France, assignor to Compagnie des Compteurs, Paris, France, a company of France

Filed Jan. 30, 1967, Ser. No. 612,372

Claims priority, application France, Feb. 21, 1966, 50,354, Patent 1,475,825

Int. Cl. G01f *1/00*

U.S. Cl. 73—230 **3 Claims**



An axial turbine for measuring the flow of a fluid is placed in a circulation duct and drives a second turbine producing a braking torque and an axial thrust opposed to the thrust exerted on the measuring turbine by the fluid.

3,448,615

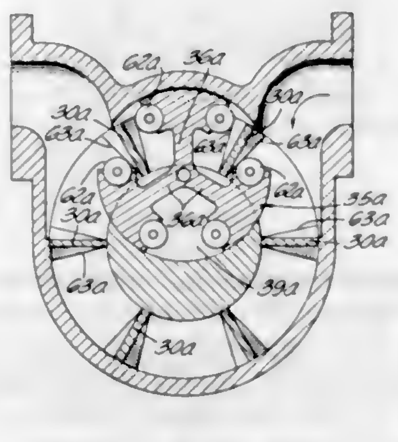
ROTARY METER, DIRECT DRIVE

George W. Schneider, Jr., Huntingdon Valley, Pa., assignors, by mesne assignments, to American Meter Company, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,643

Int. Cl. G01f *3/08*

U.S. Cl. 73—261 **8 Claims**



A meter for measuring the flow rate of fluids having a rotor with axially extending blades turns within a casing and has a rotary gate turning in the same direction for sealing the rotor blades as they pass from the outlet to the inlet of the casing. Meshing parts on rotor and rotary gate are short-length to minimize friction, and eliminate any requirement for separate gears.

3,448,616

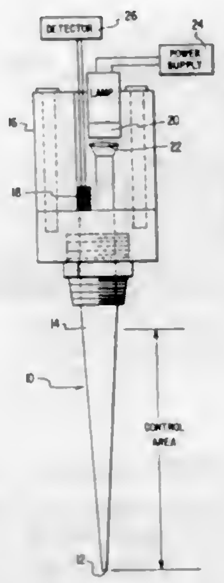
LIQUID LEVEL DETECTOR

Wolfgang J. Wostl, South Holland, and Joseph A. Heintz, Calumet City, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed June 29, 1967, Ser. No. 649,885

Int. Cl. G01f *23/00*

U.S. Cl. 73—293 **5 Claims**



An adjustable liquid level detector, with an elongated frustoconical glass rod having a totally reflective smaller end which is exposed to the liquid, is provided in combination with a light source means for transmitting light through the rod towards the smaller reflective end and means for detecting variations in the amount of light reflected back towards the light transmitting means.

3,448,617

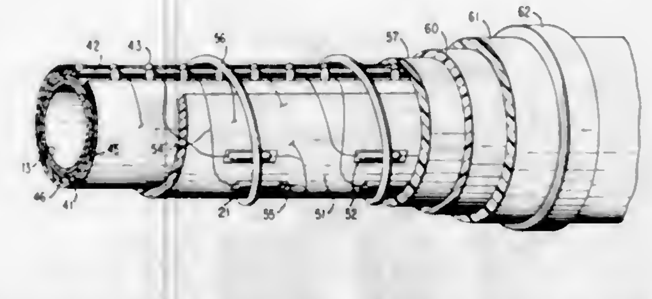
LIQUID LEVEL SENSOR ADAPTED FOR USE IN HYDROCARBON FUELS

Harold E. Trekell, Wakefield, and Joe A. Warburton, Melrose, Mass., assignors to General Electric Company, a corporation of New York

Filed May 18, 1967, Ser. No. 639,469

Int. Cl. G01f *23/28*

U.S. Cl. 73—313 **12 Claims**



A liquid level sensor has magnetic switches and a resistance coil encapsulated in electrical insulating material formed of alternate layers of polyimide films and compatible thermoplastic polymers.

3,448,618

LIQUID LEVEL INDICATING ELEMENT

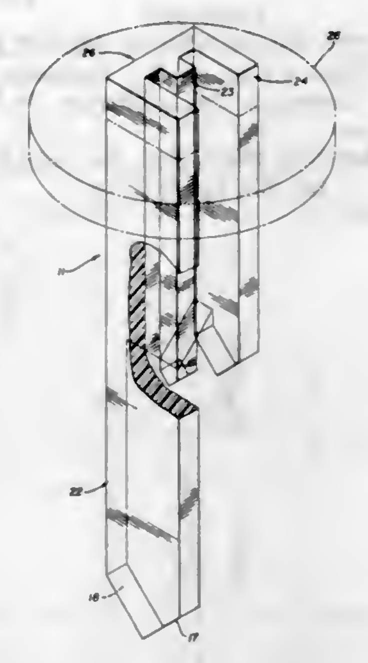
Paul A. Lomolino, 3769 Farm Hill Blvd., Redwood City, Calif. 94061

Filed June 28, 1967, Ser. No. 649,554

Int. Cl. G01f *23/02*

U.S. Cl. 73—327 **5 Claims**

An element illuminated by natural light changes from a first character configuration to a second character configuration depending upon the level of liquid within a fluid container such as a storage battery. When liquid is below a desired level, the character formed by the element is illuminated as a letter such as "E." When the liquid level is above a desired level, the element is illuminated as another letter, such as the character "F." Illumination of the character-forming components is obtained by light reflected from inclined surface portions of the element when these surfaces are exposed to air but not when they are in contact with liquid.



ERRATUM

For Class 73—355 see:
Patent No. 3,449,121

3,448,619

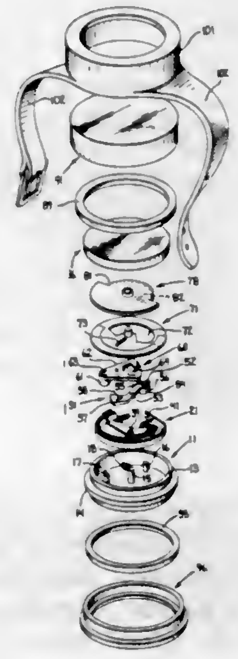
CLINICAL TEMPERATURE INDICATING DEVICE

Arthur G. Howard, Indianapolis, Ind., and William T. Leffler, 250 E. 70th St., Indianapolis, Ind. 46220; said Howard assignor to said Leffler

Filed June 7, 1967, Ser. No. 644,207

Int. Cl. G01k *5/64, 5/70*

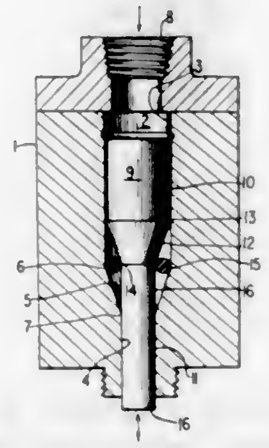
U.S. Cl. 73—363.7 **8 Claims**



A clinical temperature indicating device having an enclosure with a thermally conductive back, a thermally insulating side wall and transparent crystal. A bimetallic temperature responsive element is within the case. The back pressure is placed next to a patient's skin and as the bimetallic element senses the temperature of the skin a pair of coaxial dials visible through the crystals are driven by the bimetallic element through a linkage.

3,448,620
PRESSURE SENSING DEVICE

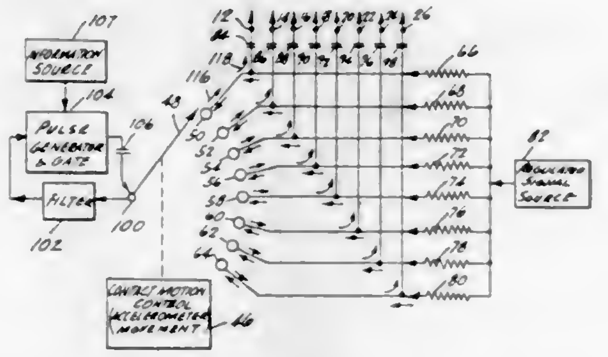
John J. Ryan, Glen Cove, N.Y., assignor to H. & R. Development Company, Inc., Nutley, N.J., a corporation of Delaware
Filed Sept. 6, 1967, Ser. No. 665,804
Int. Cl. G01l *7/16*
U.S. Cl. 73—419 **5 Claims**



A pressure sensing device wherein a piston is slidably mounted in a bore and an O-ring is interposed between corresponding conical surfaces of the bore and piston to retain the piston in a normal position against fluid pressure acting upon the piston.

3,448,621
ELECTRIC GATING SYSTEM TO ELIMINATE CONTACT INTERFERENCE

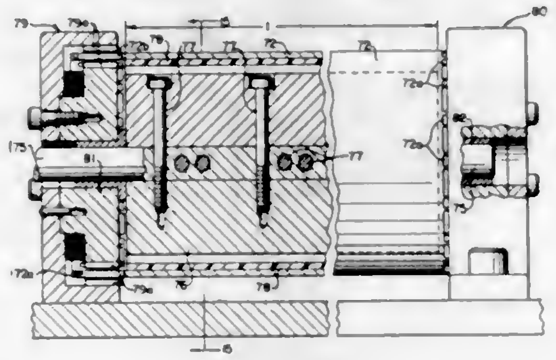
Joseph A. Magda, Garden Grove, and Bruce B. Schwab, Inglewood, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Mar. 23, 1966, Ser. No. 536,875
Int. Cl. G01p *15/08*
U.S. Cl. 73—517 **7 Claims**



A digital accelerometer is disclosed wherein an acceleration force proportionately positions a wiper arm contact on one of a set of stationary contacts. Each stationary contact is coupled to a source of regulated current which is supplied through the wiper contact and a filter (to eliminate contact filter) to activate a pulse generator. The output of the pulse generator is applied through the wiper contact and one of the stationary contacts to activate a digital stage associated with the stationary contact.

3,448,622
INTERMITTENT MOTION APPARATUS

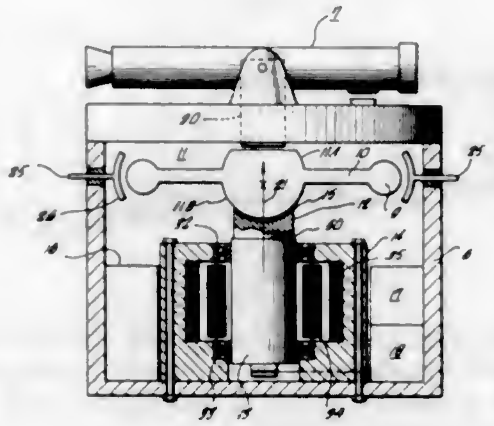
William S. Touchman, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Aug. 11, 1967, Ser. No. 660,031
Int. Cl. F16h *27/00*
U.S. Cl. 74—1.5 **23 Claims**



An intermittent motion apparatus for use in ultra high speed indexing. The input member of the apparatus is rotated at a constant velocity while the output member thereof is oscillated at a resonant frequency relative to the input member. Magnetically operated and fluid operated oscillators act upon a resilient means so as to cause said output member to effectively dwell a desired number of times for each revolution of said input member. Said resilient means includes a solid shaft which is placed in torsion, magnetic springs, and solid elastomeric elements, like rubber, which are operated in compressions and shear modes.

3,448,623
MERIDIAN-SEEKING GYROSCOPE EMPLOYING A SIMULTANEOUSLY ROTATING AND VIBRATING BASE

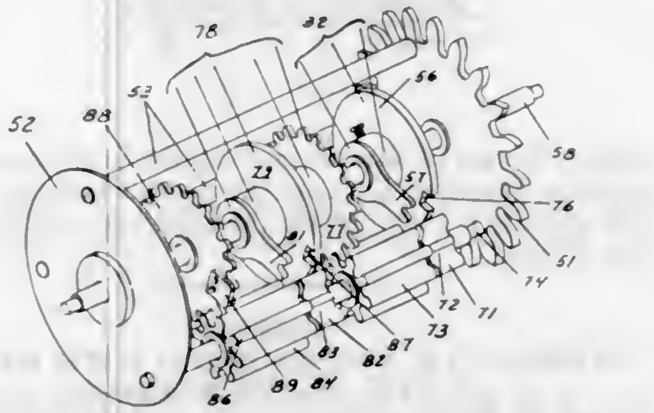
Joachim W. Fischer, Los Angeles, Calif., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,022
Int. Cl. G01c *19/34, 19/40*
U.S. Cl. 74—5 **9 Claims**



The invention disclosed herein relates in general to gyroscopes and more particularly relates to a north-seeking gyroscope mounted for universal movement on a base which simultaneously rotates and vibrates. Base rotation, through contact friction with the gyroscope rotor, brings the rotor up to a predetermined rotational speed about a spin axis, and thereafter base vibration takes place that is coaxial to the spin axis and at a frequency selected to form and trap a supporting film of air between the gyroscope mounting and the base.

3,448,624
EXPONENTIAL MULTITURN LOST-MOTION DEVICE

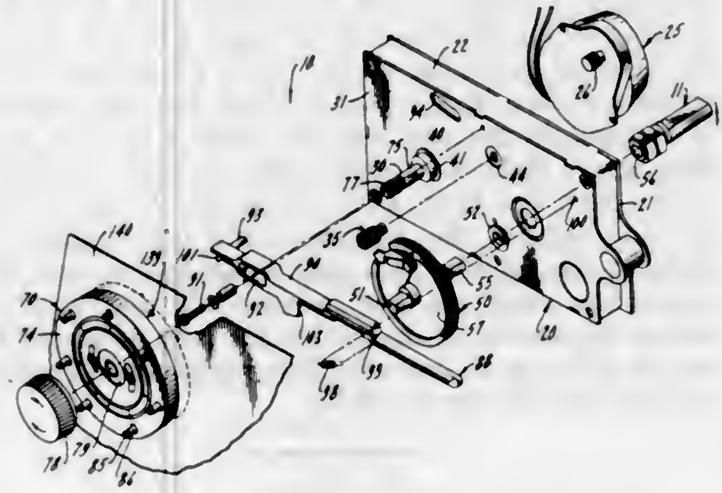
Robert A. Brown, Lafayette, Ind., assignor to Duncan Electric Company, Inc., a corporation of Indiana
Filed Oct. 24, 1965, Ser. No. 505,071
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.2 **5 Claims**



A lost-motion device which will permit a multiple of turns within the limits of lost motion, and can be designed to permit many turns, is provided by a plural stage Geneva mechanism in which the last stage is provided with a stop device. Stop accuracy is obtained by a stop member carried by one element of the last stage which moves into position for being struck by a Geneva transfer unit having relative high speed movement at the time of striking. With unequal rotation between these elements, the transfer element may be notched so as not to strike the stop member until the second or third time it comes into the stop position. The device may be used as a lost-motion stop or as a lost-motion drive.

3,448,625
TIMER

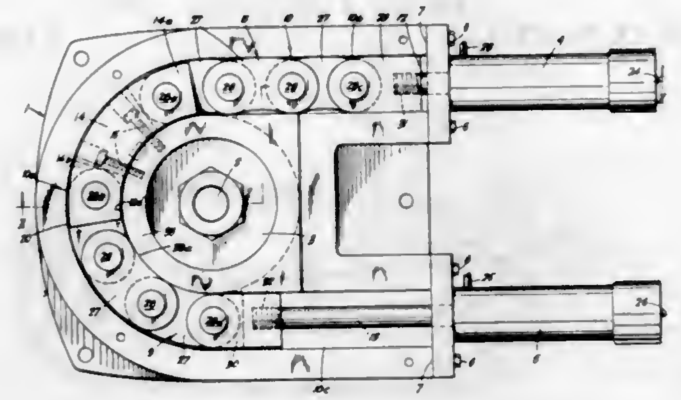
Edward J. Tischler, St. Paul, Minn., assignor to Union Tank Car Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,722
Int. Cl. F16h *5/74*
U.S. Cl. 74—3.5 **9 Claims**



A timing device for operating a mechanism at a predetermined time on a given day or days. The device includes a timer dial and a pinion driven by separate gear trains from the same motor and constantly in operation. A mechanism drive gear is connected to the pinion and rotated by it at said time through an actuator arm manipulated by the timer dial.

3,448,626
TORQUE GENERATING DEVICE

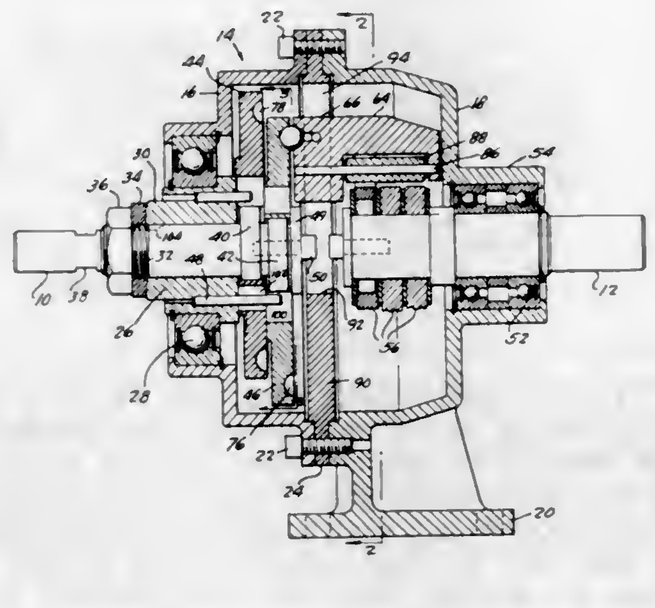
Richard H. M. Yeatman, Lister Drive, P.O. Box 661, Bedford, Nova Scotia, Canada, and Anders B. Endal, Montague, Prince Edward Island, Canada
Filed Dec. 30, 1966, Ser. No. 606,434
Int. Cl. F16h *21/44*
U.S. Cl. 74—108 **18 Claims**



A hydraulic ram is directly connected to a housing and has its piston connected to a plurality of incompressible links which are constrained in a desired arc of movement. The other end of the link assembly is connected to a torque transmitting member which is directly connected to the pivotable member to be moved through a given arc. Two ram and link assemblies are connected to the torque transmitting member.

3,448,627
GEARLESS VARIABLE DRIVE MECHANISM

Jerry R. Brooks, 1716 Merrywood Way, Gainesville, Tex. 76240
Filed May 19, 1967, Ser. No. 639,666
Int. Cl. F16h *29/04*
U.S. Cl. 74—117 **10 Claims**



A gearless speed reducer for connecting coaxial driving and driven shafts including a rotating disc on the drive shaft, said disc having an eccentric groove; a plurality of one-way clutches on the driven shaft; circumferentially spaced members engaging each of said clutches and engaging said eccentric groove to receive radial sliding movement therefrom, each of said clutches having cam surfaces to convert radial movement of said circumferentially spaced members into rotational movement about the driven shaft.

3,448,628

DEVICE FOR TENSIONING THE DRIVING CHAIN IN A BICYCLE EQUIPPED WITH COASTER BRAKE AND EXPOSED SPEED CHANGE MECHANISM

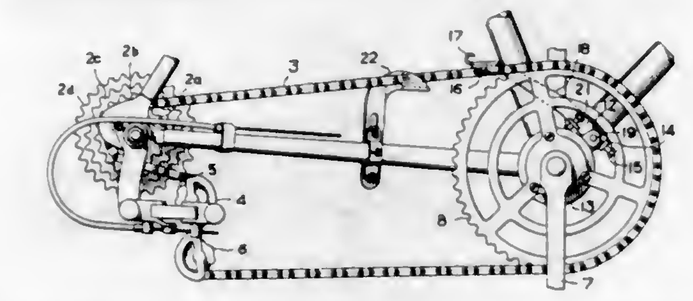
Keizo Shimano and Masashi Nagano, Sakai, Japan, assignors to Shimano Kogyo Kabushiki Kaisha, Sakai, Japan

Filed May 31, 1967, Ser. No. 642,372

Claims priority, application Japan, June 7, 1966, 41/36,895

Int. Cl. F16h *11/08*

U.S. Cl. 74—217 3 Claims



This invention relates to a driving chain tensioning device in a bicycle equipped with a coaster brake adapted to be put into operation by rotating the front sprocket in the reverse direction, and an exposed speed change mechanism comprising a plurality of rear sprocket wheels of different number of teeth and a speed change lever for selecting any one of said rear sprocket wheels.

3,448,629

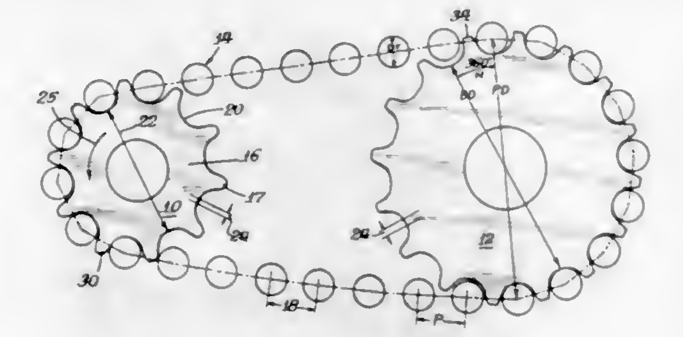
CHAIN AND SPROCKET DRIVE

James Francis Pfrank, Arlington Heights, Ill., and Walter W. Kilgard, Carmel, and Harold W. Norcross, Indianapolis, Ind., assignors to Amsted Industries Incorporated, Chicago, Ill., a corporation of Delaware

Continuation-in-part of application Ser. No. 611,643, Jan. 25, 1967. This application June 20, 1968, Ser. No. 748,148

Int. Cl. F16h *7/06, 55/30*

U.S. Cl. 74—229 9 Claims



In a chain and sprocket drive, chain impact is reduced by modifying the bottom diameter of the sprockets from the theoretically correct bottom diameter relative to a given chain, and widening the gap between adjacent teeth of the sprockets sufficiently to allow the modified sprockets to mesh with the chain. In addition, one or more rubber rings are attached near the outer periphery of each sprocket to cushion the impact of the chain.

3,448,630

POWER TRANSMITTING CHAIN

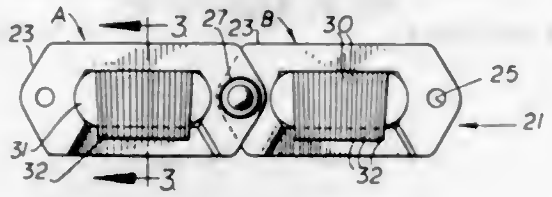
Henry G. Keller, Glenside, Pa., assignor to FMC Corporation, a corporation of Delaware

Filed Sept. 12, 1967, Ser. No. 667,184

Int. Cl. F16g *1/24*

U.S. Cl. 74—236 4 Claims

A power transmitting chain having only links, pins and slats with the pins engaging in joint holes of overlapped links and the slats engaged in apertures of the links to extend transversely of the links, the slats being employed to provide side engagement with toothed faces of opposed conical flanges of sheaves in a variable speed power transmission. The chain links are selectively hardened to permit constructing a chain having the aforesaid minimum number of parts.



3,448,631

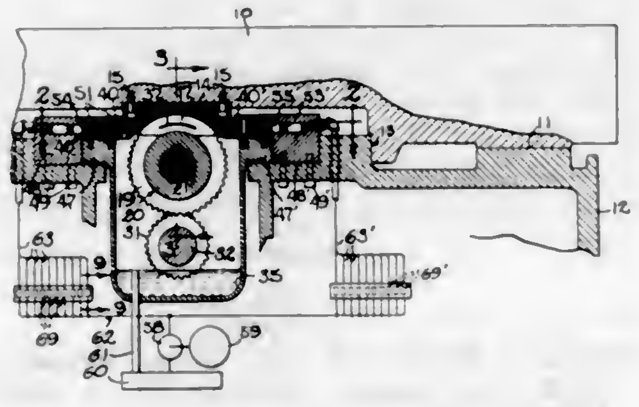
WORM-RACK TRANSMISSION WITH HYDROSTATIC TOOTH BEARINGS

Robert W. Sullivan, Rockton, Ill., assignor to The Ingersoll Milling Machine Company, Rockford, Ill., a corporation of Illinois

Continuation of application Ser. No. 618,721, Feb. 27, 1967. This application July 23, 1968, Ser. No. 752,122

Int. Cl. F16b *1/18, 1/20, 57/04*

U.S. Cl. 74—409 12 Claims



A sliding machine tool table is driven back and forth through a toothed rack on the table meshing with a power rotated worm whose thread is separated hydrostatically from the opposed areas of the meshing rack teeth by delivering high pressure fluid to so-called pads in the flanks of those rack teeth which are in mesh with the thread in the different positions of the table. Fluid from a high pressure source is delivered through individual passages in a manifold mounted on the machine bed for lateral floating and yieldably urged against the rack. As the table moves back and forth, ports at the face of the manifold and the ends of the passages come into register with ports on the abutting rack wall which lead to only those pads whose teeth are then in mesh with the worm. Accurate distribution of the fluid to the pads of the meshing teeth is achieved by providing flow restrictors in respective passages through the manifold.

3,448,632

SELF-ADJUSTING HYDROSTATIC LEAD SCREW AND NUT ASSEMBLY

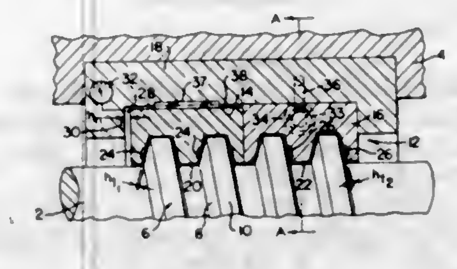
John H. Rumbarger, Wayne, Pa., assignor, by mesne assignments, to Scully International Corporation, Downers Grove, Ill., a corporation of Illinois

Filed Nov. 15, 1967, Ser. No. 683,204

Int. Cl. F16h *1/20*

U.S. Cl. 74—424.8 10 Claims

A lead screw and nut assembly in which externally pressurized fluid is pumped into the assembly to completely separate the nut assembly from the lead screw thus preventing any metal-to-metal contact. The assembly provides resultant fluid film forces acting in opposite directions on respective nuts of the assembly and an external hydrostatic thrust bearing outside one nut supports the nut load.



3,448,633

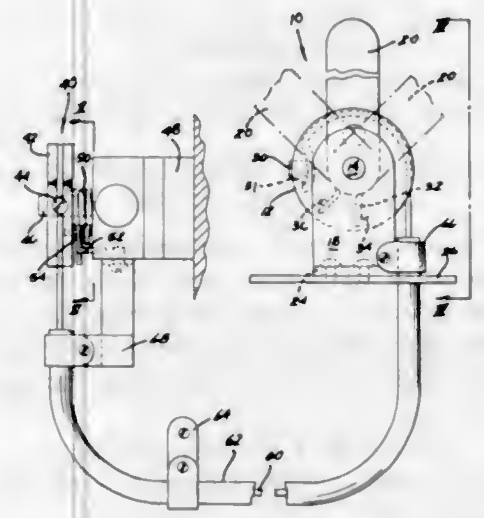
FLEXIBLE CONTROL MECHANISM FOR VALVES AND THE LIKE

Edward W. Jackoboice, Grand Rapids, Mich., assignor to Monarch Road Machinery Company, Grand Rapids, Mich., a corporation of Michigan

Filed Dec. 30, 1966, Ser. No. 606,195

Int. Cl. F16c *1/18*

U.S. Cl. 74—501.5 1 Claim



A control mechanism for manually actuating remotely positioned devices such as hydraulic valves, wherein a pair of sheave-like pulley wheels are interconnected by a flexible tension member entrained about each, with a torsion spring acting on each such wheel to produce a balance point of spring equilibrium and to return the mechanism back to such equilibrium point whenever it has been deliberately moved in either direction away from the same, and wherein an operating handle is secured to one such wheel and the other wheel is attached to the remote device to operate the latter in either of two possible directions as a result of movement of the operating handle.

3,448,634

VEHICLE CONTROL FOOT PEDAL

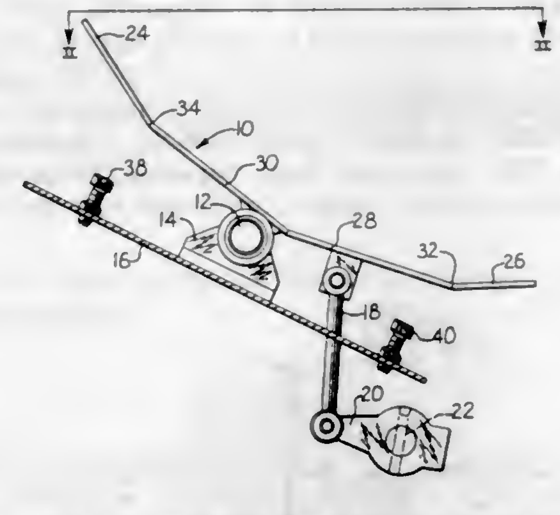
Robert G. Eggers, Eastlake, and Arthur F. Grant, East Cleveland, Ohio, assignors to Towmotor Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 20, 1967, Ser. No. 676,962

Int. Cl. G05g *1/14*

U.S. Cl. 74—560 1 Claim

A foot pedal for use on a vehicle which has a forward and reverse drive and variable speeds. Both drives are controlled by a single pedal actuated linkage wherein toe pressure causes and controls forward drive and heel pressure causes and controls reverse drive and the configuration of the pedal is such as to accommodate the entire foot or to enable actuation by the heel alone, or by the toe alone.



3,448,635

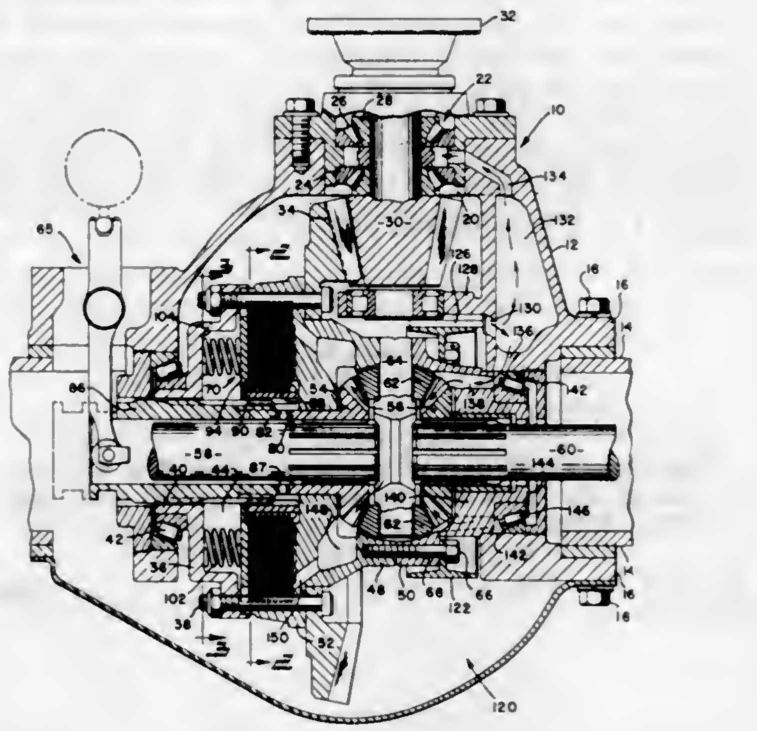
LIMITED SLIP DIFFERENTIAL DEVICE

Robert K. Nelson, Shaker Heights, Ohio, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Mar 27, 1967, Ser. No. 626,216

Int. Cl. F16h *1/44*

U.S. Cl. 74—710.5 6 Claims



A limited slip differential mechanism which is engageable or disengageable at the option of the vehicle operator and through a friction disk clutch arrangement controls the relative rotative speeds of the vehicle wheels and related axle shafts, while permitting a release of the friction disk clutch arrangement and relative rotation of the vehicle wheels and related axle shafts upon predetermined road conditions and vehicle operation.

3,448,636

DIFFERENTIAL THRUST MECHANISM

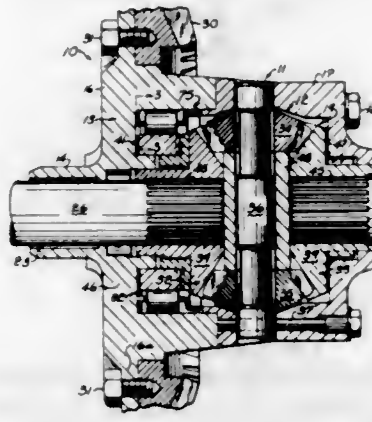
Daniel W. Roper, Rochester, Edward A. Wilkowski, Marshall, and David Peter Hass, Detroit, Mich., assignors to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 9, 1967, Ser. No. 637,112

Int. Cl. F16h *1/44*

U.S. Cl. 74—711 19 Claims

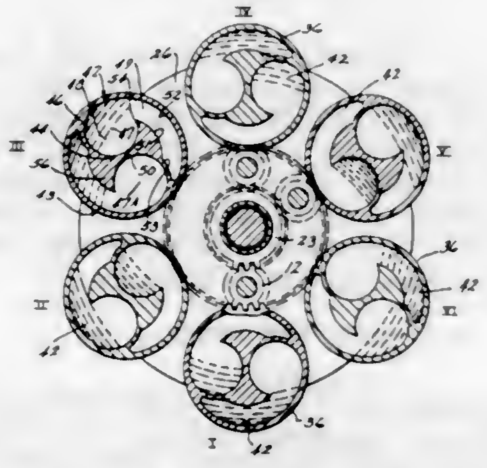
A limited slip differential drive mechanism for an automotive vehicle comprises a roller clutch arrangement to drivingly connect a differential casing to the side gear of the differential in response to a predetermined speed of relative rotation therebetween. The side gear of the differential carries a pair of cooperable parts which have axially projecting teeth in meshing engagement. One of the parts has a surface engageable with the rollers of the clutch and is moved in response to movement of the clutch to effect a driving connection of the casing and side gear. The cooperable teeth between the cooperable parts effect urging of a surface of the one part into torque transmitting engagement with the casing and also effect axial movement of the side gear into engagement with a thrust block carried by the casing. In this condition, the casing and side gear are drivingly interconnected by the clutch and the torque transmitting engagement between the casing and part, as well as between the side gear and thrust block. The cooperable parts also comprise an anti-cycling mechanism which prevents high impact collisions of the rollers of the clutch with the cooperable surfaces of the casing and the part.



3,448,637

PLANETARY TRANSMISSION

Thomas M. O'Hara, 19932 Asbury Park,
Detroit, Mich. 48235
Continuation-in-part of application Ser. No. 481,269, Aug. 20, 1965. This application Jan. 18, 1968, Ser. No. 703,837
Int. Cl. F16h *3/44, 57/10*
U.S. Cl. 74—752 **13 Claims**

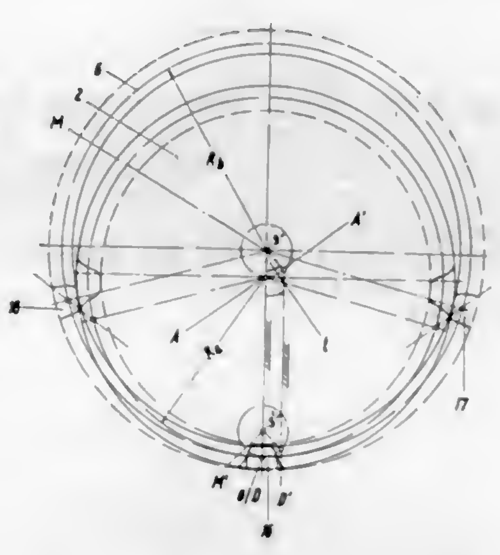


A variable speed coupling comprising a planetary transmission in which the planet gears each have housings connected thereto. The housings each have two symmetrically arranged chambers of special shapes therein and weights are movable therein during rotation of the planet gears to resist rotation of said planet gears in order to transmit torque to the load. A step-up transmission is connected to the input shaft in order to reduce the response time of the coupling.

3,448,638

REVERSE PLANETARY GEAR

Helmut Zahlaus, Dornigheim, Germany, assignor to Firma P.I.V. Antrieb Werner Reimers KG., Bad Homburg vor der Hohe, Hesse, Germany
Filed Mar. 17, 1967, Ser. No. 624,073
Claims priority, application Germany, Mar. 22, 1966, Z 12,120
Int. Cl. F16h *1/32*
U.S. Cl. 74—804 **1 Claim**



Reverse planetary gear, containing planetary wheels, the external teeth of which mesh with an outer wheel the teeth of which have an optionally fixed addendum circle radius. The teeth of the planetary wheels have an arcuate tooth addendum face satisfying the equations

$$x=Rb\cdot\sin z-s\cdot\sin t+rk\cdot\sin\alpha$$
$$y=s(1-\cos t)-Rb(1-\cos z)-rk\cdot\cos\alpha$$

In these equations Rb represents the rolling circle radius of the large wheel, z the angle of rotation of the large wheel, s an eccentric driving pin radius, t the angle of rotation of the eccentric pin, rk the addendum circle radius of the outer wheel gearing and α the pitch of the tangent of the tooth curve

$$\left(tg\alpha=\frac{\sin t-\sin z}{\cos z-\cos t}\right)$$

to the point of contact of the tooth faces relatively to the x-axis.

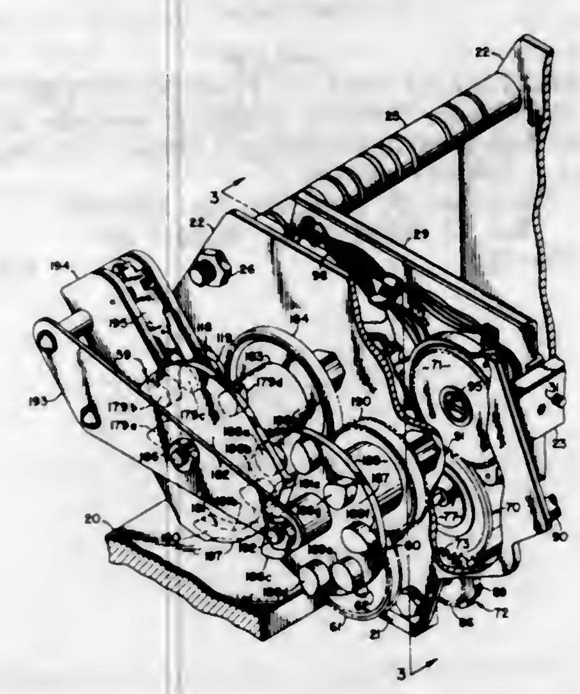
3,448,639

INDICATING APPARATUS

Clarence E. Adler, Toledo, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Toledo, Ohio, a corporation of Ohio
Filed June 22, 1967, Ser. No. 648,130
Int. Cl. F16h *27/04*
U.S. Cl. 74—822 **11 Claims**

A numerical display device comprising a rotatable member to be rotated to a readout position corresponding to information in an electrical circuit, drive means (intermittent gearing) for locking the member in a dwell position and later for rotating the member, and stopping means operable during the dwell to disengage from and

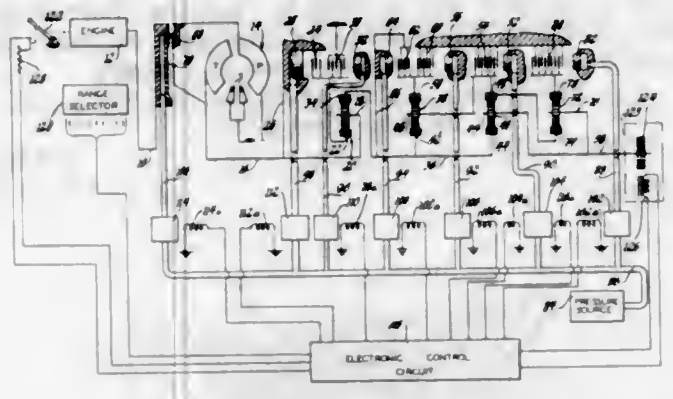
reengage with the member when successive readout positions are alike, and operable when successive readout positions are unlike and after the dwell for stopping the member in the readout position.



3,448,640

ELECTRICAL CONTROL FOR AUTOMATIC TRANSMISSION

Robert E. Nelson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,307
Int. Cl. G05g *13/02*
U.S. Cl. 74—866 **11 Claims**



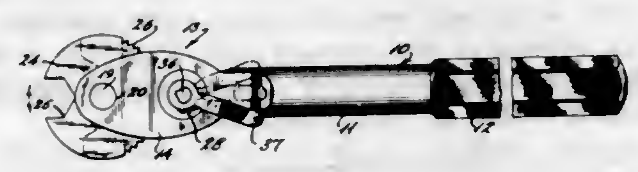
A solid state electronic control is provided for an automatic vehicle transmission. The control is responsive to instantaneous values of throttle setting and transmission output speed and the position of a manual range selector switch. The control includes a shift pattern generator for producing signals indicating desired shifts and a computer circuit responsive to the signals for energizing appropriate solenoids for effecting the shifts. The solenoids control hydraulic circuitry for actuating the brakes and clutches in the transmission.

3,448,641

OPEN END RATCHET WRENCH WITH A REMOVABLE HEAD

William J. Morrow, 301–2 Pennell Circle,
Tallahassee, Fla. 32304
Filed Sept. 29, 1967, Ser. No. 671,739
Int. Cl. B25b *13/00, 13/46*
U.S. Cl. 81—58.2 **2 Claims**

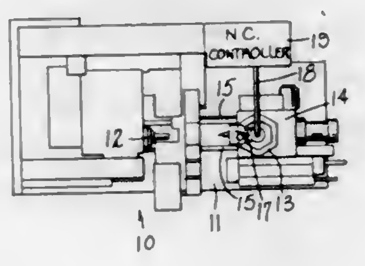
An open end wrench having a ratchet head carried by an operating handle within which the head can be rotated in a selected direction but held against rotation in the other direction. The ratchet head is removably mounted on the handle to permit heads of different sizes to be interchangeable.



3,448,642

SLIDE TOOL

Walter Schultz, Newport, N.H., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 2, 1966, Ser. No. 569,663
Int. Cl. B23b *21/00, 39/20;* **B23p** *23/02*
U.S. Cl. 82—21 **14 Claims**

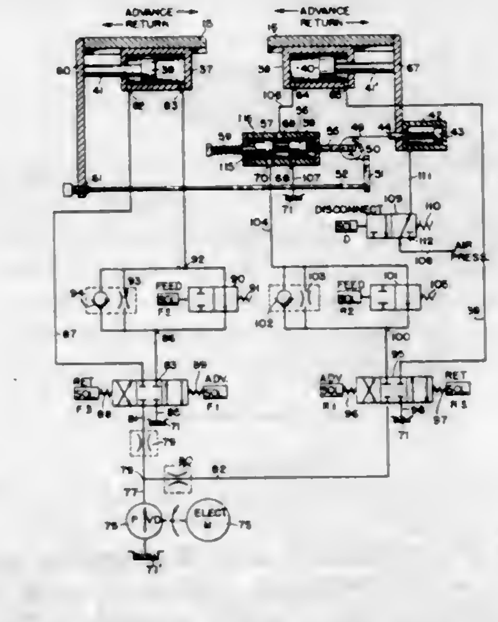


An automatic slide tool attachment adapted to be mounted on the turret of a turret lathe. The slide tool attachment includes a support mounted on the turret of a turret lathe, the support having a tool holder structure which is movable with respect to the support. In addition, there is provided a commutation structure for providing power to a motor to move said tool holder structure.

3,448,643

TOOL SLIDE CONTROL FOR LATHES, CUTOFF MACHINES AND THE LIKE

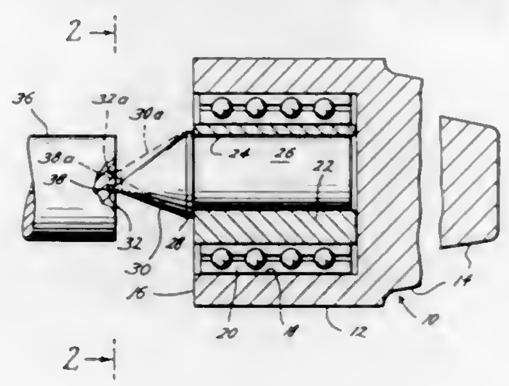
Henrik O. Kylin, Aurora, Ohio, assignor to Bardons & Oliver, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 24, 1966, Ser. No. 574,831
Int. Cl. B23b *7/14*
U.S. Cl. 82—21 **4 Claims**



A machine tool having generally opposed hydraulically actuated tool slides movable selectively synchronously or non-synchronously through a plurality of modes, such as, advance rate, feed and return with respect to the turning axis of a rotating workpiece. Slide dynamic equilibrium and balance is attained by employing through valve means hydraulic fluid under pressure and less volume to the lead slide while supplying hydraulic fluid under pressure at increased volume to the opposed slide. Provision is also made for relative adjustment of the position of one slide with respect to that of the opposed slide.

3,448,644
LIVE CENTER APPARATUS

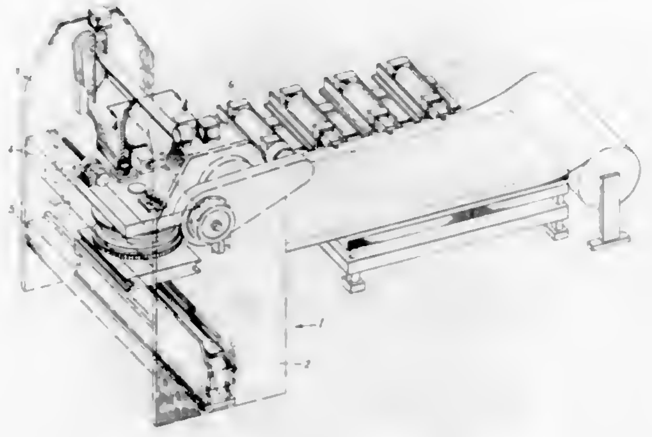
Joe Doyle Banning, 7820 Adrian St.,
Houston, Tex. 77012
Filed Nov. 7, 1967, Ser. No. 681,189
Int. Cl. B23b *23/02, 23/04*
U.S. Cl. 82—33 **5 Claims**



The disclosure is of live center apparatus for maintaining a rotating workpiece on true center at the tailstock of a lathe or other rotary apparatus.

3,448,645
NUMERICALLY CONTROLLED PUNCHING MACHINE AND METHOD

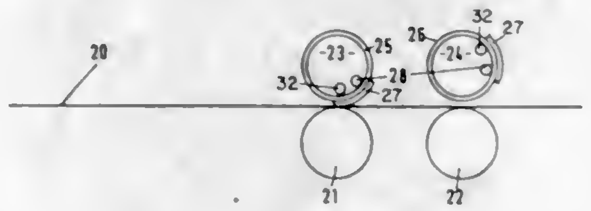
Raymond J. Graf, Cincinnati, Robert Burns, Fairfield, and Robert H. Jahnke, Cincinnati, Ohio, assignors to The Cincinnati Shaper Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 11, 1966, Ser. No. 571,888
Int. Cl. B26d *5/30, 5/12*
U.S. Cl. 83—71 **18 Claims**



A numerically controlled and programmed punching machine for use on the entire surface of sheet or strip material moving in only a single direction. This is accomplished by a unique arrangement of parts including opposing movable carriages containing reversible rotatable turrets. By providing for two punching stations, it is possible to operate up to and beyond the edge of the material with a minimum of movement of the said parts.

3,448,646
TREATMENT OF CONTINUOUS WEBS

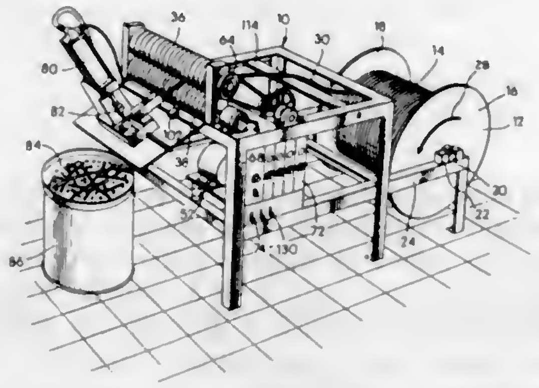
Thomas D. Bishop, Solihull, England, assignor to The Deritend Engineering Company Limited, Birmingham, England, a British company
Filed Jan. 28, 1966, Ser. No. 523,654
Int. Cl. B23d *25/02;* **B26d** *1/56*
U.S. Cl. 83—303 **1 Claim**



Apparatus for die-cutting a continuous web, comprising at least two pairs of die-cutting cylinders which are arranged to make successive adjacent die-cuts in the advancing web, the periphery of each di-cutting cylinder consisting of a cutting portion and a noncutting portion, mechanism for driving the cylinders, while their cutting portions are in cutting engagement with the web, at a peripheral speed equal to the linear speed of the web, and speed control mechanism for varying the relative speed of the cylinders and the web while the cutting portions of the cylinders are out of engagement with the web.

3,448,647
APPARATUS AND PROCESS FOR PRODUCING CONSTANT VOLUME GASKETS

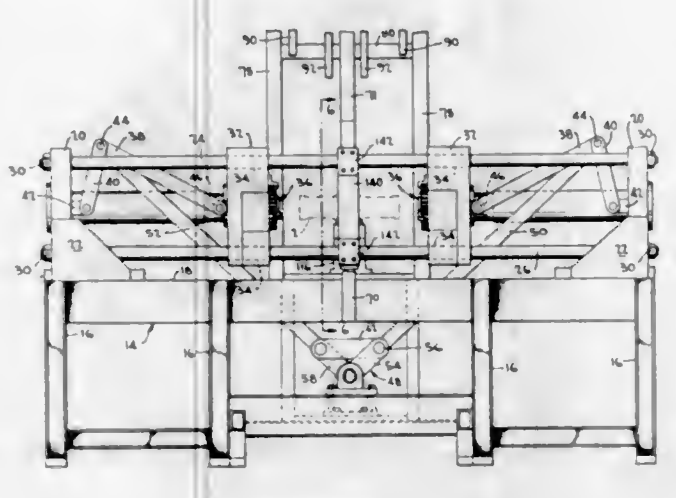
Marion R. Miller and Lowell D. Temple, Fort Wayne, Ind., assignors to National Coupling Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Sept. 13, 1965, Ser. No. 486,913
Int. Cl. B26d *5/40*
U.S. Cl. 83—423 **4 Claims**



A gasket apparatus for producing gaskets of a predetermined volume from stock material having guide surfaces for receiving elastomeric stock material for imparting the stock material to a pair of opposed rotatable members having a cross section therebetween of a prescribed dimension and configuration and proportioned in relation to the stock material to effect a gripping connection which will transfer the stock material through the nip without slippage. Means for sensing the rotational movement of the rotatable members to provide a calibrated generated volume in accordance with the rotational movement of one of the rotatable members and severing means for cutting the stock material into lengths.

3,448,648
APPARATUS FOR FEEDING AND TRIMMING TANDEM BLOWN CONTAINERS

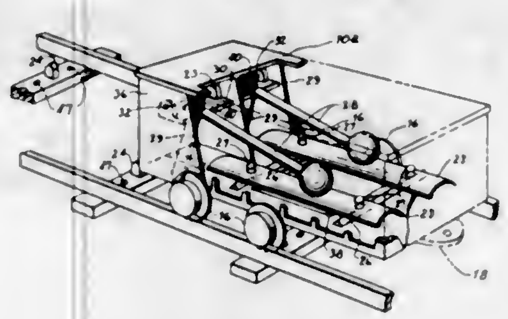
William R. Magruder, Wilmington, Marty E. Sixt, Newark, and Roger H. Steiner, Claymont, Del., assignors, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 29, 1966, Ser. No. 568,506
Int. Cl. B26d *5/22, 5/12*
U.S. Cl. 83—566 **19 Claims**



Apparatus for trimming hollow articles includes means for clamping the articles in a predetermined orientation and a cylindrical knife assembly which passes over the clamped articles to sever a flange or the like on the articles. By way of example, the apparatus is operable to trim the neck which interconnects tandem blow-molded plastic containers.

3,448,649
MUSIC MAKING TOY

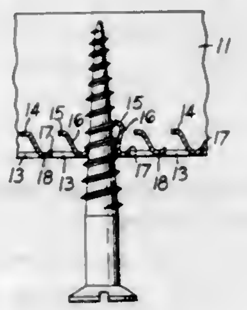
Sakujiro Tobari, Tokyo, Japan, assignor to Cragstan Industries, Inc.
Filed Dec. 4, 1967, Ser. No. 687,851
Claims priority, application Japan, Aug. 1, 1967, 42/66,283
Int. Cl. G10f *1/08*
U.S. Cl. 84—102 **10 Claims**



Several vehicles connectable together in a train are movable along a roadway. Each carries a sound producing element capable of producing a musical note when struck and a lever that has one end adapted to strike the sound producing element and another end extending below the vehicle. As the vehicle moves along the roadway, the latter end of the lever element hits and rides up over a peg in the roadway. This causes the other end of the lever element to lift up from and then strike down on the sound producing element to produce a musical note. The lever elements on different vehicles are aligned to be actuated by pegs respectively at different positions laterally across the roadway and the pegs are adapted to be placed in the appropriate lateral positions at various points along the length of the roadway for varying the sequence in which the several sound producing elements are actuated as the vehicles move along.

3,448,650
SUPPORT MEMBERS FOR USE IN SUPPORTING PANELS

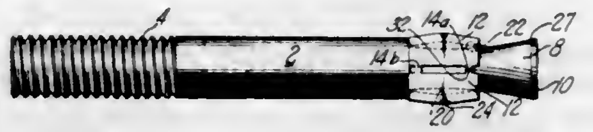
Norman Whitehouse, Solihull, England, assignor to George Whitehouse & Company (Birmingham) Limited, Birmingham, England
Filed Aug. 21, 1967, Ser. No. 661,890
Int. Cl. F16b *33/02, 37/02*
U.S. Cl. 85—36 **8 Claims**



A support member for use in supporting ceiling, wall or room partition panels, formed with a plurality of slots and having a deformable tongue projecting from one side of each slot so as at least partially to overlap the slot, said tongue and the opposite side of the slot having respective screw-engageable edges, which are spaced apart in a direction transverse to the plane containing the slot. This enables the edges to engage with different parts of the thread of a screw inserted in the slot with the screw extending perpendicular to the plane of the slot.

3,448,651
EXPANSION BOLTS

La Roy B. Passer, Wyomissing, Pa., assignor to USM Corporation, Boston, Mass., a corporation of New Jersey
Filed June 2, 1967, Ser. No. 643,224
Int. Cl. F16b *13/06*
U.S. Cl. 85—72 **4 Claims**

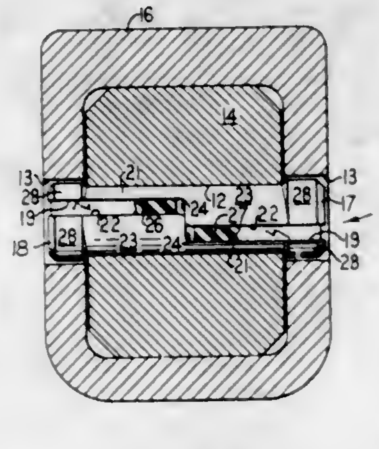


An expansion bolt assembly comprising an elongated cylindrical bolt member with one end of the bolt member having an expansion portion, the longitudinal surface of which defines an arc of a circle. At least one expansion member is slidably mounted on the expansion portion of the bolt member and is movable to engage the interior of a bore in which the bolt is disposed.

3,448,652
CYLINDRICAL SEGMENTED RETAINING PIN WITH INTERLOCKING SURFACES

Kenneth A. Rhoads, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 6, 1967, Ser. No. 688,546
Int. Cl. F16b *19/00, 21/00;* **E02f** *9/28*
U.S. Cl. 85—8.3 **5 Claims**

Three embodiments of a cylindrical retaining pin assembly for suitably securing a ripper tip on a shank where the shank has a bore and the tip has aligned bores at the ends of the shank bore. Two elongated semi-cylindical pin segments are separated by resilient spreader material at each end of the assembled pin segments. The pin segments define surfaces at midlength which are normal to the pin axis, the normal surfaces of the pin segments being in positive opposition in the assembled pin.



3,448,653

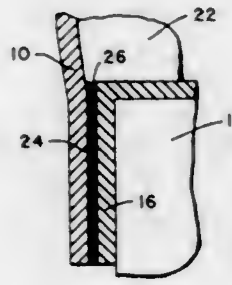
QUICK DISCONNECT

Jack A. Myers, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 29, 1968, Ser. No. 701,272

Int. Cl. F41f

U.S. Cl. 89—1 **3 Claims**



Tubular member telescopically receives an epoxy cemented member which is separated, when desired, by gas pressure in the tubular member. Prior to separation, an axial tensile load between the members is resisted by the shear characteristics of the cement. The wall of the tubular member is proportioned to the pressure so that it permanently expands slightly, causing the cement to progressively fail in tension.

3,448,654

GRENADE EJECTOR

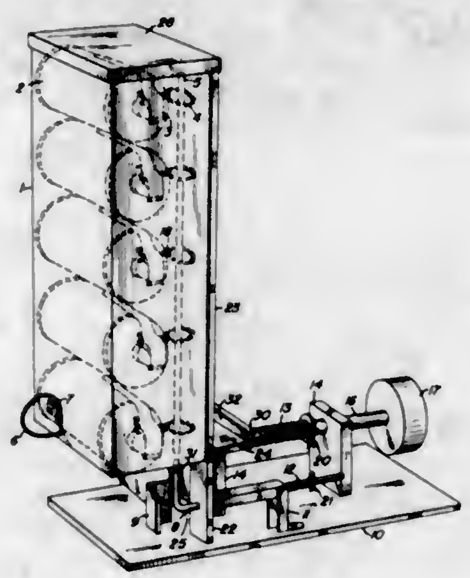
Royale R. Crabtree, Towson, and Charles W. Beeker, Parkville, Md., and Dennis E. Mead, Los Angeles, Calif., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 5, 1968, Ser. No. 710,455

Int. Cl. F41f *5/00*

U.S. Cl. 89—1.5 **12 Claims**

A smoke grenade ejector assembly and mode of operation thereof comprising a base plate; a guide means fixedly and perpendicularly mounted on said base plate; magazine means containing grenades slidably mounted on said guide means; means to discharge said grenades from said magazine to permit arming and ejection thereof; means to arm said grenades; and means to eject said grenades.



3,448,655

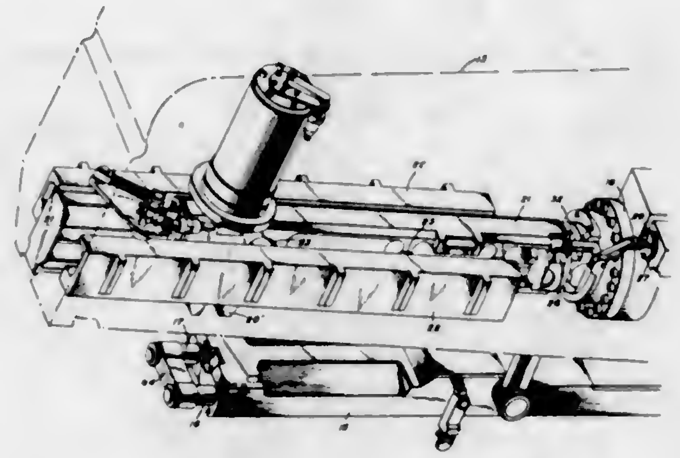
JETTISON MECHANISM FOR MISSILE LAUNCHER SYSTEM

Milton C. Neuman, Minneapolis, and Roger H. Wiethoff, Wayzata, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 14, 1968, Ser. No. 705,448

Int. Cl. F41f *3/04*

U.S. Cl. 89—1.8 **5 Claims**



A mechanism associated with the launcher guide arm of a missile launching system which is manually initiated to jettison a missile which for any reason fails to leave the launcher guide arm after a predetermined interval of time. It consists of a hydraulically operated piston, a jettison track and the hydraulic valves and electrical switches needed to engage the stalled missile and jettison it. When the operator activates the jettison system the forward latch on the guide arm unlocks, the launcher guide rail retracts, and control transmitters generate signals to train and elevate the launcher guide to the proper position for jettisoning. With the launcher guide arm aimed outboard, the operator pushes a panel button. This causes a pneumatically and hydraulically operated piston in the guide arm to propel the unwanted missile overboard.

3,448,656

TOOL SLIDES FOR LATHES

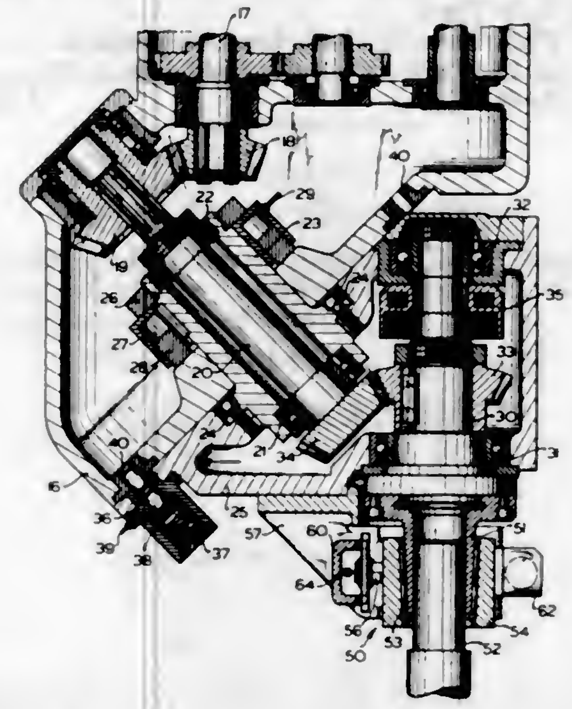
Friedrich Böttger, Erkelenz, Rhineland, and Paul Cüppers, Solingen-Wald, Germany, assignors to Maschinenfabrik Froriep G.m.b.H., Rheydt, Rhineland, Germany, a German firm

Filed May 10, 1966, Ser. No. 549,001

Claims priority, application Germany, May 12, 1965, M 65,205

Int. Cl. B23c *1/12, 3/00, 7/00*

U.S. Cl. 90—17 **2 Claims**



A machining unit for lathes and other machine tools has a slide movable upon horizontal guides and carrying vertical guides for a sliding member. This sliding member carries a driving spindle which is inclined relatively to a tool spindle carried by a casing. The casing can be rotated about the axis of the driving spindle to set the tool spindle in two perpendicular directions.

3,448,657

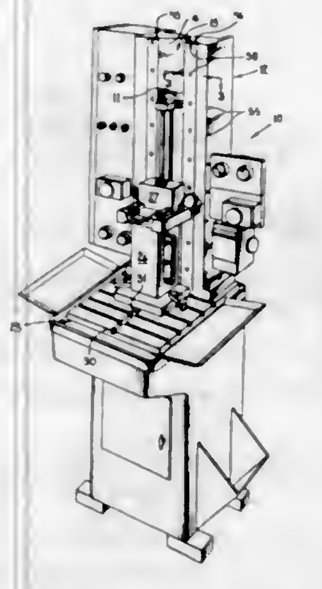
RAM

Robert R. Huser, Joseph L. Huser, and Herman A. Leonard, Indianapolis, Ind., assignors to B & H Tool and Machine Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Nov. 14, 1966, Ser. No. 594,151

Int. Cl. B23d *41/00;* **F16c** *5/00, 17/00*

U.S. Cl. 90—96 **4 Claims**



1. A broaching machine comprising a ram carrier having a substantially V-shaped indentation therein including a pair of surfaces, a ram having a cross section which is substantially square shaped with at least one corner portion of the square removed leaving at least two corners of said square shape, said two corners being on the opposite sides of said square shaped cross section, said ram cross section including a central corner portion between said two corners, said central corner portion being complementary to and slidably received in said substantially V-shaped carrier indentation, a pair of gib plates secured to said ram carrier and retaining said ram in said carrier, said gib plates each engaging a respective one of said two corners, a workpiece supporting table fixed relative to said ram carrier and being substantially transverse thereto, said table having a workholder locating slot on the surface thereof which extends away from said carrier at an equal angle to each surface of said V-shaped indentation, said ram including a longitudinally extending broaching tool slot between said two corners, said tool slot and said workholder slot being in a predetermined relation to one another and being substantially perpendicular to each other whereby they can be used in properly positioning a broaching tool and workholder, and means for adjustably moving each of said gib plates toward said two corners to take up wear between said ram and carrier and to maintain said slots in alignment.

3,448,658

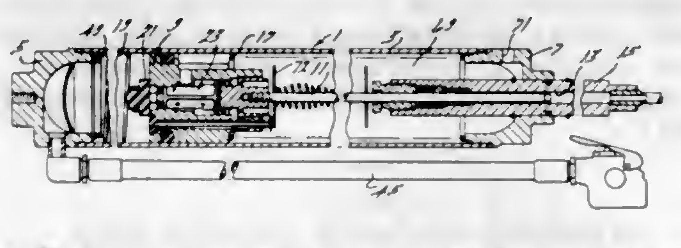
RESTRICTOR FOR HYDRAULIC PUMP

Lyle L. Arnes, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware

Filed Oct. 6, 1967, Ser. No. 673,412

Int. Cl. F15b *13/04, 15/14, 15/22*

U.S. Cl. 91—49 **3 Claims**



A fluid control valve for an automatic reversing piston assembly has the flow of fluid to one end thereof controlled by a split sleeve which serves also as a bearing for a valve rod.

3,448,659

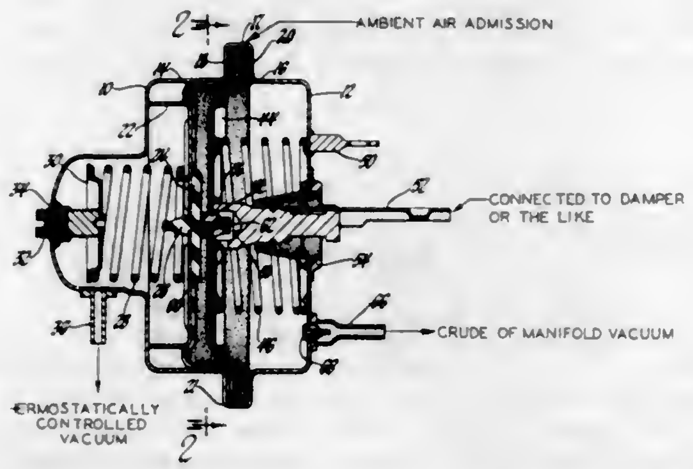
PILOTED VACUUM ACTUATOR

Paul K. Beatenbough, Medina, Ward H. Hutchins, Lockport, and John W. Orcutt, Cortland, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 16, 1967, Ser. No. 683,646

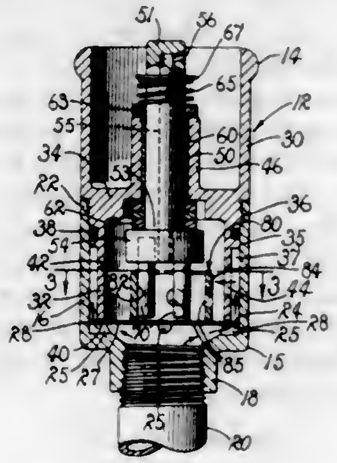
Int. Cl. F15b *9/08, 15/08*

U.S. Cl. 91—49 **5 Claims**


AMBIENT AIR ADMISSION
CONNECTED TO DAMPER OR THE LIKE
CRUDE OF MANIFOLD VACUUM
ERMOSTATICALLY CONTROLLED VACUUM
2
2

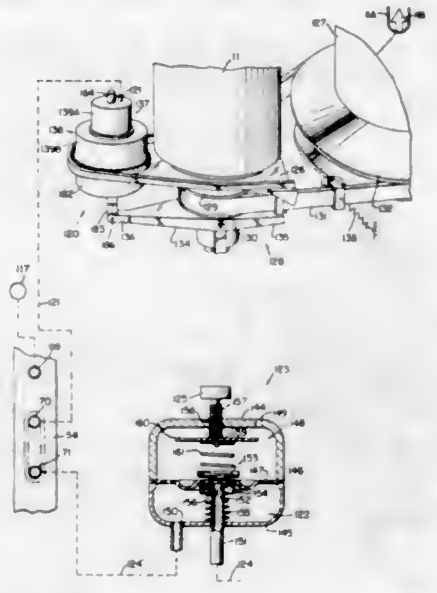
A motor for actuating a damper or the like in accordance with a degree of controlled vacuum applied to the motor, and provision being made for applying a degree of uncontrolled vacuum to the motor to overcome any frictional effects thereby to gain sensitivity of motor response.

3,448,660
FLUID MOTOR
William R. Malcolm, Fresno, Calif., assignor to Buckner Industries, Inc., a corporation of California
Filed Dec. 14, 1967, Ser. No. 690,435
Int. Cl. F01d *23/00;* **B05b** *3/04*
U.S. Cl. 91—56 **8 Claims**



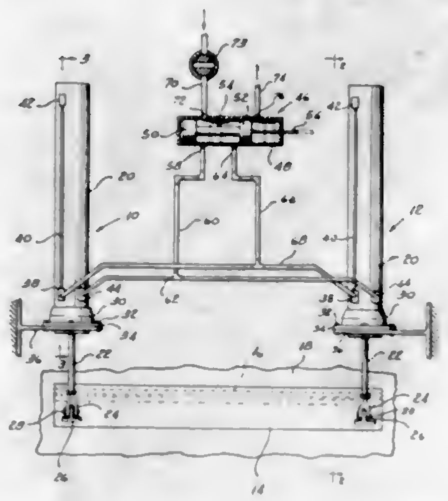
A fluid motor for driving sprinklers and the like providing a housing having means for creating a swirling flow of fluid therein, a hollow spindle rotatably mounted in the housing and having spaced force transmitting means axially extended from the spindle substantially symmetrically thereof and of the swirling flow of fluid, and a triangular drive ring disposed in driven relation within said swirling flow and in loosely circumscribing relation to said force transmitting means for successive, alternate, pivotal swinging movement and impact engagement of the ring with the force transmitting means to rotate the spindle.

3,448,661
WASHING MACHINE SYSTEM AND PARTS THEREFOR
Roland D. Beck, Burbank, and Roy W. Houser, Orange, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Sept. 9, 1965, Ser. No. 486,066, now Patent No. 3,336,766. Divided and this application June 28, 1967, Ser. No. 671,508
Int. Cl. F15b *9/03, 11/20, 13/07*
U.S. Cl. 91—357 **6 Claims**



This disclosure relates to a control means for infinitely varying the speed of spin of a washing compartment of a washing machine wherein the drive motor is interconnected to the washing compartment by a variable speed pulley arrangement, the pulley arrangement being selectively varied by a first pneumatically operated actuator that has its operating position varied in response to the degree of actuation of a second pneumatically operated actuator.

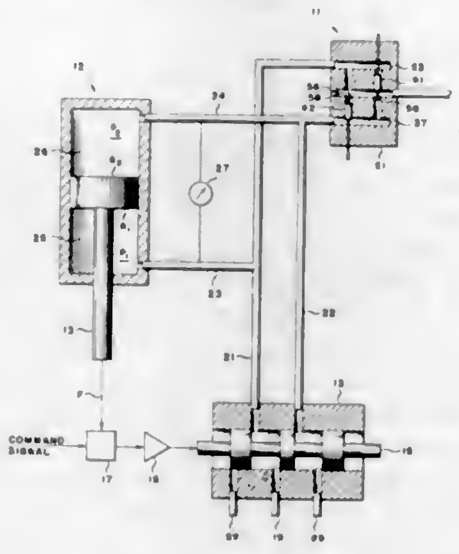
3,448,662
FAIL-SAFE PISTON AND CYLINDER ARRANGEMENT
Ernest E. Mueller, Kew Gardens, N.Y., assignor to Ozone Metal Products Corp., Ozone Park, N.Y., a corporation of New York
Filed Dec. 9, 1966, Ser. No. 600,636
Int. Cl. F15b *15/17, 11/08;* **F16b** *13/04*
U.S. Cl. 91—415 **9 Claims**



A hydraulic piston and cylinder assembly provided with a one-way poppet valve in the inlet to the rod side of the assembly to ensure that the assembly fails safe in the event of a loss of pressure. The assembly may include a slave piston which, when the main piston is moved mechanically following a failure, remains in that position at which the main piston was located before failure.

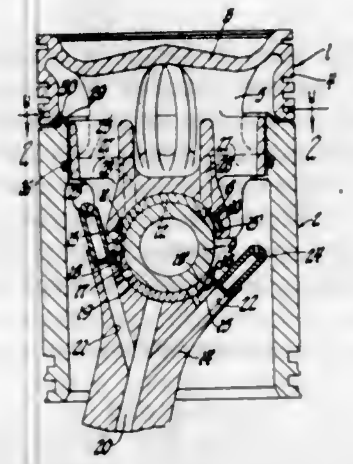
ERRATUM
For Class 91—436 see:
Patent No. 3,448,685

3,448,663
DIFFERENTIAL RELIEF VALVE
Thomas E. Adams, Marietta, and Raymond F. Woolf, Smyrna, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 24, 1967, Ser. No. 625,853
Int. Cl. F15b *11/08, 13/04*
U.S. Cl. 91—451 **12 Claims**



A mechanical relief valve to mechanically limit the maximum allowable differential pressure that can exist between two pressure output lines of a hydraulic actuator and including a pair of normally closed spring-biased poppet type relief valves connected in the hydraulic circuit so that pressure applied to one side of the actuator is also applied to the forward side of one poppet valve and the reverse side of the other poppet valve while pressure applied to the other side of the actuator is applied to the forward side of the other poppet valve and the reverse side of the first poppet valve thereby producing a pressure balance on each poppet valve for giving a relative zero reference pressure balance for the entire system. The spring-biased poppet valves are set to produce a maximum allowable pressure differential between the two pressure output lines.

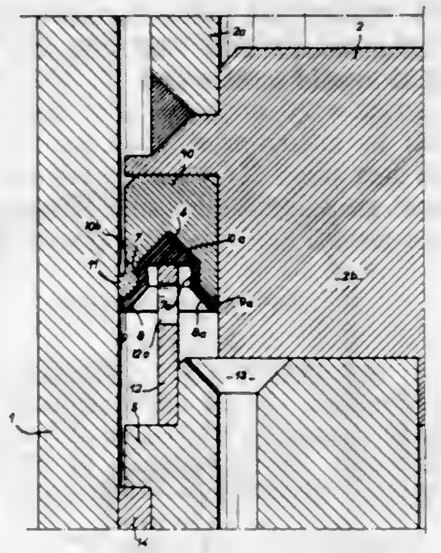
3,448,664
FLOATING CROWN PISTON
Kenneth L. Hulsing, Plymouth, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 677,970
Int. Cl. F01b *31/10;* **F16j** *1/14*
U.S. Cl. 92—157 **7 Claims**



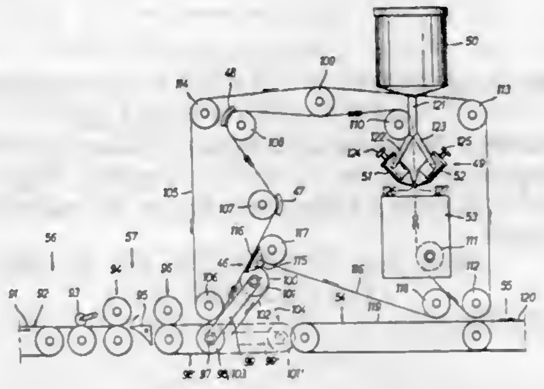
A piston, connecting rod and wrist pin assembly in which the piston has its crown and ring belt separate from the piston skirt, the two parts of the piston and the connecting rod being retained in assembly by part-cylindrical wrist pin bearings seated in undercut arcuate recesses provided in the bifurcated upper end of the rod and lower end of a section depending from the piston crown, the bearings being journaled adjacent their ends in aligned bores provided in the skirt side walls. A modification shows a wick-type wiper ring carried by the piston between the adjacent ends of its ring belt section and skirt side walls.

3,448,665
SLIDING SEAL ARRANGEMENTS
Fernand Stanislas Allinquant, 53 Ave. le Nôtre, Hauts-de-Seine, Sceaux, France
Filed Dec. 19, 1966, Ser. No. 602,919
Claims priority, application France, Dec. 22, 1965, 43,418
Int. Cl. F01b *31/00;* **F16j** *9/12, 9/20*
U.S. Cl. 92—181 **6 Claims**

Sealing arrangement for a pressure chamber having a wall in sliding engagement with a cylindrical surface, comprising a seal member having a seal body and an annular lip comprising a portion which extends axially to provide flexibility and a portion flaring laterally and forming a bead at its rim for engagement with the cylindrical surface, and a seal retaining portion of the wall, forming a flange between the lip and the cylindrical surface for abutting the bead axially.



3,448,666
CROSS-BOTTOM SACK AND APPARATUS FOR MANUFACTURING SAME
Hermann Kappelhoff, Hamburg, and Max Georg Gunnerich, Walter Paul, and Walter Steinbeck, Lengerich, and Willy Niemeyer, Natrup-Hagen, Germany, assignors to Windmoller & Holscher, Lengerich, Germany
Original application Apr. 2, 1964, Ser. No. 356,882, now Patent No. 3,313,217, dated Apr. 11, 1967. Divided and this application Oct. 10, 1966, Ser. No. 604,495
Claims priority, application Germany, Apr. 11, 1963, W 34,295
Int. Cl. B31d *1/02;* **B05c** *3/02;* **B05b** *5/00*
U.S. Cl. 93—8 **23 Claims**



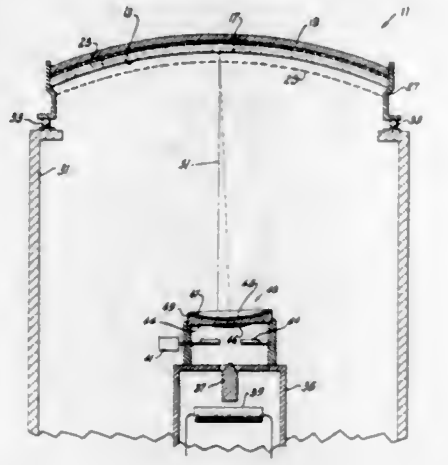
1. In an apparatus for manufacturing sacks from tube lengths and including a bottom making machine, the improvement comprising means to apply adhesive to said tube lengths, and means to dry the applied adhesive, both of said means preceding said bottom making machine in the direction of travel of the tube lengths.

3,448,667
LIGHT ATTENUATION MEANS
Harry E. Smithgall, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 18, 1963, Ser. No. 317,352
Int. Cl. H01j *29/89, 1/62;* **G03c** *7/00*
U.S. Cl. 95—1 **7 Claims**

1. An optical system for discretely exposing the foraminously masked light sensitive screen of a color cathode ray tube comprising:

a shuttered point light source directionally oriented relative to said masked screen to provide illumination thereto;

a light permeable refractive medium having related planoconcave surfaces predeterminately disposed intermediate said shuttered light source and said masked screen, said plano surface being proximal to said light source and said concave surface being proximal to said screen; and



a light permeable planar medium having related first and second planar surfaces, predeterminately disposed intermediate said light permeable refractive medium and said screen, said first planar surface being proximal to said refractive medium and having a variable density light attenuation coating disposed thereon in the areas subjected to greater irradiation intensity from said light source, the dispersion of said coating forming a negative image of said irradiation pattern to provide a predetermined transmission of processing illumination for the whole of said screen, said second planar surface being proximal to said screen and having a layer of antireflective coating uniformly disposed thereon.

3,448,668

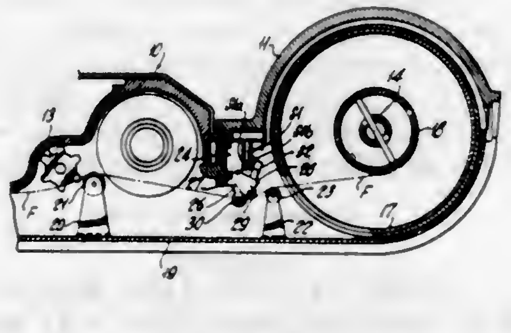
MOTOR DRIVEN CAMERA WITH SWITCH ACTUATING ROLLER

Katsuhiko Nomura and Sachio Umemura, Tokyo-to, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

Filed Apr. 12, 1966, Ser. No. 541,987

Int. Cl. G03b *19/04*

U.S. Cl. 95—31 7 Claims



A camera motor driven film advance includes a film tensioning roller mounted in a spring biased pivoted bracket and extending across and urged against the film as it approaches the take-up reel. The pivoted bracket actuates a switch in series with the take-up motor to close the switch under the influence of the film against the guide roller and to release the bracket to open the switch upon the relief of the film tension at the tail of the film. Switching means are provided for actuating the motor for a film increment advance.

3,448,669

AUTOMATIC FILM WINDING ARRANGEMENT OF PHOTOGRAPHIC CAMERA

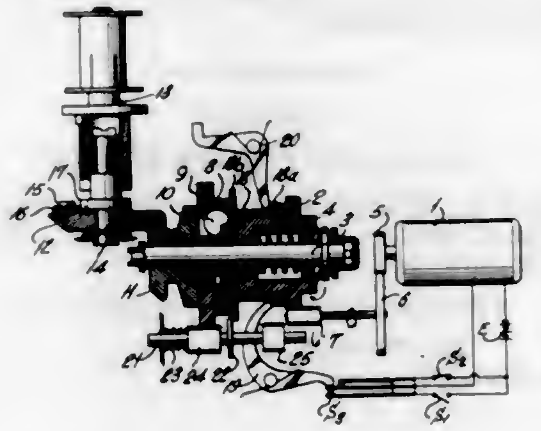
Minoru Suzuki, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan

Filed Aug. 3, 1966, Ser. No. 570,067

Claims priority, application Japan, Aug. 27, 1965, 40/51,974

Int. Cl. G03b *19/04*

U.S. Cl. 95—31 7 Claims



A camera film take-up includes a take-up spool connected through tandem coupled overrunning clutch and slipping clutch to an electric motor controlled by a switch. Upon advance of a film frame the clutch slips to close the switch and actuate a transmission connecting the overrunning clutch to the motor in a reverse drive direction to relieve the film tension. Upon return of the slipping clutch to its drive condition the motor control switch is opened.

3,448,670

AUTOMATIC CAMERA SHUTTER RELEASE AND FILM ADVANCING MECHANISM

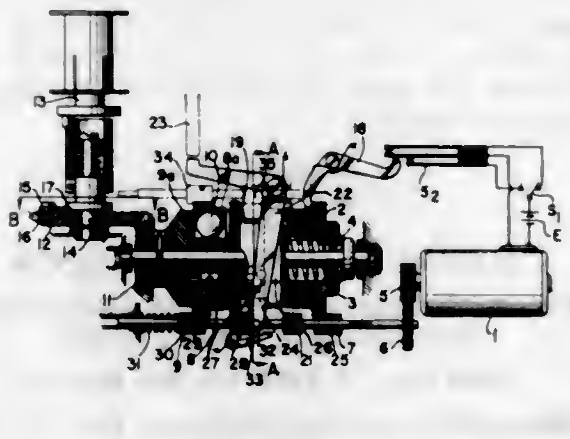
Minoru Suzuki, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

Filed Feb. 13, 1967, Ser. No. 615,530

Claims priority, application Japan, Feb. 19, 1966, 41/9,931

Int. Cl. G03b *19/04*

U.S. Cl. 95—31 9 Claims



An electrically operated camera which advances the film and cocks and fires the shutter for each of a series of photographs upon being actuated by the operator. The shutter release mechanism is actuated by the axial movement of the film drive. This axial movement is caused by a ball registered between the plates of a clutch. The ball causes the plates to separate when the clutch begins to slip.

3,448,671

APPARATUS FOR RELEASING A PHOTOGRAPHIC CAMERA AND FOR DETERMINING THE EXPOSURE PERIOD

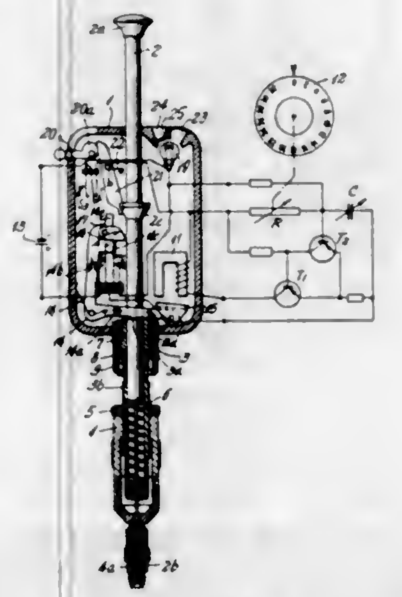
Waldemar T. Rentschler and Franz W. R. Starp, Calmbach, Black Forest, Germany, assignors to Prontor-Werk Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany

Filed Jan. 14, 1966, Ser. No. 520,597

Claims priority, application Germany, Jan. 19, 1965, G 42,593

Int. Cl. G03b *9/58*

U.S. Cl. 95—53 12 Claims



An apparatus for releasing a photographic camera by means of a release push rod acting on the shutter. The apparatus is provided with a manually settable device for obtaining comparatively long exposure times of different duration. An electronic timing circuit is provided as is an electromagnet connected to the timing circuit. An actuating device cooperates with the release push rod and the electromagnet. A power supply activates the electronic circuit and is connected to the circuit upon actuation of the release push rod. In addition, a locking device is provided which is acted upon by the actuating device after the exposure time set into the apparatus has expired. The locking device maintains the push rod in the release position and enables the push rod to return to the starting position.

3,448,672

MECHANICAL ARRANGEMENT FOR ELECTRONICALLY CONTROLLED PHOTOGRAPHIC SHUTTER

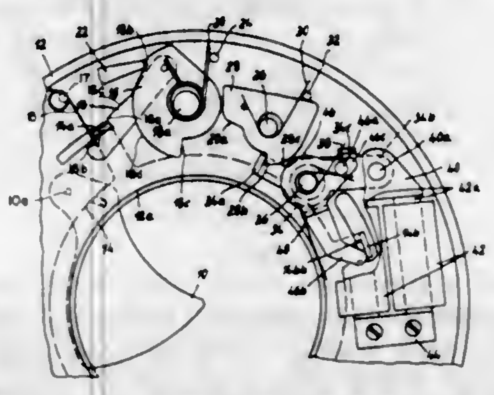
Franz Singer, Munich, Germany, assignor to Compur-Werk Gesellschaft mit beschrankter Haftung & Co.

Filed Mar. 9, 1967, Ser. No. 621,834

Claims priority, application Germany, Mar. 11, 1966, C 38,465

Int. Cl. G03b *9/22*

U.S. Cl. 95—63 4 Claims



An electronically controlled photographic shutter in which the flow of current to an electromagnet determines the exposure time. A lever system between the armature of the electromagnet and the shutter blade driving ring for holding the shutter open and then allowing it to close after the predetermined time. The system includes a blade driving ring driven by a blade driving member which in turn engages a primary member for holding the shutter open; a delay lever and a preloading lever between the primary member and the armature of the electromagnet. The preloading lever is acted upon by a spring to cause closing of the shutter upon termination of the electromagnetic force, the preloading lever being restrained from acting on the armature and the spring being loaded when the brake driving ring is moved to the shutter closed position.

3,448,673

PHOTOGRAPHIC CAMERA

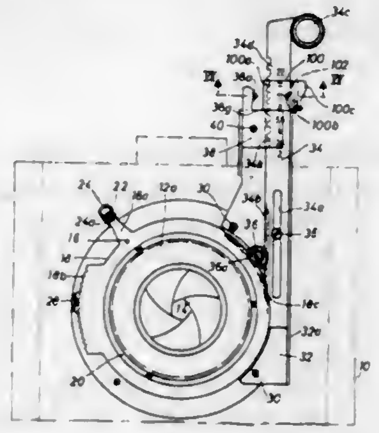
Franz Singer, Munich, Paul K. G. Fahlenberg, Baierbrunn, near Munich, and Peter Lermann, Munich, Germany, assignors to Compur-Werk Gesellschaft mit beschrankter Haftung & Co., Munich, Germany, a firm of Germany

Filed Nov. 9, 1965, Ser. No. 506,974

Claims priority, application Germany, Feb. 23, 1965, C 12,752; Aug. 11, 1965, C 36,622

Int. Cl. G03b *9/06*

U.S. Cl. 95—64 4 Claims



A photographic camera including a diaphragm setting ring for setting different diaphragm apertures, a diaphragm scale extending peripherally from the photographic housing, a setting slide with an index projecting beyond the periphery of the camera with a driving connection between the diaphragm setting ring and the setting slide so that the different values of diaphragm aperture can be read from the rear side of the camera.

3,448,674

AIR DISTRIBUTOR BOXES FOR AIR-CONDITIONING SYSTEMS OF VEHICLES

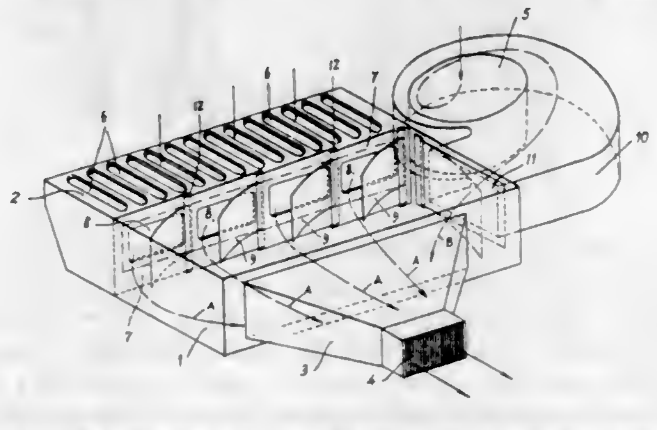
Pierre Bouthors and Andre Colinet, Billancourt, France, assignors to Regie National des Usines Renault and Societe Industrielle et Commercial des Automobiles Peugeot, Billancourt and Paris, France

Filed Oct. 4, 1967, Ser. No. 672,918

Claims priority, application France, Oct. 25, 1966, 81,443; Dec. 9, 1966, 86,911

Int. Cl. F24f *7/00, 13/02, 13/06*

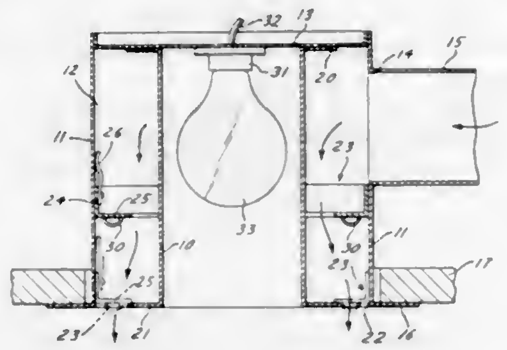
U.S. Cl. 98—2 2 Claims



An air distributor box for automotive air conditioning systems and having a central chamber, a fan for force feeding air to the chamber when the vehicle is stopped or operating at low speeds and an air inlet chamber to receive dynamic air at intermediate and high vehicle speeds and pass it to the chamber. Normally closed flexible valve members between the chamber and both the fan and the air inlet permit the proper supply of air to the chamber.

3,448,675
AIR DIFFUSER

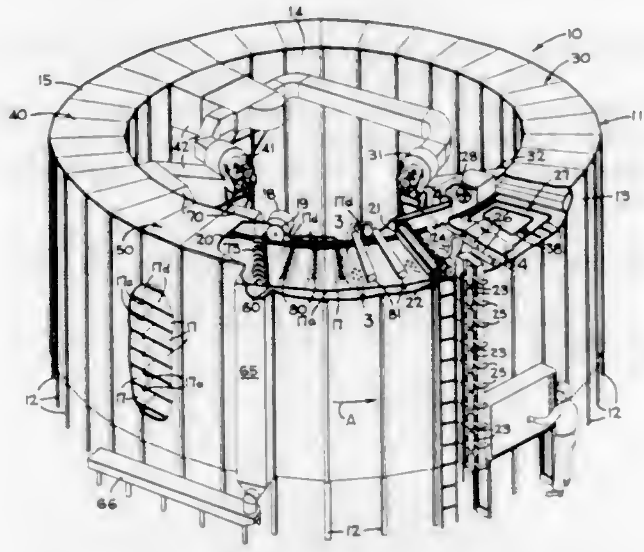
Charles Davies, 265 Coligni Ave.,
New Rochelle, N.Y. 10801
Filed Feb. 23, 1968, Ser. No. 707,806
Int. Cl. F24f *7/02*
U.S. Cl. 98—40 8 Claims



Two concentric cylindrical walls define an annular air flow passage between them. An electric light housed within inner wall. Air inlet opening near upper ends of walls. Flange projects radially outwardly from lower end of inner wall, defining annular air outlet opening between flange edge and outer wall. Annular baffle projects radially inwardly from outer wall and is slidable vertically along outer wall, and may be positioned to alternatively block air, or cause horizontal or vertical flow of air from outlet.

3,448,676
FOAM MAT DRYER

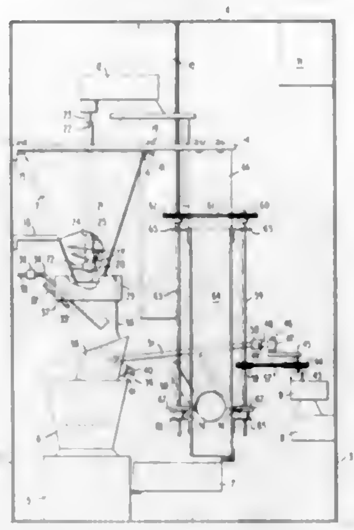
William R. Scalf, Richmond, Ind., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 24, 1967, Ser. No. 643,797
Int. Cl. A23b; F26b *19/00*
U.S. Cl. 99—246 8 Claims



A dryer for foam mat material drying having an enclosed housing for a plurality of circular coaxially arranged dryer conveyors, wherein each of the conveyors is perforated and powered to rotate through drying and cooling sections of the housing, and wherein dry foam material is continuously removed from all the plurality of conveyors.

3,448,677
AUTOMATIC MACHINE FOR SELLING FRIED FOODS

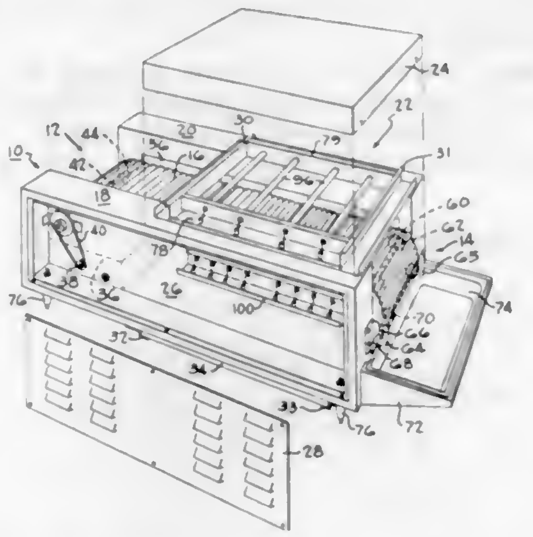
Johan Wilhelm Dexters, Overpelt, Belgium, assignor to Dex-O-Mat, Brussels, Belgium, a Belgian body corporate
Filed Mar. 7, 1967, Ser. No. 621,182
Claims priority, application Belgium, Mar. 9, 1966, 677,557; Mar. 1, 1967, 40,431
Int. Cl. G01g *13/02;* **A47j** *27/00, 37/12*
U.S. Cl. 99—336 9 Claims



An automatic machine for selling fried foods is coin operated. Upon insertion of the correct coinage, a screw turns to discharge food to be fried from a storage hopper onto a tray. The tray is balanced to tilt when it receives the proper weight of food, and tilting of the tray stops the feeding from the hopper. When the tray tilts, it discharges food into a basket immersed in hot cooking oil, and also starts a timer running. When the time has run, a motor starts that dispenses a container for the food and then tilts the basket to discharge the fried food into the container.

3,448,678
RADIANT-HEAT CONVEYOR COOKER

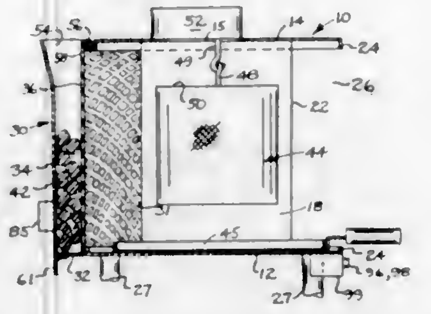
Norman Burstein, Cherry Hill, N.J., assignor of one-third to Bernard Mennies, and one-third to Bernard Kanoff, Philadelphia, Pa.
Filed Aug. 7, 1967, Ser. No. 658,741
Int. Cl. F27b *9/06;* **F27d** *11/02;* **A47j** *37/04*
U.S. Cl. 99—386 7 Claims



A radiant-heat cooker employs a housing with a tunnel enclosure portion through which an open-work conveyor passes and in which radiant heaters are mounted above and below the conveyor. The heaters supply ultraviolet and infrared radiation for complete cooking during a single passage. The conveyor is formed of linked bars with one bar having a removable open link.

3,448,679
FOOD COOKING APPARATUS

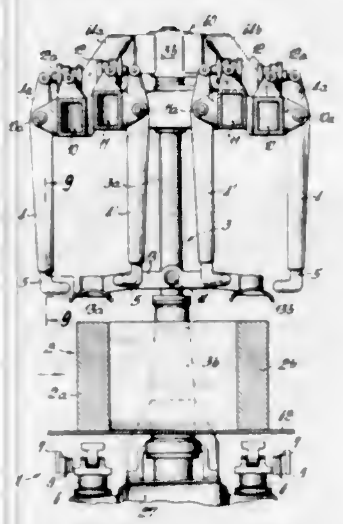
Thomas Carl Holka, 7581 Dobel, Detroit, Mich. 48234, and Charles J. Haddad, 23320 W. Outer Drive, Allen Park, Mich. 49227
Filed July 1, 1966, Ser. No. 562,264
Int. Cl. A47j *37/07*
U.S. Cl. 99—443 1 Claim



A barbecue apparatus comprising a food support suspended from an overhead thrust bearing for rotation about a vertical axis, said bearing being driven by an electric motor through a clutch element which is supported independently of the bearing.

3,448,680
AUTOMATIC TYING DEVICE

Hans Weber, Duisburg-Buchholz, Germany, assignor to Demag Aktiengesellschaft, Duisburg, Germany
Filed June 3, 1966, Ser. No. 555,066
Claims priority, application Germany, June 5, 1965, D 47,454
Int. Cl. B65b *13/04*
U.S. Cl. 100—10 16 Claims

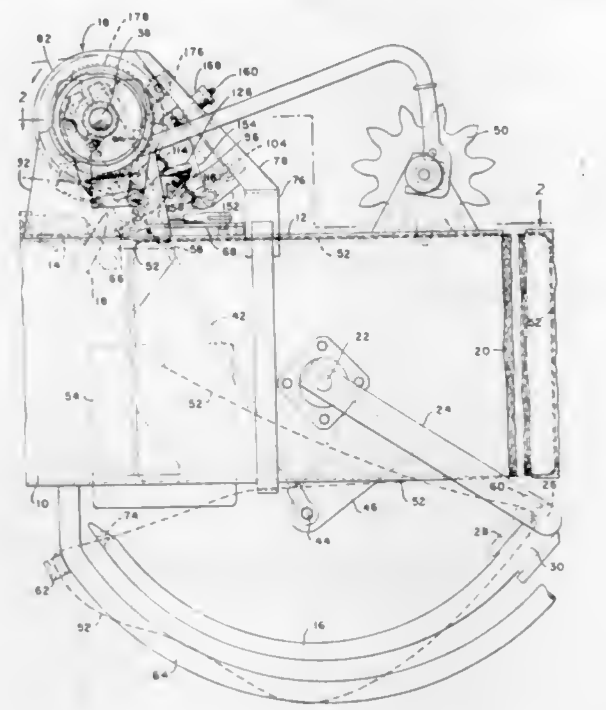


A device for tying a coiled wire stack includes a movable frame with means on the frame for compressing and holding the stack and for causing two sets of gripper arms to be directed to engage a tying wire to move it upwardly from the outside of the stack on at least two diametrically opposite locations to effect transfer from one set of gripper arms to corresponding opposite ones on the inside of the stack and to further effect downward movement of the tying wire to completely encompass the stack. Means are associated with the frame for feeding the tying wire upwardly into association with the gripper arms and for twisting and cutting the wire after it has been moved around the stack.

3,448,681
GEAR HOUSING FOR TIER ASSEMBLY OF BALER

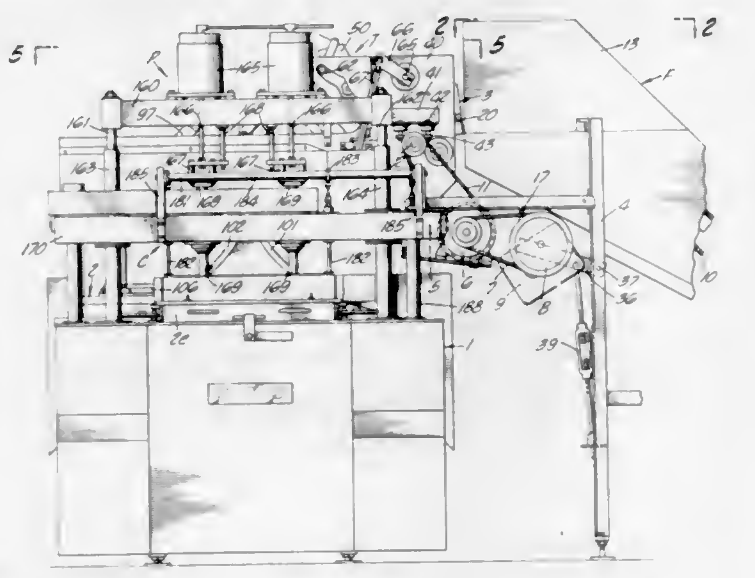
Edwin B. Nolt, New Holland, and Richard R. Eby, Ephrata, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,096
Int. Cl. B65b *13/08, 13/28, 57/10*
U.S. Cl. 100—22 10 Claims

A tier assembly for a baler of the type forming loops of twine, wire or like strands to tie bales and comprising the combination of a housing having a cavity extending inward from an opening in one side thereof, means supporting the housing upon a bale case, a bearing within said housing supporting a rotatable drive shaft, twine knotter and clamping units at least one of which has a driven shaft extending into said housing cavity, driven gear means within said cavity connected to said driven shaft, a closure member complementary to said opening in said housing and connected to said drive shaft for rotation of the closure member in slidable sealing engagement with the periphery of said opening in said housing, and driving gear means on the inner surface of said closure member engaging said driven gear means to actuate said driven shaft when said drive shaft rotates said closure member, whereby said coengaging gear means are enclosed within said cavity against access to the atmosphere.



3,448,682
CITRUS FRUIT JUICING MACHINERY

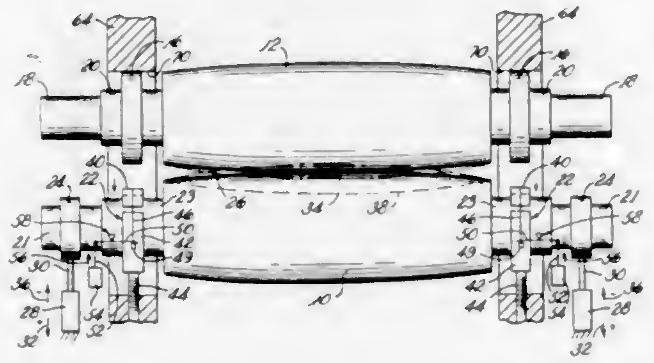
Donn J. Rickard, Glendora, Franklin K. Holbrook, Whittier, Ronald C. Bushman, Claremont, Warren O. Preston, Fullerton, and Thomas H. Gill, Alhambra, Calif., assignors to Brown International Corporation, Covina, Calif., a corporation of California
Filed Mar. 13, 1967, Ser. No. 622,702
Int. Cl. B67b *3/26;* **B30b** *15/08, 9/06*
U.S. Cl. 100—53 46 Claims



An apparatus for expressing juice from citrus fruit by cyclically operating an individual fruit feed conveyor, a transfer device which moves fruit to a cutting mechanism of the type in which the whole fruit is pushed downwardly over a knife and the fruit halves delivered to a platform, a positioning mechanism which grips each fruit between fingers and indexes the fingers to move the halves onto grids, and a pressure applying mechanism of the rotary pressure head type, the apparatus being driven by cams on a pair of main shafts and by a related indexing shaft.

3,448,683
CALENDER WITH REMOVABLE BEARING PRESSURE MECHANISM

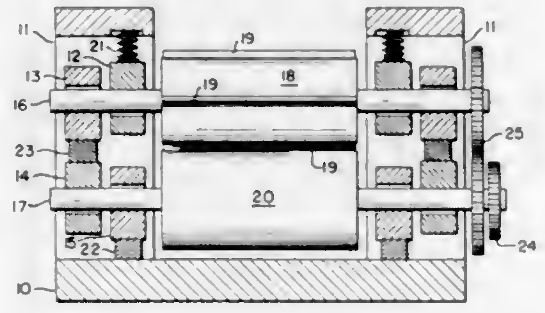
Rex C. Seanor and Charles G. Lake, Akron, Ohio, assignors to Adamson United Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 16, 1966, Ser. No. 602,198
Int. Cl. B30b *3/04*
U.S. Cl. 100—170 **9 Claims**



This invention relates to calenders including a finishing roll and a cooperating roll and bearing boxes journalling the ends of the finishing roll in the frame means, other means operate on the bearing boxes to adjustably position the finishing roll with relation to the cooperating roll, and means are present for moving the means operating on the bearing boxes out of operative engagement therewith and to a retracted position to allow axial movement of the finishing roll out of the frame means.

3,448,684
ROTARY CUTTING DEVICE

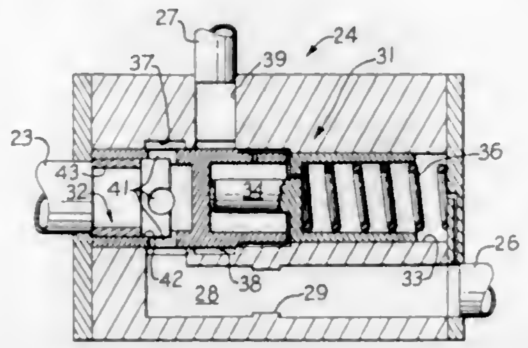
Guy Cardinet and Edmond Lucien Jean Faudemay, Annecy, France, assignors to Gillette France, S.A., Annecy, France, a corporation of France
Filed Mar. 17, 1967, Ser. No. 623,934
Claims priority, application France, Mar. 31, 1966, 55,939
Int. Cl. B30b *3/04;* **B23d** *25/12;* **F16c** *35/00*
U.S. Cl. 100—171 **8 Claims**



Cutting or creasing device employing cooperating rolls journaled in boxes that are yieldingly urged together but separated by wedge means positively determining the operative relation of the rolls.

3,448,685
QUICK DROP VALVE FOR BULLDOZER BLADE HYDRAULIC CONTROLS

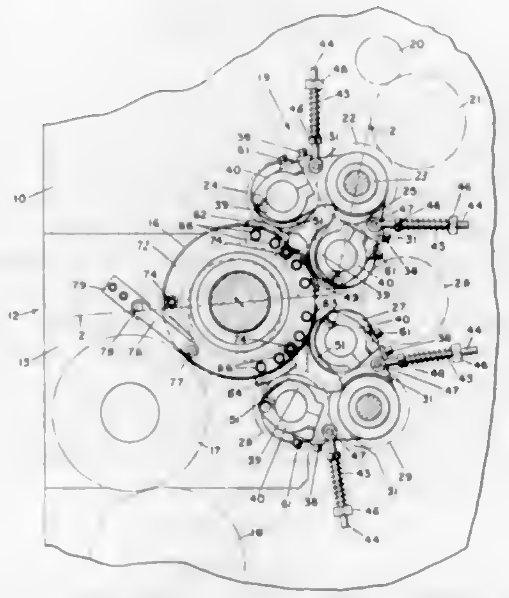
Neil W. Kroth, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Aug. 1, 1967, Ser. No. 657,669
Int. Cl. F15b *11/10, 13/042;* **G05d** *11/02*
U.S. Cl. 91—436 **4 Claims**



A value associated with a double-acting hydraulic jack controlling elevation of a bulldozer blade and permitting rapid extension of the jack and corresponding rapid descent of the blade to ground level while maintaining adequate hydraulic fluid for driving the blade in further descent to a suitable cutting position. The value has a restricted flow path from the rod end of the jack to drain so that increased fluid pressure acts against a spring loaded spool which communicates the rod end of the jack with the head end of the jack. As the weight of the blade increases its rate of descent toward ground level, a corresponding increased rate of flow of fluid from the rod end of the jack moves a sleeve into closing relation with the fluid flow path through the valve to drain. Thus, a substantial portion of fluid from the rod end of the jack is provided to the head end of the jack.

3,448,686
FORM ROLLER SETTING AND CONTROL MEANS

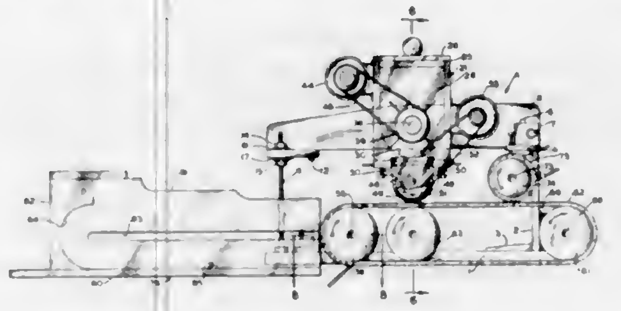
Carl E. Bohman, Chicago, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 598,983
Int. Cl. B41f *31/00;* **B41l** *23/00, 25/00*
U.S. Cl. 101—349 **8 Claims**



The invention is directed to the use of a spiral shaped disc and a relatively fixed coacting stop for controlling the pressure between a resiliently biased form roller and a plate cylinder. The disc is mounted coaxially with the form roller and is formed on a radius which is a linear function of the angular displacement of the contact point thereof with the coacting stop which characteristic permits predetermining the position of the stop for any size, interchangeable plate cylinder of a variable cutoff web, press.

3,448,687
INK DELIVERY METHOD FOR ELECTROSTATIC PRINTING

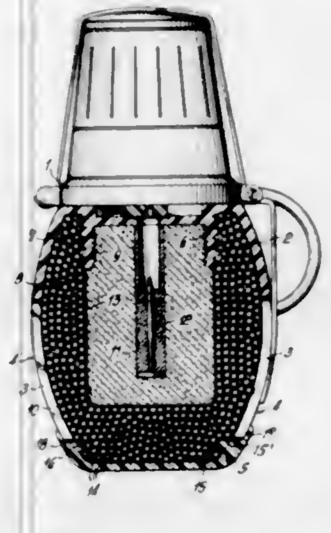
Evan W. Pittenger, St. Louis, and James W. Edwards, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application May 6, 1965, Ser. No. 453,706, now Patent No. 3,339,483, dated Sept. 5, 1967. Divided and this application June 26, 1967, Ser. No. 669,993
Int. Cl. B41j *1/46;* **B41m** *1/12, 1/00*
U.S. Cl. 101—426 **7 Claims**



An ink delivery mechanism for electrostatic printing systems which employs a shiftable screen in a moving substrate. The ink feeding mechanism comprises an ink-containing housing having an agitator disposed therein and a discharge slot on its underside. A pile fabric roller is disposed beneath the discharge slot and the pile of the fabric engages ink particles and transfers the same to a moving belt. The belt is, in turn, trained around a pair of rollers and delivers the ink to the screen at a line of tangential closest approach.

3,448,688
HAND GRENADE WITH INTERCHANGEABLE FRAGMENTATION CARRIER BODY

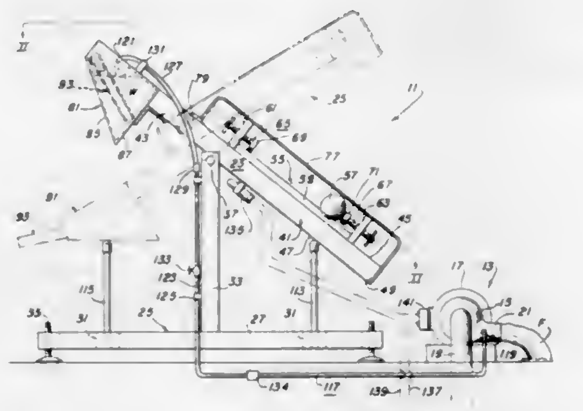
Paul Sindermann, Nuremberg, Germany, assignor to Diehl, Nuremberg, Germany
Filed Feb. 15, 1968, Ser. No. 705,739
Claims priority, application Germany, Feb. 17, 1967, D 52,308
Int. Cl. F42b *27/08*
U.S. Cl. 102—65.4 **4 Claims**



A hand grenade for defense and attack, which includes a hand grenade body equipped with a fuse and having a hollow body of preferably barrel-shaped contour with an opening at one end thereof while a carrier body containing a charge of splinters, pellets, or the like or a gaseous charge, and which preferably has a barrel-shaped contour is detachably inserted into said hollow body through said opening, at least a portion of said hollow body including the portion defining said opening being of elastic material, preferably synthetic resin, and being divided into stave-like strips extending in the horizontal direction of said hollow body and being resiliently yieldable to permit the insertion of said carrier body into and its withdrawal from said hollow body through said opening.

3,448,689
IRRIGATION PUMP CONTROL APPARATUS

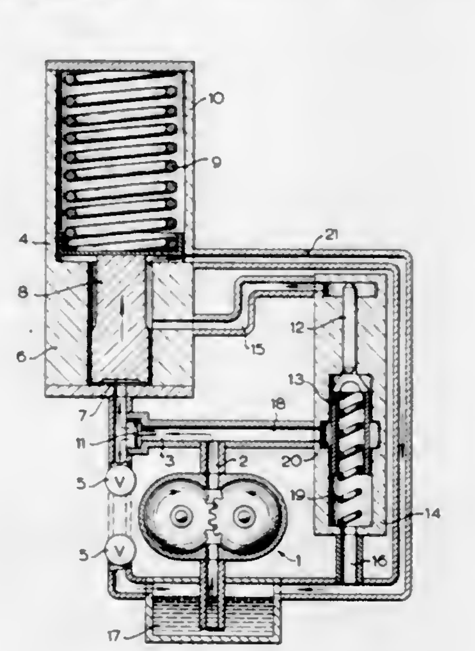
Clarence A. Caldwell, 2190 Theda Ave., Memphis, Tenn. 38127
Filed May 29, 1967, Ser. No. 642,124
Int. Cl. F04d *15/00*
U.S. Cl. 103—25 **5 Claims**



Irrigation pump control apparatus responsive to weather changes and night and day weather conditions. The apparatus includes a long beam pivotally supported see-saw like, a shiftable weight on one end of the beam, a tank on the other end of the beam, a line for bleeding a small amount of water from the pressure or the discharge side of the pump and feeding it into the tank, and a track-mounted sponge shiftable into and out of the interior of the tank.

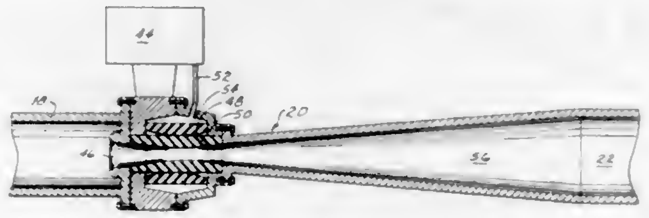
3,448,690
HYDRAULIC OR PNEUMATIC PRESSURE CONTROL SYSTEMS

Sven Alfred Johansson, Finjagaton 29B, Hassleholm, Sweden
Filed Sept. 19, 1967, Ser. No. 683,043
Int. Cl. F04b *49/08, 11/00*
U.S. Cl. 103—41 **9 Claims**



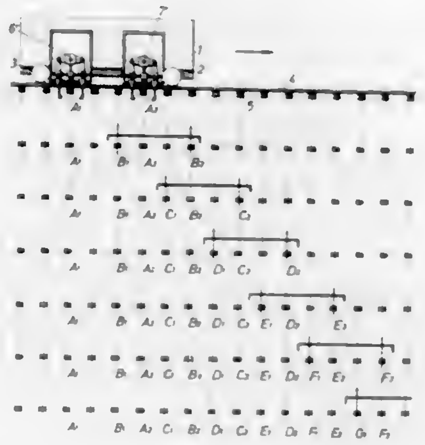
An hydraulic or pneumatic pressure control system comprising a shut-off valve having a slide housing connected to the pressure and suction sides of a pump, an accumulator for accumulating pump pressure energy which includes a chamber and a piston movably disposed therein, a piston for moving the slide and a conduit between the accumulator chamber and a chamber at the head of the piston which moves the slide.

3,448,691
ENERGY CONTROLLER
David M. Frazier, 208 Shorecrest,
Tampa, Fla. 33609
Filed July 3, 1967, Ser. No. 651,030
Int. Cl. F04f *5/48;* **F04b** *23/04, 9/10*
U.S. Cl. 103—271 **8 Claims**



Method and means for controlling the liquid energy supply to slurry pumping jet pumps whereby pressure, velocity and slurry density sensing devices actuate a variable orifice which is in series with the jet liquid supply pump, to effectively control pipeline velocity and pressure.

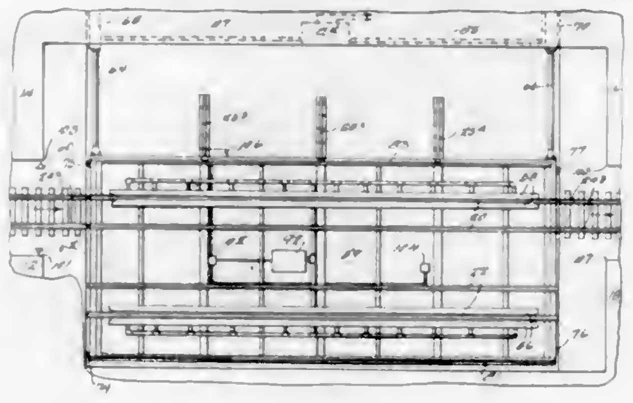
3,448,692
TRACK TAMPING METHOD
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna, Austria
Continuation of application Ser. No. 536,380, Mar. 22, 1966, which is a continuation-in-part of applications Ser. No. 495,123, Oct. 12, 1966, and Ser. No. 497,288, Oct. 18, 1965. This application Oct. 23, 1967, Ser. No. 678,158
Claims priority, application Austria, Nov. 30, 1964, A 10,076/64, A 10,077/64; Jan. 27, 1965, A 718/65
Int. Cl. E01b *27/16*
U.S. Cl. 104—12 **5 Claims**



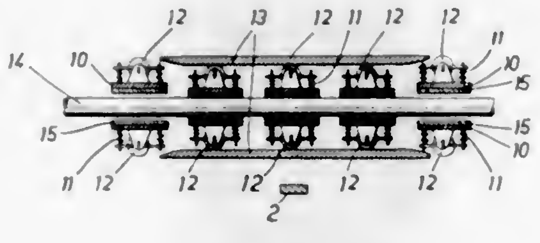
A track is tamped in a regular succession of repeating tamping operations as the track tamper advances along the track. A group of at least two ties is tamped in each of the operations, each of which is identical with the preceding one.

3,448,693
METHOD AND APPARATUS FOR LOADING OR UNLOADING VEHICLE CARRYING RAILWAY CARS
Joseph E. Graham, 1900 Lismore Lane,
Baltimore, Md. 21228
Original application Aug. 8, 1966, Ser. No. 571,101, now Patent No. 3,442,223, dated May 6, 1969. Divided and this application Apr. 25, 1968, Ser. No. 736,923
Int. Cl. B61j *1/10;* **B60s** *13/02;* **B65h** *4/00*
U.S. Cl. 104—48 **11 Claims**

A system and method for loading and unloading vehicles which move along a predetermined pathway. A transfer table, having a pair of parallel tracks thereon, is moveable between a first position and a second position. The transfer table, when in the first position, is effective to align one of said parallel pairs of tracks with the predetermined pathway and the other of the parallel pair of tracks with a loading and unloading platform located to one side of the predetermined pathway. The transfer table, when moved to its second position, is effective to locate the one pair of parallel tracks in registry with a second loading and unloading platform located to the other side of the predetermined pathway while the other of the pairs of tracks is in alignment with the predetermined pathway. A railroad car may be located on one of the pairs of parallel tracks and then moved to one of the loading and unloading platforms while, simultaneously a second car may be positioned on the other of said tracks which is in alignment with a predetermined pathway. The transfer table is then operated to its other position wherein the second car may now be loaded or unloaded and the first car may be removed from the transfer table while a third car is located thereon and the operation may then be repeated.

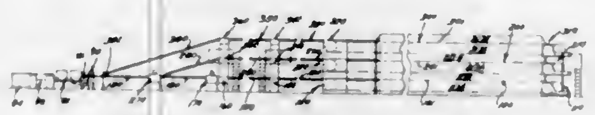


3,448,694
CABLE GRIPPING DRIVE FOR SUSPENDED CABLE CARS
Ernst Seyfried, Linz, Austria, assignor to Vereinigte Osterreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria
Filed Jan. 18, 1966, Ser. No. 521,376
Claims priority, application Austria, May 31, 1965, A 4,909/65
Int. Cl. B61c *11/02, 13/04;* **B61b** *3/02*
U.S. Cl. 105—30 **6 Claims**



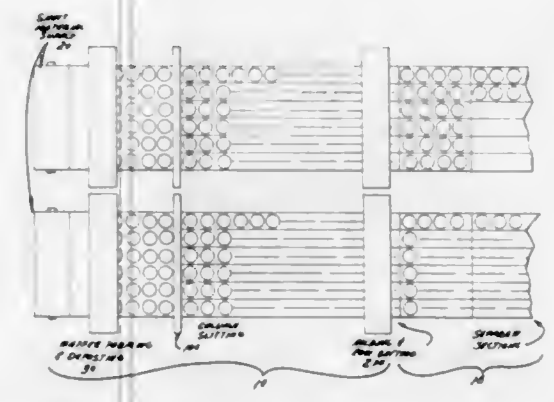
In a tractor unit for a self-propelled cable car, the endless, driven chain track is pressed into frictional engagement with the carrying cable by pairs of clamping plates mounted on the chain links and extending on opposite sides of the cable in the track course adjacent the cable. For this purpose, gliding rollers are resiliently mounted on the clamping plates and a rail is mounted on the unit parallel to the cable and adjacent the course for engagement with the gliding rollers and for pressing the same into frictional engagement with the cable.

3,448,695
CAKE MAKING SYSTEM
Charles R. Werner, Grand Rapids, Mich., assignor to Werner Machinery Co., Grand Rapids, Mich.
Filed May 4, 1966, Ser. No. 547,550
Int. Cl. A23g *3/02*
U.S. Cl. 107—1 **5 Claims**



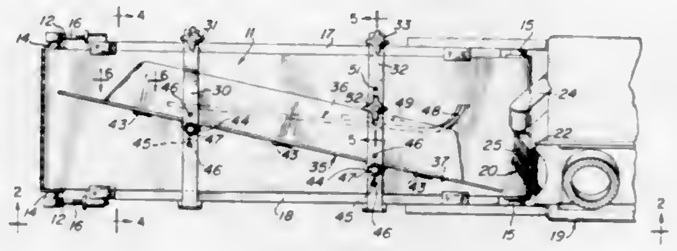
A cake making system for making a layer cake with filling therebetween, wherein a plurality of superimposed conveyor means are provided one stacked up above the other. Each conveyor means includes a baking section enclosed within an oven, a cooling section, and a stacking section. The batter is poured on each conveyor means and baked one above the other in the oven. Subsequently, it passes out of the oven through the cooling section to the stacking sections. The lower conveyor means is all located on substantially one plane. The upper conveyor means are parallel to each other throughout the baking and cooling sections. The upper stacking sections extend slantingly downwardly to the lowermost stacking section where the layers are stacked one above the other after the filling material is inserted therebetween. The entire layers of cake are supported by the conveyors during the entire operation until they are stacked one on the other after which they are sliced in both the transverse and longitudinal direction into the appropriate size cakes.

3,448,696
METHOD AND APPARATUS FOR FORMING AND ARRANGING WAFERS OR COOKIES
Albert F. Verhoeven, Grand Rapids, Mich., assignor to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Sept. 10, 1965, Ser. No. 486,425
Int. Cl. A21c *3/00, 11/10;* **A21d** *8/02*
U.S. Cl. 107—4 **12 Claims**



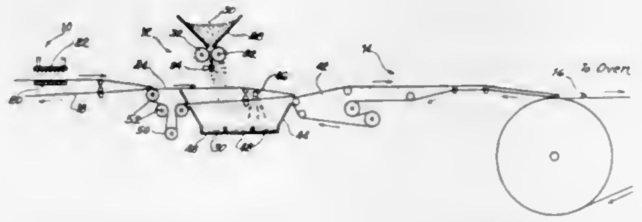
A method and apparatus for arranging wafers such as cookies and the like for packaging wherein a plurality of wafers are deposited on an elongated sheet which is moving lengthwise. The wafers are deposited in columns running longitudinally of the sheet and slitting means is provided to slit the sheet between the columns into separate elongated strips, each bearing a column of wafers. The sheet strips are cut transversely at desired intervals determined by a predetermined selected number of wafers to produce a plurality of strips of supporting material each bearing a plurality of wafers.

3,448,697
ROUNDING APPARATUS FOR DOUGH
Harold T. Atwood, Chicago, Ill.
(14152 Irving Ave., Dolton, Ill. 60419)
Filed Dec. 21, 1966, Ser. No. 603,591
Int. Cl. A21c *3/00*
U.S. Cl. 107—9 **7 Claims**



A guide member of inverted L-shape and a compression bar are adjustably mounted above an endless conveyor belt and cooperate with the conveyor belt to shape individual pieces of dough of uniform weight and nonuniform shape into balls of uniform size and texture so that they may be frozen and stored conveniently until used. The guide member and the compression bar may be adjusted to round individual pieces of dough of any uniform weight within a range of from about one half ounce to about twenty eight ounces. The surfaces of the guide member and the compression bar are coated with polytetrafluoroethylene to prevent the dough from sticking to either of them as the conveyor belt carries it to the discharge end of the apparatus. The underside of the horizontal leg of the guide member is tapered upwardly at its discharge end to allow the ball to expand uniformly as the conveyor belt carries it past the end of the guide member.

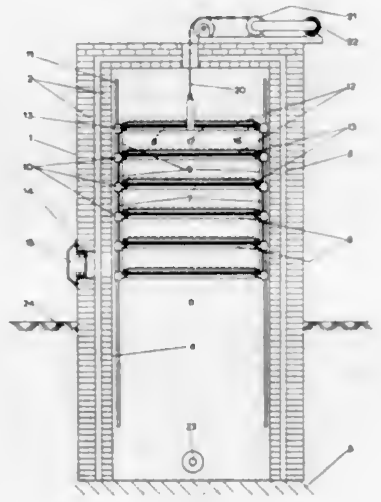
3,448,698
SALT-SEPARATING UNIT FOR BAKING APPARATUS
Adam M. Namirowski, 3123 W. 42nd St.,
Chicago, Ill. 60632
Filed Sept. 19, 1967, Ser. No. 668,906
Int. Cl. A21c *9/04;* **A23g** *3/20*
U.S. Cl. 107—43 **5 Claims**



A unit including a conveyor mechanism for supporting food products prior to introduction of the products into a baking oven. The conveyor comprises a wire mesh belt and mechanisms for depositing salt on a food product carried by the belt are located above the upper flight of the belt. Openings are provided in the belt which are large enough to permit passage of salt therethrough and which are large enough to adequately support the food products. With this arrangement, excess salt will pass through the belt into a collecting hopper and will not be transported into the oven.

3,448,699
OVEN FOR BAKING

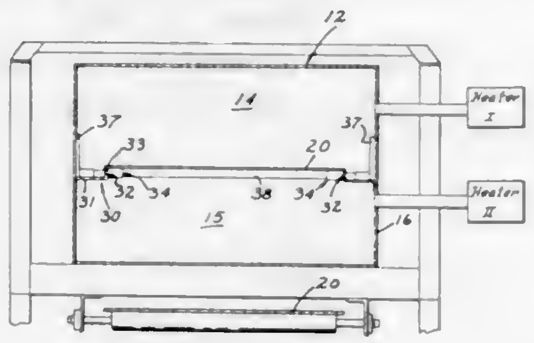
William H. Friend, 40 Forest St., Forest Hill, Johannesburg, Transvaal, Republic of South Africa
Filed May 23, 1967, Ser. No. 640,636
Claims priority, application Republic of South Africa, May 26, 1966, 66/3,046
Int. Cl. A21b *1/00;* **B65g** *13/00;* **B66f** *9/06*
U.S. Cl. 107—55 **3 Claims**



Commercial baker's oven wherein the baking chamber extends vertically and includes a series of baking floors arranged in a conveyance which may be raised and lowered past a door into the oven.

3,448,700
OVEN WITH BAND CONVEYOR

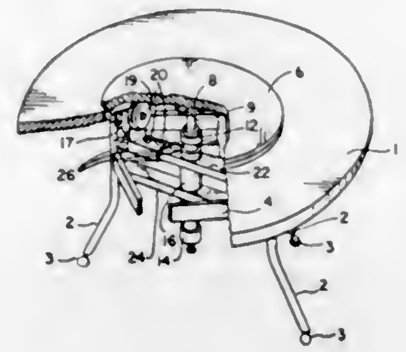
Bruce W. Brunson, Grand Rapids, Mich., assignor to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Apr. 4, 1966, Ser. No. 539,788
Int. Cl. A21b *3/00*
U.S. Cl. 107—57 **5 Claims**



An oven having a solid non-pervious movable band conveyor running therethrough and provided with means for heating the compartment above the conveyor and below the conveyor at different temperatures, a longitudinal rail is provided extending along the space from each side of the oven. This rail is supported by non-pervious means which will prevent convection currents from flowing through the space formed between the rails and the oven walls. The rails have a relatively narrow bearing section on their upper surface for slidably supporting the solid conveyor band in sealing relationship. This combination provides a means for isolating a section of the oven above the conveyor band from the section of the oven below the conveyor band to prevent the flow of convection currents between the same.

3,448,701
MOTORIZED LAZY-SUSAN TABLE

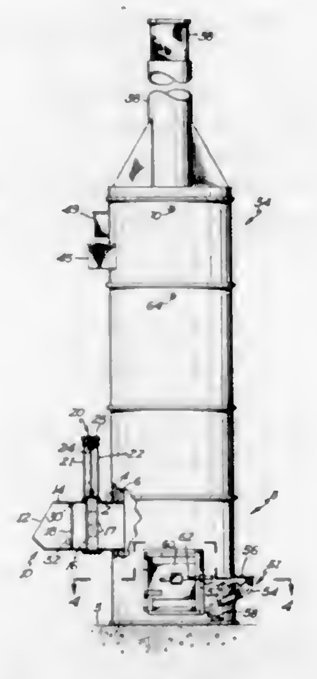
Elmer R. Cordova, 5801 S. Santa Fe Drive, Littleton, Colo. 80120
Filed Nov. 22, 1967, Ser. No. 685,172
Int. Cl. A47b *85/00, 11/00*
U.S. Cl. 108—20 **5 Claims**



A variable speed, motorized lazy-susan table having a stationary table portion and means of support for same includes a revolving portion supported by a shaft resting on a thrust bearing set and powered by an electric motor having a soft rubber wheel in frictional contact with said revolving portion.

3,448,702
RECLAIMING APPARATUS AND METHOD

Bruce F. McLouth, 14909 Highland Lane, Hopkins, Minn. 55343
Filed Jan. 2, 1968, Ser. No. 694,922
Int. Cl. F23g *7/00;* **C22b** *11/00, 5/00*
U.S. Cl. 110—18 **9 Claims**



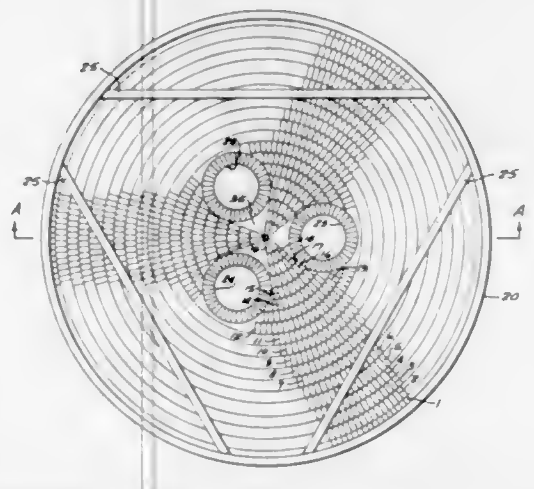
Scrap material containing precious metal, in particular printed circuit boards having strips of metal contained in epoxy-fiber glass laminates, is reduced and the metal reclaimed in an incinerator having a forced combustion burner from which a high velocity stream of pressurized combustion air impinges directly on the scrap material, and scatters the metallic residue and glass fibers to an area away from the burner flame where their temperatures will not exceed their melting points. The volatile plastics in the scrap material are vaporized and then completely burned in a secondary combustion chamber having two burner nozzles at different levels projecting radially inwardly towards the rising stream of combustion gases.

The feeder chute for the incinerator has an inner fire door, and an outer, swingably mounted access door which

blocks the feeder chute when the fire door is open, but which may be conveniently swung to an open position when introducing scrap material into the incinerator.

3,448,703
DOME-SHAPED ELECTRIC FURNACE ROOF CONSTRUCTION

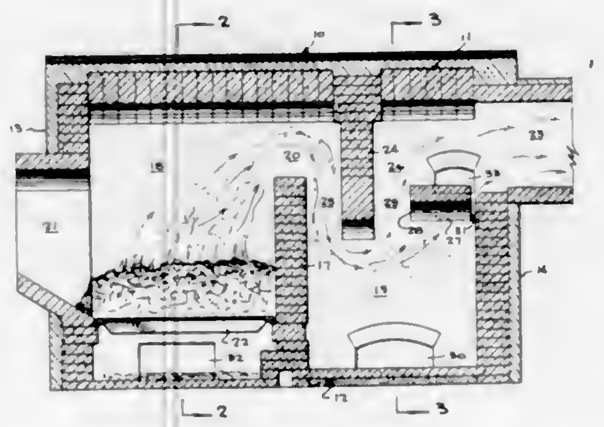
Kenneth W. Hansen, Bethel Park, and William C. Taylor, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 533,725, Mar. 4, 1966. This application Dec. 26, 1967, Ser. No. 701,514
Int. Cl. F23m *5/02;* **H05b** *7/18;* **F23d** *1/00*
U.S. Cl. 110—99 **7 Claims**



A dish-shaped dome type furnace roof comprising basic refractory shape arranged in concentric rings, a portion of which comprise metal encased shapes covered by a contour control structure and the remainder of which comprise shapes mortared together.

3,448,704
INCINERATOR AND FLY ASH SEPARATOR STRUCTURE THEREFOR

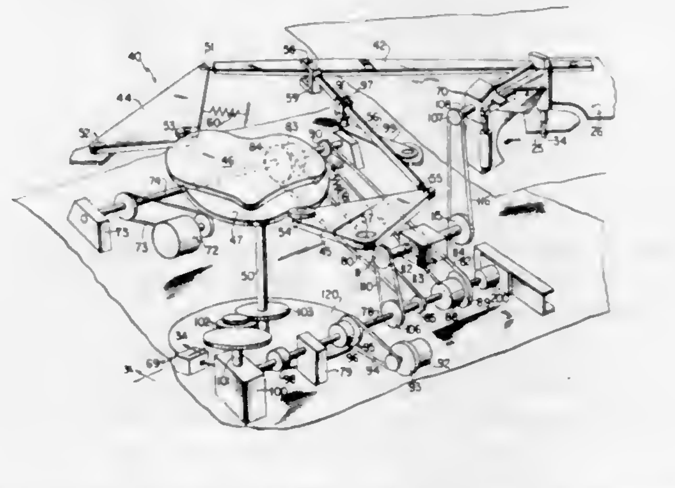
Miro Dvirka, Long Island City, N.Y., assignor to Hagan Industries, Incorporated, Corona, N.Y., a corporation of New York
Filed July 8, 1966, Ser. No. 563,807
Int. Cl. F23j *1/00*
U.S. Cl. 110—165 **13 Claims**



In an incinerator, a structure for separating solid particles from combustion gases comprising a settling chamber including inlet and outlet passageways being disposed relative to each other whereby combustion gases passing through the settling chamber describe a curved path about a center of curvature disposed between the passageways, the outlet passageway having an inlet disposed sufficiently adjacent the center of curvature whereby the solid particles of the gases passing through the settling chamber migrate along involute paths, impinging on a wall of the settling chamber and developing a high pressure zone therein and the settling chamber having a relief passageway intercommunicating the high pressure zone of the settling chamber and the exhaust flue of the incinerator.

3,448,705
AUTOMATIC SEWING METHOD AND APPARATUS

Robert E. Scherr, Old Greenwich, Andre H. McHose, Ridgefield, Ian P. Campbell, Norwalk, and Carney J. Bryan, Stamford, Conn., assignors, by mesne assignments, to Ivanhoe Research Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,763
Int. Cl. D05b *23/00;* **D05c** *3/02, 7/04*
U.S. Cl. 112—2 **39 Claims**



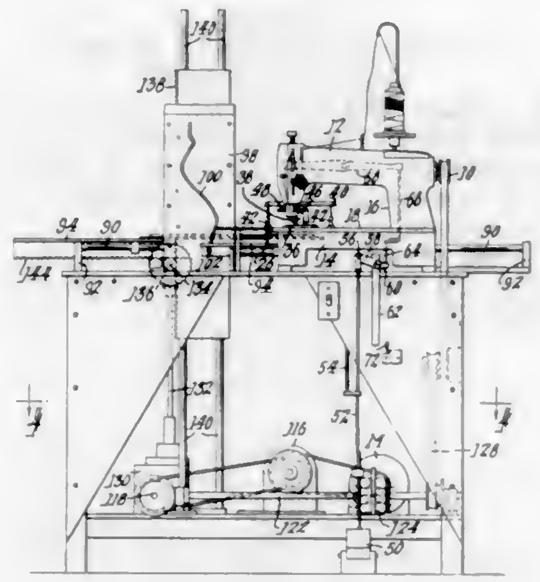
Automatic sewing method and apparatus in which the fabric workpieces are supported upon a stationary work table having a low frictional surface, the workpiece being slid upon the surface by a movable clamp member which engages down upon the workpiece in a high frictional grip, the clamp member then being driven parallel with the surface while pressing down on the workpiece for moving the workpiece in accordance with the clamp movement. The clamp member is lifted from the workpiece to release it after the sewing operation. Apparatus is shown for automatically lifting the needle and for cutting off and clamping the thread after sewing. In one embodiment, a reciprocating arrester foot operates in timed sequence with the needle to hold small regions of the moving workpiece stationary while the respective stitches are formed, the desired predetermined path of stitches being formed at high speed, and the arrester foot being automatically lifted to inactive position after the sewing operation.

3,448,706
VARIABLE REPETITIVE PATTERN SEWING MACHINE

John J. Chisholm and George B. Hills, Worcester, Mass., assignors to David Clark Company Incorporated, Worcester, Mass., a corporation of Massachusetts
Filed Nov. 21, 1966, Ser. No. 595,792
Int. Cl. D05b *3/04;* **D05c** *3/02*
U.S. Cl. 112—2 **5 Claims**

1. A sewing machine comprising a fixed platen for the work, a sewing head including a fixed position needle and thread supply therefor for cooperation with said platen, means to operate the needle, a presser foot, means mounting said presser foot for motion to and from the platen to hold a workpiece thereto,

means mounting the presser foot for motion in any direction in a single plane to move the workpiece held to said platen commensurately therewith in any direction in a single plane thereon, said presser foot mounting means comprising a table movable rectilinearly, and means mounting the table and movable rectilinearly at an angle to the path of motion of the table,

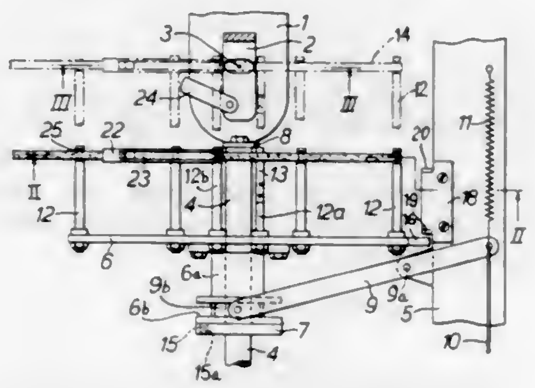


and a pair of removable and replaceable rectilinearly movable cams moving the table and thereby the presser foot in a predetermined pattern according to the contour of said cams, the presser foot moving the workpiece relative to the needle in said pattern, whereby the pattern is made variable by replacement of the cams by cams of different contour.

3,448,707

DEVICE FOR MEASURING, SEWING AND CUTTING ENDLESS BANDS

Gert Vilner Thomsen, Viborg, Denmark, assignor to K/S Asani, Viborg, Denmark, a partnership of Denmark
Filed Dec. 11, 1967, Ser. No. 690,051
Int. Cl. D05b *23/00, 37/04*
U.S. Cl. 112—2 **11 Claims**

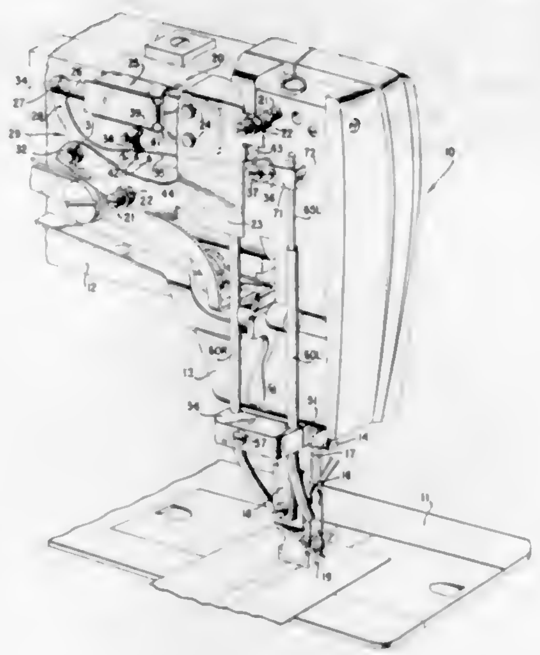


A sewing machine attachment for automatic production of endless bands in which a disc carries bars for winding band material into a continuous loop when the disc is rotated. The disc is axially movable on a drive shaft from a position in which it is rotatably coupled to the shaft for winding the band material, and a second position in which it is uncoupled from said shaft and in cooperative engagement with the sewing machine for sewing of the band loop ends together. A cam guide cooperates with a notch in the disc for halting rotation of the uncoupled disc and for guiding the band loop accurately toward the sewing machine.

3,448,708

THREAD WIPER AND THREAD END HOLDER FOR SEWING MACHINES

Roger J. Ross, Dover, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed June 23, 1967, Ser. No. 648,385
Int. Cl. D05b *53/00, 3/00*
U.S. Cl. 112—253 **3 Claims**

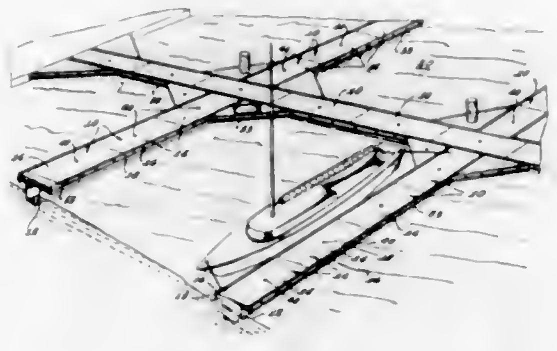


A mechanism is disclosed on a sewing machine for engaging and withdrawing the needle thread end from the work at the completion of a line of stitches. The thread wiper includes a flat spring member movable lengthwise into and out of a tube on the machine frame. The tube is bent to determine the position of the flat spring member relatively to the sewing machine needle when it is projected beyond the tube to engage the needle thread.

3,448,709

MARINE FLOAT CONSTRUCTION

Thomas C. Hardwick, Jr., San Leandro, Calif. 94577
Continuation-in-part of application Ser. No. 544,874, Apr. 25, 1966. This application June 12, 1967, Ser. No. 657,449
Int. Cl. B63b *35/02*
U.S. Cl. 114—.5 **10 Claims**



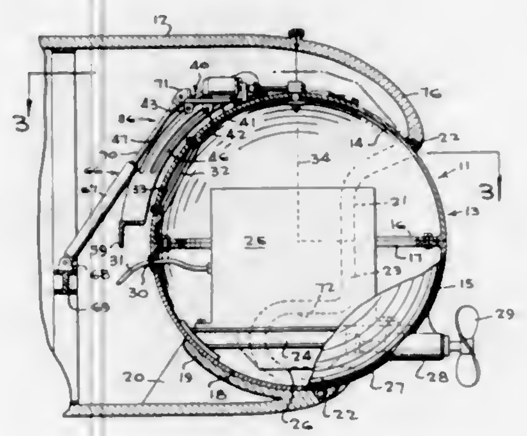
A marine float comprising a flotation unit with deck-defining means. Light weight concrete poured into the deck-defining means affords the float with a sturdy, durable and non-slip deck. A plurality of light floats may be joined together to form a marina dock section. In the method of constructing such float, the flotation units are assembled at the site of installation and readied for receiving concrete. Then, with such assembled unit positioned adjacent or in the water, the concrete is poured. In those

instances where a dock section is being formed, the individual floats are joined together.

3,448,710

PROPELLING AND STEERING DEVICE

Thomas Gaskins, Palmdale, Fla. 33944
Filed May 4, 1967, Ser. No. 636,092
Int. Cl. B63h *25/42, 21/26;* **B63g** *8/08*
U.S. Cl. 114—16 **7 Claims**

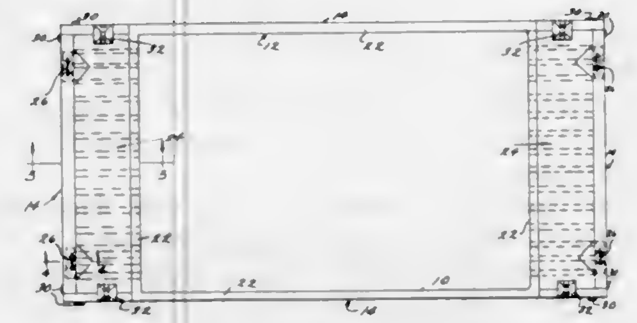


A propelling and steering device for craft including a hull structure, wherein the entire propelling means is provided in a single unit mounted on a seat on the hull structure of the craft, which can be moved about at least one axis to steer the craft. A fluid cylinder moves the unit about one axis and a motor moves the unit about another axis normal to the first axis.

3,448,711

LIGHTER CONSTRUCTION

Lawrence K. Mulholland, North Aurora, Ill., and Ammon W. Kersteter and Adolph C. A. Baste, Newark, Del., assignors to Wiley Manufacturing Company, Port Deposit, Md., a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 674,527
Int. Cl. B63b *35/28, 25/02*
U.S. Cl. 114—26 **16 Claims**

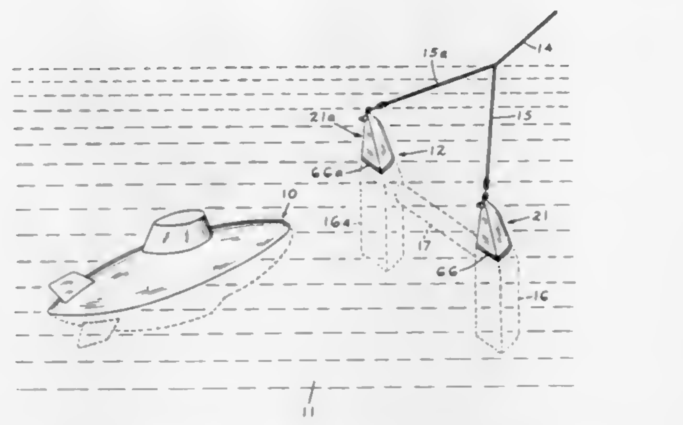


An improved lighter, or barge, is provided with a novel double wall construction throughout its entire hull, and the double wall construction includes features which make the lighter stronger, completely buoyant without a loss of cargo space, and more reliable in preventing loss or damage to cargo. Further, the novel construction provides for an assembly of a hull from a number of identical assembly elements, thereby permitting a lighter to be mass produced more efficiently and at a lower cost than with prior assembly requirements. The improved lighter is constructed to be stacked or otherwise stowed aboard a larger ocean-going cargo ship, and the novel double wall construction of the lighter provides for increased cargo capacities for individual lighters and for a number of such lighters that are carried aboard an ocean-going vessel.

3,448,712

BUOYANT FLOATS FOR DOCKING AND TOWING SEACRAFT

Guenther W. Lehmann, San Diego, and Alden W. Adams, Jr., Coronado, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 30, 1968, Ser. No. 701,586
Int. Cl. B63b *35/44, 35/00*
U.S. Cl. 114—43.5 **15 Claims**

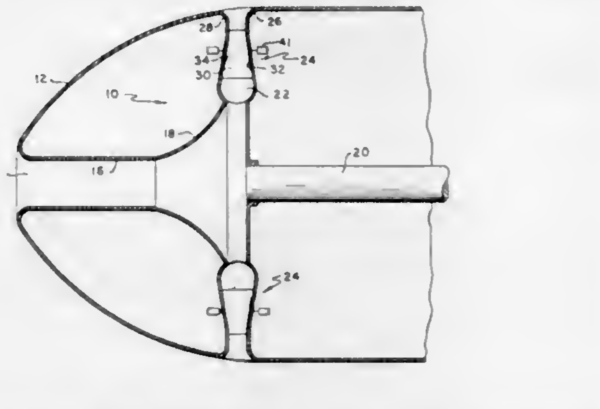


A float for docking and towing seacraft comprising a pair of elongated hollow bodies maintained in spaced relation by a fore strong cross beam and an aft strong cross beam, each secured at its outer ends to said hollow bodies in catamaran fashion to form a rigid unit; the unit being flipped to vertical position by introducing ballast water into the hollow bodies in which position the seacraft may engage the fore strong cross beam, after which the unit is swung upwardly about the fore strong beam as a fulcrum to horizontal floating position by removing ballast water with the underside of the seacraft resting on supporting members secured to the hollow bodies.

3,448,713

SILENT PROPULSION SYSTEM FOR SUBMERSIBLE VEHICLES

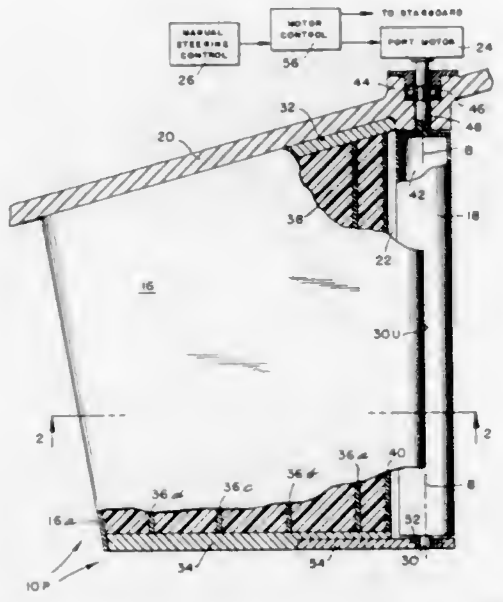
Edward V. Thomas, Severna Park, Md., and Thomas F. Ransick, Rockford, Ill., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 10, 1968, Ser. No. 696,735
Int. Cl. B63h *11/08*
U.S. Cl. 114—151 **7 Claims**



A hydrodynamic jet propulsion system for submersible vehicles has an annular nozzle about the periphery of the body of said vehicle with thrust augmenting vanes which control the surface flow conditions of the orifice to thereby control output flow direction. A multi-vane pump impeller derives its input from an orifice in the nose of the vehicle and directs its output to the annular nozzle. The thrust augmenters when separated from the walls of the nozzle provide step discontinuity in the flow stream forming a vortex at the wall of the nozzle, which directs the output flow to the rear or the front, depending on the direction of travel desired.

3,448,714
FIN AND REVOLVING CYLINDER BIDIRECTIONAL STEERING ACTUATOR

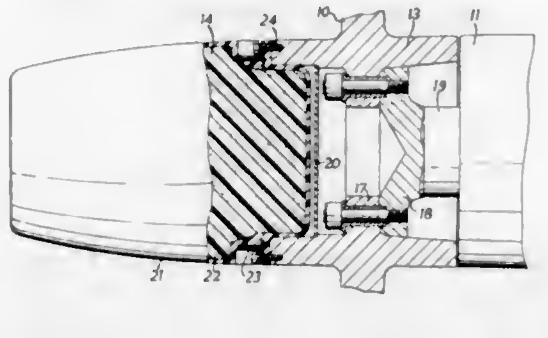
John D. Brooks, San Gabriel, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 22, 1968, Ser. No. 699,723
Int. Cl. B63h *25/40*
U.S. Cl. 114—162 **5 Claims**



A neutral lift fin has a semi-circular recess formed in its trailing edge. A cylindrical rotor is mounted for rotation with one-half of its cross section in the recess. The opposite fin surfaces are faired into the outer periphery of the rotor and merged with the recess to form knife edges in intimately close tangential relationship to the surface of the rotor. The rotor is driven by a selectively reversible motor to provide bi-directional steering or lift control.

3,448,715
MARINE PROPELLER HAVING A BUOYANT CHAMBER

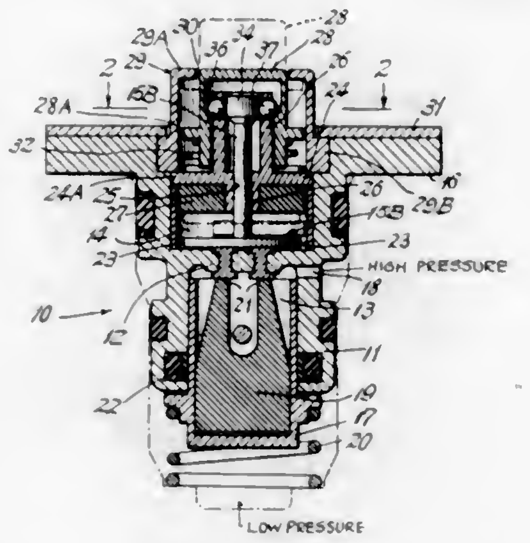
Colin Wray Herbert, Marske-by-Sea, England, assignor to The Glacier Metal Company Limited, Alperton, Wembley, Middlesex, England
Filed Feb. 21, 1967, Ser. No. 617,687
Claims priority, application Great Britain, Feb. 22, 1966, 7,827/66
Int. Cl. B63h *1/38, 5/06*
U.S. Cl. 115—34 **3 Claims**



A marine propeller has a buoyant chamber attached to its aft end to reduce the bending moment on the shaft where it passes through the stern bearing. The buoyant chamber is a closed shell filled with closed-cell foam to prevent access of water in the case of damage to the shell. To give maximum support to the shaft the buoyant chamber is of slightly tapering external form and truncated at its aft end.

3,448,716
MAGNETIC PRESSURE INDICATOR

Richard G. Smith, Lake Hiawatha, N.J., assignor, by mesne assignments, to Commercial Filters Corporation of California, Inc., Compton, Calif., a corporation of California
Filed Oct. 23, 1965, Ser. No. 503,918
Int. Cl. G01l *19/12*
U.S. Cl. 116—70 **3 Claims**

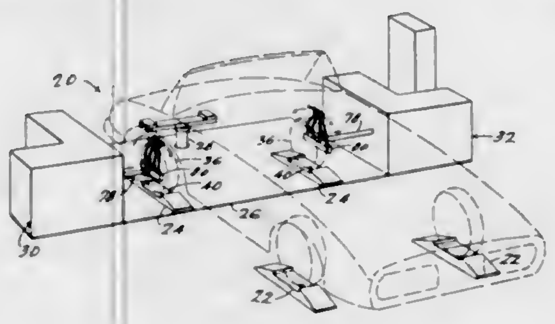


1. A differential pressure indicator for use in a fluid pressure system having a source of high pressure and a source of low pressure comprising:
- (a) a housing;
- (b) a partition means dividing said housing into two chambers;
- (c) one of said chambers defining a fluid pressure chamber and the other of said chambers adapted to house an indicating means;
- (d) a movable piston means disposed within said fluid pressure chamber for dividing said pressure chamber into a low pressure compartment on one side of said piston means and a high pressure compartment on the other side of said piston means;
- (e) said piston means including a magnetic element disposed opposite said partition and mounted for movement with said piston;
- (f) means for normally urging said piston means toward close proximity to said partition means whereby said magnetic element is normally presented adjacent to said partition;
- (g) a fixed magnet mounted in spaced relationship with said partition in said other chamber, said fixed magnet facing said partition;
- (h) an armature disposed between said fixed magnet and partition for movement therebetween;
- (i) said armature having a stem projecting upwardly through an opening formed in said fixed magnet; an enlarged head at the top of the stem;
- (j) said armature being normally attracted to said movable magnet, but subject at all times to the magnetic field of said fixed magnet;
- (k) an indicating button mounted over the end of said stem for movement between an extended indicating position and a retracted nonindicating position; the button having an interior annular flange defining a shoulder;
- (l) a spring means normally biasing said button toward its extended indicating position;
- (m) sleeve means disposed between the button and the armature, the sleeve means contacting a plurality of ball means, the ball means being maintained in contact with the annular flange by means of the enlarged head movement of the armature upwardly permitting the ball means to disengage the annular flange and contact the stem of said armature;

- (n) and means for limiting the movement of said button in the extended indicating position thereof.

3,448,717
AUTOMOBILE WHEEL WELL UNDERCOATING APPARATUS AND METHOD

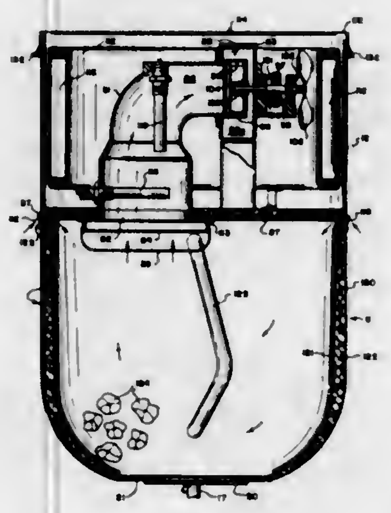
Walter F. Kuhlman, Norwalk, Ohio, assignor to Kuhlman Machine Company, Norwalk, Ohio, a corporation of Ohio
Filed June 3, 1965, Ser. No. 460,927
Int. Cl. B05c *11/02;* **B44d** *1/52*
U.S. Cl. 118—2 **18 Claims**



An automobile is undercoated by moving it to a particular position, raising the body relative to the wheels to increase the spacing between the fender wells and the wheels, and moving spray apparatus into the space to direct undercoating material against the fender wells. The spraying apparatus includes a support which is moved toward and away from the automobile in a path aligned with the axis of the wheel. The spray heads are located at the end of an arm on the support, which arm has a radius exceeding that of the wheel so as to position the spray heads just outside the circumference of the wheel and move them in an arcuate path back and forth around the wheel.

3,448,718
APPARATUS FOR TREATING PARTICLES

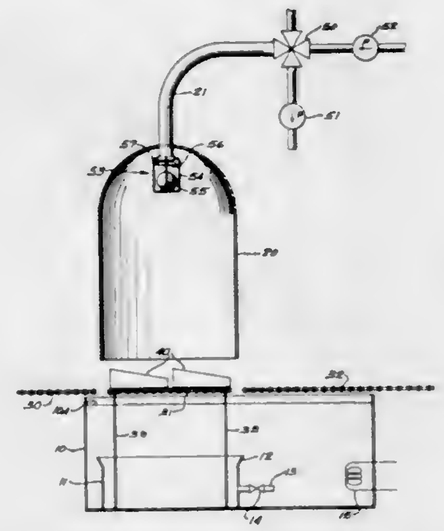
Julius Green, New City, Richard W. Morse, Garden City, and Dick R. Westfall, Wantagh, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Original application Feb. 19, 1960, Ser. No. 9,889, now Patent No. 3,095,326, dated June 25, 1963. Divided and this application May 22, 1963, Ser. No. 282,841
Int. Cl. B05c *11/00;* **A23g** *3/20*
U.S. Cl. 118—5 **7 Claims**



Apparatus for applying a coating composition to discrete particles including a rotating tumbling container having a pivoted cover for recirculating heated air in the container as it rotates. Temperature sensing means are provided for controlling the means for heating the air.

3,448,719
IMPREGNATION APPARATUS

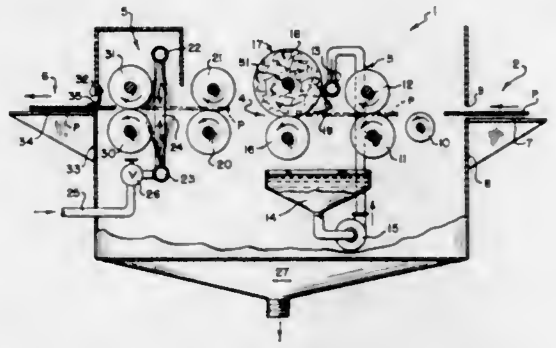
Carl A. Tate, Pittsburgh, Pa., assignor to Dresser Industries, Inc., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 535,280
Int. Cl. C23c *13/08*
U.S. Cl. 118—50 **1 Claim**



Apparatus for impregnation of shapes comprising a bell shaped pressure vessel, an open topped vessel for containing impregnating material, means to enable a pressure fit between the open topped vessel and pressure vessel, means for positioning refractory shapes just above the impregnating material, a vacuum pump for exhausting the pressure vessel, and a pressure pump for pressurizing the pressure vessel.

3,448,720
APPARATUS FOR PREPARING PLANOGRAPHIC OFFSET PRINTING PLATES

Robert C. Graham, Florham Park, N.J., assignor to Wood Industries, Inc., a corporation of Virginia
Filed July 12, 1967, Ser. No. 652,839
Int. Cl. B05c *9/06, 9/12, 9/08*
U.S. Cl. 118—109 **4 Claims**

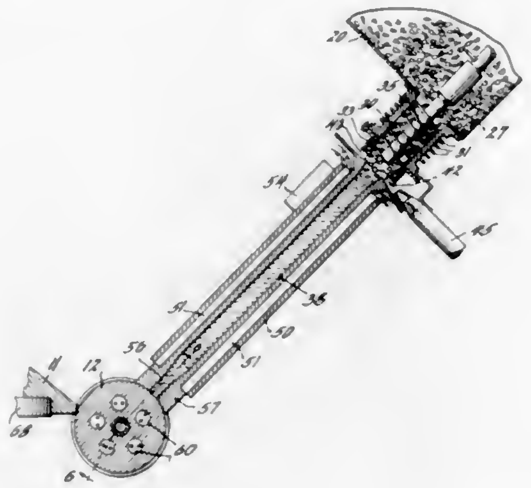


Developer apparatus for developing offset printing plates having means for dispensing a developer solution on the plate, rubbing means for rubbing the solution onto the plate, washing means for removing the solution from the plate, and propelling means for moving the plate through the apparatus. A developer roller having an absorbent outer cover for use in plate developer apparatus.

3,448,721
APPARATUS FOR SEALING CIGARETTE WRAPPERS ON CONTINUOUS ROD MACHINES

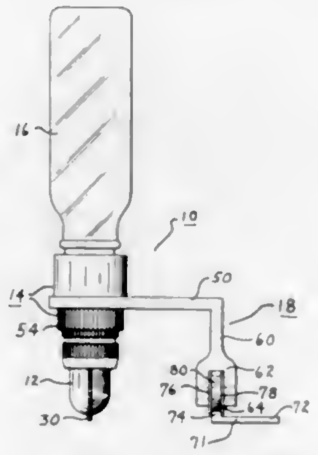
James Ernest Morris, Edmund Harrison, Jr., and Julius Szaksz, Richmond, Va., assignors to The Molins Organisation, Limited, London, England, a corporation of Great Britain
Filed Sept. 28, 1967, Ser. No. 671,402
Int. Cl. B05c *1/14*
U.S. Cl. 118—202 **3 Claims**

Apparatus for applying a thermoplastic adhesive to a continuous rod wrapper, comprising a supply hopper for solid adhesive in granular form, a conveyor for moving the granular material out of the hopper and toward and into a heated passage beyond the conveyor, in which passage the material is melted, heated adhesive applying rolls receiving the molten material directly from the heated passage and supplying the same as a thin narrow strip to an edge portion of the wrapper, and devices for cooling the granular material as it moves from the conveyor to the heated passage to prevent melting of the material on the conveyor.



3,448,722
PAINTING DEVICE

Steve Krizman, South Bend, Ind., assignor to Krizman Manufacturing Co., Inc., South Bend, Ind., a corporation of Indiana
Continuation of application Ser. No. 598,734, Dec. 2, 1966. This application Oct. 30, 1967, Ser. No. 679,014
Int. Cl. B05c *1/08*
U.S. Cl. 118—207 10 Claims

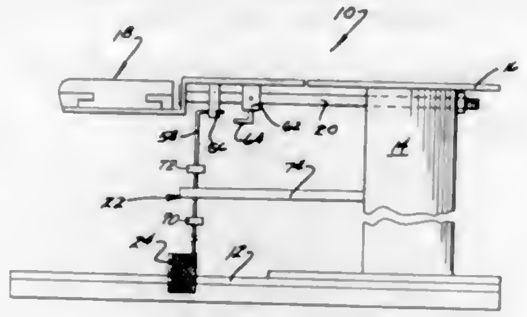


A stripe painting device having a paint applicator with a roller for painting a stripe, in which a magnetized track means is used for controlling the direction of the paint applicator roller which follows the configuration of the track. The magnetic track means can be mounted on a metal surface and given various configurations conforming to the desired stripe.

3,448,723
FINGERPRINTING MEANS

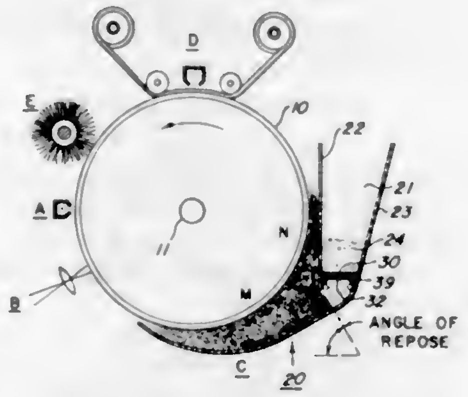
Ira A. Antles, 173 W. 28th St., Holland, Mich. 49423
Filed Dec. 12, 1966, Ser. No. 601,065
Int. Cl. B23q *3/18;* **B05c** *11/12*
U.S. Cl. 118—503 8 Claims

1. Apparatus for the taking of fingerprint specimens, comprising in combination: means including a generally horizontally disposed table for holding a fingerprint image-recording card member; a horizontally extending support member; means supporting said table for pivotal movement about a horizontal aixs of said support member; means to oscillate the table about said axis; means to limit the extent of pivotal movement during such table-oscillation; and means for retaining said card member on the table, such that a finger may be placed on said image-recording member and held stationary while said table and recording member are pivoted with respect to such finger to record the peripheral characteristics of the finger on the recording member.



3,448,724
DEVELOPING APPARATUS

Prabhulal P. Chawda, Rochester, and John P. Caldwell, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 11, 1968, Ser. No. 697,239
Int. Cl. B05b *5/04*
U.S. Cl. 118—637 4 Claims

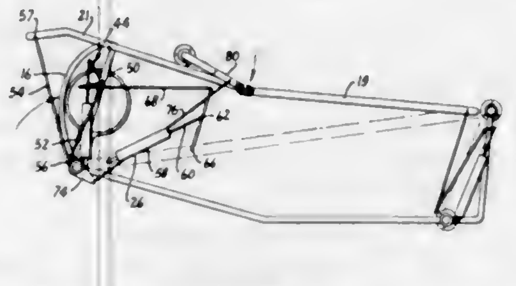


Apparatus to develop a latent image on a photoconductive surface in which the moving photoconductive surface is moved in contact with a quantity of developer material supported in a housing or the like. The moving surface causes a flow of developer material at the interface so that developer is moved more or less in contact with the surface in an uphill direction. A steep return geometry is provided in the housing to rapidly return developer material to the start of the flow-contact zone and further means are provided to replenish developer material in the housing.

3,448,725
MILKING STALL

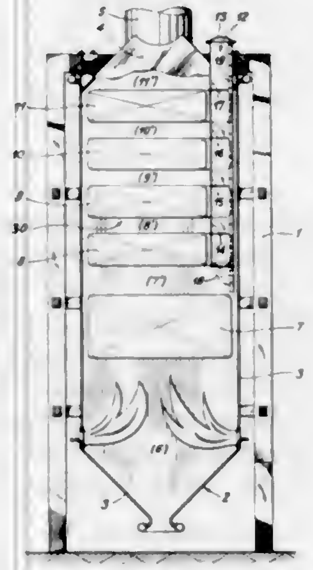
William Z. Holm, Petaluma, Douglas Clegg, Calistoga, and Oliver C. Illia, Petaluma, Calif., assignors to Holm Tractor and Equipment Company, Petaluma, Calif., a corporation of California
Continuation-in-part of application Ser. No. 555,507, June 6, 1966. This application Apr. 29, 1968, Ser. No. 732,483
Int. Cl. A01j *1/00*
U.S. Cl. 119—27 11 Claims

An adjustable milking stall for dairy cows where the stall has a stationary rear wall adjacent to a milking station, and adjustable means either in the form of an adjustable front wall or an adjustable manger movable toward the rear wall to shorten the stall for cows of different length. Additionally, the width of the stall may be adjusted for cows of different width.



3,448,726
STEAM GENERATOR HAVING A FLUE AND AN ACCESS SHAFT

Richard Litwinoff, Winterthur, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Dec. 18, 1967, Ser. No. 691,258
Claims priority, application Switzerland, Dec. 23, 1966, 18,527
Int. Cl. F22b *37/10, 15/00, 25/00*
U.S. Cl. 122—235 8 Claims

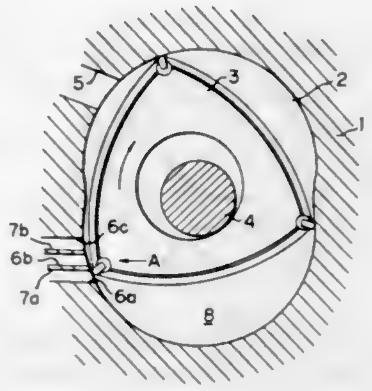


The access shaft is disposed within the walls of the flue and is arranged in parallel relation to the flue walls in order to avoid the need of any ingress apertures in the side walls of the flue. The shaft has openings adjacent the spaces between the nests of tubes to provide entry from the shaft into these spaces for inspection or repair of the nests of tubes.

3,448,727
EXHAUST DEVICE FOR ROTARY PISTON ENGINE

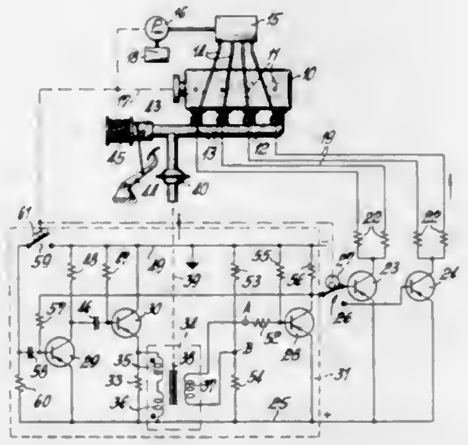
Takaharu Kobayakawa, Hiroshima-shi, Japan, assignor to Toyo Kogyo Kabushiki Kaisha, Aki-gun, Hiroshima-ken, Japan, a corporation of Japan
Filed Mar. 14, 1968, Ser. No. 713,029
Claims priority, application Japan, Mar. 20, 1967, 42/17,777
Int. Cl. F02b *55/14;* **F01c** *1/04*
U.S. Cl. 123—8 3 Claims

This invention provides an improved exhaust device for rotary piston engine to reduce the occurrence of the exhaust noise when the working fluid is exhausted, and the improvement resides in that a plurality of exhaust ports divided by partitions are provided on the center housing of the casing, the exhaust ports being successively opened as the rotor rotates.



3,448,728
CONTROLLER FOR FUEL INJECTION SYSTEMS FOR INTERNAL COMBUSTION ENGINES

Hermann Scholl, Stuttgart, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany, a limited-liability company of Germany
Filed Aug. 17, 1967, Ser. No. 661,365
Claims priority, application Germany, Aug. 31, 1966, B 88,709
Int. Cl. F02m *51/00*
U.S. Cl. 123—32 16 Claims

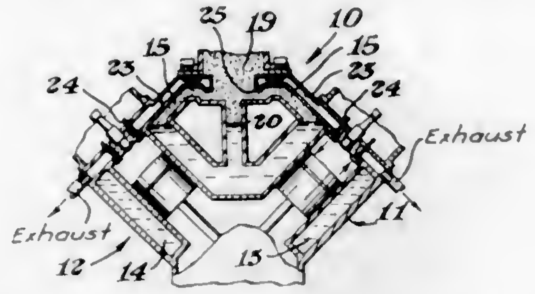


For each power stroke of the piston, an electrical impulse is generated which triggers a monstable flip-flop circuit having a condenser (**46**) and a differential transformer (**34**), including a movable core element in its interstage coupling network; the core position of the transformer determines the pulse time; by varying the characteristics of the condenser discharge circuit, nonlinear operating characteristics of the engine can be accommodated and compensated.

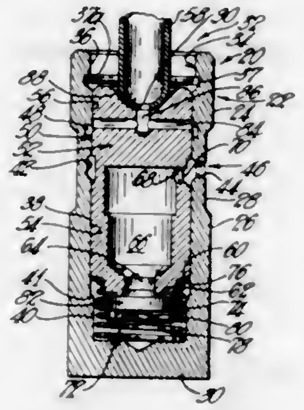
3,448,729
VAPOR AND DROPLET SEPARATOR FOR EBULLIENT-COOLED ENGINES

Curtis P. Parsons, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 8, 1967, Ser. No. 614,594
Int. Cl. F01p *9/02*
U.S. Cl. 123—41.2 5 Claims

An improvement in the cooling system of an ebullient-cooled internal combustion engine whereby a vapor-droplet mixture from the region of coolant-jacketed cylinders is directed along respective fluid passages connected to at least one header leading to a condenser and the fluid passages are externally cooled by respective streams of air-fuel mixture, the fluid passages and the passages for air-fuel mixture having a common heat conductive metal wall, preferably throughout at least about one-half of the length of the fluid passages.

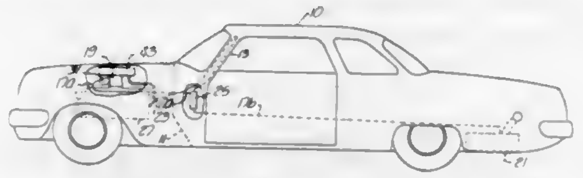


3,448,730
HYDRAULIC VALVE LIFTER
Roy F. Abell, Jr., Saginaw, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 7, 1967, Ser. No. 644,191
Int. Cl. F01l *1/24*
U.S. Cl. 123—90 **22 Claims**



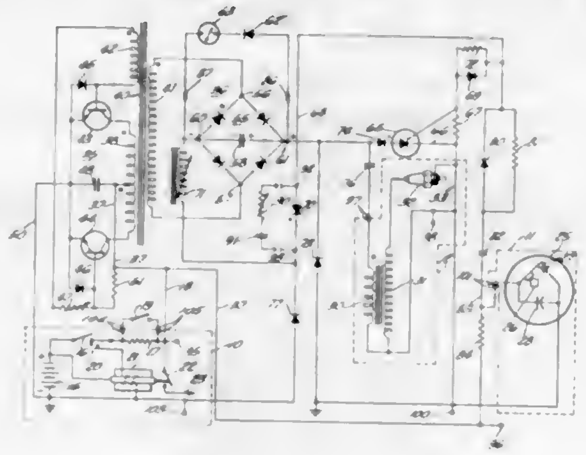
This invention relates to hydraulic valve lifters and, more particularly, to hydraulic valve lifters that also meter oil across a constant length metering land up through the push rods to lubricate the valve gear.

3,448,731
VEHICLE VAPOR RECOVERY SYSTEM
Harold D. Daigh, Rolling Hills Estates, Calif., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of applications Ser. No. 579,990, Sept. 16, 1966; Ser. No. 615,990, Feb. 14, 1967, and Ser. No. 636,973, May 8, 1967. This application Mar. 25, 1968, Ser. No. 715,811
Int. Cl. F02m *7/10, 35/04*
U.S. Cl. 123—136 **25 Claims**



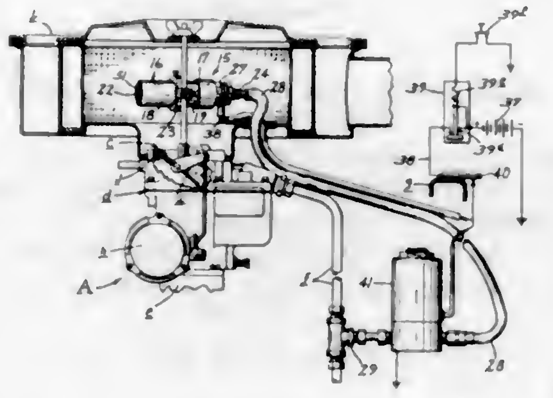
This invention pertains to a vehicle vapor recovery system for an internal combustion engine having a fuel system wherein a conduit is provided between the carburetor and the fuel tank for recovering fuel vapors. A condenser may be positioned in the conduit at a relatively cool location to facilitate condensation of vapors removed from the carburetor and/or the fuel tank. The condenser is vented into the crankcase and positioned below the carburetor but above the fuel tank to permit gravity flow of fuel between the carburetor and condenser and between the condenser and the fuel tank. An adsorptive filter may be provided in the condenser vent line to remove uncondensible hydrocarbons and the filter desorbed periodically with air drawn through a one-way vent valve. Means are also provided for partially draining the carburetor float bowl during the hot soak period to minimize evaporative fuel losses. The fuel vapors are withdrawn from the float bowl at the skim line and carburetor modifications are disclosed to minimize the heating of fuel in the carburetor float bowl.

3,448,732
CAPACITOR-DISCHARGE ELECTRONIC IGNITION SYSTEM AND A METHOD FOR ADJUSTING THE CIRCUIT
August C. Weiss, 11658 Harvard Drive, Norwalk, Calif. 90650
Filed Sept. 6, 1966, Ser. No. 577,511
Int. Cl. F02p *3/06;* **H05b** *41/36*
U.S. Cl. 123—148 **8 Claims**



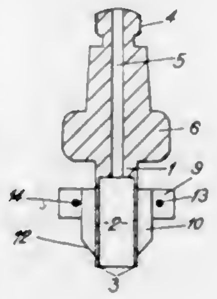
A battery powered capacitor discharge type of ignition system for a piston engine in which the storage capacitor is charged through a DC to DC power converter the output of which is fed to the storage capacitor through an inductance capacitance circuit. A switch means in series with the storage capacitor and primary of the ignition coil which form a discharge circuit is triggered by a pulse generated by a circuit powered from the battery and operated in synchronism with the breaker points.

3,448,733
AUXILIARY FUEL SUPERHEATER FOR STARTING INTERNAL COMBUSTION ENGINES
Leonard E. Aske, 5508 Park Ave., Minneapolis, Minn. 55417
Filed May 10, 1967, Ser. No. 637,580
Int. Cl. F02m *1/00;* **F23q** *7/00*
U.S. Cl. 123—180 **11 Claims**



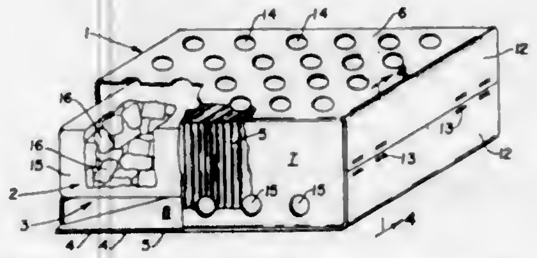
A device for facilitating the starting of internal combustion engines under cold weather conditions by converting raw gasoline into a hot, dry, superheated vapor that mixes instantly with the air in the air cleaner forming a highly combustible mixture to be carried into the carburetor, intake manifold and combustion chamber. The raw gasoline is introduced into a superheater chamber for absorption by a plurality of porous blocks that are positioned to define restricted fuel flow passages along an electrical heating element. The gasoline is first vaporized by the heating element and then the vapor is superheated as it passes through the restricted fuel flow passages. The superheated vapor is discharged from the chamber into the air cleaner through a disc element having a plurality of restricted openings formed therein.

3,448,734
TUBULAR CUTTING TOOLS
George Pionke, Liverpool, England, assignor to Triplex Safety Glass Company Limited, London, England, a corporation of Great Britain
Filed May 24, 1966, Ser. No. 552,586
Claims priority, application Great Britain, June 3, 1965, 23,767/65
Int. Cl. B28d *1/02, 1/24*
U.S. Cl. 125—20 **1 Claim**



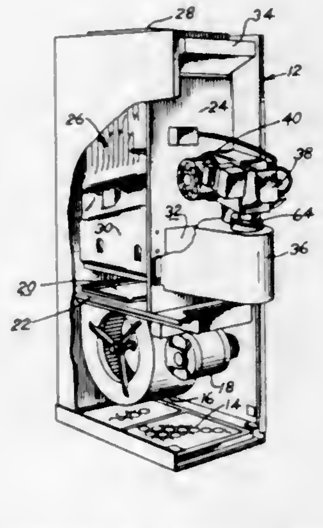
A tubular tool for use in cutting countersunk holes in glass articles. It has a greatly prolonged useful life as compared with known tools for the same purpose. The cutting tube is solid walled with a rim constituting a continuous cutting edge; and the countersinking element of the tool is clamped onto the cutting tube for axial adjustment thereon for maintaining a predetermined distance between the grinding face of the countersinking element and the cutting edge of the cutting tube as wear takes place at that edge.

3,448,735
HEATING UNIT
Charles E. Palmer, Somers, Conn., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 2, 1967, Ser. No. 680,201
Int. Cl. F24b *3/00;* **A47j** *37/07*
U.S. Cl. 126—25 **5 Claims**



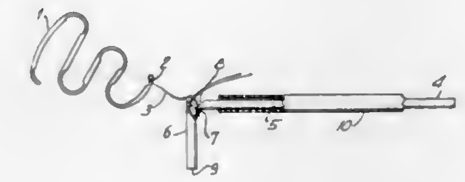
This invention discloses a heating unit constructed of a paperboard-steel foil laminate. The heating unit includes a fuel package as an integral part thereof so as to provide a compact self-contained means for heating.

3,448,736
OIL FIRED CONVERSION ASSEMBLY
Robert E. Shenberger, Kalamazoo, Mich., assignor to Rheem Manufacturing Company, a corporation of California
Filed Jan. 10, 1968, Ser. No. 696,895
Int. Cl. F24h *3/02;* **F23d** *11/44*
U.S. Cl. 126—116 **3 Claims**



A furnace conversion assembly for converting a gas fueled furnace into an oil fueled furnace. A hollow walled, combustion chamber box includes a header on one side adapted to fit onto the gas burner header opening of a gas furnace heat exchanger. Air inlet holes in the box permit passage of air through the hollow walls of the box. An air outlet for the hollow walls is provided adjacent a flue leading into the interior or combustion chamber of the box. Air drawn through the hollow walls of the box is combined with fuel oil in an oil burner for combustion of the oil and air mixture within the interior of the chamber box, the oil burner being mounted to the combustion chamber box. Combustion products are directed through the header and into the gas furnace heat exchanger to exhaust in the normal manner through the heat exchanger.

3,448,737
INSERTION UNIT
Charles M. Huck, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
Filed Aug. 16, 1966, Ser. No. 572,715
Int. Cl. A61f *5/46;* **A61b** *19/02*
U.S. Cl. 128—127 **6 Claims**

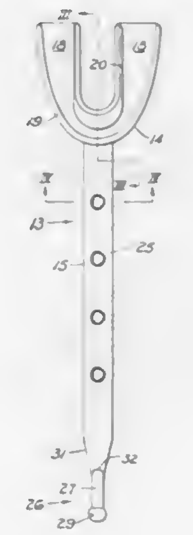


An insertion unit for a nonlinear medical appliance such as an intrauterine contraceptive device is provided. This unit consists of a cannula and a plunger, the plunger having a slightly smaller diameter than the cannula. The plunger itself is divided lengthwise into two sections which are physically connected only by a thin web. When the portion of the plunger containing the hinge lies outward of the cannula, the plunger is angularly deformable from linear to provide a notch at the juncture of the two sections. The medical appliance is provided with a flexible tail which may be and is placed in the notch thus formed. Upon pulling the plunger back into the cannula, the plunger again becomes linear, thus closing the notch, gripping the tail of the medical appliance and pulling the same into the cannula.

3,448,738

PROTECTIVE MOUTHPIECE

Robert D. Berghash, Williamsville, N.Y., assignor to Shield Mfg., Inc., Buffalo, N.Y., a corporation of New York
Filed Dec. 19, 1966, Ser. No. 602,950
Int. Cl. A61c *7/00;* **A42b** *3/02*
U.S. Cl. 128—136 **9 Claims**

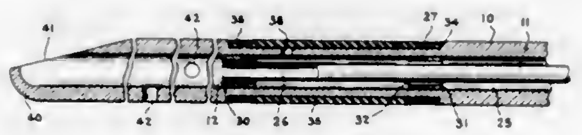


An elongated fastener strap projects from a mouthguard, the strap having tapered holes spaced along its length and terminating in a reduced shank having a bulbous enlargement at its end. The fastener strap projects between the lips of a user and loops through a chin strap or about a face guard of a protective headgear with the bulbous end engaging through a tapered hole for releasably securing the mouthguard to the headgear.

3,448,739

DOUBLE LUMEN DIAGNOSTIC BALLOON CATHETER

William A. Stark, Costa Mesa, and Donald A. Raible, Corona, Calif., assignors to Edwards Laboratories, Inc., Santa Ana, Calif., a corporation of California
Filed Aug. 22, 1966, Ser. No. 574,139
Int. Cl. A61m *25/00, 29/00*
U.S. Cl. 128—2.05 **5 Claims**



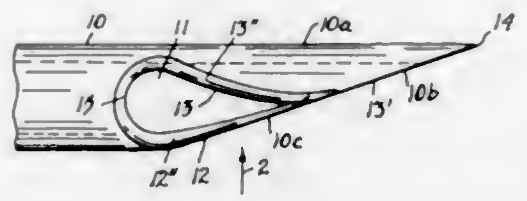
An inner plastic tube is disposed within an outer plastic tube. A pair of rigid sleeves within the outer tube provide a solid backing for windings on the ends of a balloon surrounding the outer tube. The inner tube extends through the proximal sleeve with clearance and is anchored and sealed in the distal sleeve. The inner tube communicates with an apertured hollow tip which extends beyond the balloon and the outer tube carries fluid to inflate the balloon.

3,448,740

NONHEEL SHAVING HYPODERMIC NEEDLE

Frank H. J. Figge, 4 Maryland Ave., Towson, Md. 21204
Filed June 24, 1966, Ser. No. 560,276
Int. Cl. A61m *5/32*
U.S. Cl. 128—221 **12 Claims**

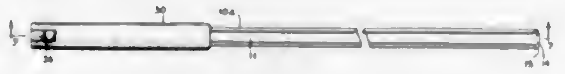
A noncoring hypodermic needle, comprising a heel portion and a tip portion terminating in a piercing point characterized in that at least one side wall portion is spirally curved from the piercing point to the heel portion and the heel portion is rotatably displaced approximately within the range of 260° to 280° and preferably about 270° from the piercing point in the same direction as the direction of spiral of said side wall portion.



3,448,741

ENDARTERECTOMY INSTRUMENT

Daniel L. Dennis, Portland, Oreg., and David L. Swendson, Garden Grove, Calif., assignors to Edwards Laboratories, Inc., Santa Ana, Calif., a corporation of California
Filed Jan. 20, 1967, Ser. No. 610,625
Int. Cl. A61b *17/22*
U.S. Cl. 128—304 **5 Claims**

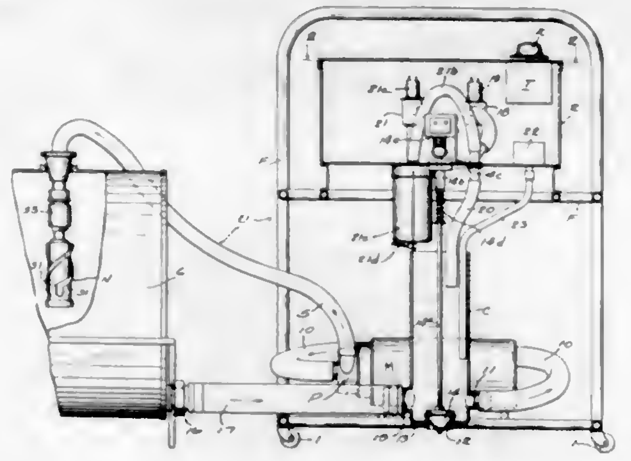


An instrument used in vascular surgery for re-sectioning the thickened intima at major arterial bifurcations to eliminate stenosis, i.e., for cleaning the arterial walls to increase blood flow. The instrument comprises, essentially, a piece of resilient plastic tubing having a slot extending lengthwise along one side thereof. The distal end is angled and internally beveled to provide an efficient scraping and stripping edge. The proximal end is equipped with a handle which may be an integral part of the tube or may be adjustable along the tube for varying the length of the distal end of the instrument. The slot allows the tube to collapse to the extent necessary to conform to the lumen of an artery of smaller diameter than the tube.

3,448,742

PORTABLE, AUTOMATIC WASHING UNIT FOR TANKS

Lloyd F. Bender, Hayward, Wis. 54843
Filed May 15, 1967, Ser. No. 638,413
Int. Cl. B08b *3/02, 9/08*
U.S. Cl. 134—57 **9 Claims**

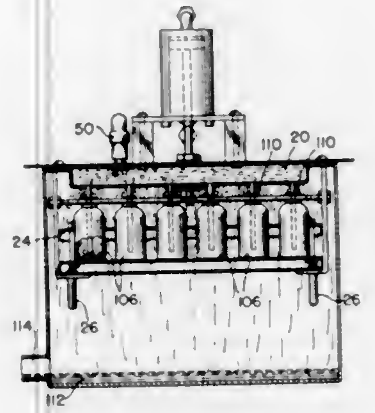


Portable equipment for automatically washing liquid storage tanks or the like and having a regulating chamber to provide a single, portable piece of equipment capable of cleaning tanks of various sizes, shapes, elevations or locations.

3,448,743

APPARATUS FOR CLEANING CONTAINERS

William J. Berry, Durham, N.C., assignor to R & D Suppliers, Inc., Durham, N.C., a corporation
Filed Nov. 7, 1966, Ser. No. 592,553
Int. Cl. B08b *3/04*
U.S. Cl. 134—58 **5 Claims**

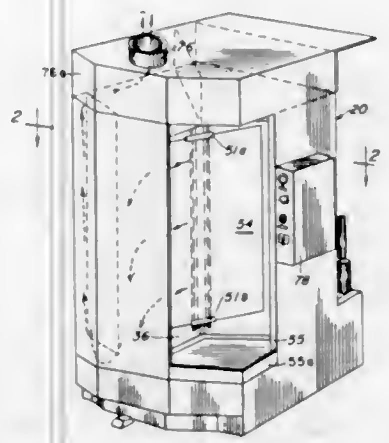


An apparatus for cleaning containers in which a fluid dispensing line connected to a source of fluid is introduced into and withdrawn from a container to be cleansed and fluid is dispensed for a period of time to cleanse the container internally and externally with the container having its open end facing upwardly.

3,448,744

INDEXING VERTICAL ROTARY MASK-WASHING MACHINE

Harry Szczepanski, 755 Oakleigh, NW., Grand Rapids, Mich. 49504
Filed Sept. 15, 1967, Ser. No. 668,078
Int. Cl. B08b *3/04*
U.S. Cl. 134—79 **6 Claims**



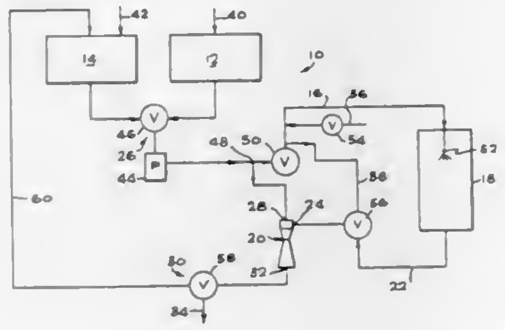
A mask-washing machine with chambers defined by a group of substantially radial panels forming a rotor moving within a surrounding housing, the rotor being provided with mask-receiving devices for conducting masks between loading-unloading and processing stations determined by indexing mechanism (controlling the angular movement of the rotor about its axis) to place the mask in predetermined positions with respect to processing devices mounted in the housing.

3,448,745

TANK CLEANING-IN-PLACE PUMPING SYSTEM

James E. Seeley, Long Beach, Calif., assignor to Mechanical Systems Inc., Commerce, Calif., a corporation of California
Filed Dec. 19, 1966, Ser. No. 602,701
Int. Cl. B08b *3/04, 13/00*
U.S. Cl. 134—101 **4 Claims**

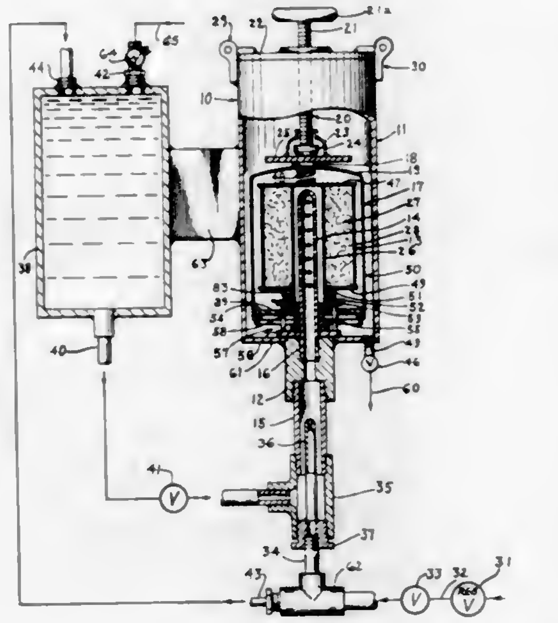
A tank cleaning system consisting of two separate tanks, one for rinse liquid and the other for detergent liquid, connected to a simple pump through a selector valve, whereby either liquid is supplied to a service tank for cleaning. A portion of the same liquid is diverted through an eductor which creates a suction in a return line from the service tank to draw either liquid therefrom. There is a valve in the return line manipulatable to direct the return liquid either to drain or to the tank from which detergent was supplied.



3,448,746

OIL FILTER CLEANER

Stedman M. Butler, Box 459, Rock Island, Ill. 61201
Filed June 9, 1965, Ser. No. 462,577
Int. Cl. B08b *3/02*
U.S. Cl. 134—102 **1 Claim**



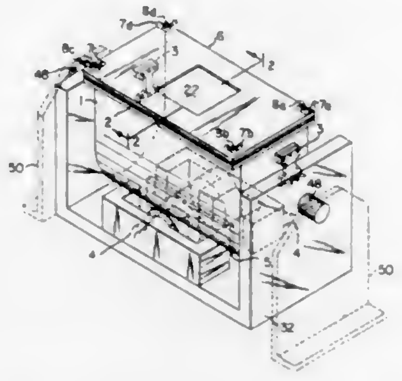
An oil filter cleaner for oil filters of annular form with an inner cylinder wall depending to seat on a cage bottom with openings therethrough; the openings being occluded by a pliant annular valve ring raised by fingers on spider means as spring tension lets the filter move with relation to a cleansing liquid diffuser in fixed relation to the spider means, the diffuser blowing cleansing liquid outwardly through the filter to pass down through said openings to be drained.

3,448,747

DUAL CONTAINER WORK PROCESSING DEVICE

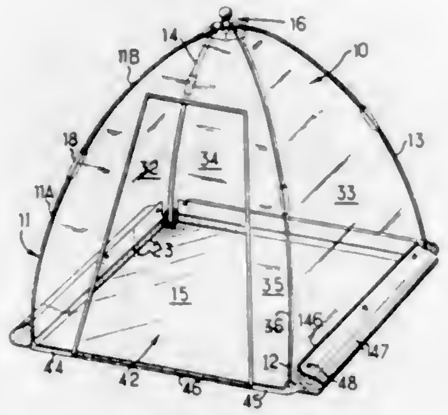
Max Isaacson, 410 W. Nottingham Road, Dayton, Ohio 45405
Filed Feb. 15, 1968, Ser. No. 705,703
Int. Cl. B08b *3/06, 3/02, 3/04*
U.S. Cl. 134—120 **7 Claims**

A work processing device in which an outer tank contains a liquid and is mounted so as to impart orbital motion to a load of parts to be treated within the tub, upon linear oscillatory impulses being applied to the tub, and in which a perforated container is mounted to be immersed within the liquid and to have the linear oscillatory impulses applied thereto, the container being bodily displaced through said liquid. The liquid is then forced in a jet flow through the perforations of the container.



3,448,748
WINDBREAK TENT

Louis Walrave, 20–22 Rue de Turenne, Paris 4eme, France
Filed Jan. 27, 1967, Ser. No. 612,267
Claims priority, application France, Feb. 18, 1966, 50,135
Int. Cl. A45f *1/12, 1/16*
U.S. Cl. 135—1 8 Claims

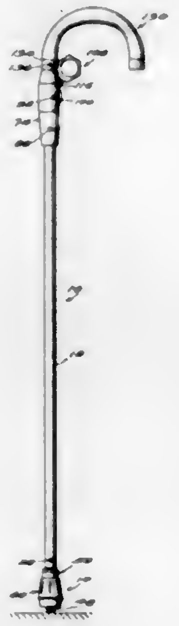


The invention essentially relates to the construction of a windbreak tent intended to permit sheltering from the wind whilst remaining exposed to the sun, and preferably made in the form of a pliable sheath capping a reinforcing grid or frame connected to a ground-sheet or the like.

3,448,749
NON-SKID ATTACHMENT FOR THE GROUND-ENGAGING END OF CANES, CRUTCHES, AND THE LIKE

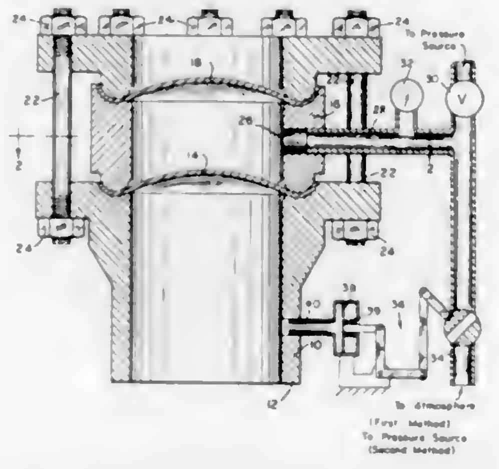
Walter Stark, Rte. 2, Milaca, Minn. 56353
Filed May 22, 1968, Ser. No. 731,067
Int. Cl. A61h *3/02;* **A45b** *9/04*
U.S. Cl. 135—53 9 Claims

A friction attachment for the ground-engaging end of a cane, crutch or other related walking aid, the attachment comprising spike means extendable and retractable axially of and relative to the ground-engaging end of the walking aid, and further including manually operable means selectively controlling the movement of the spike means with actuating lever means for the control means being located substantially at the hand engageable handle means of the walking aid.



3,448,750
METHOD AND DEVICE FOR RELEASING PRESSURE OF A PRESSURIZED SYSTEM

Asbury S. Parks, Houston, Tex., assignor to Dover Corporation, W. C. Norris Division, Tulsa, Okla., a corporation of Delaware
Filed July 20, 1964, Ser. No. 383,590
Int. Cl. F16k *31/00;* **F17d** *3/02*
U.S. Cl. 137—14 11 Claims


To Pressure Source
To Atmosphere (First Method)
To Pressure Source (Second Method)

1. A pressure release device for releasing fluid under pressure from an outlet of a pressurized system comprising:

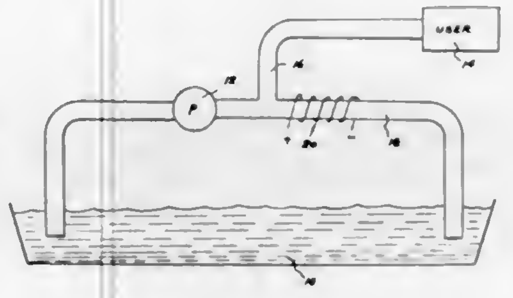
a first rupturable disc adapted to extend across the outlet for normally sealing the outlet, the first disc having an inherent bursting pressure less than the preselected maximum pressure of the system;

a second rupturable disc in exterior spaced closed communication with the first disc, the second disc having an inherent bursting pressure less than the preselected maximum pressure of the system, the said first and second discs having fluid loading therebetween so that the differential pressure across the first disc is less than its inherent bursting pressure; and

means effective to release the fluid loading between the discs so that the first and then the second disc ruptures to release the pressure of the system through the outlet.

3,448,751
MAGNETIC FLUID PRESSURE CONTROL

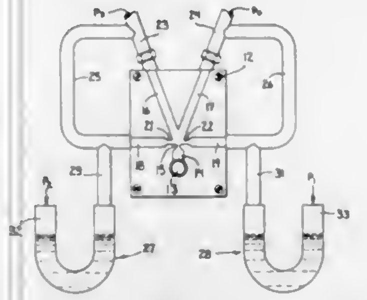
Nils O. Rosaen, Bloomfield Hills, Mich., assignor to Norco Products Incorporated, Detroit, Mich., a corporation of Michigan
Filed Oct. 8, 1965, Ser. No. 494,162
Int. Cl. F15c *1/04;* **F16k** *9/00*
U.S. Cl. 137—81.5 12 Claims



A fluid system including a fluid having magnetic particles and diamagnetic particles and means for selectively producing a magnetic field within a portion of a conduit carrying the fluid to thereby regulate fluid flow therethrough.

3,448,752
FLUID OSCILLATOR HAVING VARIABLE VOLUME FEEDBACK LOOPS

William C. O'Neill, Washington, D.C., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 18, 1967, Ser. No. 635,298
Int. Cl. F15c *1/00, 1/14*
U.S. Cl. 137—81.5 3 Claims

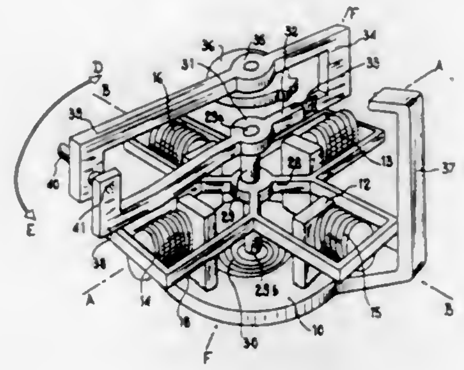


A pure fluid oscillator having a power jet nozzle for issuing a power stream, an interaction region having first and second vent channel sidewalls, and first and second vent channels with feedback paths being provided from said first and second vent channels to first and second orifices, respectively, in said vent channel sidewalls. The volume of the feedback loops are made variable by connecting each feedback loop to a separate leg of a manometer and by utilizing a pressure on the control leg of the manometer.

3,448,753
DIFFERENTIAL PNEUMATIC AMPLIFIER WITH ADJUSTABLE GAIN

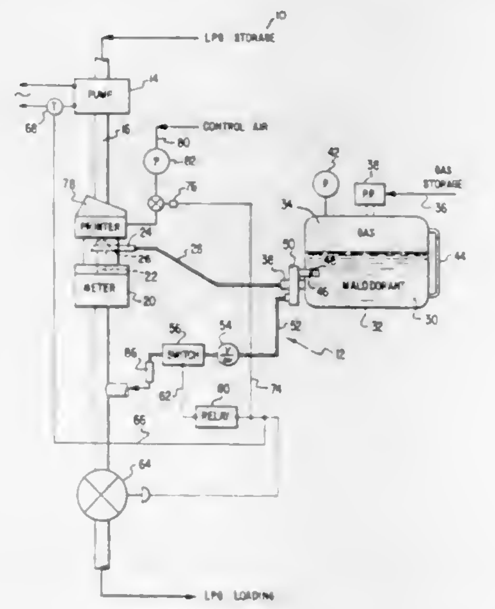
Luigi Marucci and Gian Franco Bianchi, Milan, Italy, assignors to Kent-Tieghi S.p.A., Milan, Italy
Filed Sept. 13, 1966, Ser. No. 579,016
Claims priority, application Italy, Sept. 22, 1965, 21,120/65
Int. Cl. F15b *5/00;* **G05d** *16/06*
U.S. Cl. 137—86 8 Claims

An adjustable gain pneumatic amplifier includes a base supporting four bellows arranged in two pairs, the bellows of each pair being coaxial and in opposition to each other, and the bellows being spaced at 90° intervals. A rod has one end secured pivotally but non-rotatably to the base and has an outer end forming a pivot. A rigid structure is operatively engaged with the movable ends of all of the bellows and is connected to the rod intermediate its ends. The pivot end of the rod thus has a movement which is amplified with respect to the movement of such rigid structure. A modulating structure is angularly adjustably mounted on the pivot end of the rod and is adjustable between limiting positions each defined by the axis of a respective pair of bellows. The modulating system includes one rigid element which is adjustable about an axis fixed with respect to the base and coincident with the axis of the rod in the neutral position of the latter, and includes a second rigid element which is adjustable about the pivot end of the rod and has one end connected by a flexible link to the first-mentioned element. The opposite ends of the first and second elements carry the modulating means comprising a nozzle and a baffle plate positioned adjacent the discharge end of the nozzle. Adjustment means are provided for adjusting the vertical and horizontal orientations of the respective pairs of nozzles.



3,448,754
SELF-PROPORTIONING FLOW SYSTEM

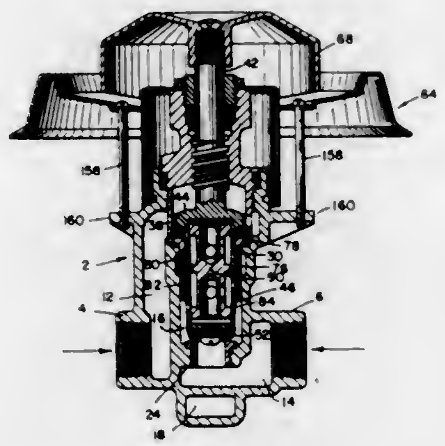
Reece J. Crabtree, Houston, Tex., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 13, 1966, Ser. No. 586,479
Int. Cl. G05d *11/02;* **B01f** *3/04, 15/04*
U.S. Cl. 137—99.5 6 Claims



There is disclosed a new apparatus for injection, measurement and control of an additive fluid to a primary fluid, such as a malodorant to LPG. Flow of the primary fluid is transformed to an arcual displacement which in turn displaces a pre-determined amount of the additive from a pressurized tank. The flow of the additive fluid controls the operation through sensing means of responsive means to stop the flow of the primary fluid. Two such responsive means can be utilized to better control the flow. Means to record the flow of the additive may also be included.

3,448,755
NON-SCALD MIXING VALVE

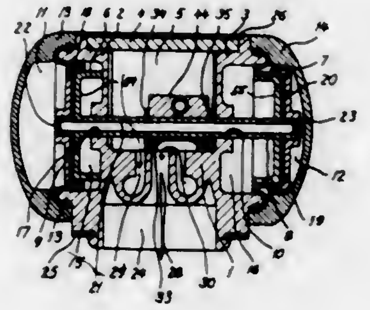
Paul C. Symmons, Newton, Mass., assignor to Symmons Engineering Company, Boston, Mass., a corporation of Massachusetts
Filed May 9, 1966, Ser. No. 548,529
Int. Cl. F16k *11/07*
U.S. Cl. 137—100 6 Claims



A plumbing fixture comprising a manually operable non-scald hot and cold water mixing valve and a diverter valve combined in a common valve body, the diverter valve providing volume control and having an operating stem that is telescopically connected to the diverter valve member.

3,448,756
AUTOMATIC PULSATOR

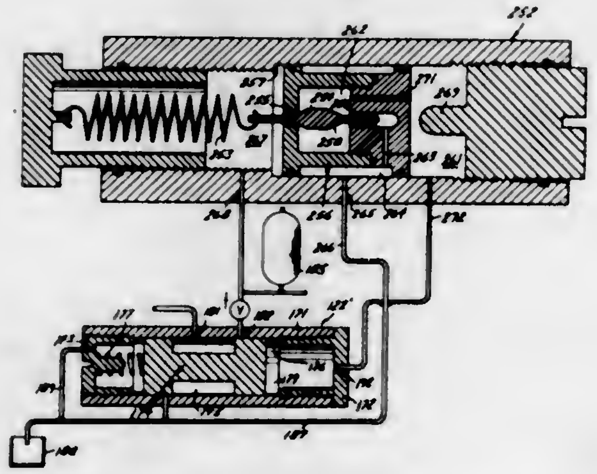
Sven-Åke Nordegren, Sodertalje, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Continuation of application Ser. No. 436,793, Mar. 3, 1965. This application Aug. 22, 1967, Ser. No. 662,479
Claims priority, application Sweden, Mar. 11, 1964, 3,031/64
Int. Cl. G05d *7/00, 9/00;* **F17d** *3/00*
U.S. Cl. 137—104 5 Claims



Two chambers are formed by a casing having a duct to be connected alternately to a vacuum source and a pressure source, and each chamber contains a piston reciprocable between two end positions and dividing its chamber into two subchambers, one of which communicates through a channel with a subchamber of the other chamber and is otherwise sealed. The two pistons are positively coupled to each other through a connection to form a piston means which operate a control member to put parts of the piston means in communication alternately with the vacuum source and the pressure source, thereby reciprocating the piston means and causing fluid to flow back and forth between the intercommunicating sealed subchambers. A valve member, operated by the piston means, connects the duct alternately to the vacuum source and the pressure source.

3,448,757
VALVE SYSTEMS

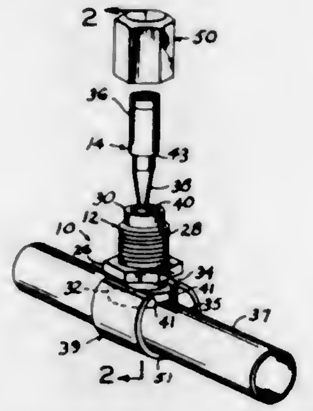
Jean Mercier, New York, N.Y.
(501 Bloomfield Ave., Caldwell, N.J. 07006)
Original application Mar. 14, 1966, Ser. No. 534,179, now Patent No. 3,336,933, dated Aug. 22, 1967. Divided and this application June 7, 1967, Ser. No. 644,231
Int. Cl. G05d *7/00;* **F16k** *31/12*
U.S. Cl. 137—108 2 Claims



This invention relates to the art of valve systems, more particularly to those employing a pilot valve that controls a main unloader valve.

3,448,758
REFRIGERANT SERVICE VALVE

John W. Mullins, Cooper, Tex.
(P.O. Box 20524, Oklahoma City, Okla. 73130)
Filed Nov. 4, 1966, Ser. No. 592,104
Int. Cl. F16l *41/06;* **F25b** *45/00*
U.S. Cl. 137—318 2 Claims



A generally cylindrical centrally bored and counterbored housing, having external threads intermediate its ends is connected by one end portion to a line to be tapped by clamp means. A tubular core having a length slightly greater than the length of the housing and having a line piercing tip is provided with a valve opening and closing its bore and is freely received by the bore of the housing. A cap threadedly engaged with the housing moves the core longitudinally through the housing and forces the line piercing tip into a line and subsequently crimps the free end portion of the housing wall inwardly in overlapping locking relation against the adjacent end of the core.

3,448,759
WATER SYSTEM FOR HIGH RISE BUILDINGS

Chester A. Peerman, 5435 Washington St., Morton Grove, Ill. 60053
Filed July 6, 1966, Ser. No. 563,283
Int. Cl. E03b *7/00;* **F16k** *21/04*
U.S. Cl. 137—357 5 Claims

This invention relates to a water supply system for

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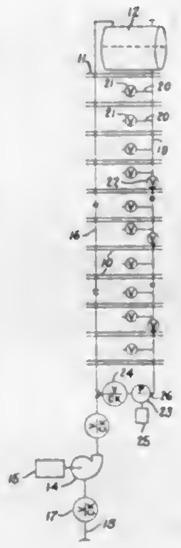
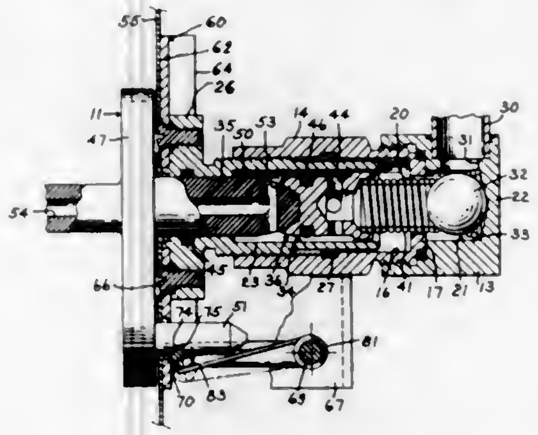
a high rise building and more specifically to means for counteracting or modifying the effects of gravity upon the water pressure in the vertical and lateral distribution piping.



3,448,760
COUPLER ASSEMBLY

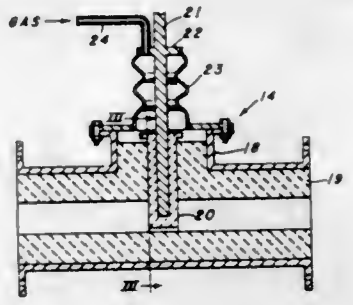
Bidwell Chapman Cranage, Ferguson, Mo., assignor to Stile-Craft Manufacturers, Inc., a corporation of Missouri
Original application Dec. 9, 1963, Ser. No. 329,319. Divided and this application June 8, 1966, Ser. No. 556,173
Int. Cl. F16l *33/00, 37/08, 37/28*
U.S. Cl. 137—360 2 Claims



A coupler assembly for a station for a designated fluid which includes a valve plug-receiving means having a forward head portion, and a cover plate for the station having an opening communicating with the plug-receiving means, the cover plate having a fluid designation conforming to that of the station. A bracket is secured to one side of the cover plate, the bracket including spaced flanges extending from the cover plate. Either a key or slot is located in a predetermined position on one bracket flange depending on the fluid designation on the cover plate, the key or slot interfitting respectively a coacting slot or key located in a predetermined position on the head portion, the predetermined positions of the coacting key and slot being different for each fluid. The head portion is located between the flanges to align the plug-receiving means with the cover plate opening when the coacting key and slot of a compatible bracket and head portion for a particular designated fluid are interfitted. The interfitted key and slot assure that the cover plate having the correct fluid designation will be mounted to the station for that designated fluid.

3,448,761
VALVE FOR REGULATING FLOW OF HIGH-TEMPERATURE LIQUIDS

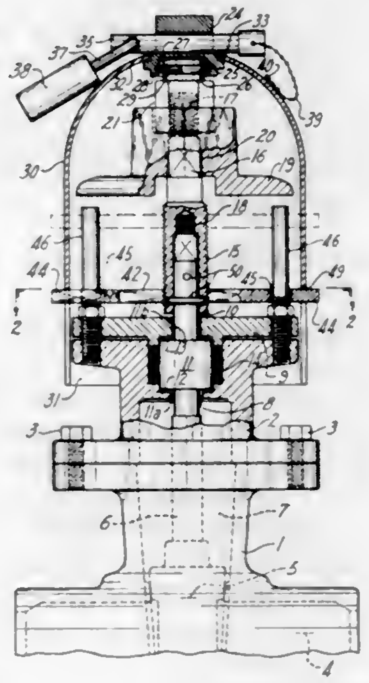
Jerome Feinman, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 12, 1966, Ser. No. 520,148
Int. Cl. F16k *3/02, 25/04, 41/00*
U.S. Cl. 137—375 5 Claims



A valve for regulating flow of high-temperature liquids, such as molten iron from a blast furnace. Includes refractory lined body, a vertically movable refractory plug mounted in the body, an upwardly extending rod fixed to the plug, and a bellows seal connected between the rod and body. The plug can be positioned through an automatic control means to maintain a desired flow rate through the body.

3,448,762
VALVE ASSEMBLY WITH INDICATOR AND LOCK

Edward L. Schmitt, Pittsburgh, Pa., assignor to Kerostest Manufacturing Corp., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 23, 1967, Ser. No. 662,727
Int. Cl. F16k *35/00, 37/00;* **E03b** *7/07*
U.S. Cl. 137—383 9 Claims

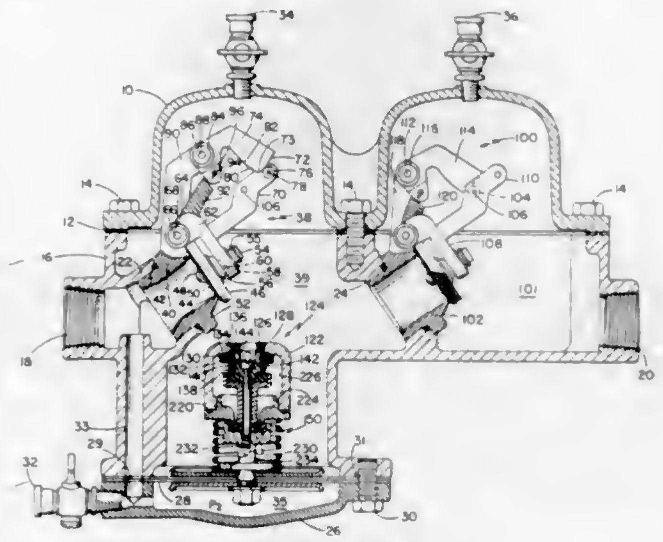


A locking valve assembly having a valve housing, a rotatable valve stem projecting out of the housing, a lock nut secured to the outermost end of the valve stem and a swivel having a transverse aperture rotatably attached to the locknut. A bell shaped valve cover overlying the stem, nut and swivel having an aperture through which a portion of the swivel passes, covering the remainder of the swivel, nut and stem, with a locking device passing through the swivel aperture to prevent cover removal.

An indicator showing valve position extending beyond the cover wall either through a slot therein or under the cover wall.

3,448,763
RELIEF VALVE

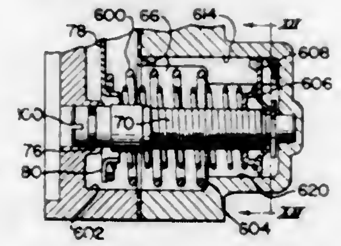
Alan Clarkson, Curtiss, Wellesley Hills, Mass., assignor to Hersey-Sparling Meter Company, Dedham, Mass., a corporation of Massachusetts
Filed Feb. 20, 1967, Ser. No. 617,110
Int. Cl. F16k *31/12, 31/36*
U.S. Cl. 137—494 **8 Claims**



Relief valve has two valve seats spaced axially along a valve stem, a valve seat ring mounted therebetween for limited axial movement relative to a housing to which it is sealed by an axially deformable member, a pressure differential sensing diaphragm to which the stem responds in axial movement, and a spring biasing both the diaphragm and the ring.

3,448,764
DUAL STAGE CONTROL DEVICE

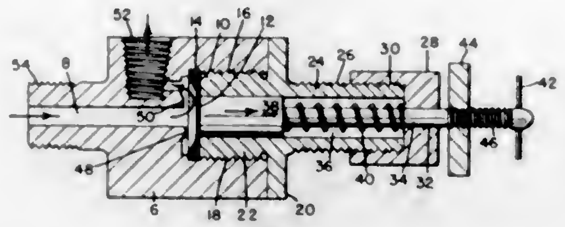
Theodore J. Dykzeul, Rolling Hills, and Edward B. Scharer, Lynwood, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Application Jan. 21, 1965, Ser. No. 429,203, now Patent No. 3,338,264, dated Aug. 27, 1967, which is a continuation of application Ser. No. 85,276, Jan. 27, 1961. Divided and this application July 31, 1967, Ser. No. 657,153
Int. Cl. F16k *31/12, 31/36;* **F16f**
U.S. Cl. 137—505.41 **7 Claims**



This disclosure relates to pressure regulator means wherein the valve member is carried by a flexible diaphragm and is urged away from its valve seat in opposition to the pressure fluid passing through the valve seat and acting on the diaphragm by spring means acting against one end of a lever to fulcrum the lever and have the other end of the lever operatively engage the valve member, the force of the spring means being selectively increased to increase the rating of the regulator by either changing the fulcrum point of the lever and/or adding additional spring force thereto.

3,448,765
AUTOMATIC PULSE VALVE

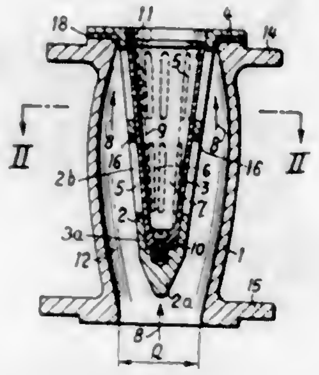
John F. McKinney, Des Moines, Iowa, assignor to Intercontinental Chemical Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 7, 1965, Ser. No. 485,171
Int. Cl. F16k *17/04, 21/04, 1/00*
U.S. Cl. 137—513.5 **5 Claims**



The valve controls automatically a flow of liquid therethrough, and is manually adjustable exteriorly of the valve body with primary and secondary adjustability of flow rate. The valve may be purged both manually and automatically, at various flow rate settings selected. A longitudinally slidable plunger provides for quick-action manual purging without disturbing the previously selected adjustable flow rate setting to which the plunger returns after each purging of the valve. Simplicity and reduction of the number of parts employed characterize the valve structure.

3,448,766
CHECK VALVE

Albert Schüle, Niklaus von Flue-Strasse 41, Basel, Switzerland
Filed June 22, 1965, Ser. No. 465,885
Claims priority, application Switzerland, June 23, 1964, 8,195/64
Int. Cl. F16k *15/00, 21/04*
U.S. Cl. 137—525 **5 Claims**

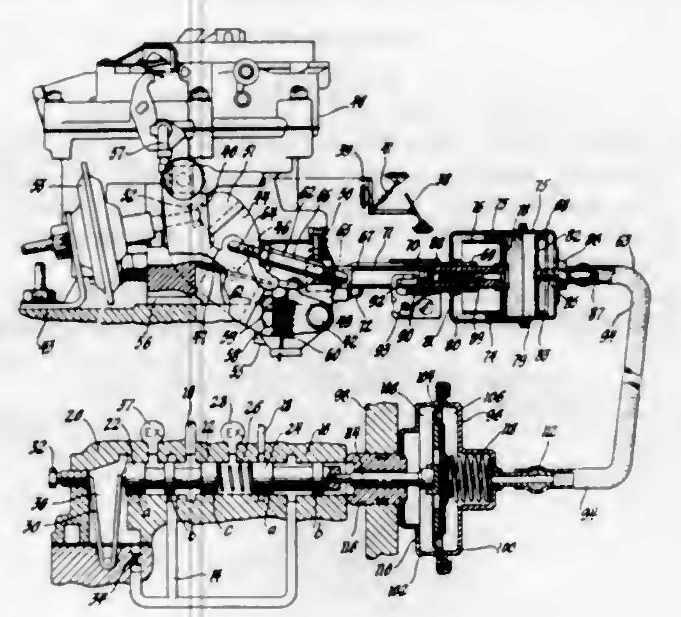


A check valve includes a tubular housing provided with an inlet at one end and an outlet at the other end. A hollow valve seat is provided in the housing and has an open end which is sealingly secured to the housing in the region of the outlet. A mantle extends toward the inlet at least partially spaced from the housing and is provided with at least one ring of apertures distributed around the circumference of the mantle. An elastic valve member is received in and normally overlies the mantle of the valve seat.

3,448,767
TRANSMISSION CONTROL

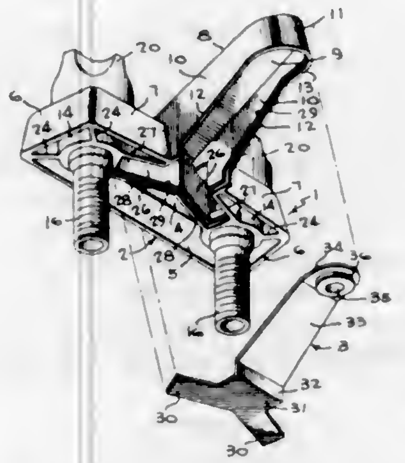
Quinby E. Wonn, Plymouth, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 3, 1967, Ser. No. 628,110
Int. Cl. B60k *23/04*
U.S. Cl. 137—595 **12 Claims**

A transmission control is provided having linkage including a pneumatic link for applying to a control valve in an automatic transmission a force which is substantially proportional to engine throttle opening and decreases with decreasing atmospheric pressure to provide a modulated pressure in the transmission control system for conditioning the drives in accordance with engine throttle opening and atmospheric pressure.



3,448,768
WATER FIXTURE

Robert J. Keller III, Rte. 3, Chester, Va. 23831
Filed May 19, 1966, Ser. No. 551,396
Int. Cl. E03b *7/07;* **B05c** *5/02*
U.S. Cl. 137—606 **3 Claims**

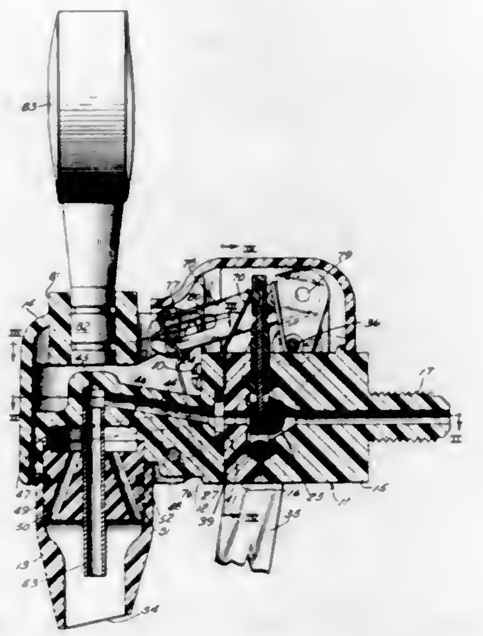


An easily manufactured, economical water fixture comprising a molded plastic cover member and underbody, the cover member having inwardly spaced depending wall portions on its undersurface forming a water channel extending from an inlet in each end of the cover member to an outlet spout medially of the cover member, the underbody being snap-fitted with the walls of the water channel and bridging the open bottom thereof to form closed water passageways from the inlets to the outlet.

3,448,769
POST-MIX VALVE HAVING PLURAL INDEPENDENT ACTUATORS

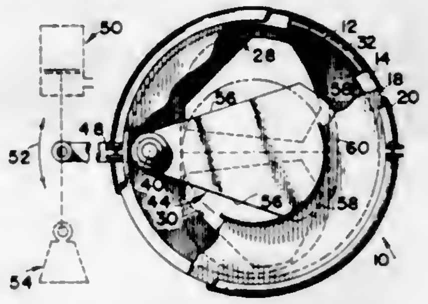
Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Oct. 20, 1965, Ser. No. 498,672
Int. Cl. F16k *21/04, 17/00*
U.S. Cl. 137—607 **16 Claims**

A dispensing valve assembly such as of the mixing type includes valve members that can be operated by a first actuating means which comprises a depending lever, or by a second actuating means which comprises a manually pivotable shroud which encloses a part of the valve body that contains the outlet or by an electric solenoid carried by such part of the valve body. Such shroud carries a removable product-identifying knob. The second valve actuating means is connected to the valve member through a lost-motion connection whereby the shroud can remain stationary when the depending lever is actuated.



3,448,770
HOT AIR TRANSFER VALVE WITH CONSTANT FLOW AREA FOR ALL VALVE POSITIONS

John W. Edgemond, Jr., Oakland, and John L. Boyen, Orinda, Calif., assignors, by mesne assignments, to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 22, 1966, Ser. No. 544,511
Int. Cl. F16k *11/06, 27/04*
U.S. Cl. 137—610 **8 Claims**

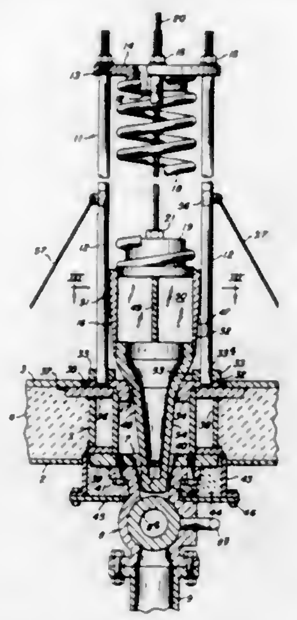


A fluid valve suitable for industrial use in transferring large volumes of hot gases along alternate fluid flow paths wherein the valve has a plate provided with a pair of openings therethrough and a valve member rotatably mounted on the plate for movement relative to and in blocking relationship to said openings. The configuration of the plate and the openings are such that, for all positions of the valve member relative to the openings, the fluid pressure drop across the plate is essentially constant. Thus, the valve is suitable for use with equipment such as a turbine, or the like, where it is desired to avoid increases in back pressure.

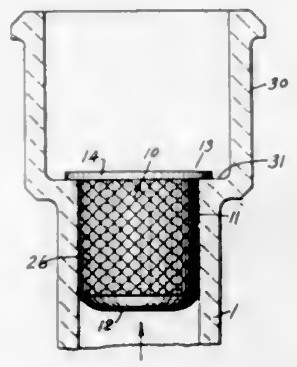
3,448,771
DRAIN VALVE FOR TANK BOTTOM

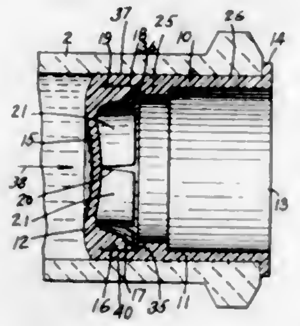
John W. Bales, Jr., North Huntingdon Township, Westmoreland County, and Joseph S. Giunta, Turtle Creek Borough, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 590,017
Int. Cl. F16k *1/08, 27/03, 49/00*
U.S. Cl. 137—614 **3 Claims**

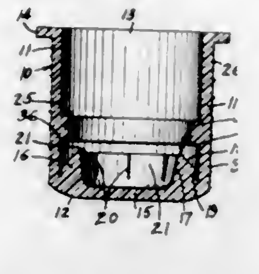
A plug-type valve comprising a casing having fluid intake and discharge openings, a seat on the intake opening, a housing on the seat having openings therein permitting fluid to enter the housing, a plug having a working fit in the housing adapted to be moved towards and away from the seat, means for moving the plug away from the seat and spring means for urging the plug against the seat to close the valve.



3,448,772
WASTE PIPE PLUG
William B. Delamater, 9114 Valley View,
Whittier, Calif. 90603
Filed Apr. 18, 1966, Ser. No. 543,290
Int. Cl. F16l *55/10, 57/00,* **B65d** *59/02*
U.S. Cl. 138—89 **3 Claims**

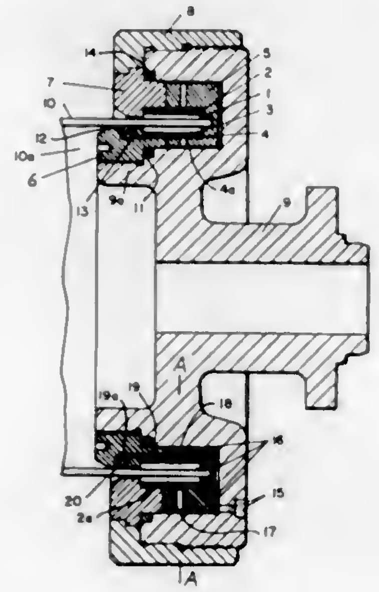






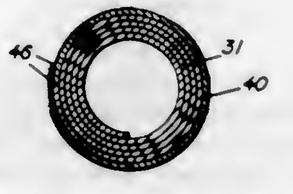
The waste pipe plug is designed to be inserted in the open end of a pipe for the purpose of providing a positive leak proof seal to hold liquid within the pipe for testing of leak in a plumbing system. The plug, when inserted in the open end of a pipe, is automatically self-expanded by the liquid pressure within a system and does not require further attention other than the insertion in the pipe. The waste pipe plug includes a tubular body closed at one end by a diaphragm to which is internally and integrally attached a multi-split ring so situated as to expand or flow outwardly in response to external pressure against the diaphragm; an integral blocking ring is within the body situated above the multi-split ring to cause the split ring to be confined to an outward expansion and to maintain the expanded pressure in one uniform circle just below the blocking ring. As pressure externally builds up against the diaphragm, the blocking ring and split ring are so activated that the two oppose each other so that all lines of force are exerted in an outwardly uniform direction against the inside wall of the pipe.

3,448,773
SEALING AND CLAMPING HEADS
Ali Bindernagel, Dusseldorf-Gerresheim, Erwin Kost, Osterath, Germany, and Rolf Steinbock, Carnegie, Pa., assignors to Kommanditgesellschaft Friedrich Kocks, Dusseldorf, Germany, a corporation of Germany
Filed Mar. 24, 1967, Ser. No. 625,730
Claims priority, application Germany, Mar. 26, 1966, K 58,836
Int. Cl. F16l *55/12, 17/06*
U.S. Cl. 138—90 **2 Claims**



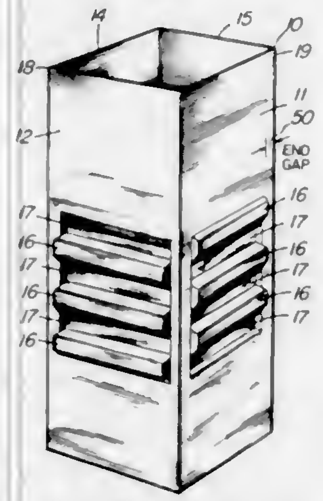
A sealing and clamping head for pressure testing of tubes and the like hollow bodies having a multipart housing receiving at one end the open end of the tube to be tested and means for supplying pressure from the other side. A ring sealingly engages the end of the hollow body against the housing and actuated along with a clamping segment by said pressure, said clamping segment including a sealing collar with enclosed clamping segments movable radially in unison and a second clamping means on the other side of the wall of the hollow body actuated by said pressure means in a direction opposing said first clamping means.

3,448,774
CENTER CORE FOR ROLLS OF PRESSURE-SENSITIVE ADHESIVE TAPE AND METHODS OF MAKING SAME
Thomas G. Nelms, 15 Summerfield Road,
London W. 5, England
Continuation of application Ser. No. 403,780, Oct. 14, 1964. This application Jan. 2, 1968, Ser. No. 695,290
Claims priority, application Great Britain, Oct. 18, 1963, 41,328/63
Int. Cl. F16l *9/16;* **B65h** *81/04*
U.S. Cl. 138—144 **11 Claims**



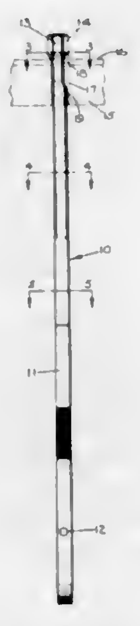
1. As an article of manufacture, a center core upon which a continuous strip of pressure-sensitive adhesive tape is convolutely wound for selective dispensing thereof, said core comprising an annular fibrous ring having at least one seam extending along its exterior surface and a single, at least substantially nonfibrous, cellulosic film, adhesive material adhesively binding said film to the exterior surface of said ring overlying said seam, said film and said adhesive material forming the sole barrier between said ring and said tape, the adhesive bond of said adhesive material, between said film and said ring having a peel strength exceeding that of the adhesive bond between said pressure-sensitive tape and said film whereby said tape may be dispensed without separating said film from said ring.

3,448,775
HOLLOW CONTAINER BODY
Anthony Paul Limbach, Somerset, N.J., and Andrew J. Foglia, Brooklyn, N.Y., assignors to Mobil Oil Corporation, a corporation of New York
Filed Apr. 26, 1966, Ser. No. 545,281
Int. Cl. F16l *9/12;* **B65d** *1/24, 3/28*
U.S. Cl. 138—173 **4 Claims**



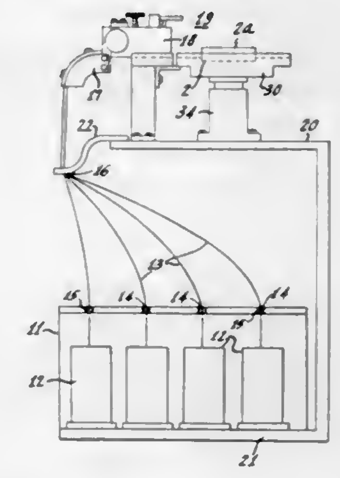
A collapsible layflat container body comprises a thin-walled rectangular parallelopiped open at the long ends, characterized by a plurality of ribs and depressions on each side. The ribs and depressions are so positioned that in the layflat position ribs on one side nest into depressions of the adjacent side. The container body is prepared by molding a flattened tube of thermoplastic material.

3,448,776
PICKER STICK
Robert G. Mallard, Hopedale, Mass., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees, of The Carolina Patent Development Trust
Filed Oct. 26, 1967, Ser. No. 678,284
Int. Cl. D03d *49/38*
U.S. Cl. 139—157 **1 Claim**



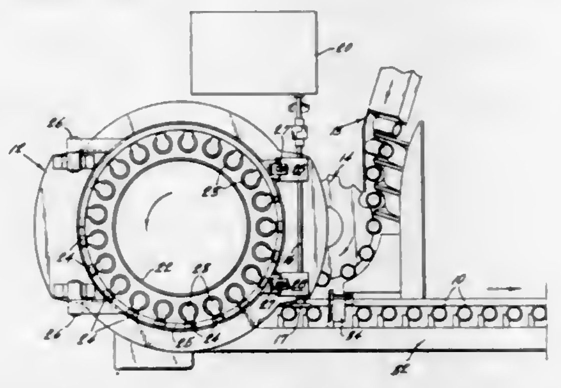
A picker stick for looms having a built-up surface on one side thereof for reducing the clearance within the opening in the lay in which it is adapted to travel and for maintaining the picker retaining portion of said stick in axial alignment with said lay during movement of the latter.

3,448,777
WIRE HANDLING APPARATUS
Harvey D. Gibson Scheffer, Westfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,008
Int. Cl. B21f *45/00*
U.S. Cl. 140—92.1 **4 Claims**



A method and apparatus for aligning and terminating the ends of a plurality of wires to automatically eliminate termination errors. The arrangement is particularly adapted to the concurrent termination of a large number of fine wires, such as those used for stringing a core matrix, on a printed circuit board.

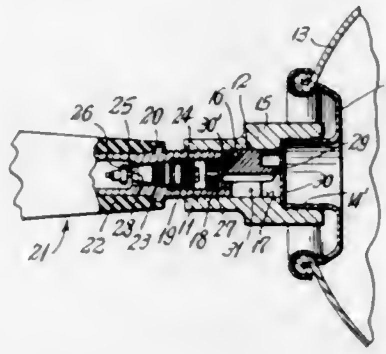
3,448,778
LEVEL CONTROL SYSTEM
Joseph D. Ramsay, Audubon, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed Dec. 7, 1965, Ser. No. 512,182
Int. Cl. B65h *1/30, 3/26, 43/42*
U.S. Cl. 141—83 **4 Claims**



An apparatus for automatically maintaining substantially constant the level of product in a series of rapidly-moving open-ended cans, which employs a capacity sensor positioned above the path of the cans to produce signals indicative of the spacing from the sensor to the objects passing beneath it, an electronic sampler actuated by a proximity detector adjacent the path of the cans to select samples of the capacity sensor signal which are indicative of the level of the product in the can, an integrating memory circuit arrangement supplied with the sampled level-indicating signals for producing a control signal representative of an average level of product in a plurality of successive cans, and a servo motor arrangement responsive to the control signals for correcting the extent of filling of subsequent cans. A potentiometer follower and a tachometer generator, both operated by the servo motor, provide negative feedback signals which are combined with the control signal from the memory circuit to stabilize the system operation. The capacity sensor, proximity sensor and sampler enable the supply of accurate level-indicating signal samples to the memory unit despite very rapid motion of the can, and the particular form of negative feedback utilized enables the use of sufficiently high gains in the system to effect rapid correction while preventing excessive hunting or oscillation in the system.

3,448,779
PORTABLE TIRE INFLATOR

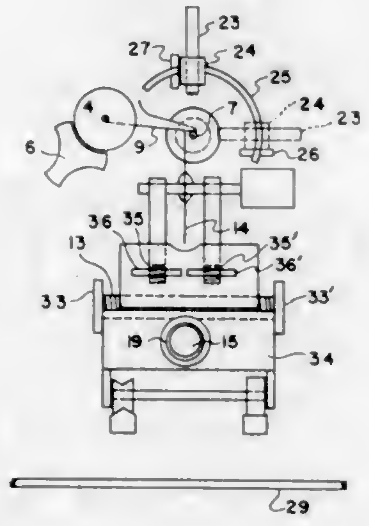
Laurence G. Horwitt, New Haven, Conn., assignor to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut
Filed June 20, 1967, Ser. No. 647,386
Int. Cl. B65b *31/08;* **B60c** *23/00*
U.S. Cl. 141—38 **5 Claims**



A portable disposable tire inflator having a pressurized gas tank which is perforatable by engagement of the inflator with a tire valve to cause release of the pressurized gas and inflation of the tire, the inflator having a slidably mounted perforating means which is gas transmissive and which engages both the tire valve tube and its valve stem to open the tire valve and subsequently perforate the pressurized gas chamber.

3,448,780
SAWMILL

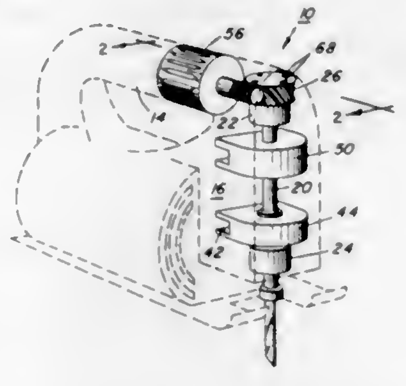
David E. Hervey, Room 2, Toisnot Motel,
Elm City, N.C. 27822
Filed June 13, 1966, Ser. No. 557,183
Int. Cl. B27b *7/00, 31/04*
U.S. Cl. 143—39 **10 Claims**



In abstract, a preferred embodiment of this invention is a sawmill which automatically feeds logs of a standard predetermined length into a sawing area and automatically reduces the logs as they pass through such area into lumber by cutting radially from a center portion of the log outwardly.

3,448,781
MOTOR DRIVEN RECIPROCATING SAW HAVING ROTATABLE BLADE

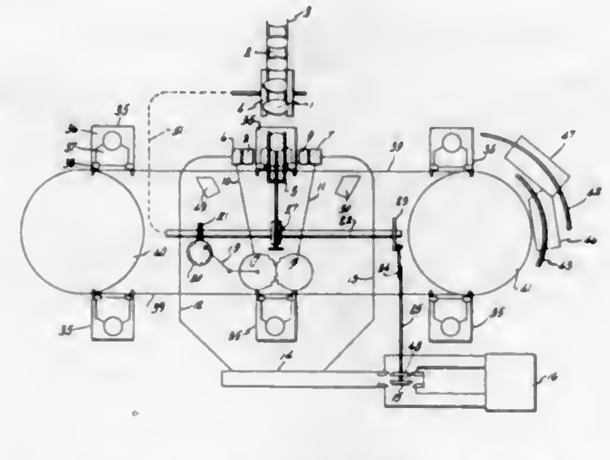
John J. Angelucci, 359 10th Ave.,
Bethlehem, Pa. 18078
Filed Oct. 21, 1966, Ser. No. 588,394
Int. Cl. B27b *11/00*
U.S. Cl. 143—68 **4 Claims**



A motor driven hand saw of the type having a sabre type blade mounted on a reciprocating shaft is provided with gearing on and in operative relation with the reciprocating shaft so that the cutting angle of the sabre type blade can be varied while the saw is engaged in a cutting operation. The gearing is positioned in such a manner as to allow the saw to be held and the blade selectively rotated by a single hand of an operator, thus freeing the other hand of the operator to grip the piece being cut.

3,448,782
EGG-HANDLING MACHINE

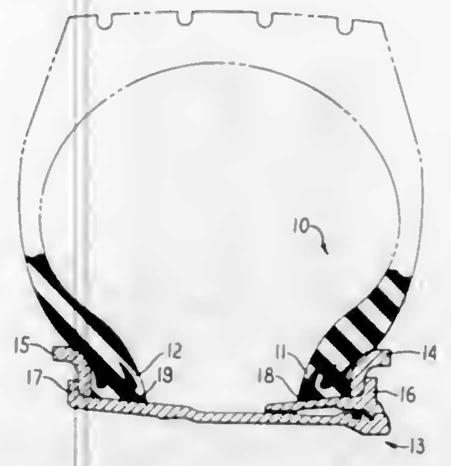
Harry V. Williams, Frankfurt am Main, Germany, assignor to Innovation International, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 26, 1966, Ser. No. 575,403
Claims priority, application Germany, Aug. 27, 1965,
W 39,816
Int. Cl. A47j *43/14*
U.S. Cl. 146—2 **6 Claims**



In an egg-breaking machine, the usual plethora of vacuum cups is eliminated and only a pair of opposed suction cups are used. The suction cups are oscillated and during a portion of this movement are brought into gripping engagement with an egg delivered by a delivery mechanism to a stationary support at an egg-cracking station. The suction cups move away from one another as the egg is cracked and pull the egg shells away from the yoke and albumen which are separated automatically from each other. The suction cups carry the egg shells away and discharge the same.

3,448,783
TIRE BEAD SHIELD

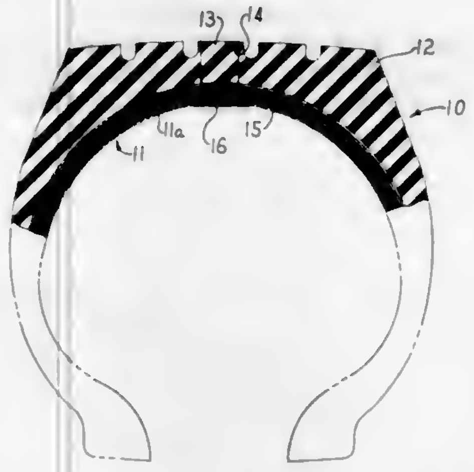
Charles C. Sons, Jr., Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Continuation-in-part of application Ser. No. 595,477, Nov. 18, 1966. This application June 9, 1967, Ser. No. 659,829
Int. Cl. B60c *15/00, 19/00, 5/16*
U.S. Cl. 152—362 **11 Claims**



A heat shield is constructed and arranged between the rim and tire bead of a ground engaging wheel assembly to protect the tire bead against deterioration.

3,448,784
TIRE PATCH FOR REPAIRING PNEUMATIC TIRES

Charles C. Sons, Jr., Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 18, 1966, Ser. No. 595,478
Int. Cl. B60c *21/06, 7/22*
U.S. Cl. 152—370 **6 Claims**

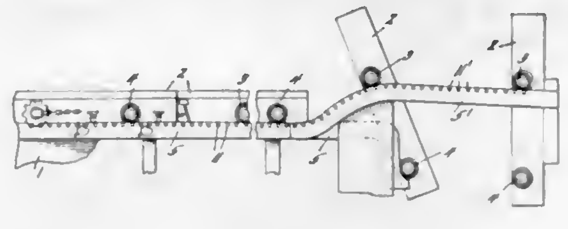


A puncture in a pneumatic tire is reamed to form a plurality of stepped-down recesses through the tire's carcass plies. A patch having a double frusto-conical configuration and constituting a plurality of superimposed plies is bonded to such plies within the recesses. The conically shaped patch portions meet at the apexes thereof intermediate the carcass plies.

3,448,785
HATCH COVER ARRANGEMENT

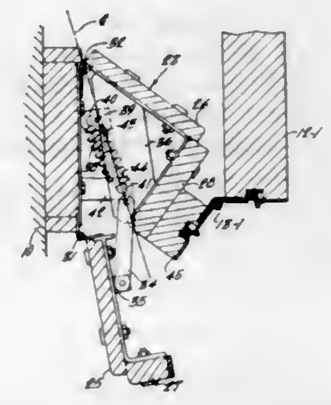
Per E. Höver and Svein-Ivar Qvist, Oslo, Norway, assignors to A. S. Kvaerner Brug, Oslo, Norway
Continuation of application Ser. No. 504,516, Oct. 24, 1965. This application Jan. 29, 1968, Ser. No. 701,470
Claims priority, application Norway, May 7, 1965, 157,989
Int. Cl. E05f *11/00, 13/00, 15/00*
U.S. Cl. 160—188 **3 Claims**

In an arrangement for removing and reinstalling the sectional covers for the hatches of cargo ships and similar openings, in which the cover sections are provided at either side with rollers engaging track members extending along the respective sides of the opening, the improvement consisting in providing the track members with horizontally extending spaced pins for engagement with toothed wheels associated with at least one roller on either side of at least one cover section, whereby the entire covering and uncovering movements are effected at uniform speed and independently of varying friction between the rollers and the track members.



3,448,786
FOLDING PARTITIONS

Charles Willis Edgerton, Jr., Bryn Mawr, Pa., assignor, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,280
Int. Cl. E05d *15/26*
U.S. Cl. 160—199 **12 Claims**



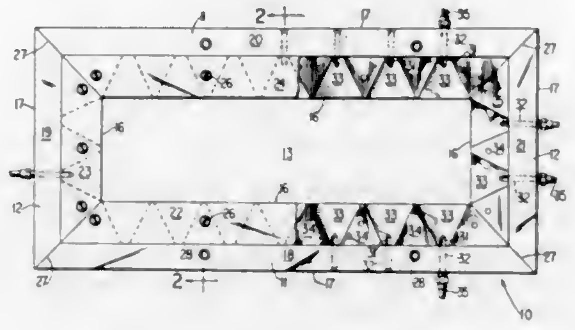
A folding partition comprising a series of panels hingedly interconnected and connected at one end to a jamb. The jamb is displaceable between an extended and retracted position and the partition assembly includes means operable automatically upon displacement of the series of panels and displacement of the jamb toward its retracted position to automatically initiate pivotal movement of the panels in the series to permit stacking thereof into face-to-face relationship adjacent the jamb.

3,448,787
PROCESS FOR CONTINUOUS CASTING OF STEEL WITH OIL-WATER MOLD LUBRICANT

Russel L. Beers, Trenton, N.J., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,353
Int. Cl. B22d *11/10, 11/00*
U.S. Cl. 164—73 **7 Claims**

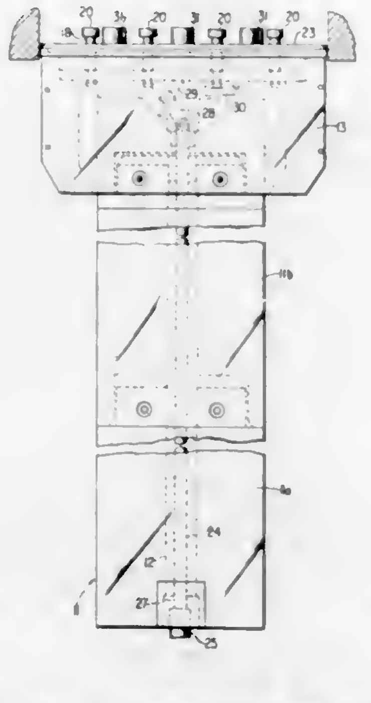
A process for treating the interior of a mold used in continuous casting of metals with a lubricating composition containing water. The lubricant composition may be in the form of a solution, a mixture or a stable or unstable emulsion. Suitable lubricant components for use in lubricant compositions of the invention may include animal, vegetable and mineral oils, water soluble non-oils, such as polyols, polyoxyalkylene glycols, phosphate esters and amine salts thereof, as well as non-water soluble, non-oil lubricants.

3,448,788
DEVICE FOR SUPPLYING LUBRICATING OIL TO MOLDS
Robert J. Keene, Chicago Heights, and Raymond S. Szumilas, Chicago, Ill., assignors to United States Steel Corporation, a corporation of Delaware
Filed June 16, 1966, Ser. No. 558,066
Int. Cl. F16n *7/00;* **B22d** *11/00;* **B22c** *3/00*
U.S. Cl. 164—268 **1 Claim**



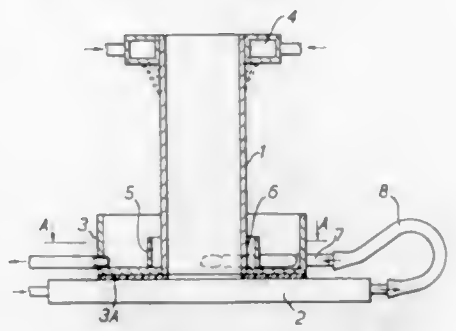
A lubricant-supply frame or collar adapted to rest on top of a flow-through continuous casting mold comprises a base portion and an inset portion seated thereon. The base portion has its upper surface relieved at a plurality of points spaced around the frame and inwardly from the outer edge to form laterally flaring recesses opening as elongated slots on the interior of the frame. Passages in the base portion conduct lubricant to the recesses.

3,448,789
STARTER BAR FOR CONTINUOUS METAL CASTING APPARATUS
Francis Gallucci, North Huntington Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Feb. 14, 1967, Ser. No. 616,103
Int. Cl. B22d *11/08, 27/04*
U.S. Cl. 164—274 **10 Claims**



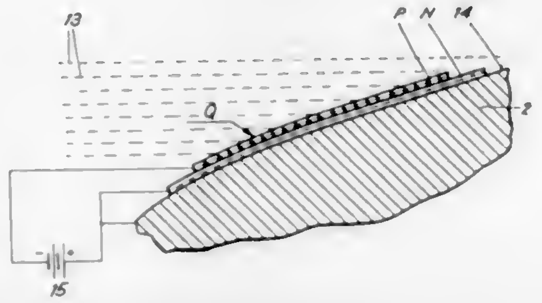
A starter bar for a continuous metal casting apparatus. The starter bar has a detachable chill plate which abuts the lower end of a casting and is secured to the casting by pins which become embedded in the casting during solidification. The slide plate positioned within the starter bar to releasably engage the pins on the chill plate is actuated by a plunger rod passing vertically through the starter bar. Actuation of the plunger rod is accomplished by the traveling basket carrying the starter bar away from the casting.

3,448,790
MOLDS FOR ELECTROSLAG REFINING
Peter Thomas Reginald Maskall, Birmingham, Warwickshire, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Apr. 10, 1967, Ser. No. 629,746
Claims priority, application Great Britain, Apr. 12, 1966, 15,999/66
Int. Cl. B22d *27/04, 11/12*
U.S. 164—348 **4 Claims**



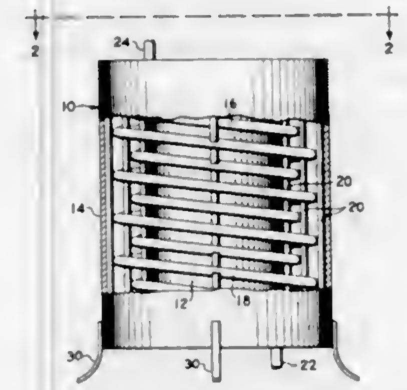
Within the drainage trough of an open-curtain water-cooled mold for electroslag refining there is set up, at a small distance from the mold wall, a barrier defining an open-topped annular space. Cooling water is introduced, preferably tangentially, into the space so as to create a flow of water which is closely confined against the mold wall and is in vigorous movement until it overflows the barrier. This is to avoid inadequate cooling due to pockets of stagnant water and/or air at the bottom of the mold wall and consequent breakouts of slag and metal and/or welding of the ingot to the mold wall.

3,448,791
METHODS AND APPARATUSES FOR ENERGY TRANSFER
James Clark, P.O. Box 3035, Dayton, Ohio 45431
Filed May 20, 1965, Ser. No. 457,394
Int. Cl. F28f *27/00;* **F25b** *29/00;* **F28d** *21/00*
U.S. Cl. 165—1 **38 Claims**



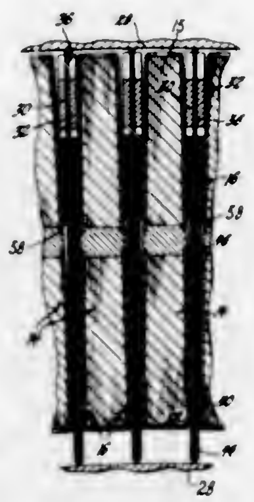
A system for controlling the transfer and flow of thermal flux including a heat source and a heat sink being in proximity to each other, a P material and an N material joined to form a PN junction and being arranged between said source and sink such that thermal flux flows from the source to the sink through one of said materials and through the PN junction then through the other of said materials, an electrical biasing means for controlling the biasing of said PN junction such that forward biasing raises the thermal flux conductivity and reverse biasing lowers the thermal flux conductivity. In an alternate arrangement, a third semiconductor electrode is physically spaced from the outer layer of said PN junction configuration and is formed of the opposite type of semiconductor material nearest thereto. A gas flow is established between the outer and third layer with electric biasing means biasing the respective layers of material so as to provide a three electrode transistor configuration.

3,448,792
THERMAL CONVECTION CONDENSER AND METHOD OF USE
Willis Thompson Lawrence, Arlington, Mass., assignor, by mesne assignments, to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Nov. 7, 1966, Ser. No. 592,650
Int. Cl. F28d *1/06*
U.S. Cl. 165—1 **13 Claims**



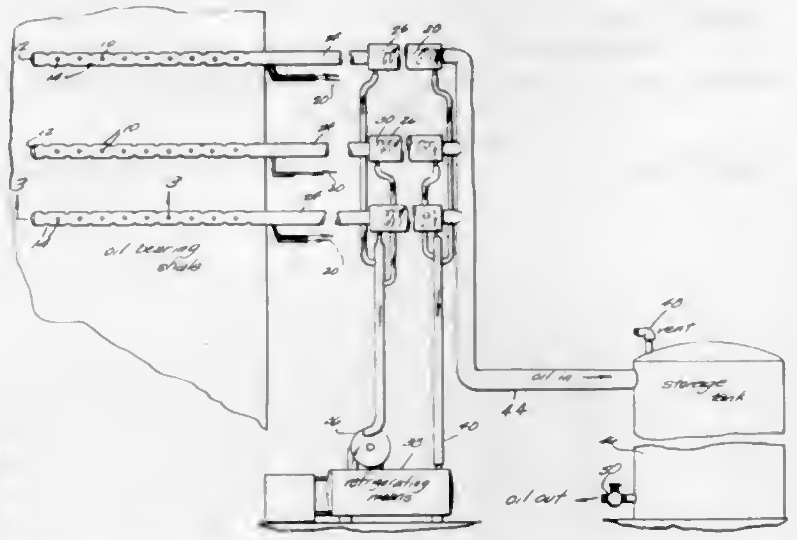
Rapid heat transfer from a heat exchange fluid to a cooler fluid is effected by disposing a condenser in the cooler fluid. The condenser is enshrouded by a tubular member which produces a unidirectional convection current and a chimney effect. The cooler fluid which is being heated passes over the condenser with increased flow, thereby extracting heat from the heat exchange coil (condenser) more rapidly than it would be extracted in the absence of the shroud.

3,448,793
MATRIX SEAL
Earle R. Wall, Jr., Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 15, 1965, Ser. No. 425,789
Int. Cl. F28d *19/00;* **F23l** *15/02*
U.S. Cl. 165—9 **8 Claims**



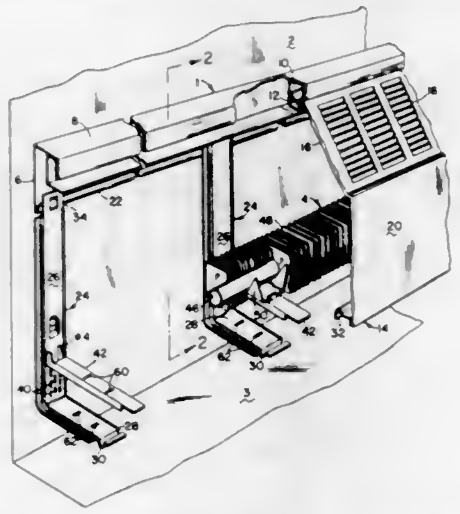
1. A rotary regenerator matrix comprising a generally annular body of heat transfer material having a generally rectangular cross-section with two sides and two ends, the heat transfer material having a porous structure providing for fluid flow from one side to the other, the matrix normally having a temperature gradient between the sides when in operation; labyrinth sealing means extending across the sides and projecting slightly from the sides for cooperation with structure external to the matrix, the sealing means comprising rigid plates extending from end to end of the matrix and flexible seal blades fixed to said plates and maintained in tension by said plates so as to be maintained substantially rectilinear by such tension; and spacer means disposed within the matrix engaging the heat transfer material and taking circumferential pressure of the heat transfer material off the sealing means.

3,448,794
DEVICE FOR EXTRACTING OIL FROM OIL BEARING SHALE
John H. Medlen, P.O. Box 102,
Plainview, Nebr. 68769
Filed Dec. 7, 1967, Ser. No. 688,914
Int. Cl. F28d *1/04;* **F25b** *29/00*
U.S. Cl. 165—45 **1 Claim**



A device for extracting oil from oil bearing shale having a four-inch diameter iron or stainless steel pipe perforated with a series of one and one-half inch holes to allow gaseous vapor from the super heated shale to escape down the pipe for cooling and condensation, the cooling pipe consisting of aluminum tubing of three to five feet in length with coils of copper tubing around it. A cooling agent of water or alcohol may be pumped through the copper tubing. Gaseous oil vapor condenses in the cooling unit into oil at 40°–50° F. and is collected in a storage tank or oil barrel, as desired. Pumping of gaseous vapors through the perforated tube into the aluminum tube is not necessary, the heavier than air gas being found to flow through the tube by natural gravitational forces.

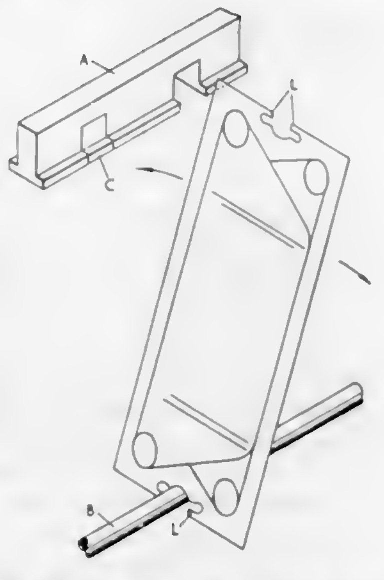
3,448,795
WALL HANGER FOR A HEAT EXCHANGER
John C. McNabney, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Dec. 21, 1966, Ser. No. 603,509
Int. Cl. F24h *9/08*
U.S. Cl. 165—55 **4 Claims**



A hanger strip and wall bracket assembly for mounting a heat exchanger on a wall, the hanger strip comprising an elongated, wall engaging back plate and an integral, outwardly extending member rolled back on itself in the form of a recess or channel remote from the wall in which the top edge of an enclosure panel is positively retained. The lower edge of the back plate is turned upwardly to provide a mounting flange on which a plurality of heat exchanger support brackets are supported in horizontal alignment.

3,448,796
PLATE HEAT TRANSFER APPARATUS

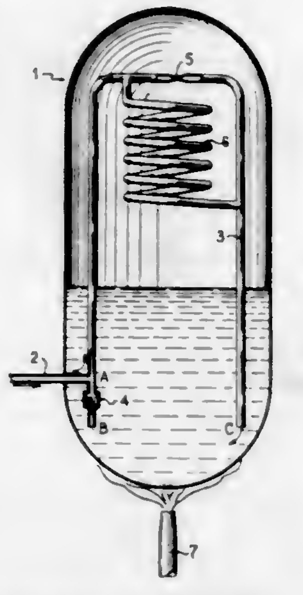
John Dennis Usher, Redhill, Surrey, England, assignor to The A.P.V. Company Limited, Crawley, Sussex, England, a British company
Filed Feb. 28, 1967, Ser. No. 619,438
Claims priority, application Great Britain, Mar. 30, 1966, 14,151/66
Int. Cl. F28f *3/08*
U.S. Cl. 165—78 **6 Claims**



A plate type heat transfer apparatus, and a frame therefor, wherein the top bar of the frame has a wider section at the bottom than at the top to provide suspension for the plates, and wherein the top bar as removable bottom portions at spaced intervals along its length to provide gaps through which the upper edges of the plates may be introduced or withdrawn.

3,448,797
PRESSURIZER

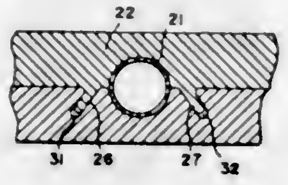
Jacques Chevallier, Chaville, and Jean Havard, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France, a French body corporate
Filed Aug. 9, 1966, Ser. No. 571,222
Claims priority, application France, Sept. 30, 1965, 33,216
Int. Cl. F28f *7/00;* **F28d** *21/00*
U.S. Cl. 165—107 **4 Claims**



Pressurizer comprising a chamber containing steam and water and piping which puts solely the part of the chamber containing water in communication with the primary circuit of a power heat installation and includes a heat exchanger located in the steam in the chamber so as to cool the steam and oppose pressure increase resulting from the entry in the pressurizer of expansion water from the primary circuit.

3,448,798
HEAT TRANSFER APPARATUS

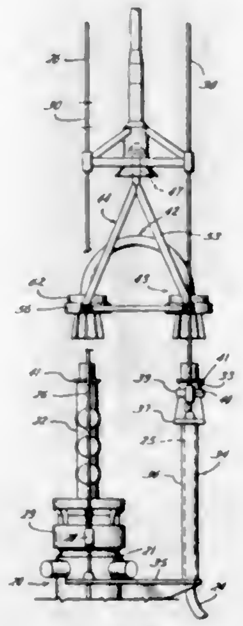
Thomas D. Coe, Winchester, Mass., assignor to Wakefield Engineering, Inc., Wakefield, Mass., a corporation of Massachusetts
Original application Jan. 26, 1967, Ser. No. 611,948, now Patent No. 3,387,653, dated June 11, 1968. Divided and this application Jan. 26, 1968, Ser. No. 718,965
Int. Cl. F28f *3/12, 1/14, 21/00*
U.S. Cl. 165—168 **4 Claims**



A heating or cooling element of circular cross section, such as atube, locked in a groove of generally U-shaped cross section. Like sections having a number of generally parallel fins terminating in ends of generally circular cross section alternating with generally parallel U-shaped grooves may be interlocked to form a cooler.

3,448,799
WELL COMPLETION APPARATUS

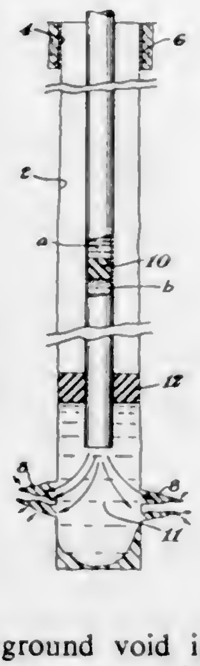
Arthur G. Ahlstone, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas
Filed Aug. 9, 1961, Ser. No. 130,387
Int. Cl. E21b *33/02, 43/01*
U.S. Cl. 166—.5 **3 Claims**



1. Well completion apparatus, comprising an underwater wellhead including a base and a Christmas tree removably mounted on the base and having an outlet, a U-tube, means supporting the U-tube with its opposite ends facing upwardly and substantially parallel to and laterally offset from the Christmas tree, means connecting the outlet from the Christmas tree with one end of the U-tube to provide fluid communication between said Christmas tree and the U-tube, a flowline, means for lowering one end of the flowline into alignment with the other end of the U-tube, and means for releasably connecting the one end of the flowline to said other end of the U-tube when they are so aligned.

3,448,800
METHOD OF INHIBITING LOST CIRCULATION FROM A WELLBORE

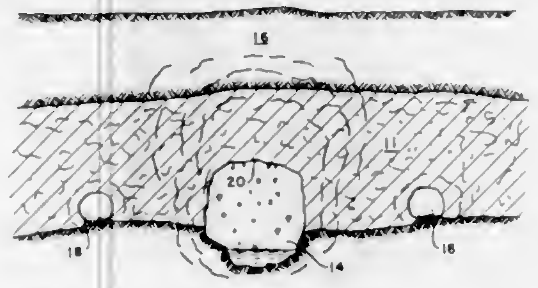
Patrick N. Parker, Tulsa, Okla., and Winton W. Wahl, Odessa, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,403
Int. Cl. E21b *33/13, 21/04*
U.S. Cl. 166—294 **5 Claims**



Plugging of underground void including particularly one encountered during a well drilling operation which results in lost circulation problems is attained by injecting into the void, or opening leading thereto, two streams of fluids: one comprising a particulate mineral substance suspended in an aqueous carrier liquid and the other a particulate polymer suspended substantially in a nonaqueous carrier liquid and bringing the two substances together in intimate admixture in the void or opening thereto to effectuate a plug.

3,448,801
METHOD FOR CREATING A PERMEABLE FRAGMENTED ZONE WITHIN AN OIL SHALE FORMATION

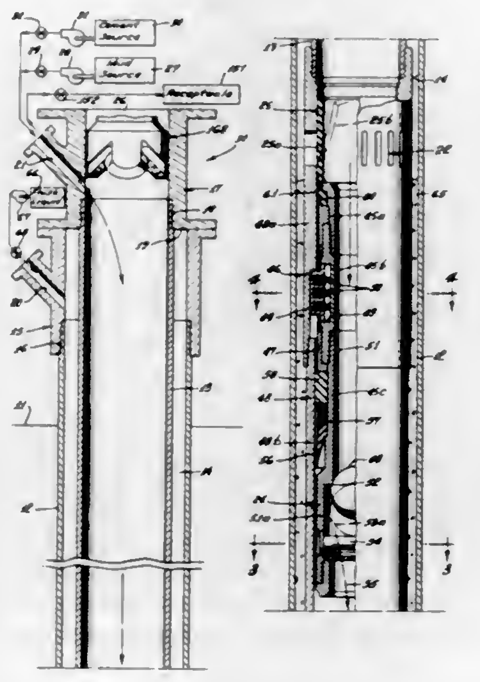
Philip J. Closmann, Houston, and Helmer Ode, Bellaire, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,139
Int. Cl. E21b *43/25, 43/24*
U.S. Cl. 166—247 **9 Claims**



A method for creating a permeable zone in a subterranean oil shale formation by utilizing a plurality of strategically placed explosive devices of varying energy. A very high energy explosive, such as a nuclear device, is first exploded; then a plurality of explosive devices of lesser energy, nuclear or non-nuclear, spaced radially from the high energy explosive, are detonated between the time the initial cavity within the oil shale formation begins to expand radially outward as a result of the detonation of the high energy explosive, and the time at which a chimney of rubble of the fragmented oil shale formation is formed by the collapsing of the cavity roof of the oil shale formation.

3,448,802
APPARATUS FOR WELL COMPLETION, CEMENTING, CIRCULATING AND PRODUCTION

John S. Page, Lakewood, Calif., assignor, by mesne assignments, to Cook Testing Co., Long Beach, Calif., a corporation of California
Filed Mar. 30, 1967, Ser. No. 627,263
Int. Cl. E21b *33/03*
U.S. Cl. 166—67 **12 Claims**

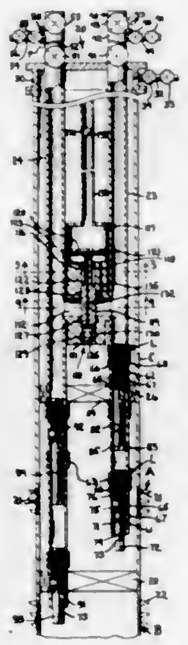


The disclosure concerns apparatus and method for controllably cementing a well during completion, and for controllably heating sub-surface equipment in a producing well. Multiple concentric pipe strings are installed in the well and utilized to flow cement flushing liquid in opposite vertical directions during completion, and to flow heating liquid in opposite vertical directions for heating sub-surface equipment during production of the well. The method and apparatus associated with use of such strings involve particularly advantageous and unusual steps and structure.

3,448,803
MEANS FOR OPERATING A WELL HAVING A PLURALITY OF FLOW CONDUCTORS THEREIN

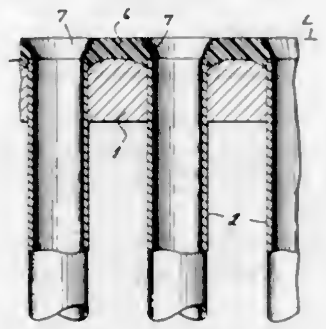
Phillip S. Sizer, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,568
Int. Cl. E21b *33/122, 33/03, 43/00*
U.S. Cl. 166—115 **28 Claims**

A well apparatus having a plurality of flow conductors extending in a well and having means for releasably securing well tools in the flow conductors at predetermined spaced locations therein and a cross-over means for establishing fluid communication between the flow conductors to permit circulation of fluids down one flow conductor and up the other to treat internal surfaces of the flow conductor and to move well tools up and down one or the other of the flow conductors to position and remove well tools from the flow conductors or operate well tools connected in the flow conductors below the location of communication of the two flow streams. A cross-over device connectable between a pair of flow conductors for establishing fluid flow communication between the flow conductors by varying the pressure in one of the pair of flow conductors or in a third flow conductor. A method of operating a well installation having a plurality of parallel flow conductors extending into a well by establishing communication between a pair of the flow conductors below the surface to permit circulation of fluids from the surface down one of the flow conductors and then to the surface up the other of the flow conductors to operate, install or remove well tools in such flow conductors and to establish desired circulation between earth formations and the surface.



3,448,804
PROTECTION OF HEADER SURFACES

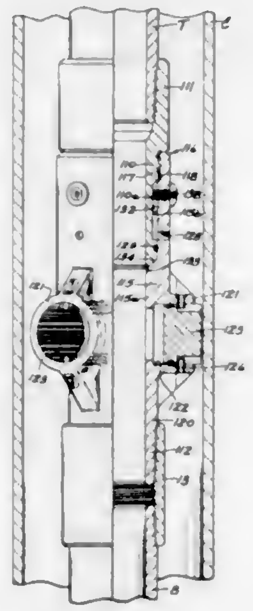
Ernst Kreiselmaier, Luggendelle 17, Gelsenkirchen-Buer, Germany
Filed Mar. 16, 1967, Ser. No. 623,719
Claims priority, application Germany, Mar. 19, 1966, K 53,971
Int. Cl. F28f *19/02, 13/18*
U.S. Cl. 165—133 **6 Claims**



Protection of the junction between a metal plate and one or more metallic tubes penetrating same, as in a header of a condenser or other heat exchanger, by first plugging each tube end with a stopper having an outwardly diverging frustoconical part projecting beyond the plate surface, then casting a protective layer of plastic material onto that plate surface and around the stopper or stoppers, and thereafter removing the latter whereby each tube end registers with an aperture in the layer having a frustoconical wall surface whose minimum diameter equals the inner diameter of the corresponding tube end.

3,448,805
HYDROSTATIC ANCHOR AND DRAIN DEVICE FOR WELL PIPE STRINGS

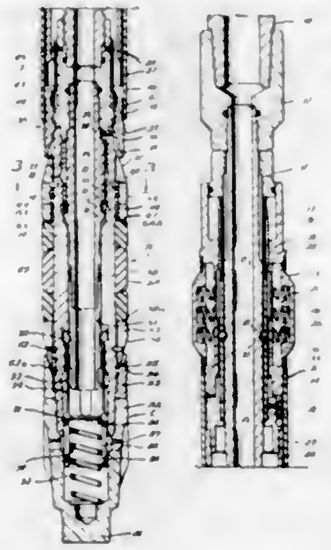
Cicero C. Brown, Houston, Tex., assignor to Brown Oil Tools, Inc., a corporation of Texas
Filed Sept. 28, 1967, Ser. No. 671,318
Int. Cl. E21b *23/00;* **F04b** *21/00*
U.S. Cl. 166—212 **2 Claims**



A device adapted for insertion into a well pipe string, such as a pump tubing string, including means functioning in response to hydrostatic pressure in the pipe string to anchor the string to a surrounding well casing and including valve means operable to drain the column of fluid from the pipe string upon release of the anchor means.

3,448,806
WELL PACKER SETTING TOOL

William O. Berryman and John E. Stachowiak, Houston, Tex., assignors to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed May 18, 1967, Ser. No. 639,440
Int. Cl. E21b *23/06*
U.S. Cl. 166—216 **15 Claims**



A setting apparatus for a well packer or the like includes a body member releasably coupled to the well packer and movable by a running-in string extending to the top of the well bore. Slip means mounted on the body member are retained in retracted positions by a retaining means which can be released in response to rotation of the body member by the running-in string. After release of the retaining means, the slip means are held against upward movement by a holding member which engages the slip means as an expander is utilized to shift the slip means outwardly to expanded anchoring positions in response to upward movement of the expander by the running-in string. The body member can be selectively uncoupled from the well packer for withdrawal of the setting apparatus from the well bore.

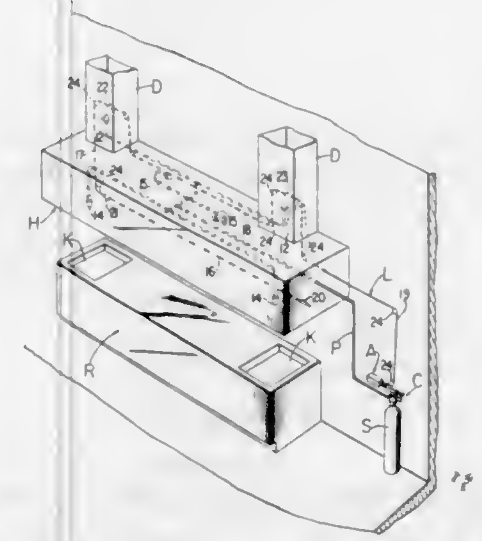
3,448,807
PROCESS FOR THE THERMAL RECOVERY OF HYDROCARBONS FROM AN UNDERGROUND FORMATION

William T. Strickland, Jr., Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,181
Int. Cl. E21b *43/24, 43/22, 43/16*
U.S. Cl. 166—256 **13 Claims**

A process for the secondary recovery of hydrocarbons from an underground formation penetrated by an injection and a production well. The combustion of hydrocarbons within the formation adjacent to the injection well is initiated so as to establish a combustion front therearound. The combustion front is maintained by injecting combustion supporting gas into the formation through the injection well and the front is displaced towards the production well. The combustion front is controlled at a temperature high enough to permit oxidation of the residual hydrocarbons within the formation at a relatively high rate by injecting a quantity of water into the formation through the injection well cocurrently with the injection of the combustion supporting gas. A surface-active material adapted to form a foam is mixed with the gas and water to keep them together in the form of a foam within the formation.

3,448,808
FIRE EXTINGUISHING SYSTEM AND CONTROL APPARATUS

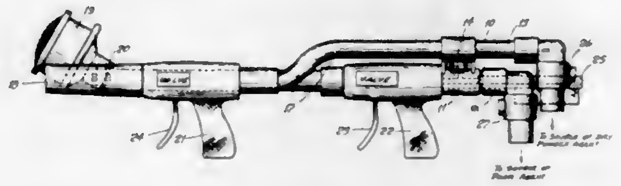
William Scofield, Clifton, and Walter J. Olson, Bloomfield, N.J., assignors, by mesne assignments, to Walter Kidde & Company, Inc., Belleville, N.J., a corporation of New York
Filed Mar. 21, 1967, Ser. No. 624,845
Int. Cl. A62c *37/12, 35/22*
U.S. Cl. 169—2 **5 Claims**



A fire extinguishing system wherein a spring operated actuator for effecting release of fire extinguishing medium normally is restrained by a series of cable sections which are interconnected by fusible links.

3,448,809
DUAL AGENT FIREFIGHTING NOZZLE AND APPARATUS

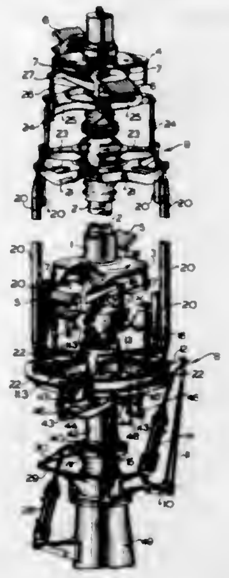
Milton Lambert, Flushing, N.Y., Thomas Cymmer, Jersey City, N.J., and Ira Wilder, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 3, 1967, Ser. No. 628,168
Int. Cl. A62c *5/16;* **B05b** *7/08*
U.S. Cl. 169—15 **4 Claims**



The apparatus includes a pair of tubular members vertically aligned at one end and in horizontal alignment at the opposite end. The members are provided with nozzles at said opposite end, one being for the spraying of dry powder and the other for a compatible foam. The foam nozzle is directed somewhat upwardly and is positioned slightly forward of the powder nozzle. The tubular members carry handles or pistol grips which are separated in a lengthwise direction thus permitting ease of operation and minimizing any safety hazards. Additionally, the members have therein valve means for selectively controlling the passage of material therethrough. When the apparatus is attached to sources of both firefighting powder and foam it provides for the simultaneous application of both powder and foam to a liquid hydrocarbon fire without interference therebetween.

3,448,810
PITCH CONTROL APPARATUS FOR HELICOPTER ROTORS

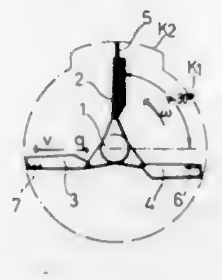
Alfred Vogt, Friedrichshafen-Fischbach, Germany, assignor to Firma Ing. Josef Wagner, Friedrichshafen-Fischbach, Germany
Filed May 17, 1966, Ser. No. 550,804
Claims priority, application Germany, May 17, 1965, W 39,166
Int. Cl. B64c *27/10, 27/72*
U.S. Cl. 170—135.26 **8 Claims**



The pitch of the blades of two counterrotating helicopter rotors is either adjusted in the same sense, or in opposite senses to obtain simultaneous pitch increase, or decrease, of both sets of blades; or increase of the pitch of one set, and decrease of the pitch of the other set, or vice versa, by connecting the adjusting means by control levers which pivot to obtain different adjustments, and are blocked for obtaining the same adjustment of the two sets of blades.

3,448,811
DEVICE FOR STABILIZING THE ROTOR BLADES OF A ROTARY WING AIRCRAFT

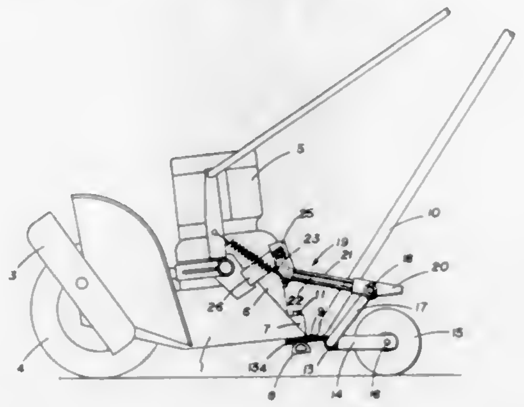
Hans Derschmidt, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed Jan. 9, 1968, Ser. No. 696,614
Int. Cl. B64c *27/72*
U.S. Cl. 170—160.25 16 Claims



A control device for changing the speed of rotor blades of a rotating wing of a rotary wing aircraft includes an aerodynamic drag device associated with each blade. The rotor comprises a rotor head having a plurality of blades mounted on a central hub for pivotal movement about a vertical axis or an axis substantially parallel to the rotor axis. The blades are arranged to oscillate about pivotal mounting in resonance with the rotor speed by the aerodynamic drag device which is preferably located adjacent the outer end of each blade. Control means are associated with each drag device to cause it to move outwardly from the blade and become effective to cause a desired variation of the circumferential speed of each blade by forward and backward pivotal movements of the associated blade during its revolution with the rotor head. The control is such that each blade is imparted with a reduced circumferential speed as it moves forwardly in respect to the directional flight and with an increased circumferential speed as it is moved backwardly with the rotation of the rotor head.

3,448,812
AUXILIARY WHEEL UNIT FOR A LAWN EDGER

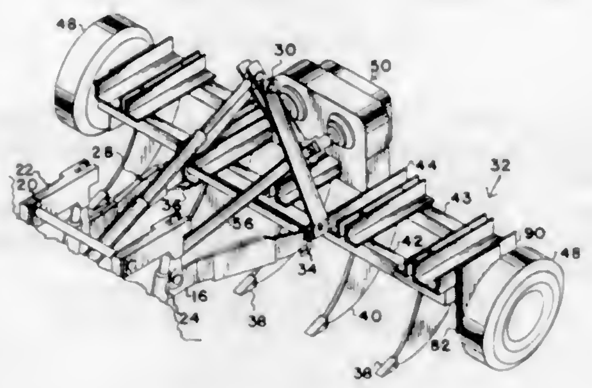
Byron M. Peters, Lathrop, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Dec. 27, 1966, Ser. No. 605,021
Int. Cl. A01b *45/04, 33/10, 45/00*
U.S. Cl. 172—15 4 Claims



An auxiliary device, preferably in the form of an attachment, which provides—for selective use—an additional supporting wheel for a power-type, single-wheel lawn edger.

3,448,813
TRACTOR MOUNTED VIBRATING PLOW

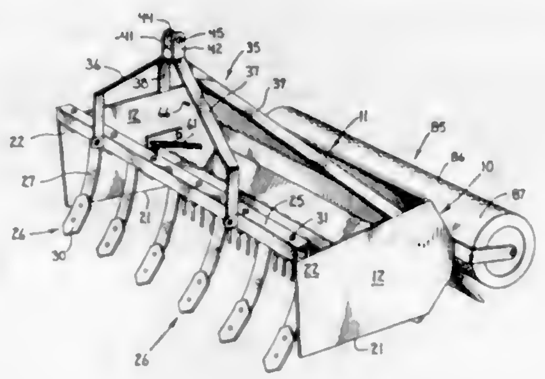
Thelmer A. Rogers, P.O. Drawer 1589, Lubbock, Tex. 79408
Filed Sept. 29, 1966, Ser. No. 583,030
Int. Cl. A01b *11/00*
U.S. Cl. 172—40 23 Claims



A gang of deep chisel plows is mounted on a three-point hitch to swing freely horizontally normal to the direction of draft, in which direction the gang is vibrated.

3,448,814
GRADER BUCKET CONSTRUCTION

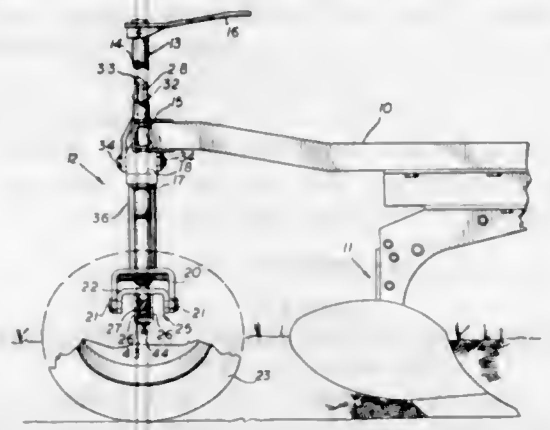
Thomas A. Bentley, North Little Rock, Ark., and Carl D. Jackson, Fortville, Ind., assignors to C. D. Jackson Manufacturing, Inc., Fortville, Ind., a corporation of Indiana
Filed Sept. 16, 1965, Ser. No. 487,809
Int. Cl. A01b *49/02*
U.S. Cl. 172—146 2 Claims



Landscaping apparatus including a bucket having a lower scraping edge at the rear of the bucket, plow blades at the front of the bucket, raking tines between the scraping edge and the plow blades, and a grooved roller mounted to the rear of the bucket rear. The apparatus has a back fill blade mounted thereon and includes means for selectively positioning the raking tines and the roller into and out of operating position.

3,448,815
IMPLEMENT SUPPORTING WHEEL

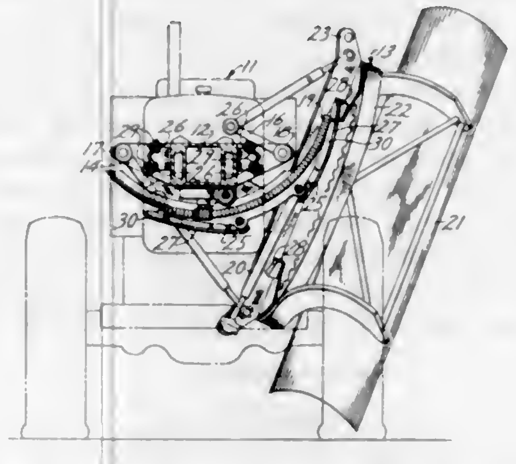
Raymond F. Roberson, Los Angeles, Calif., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,189
Int. Cl. A01b *69/00, 33/10, 33/12*
U.S. Cl. 172—291 7 Claims



Supporting and lift means for the steerable rear furrow wheel of a plow wherein the wheel is tilted at an angle to the vertical to bear against the furrow wall during operation and is automatically straightened to a vertical position when the implement is raised for transport.

3,448,816
LIMIT SYSTEM FOR MOTOR GRADER BLADE CONTROLS

Duane E. Beals, Donald R. Berchtold, James W. O'Brien, Paul C. Rosenberger, Alfred W. Sieving, and Kerwyn B. Smith, Decatur, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 22, 1967, Ser. No. 640,017
Int. Cl. E02f *3/84*
U.S. Cl. 172—793 10 Claims

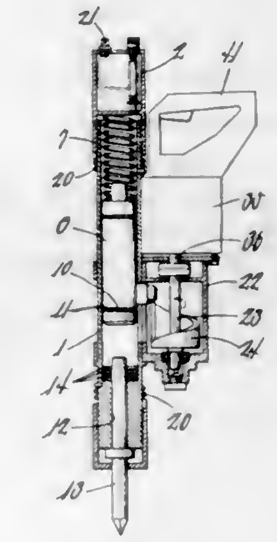


A motor grader limiting mechanism for preventing damaging contact of a sideshifting rack, with a blade assembly suspended therebelow, during lifting and sideshifting blade motion according to a power control system. Elongated switching means are disposed along substantially the entire rack under-surface to be actuated by contact of the blade assembly at any point therealong and power control system overriding means are operably connected to the continuous switching means.

3,448,817
ROCK DRILL

Zenji Morishita, 698, Aza-Takemukai, Okumyokji, Suma-ku, Kobe, Japan, and Shojiro Kawata, 127, Higashi-yama-cho, Ashiya, Japan
Filed Dec. 12, 1967, Ser. No. 689,845
Int. Cl. E21b *1/00;* **E21c** *3/00,* **B25d** *9/00*
U.S. Cl. 173—119 12 Claims

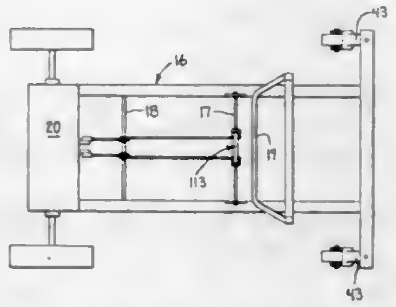
The present invention relates to a rock drill tool for crushing rock and concrete or the like, and includes a main housing in which a spring-loaded heavy duty hammer member is reciprocably moved vertically against the expansive force of a repeatedly compressed drive spring disposed above said hammer within the housing. A striking rod is mounted below the hammer for limited vibrating action when hit on the upper end by the hammer. The hammer is driven reciprocably by a power driven rotary cam engageable by a rotatable cam follower wheel carried on the side of the hammer. The rotary cam and prime power source are mounted with novel vibration reducing means therebetween and on the side of the main tool housing with the cam follower wheel projecting through and operable within mutual slots in said housings.



Novel lubricating means are mounted on and in direct conjunction with the tool's main housing to provide for combined lubricating and vibration dampening of the hammer and striking rod, thereby providing a more endurable tool. Various type prime mover motors utilizing electric or fluid pressure means, including compressed air or hydraulic oil, may be used to power the tool. Additionally, the motor means could be mounted remote of the tool body per se, if desired.

3,448,818
VEHICLE CONTROL APPARATUS

Marion H. Davis, Hagerstown, Ind., assignor to V-Plex Clutch Corporation, Hagerstown, Ind., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 629,306
Int. Cl. B62d *5/02, 11/10*
U.S. Cl. 180—6.66 8 Claims

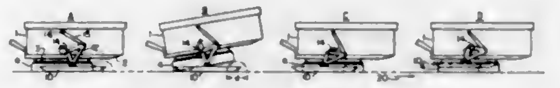


Control means having a linkage for transmitting motion from a manually operated handle to a variable speed reversible drive unit to control the speed and direction of rotation of an output shaft.

3,448,819
DRAGLINE PROPULSION APPARATUS

Robert S. Peterson and Darl C. Washburn, Jr., Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1967, Ser. No. 632,344
Int. Cl. B62d *57/02, 51/06*
U.S. Cl. 180—8 12 Claims

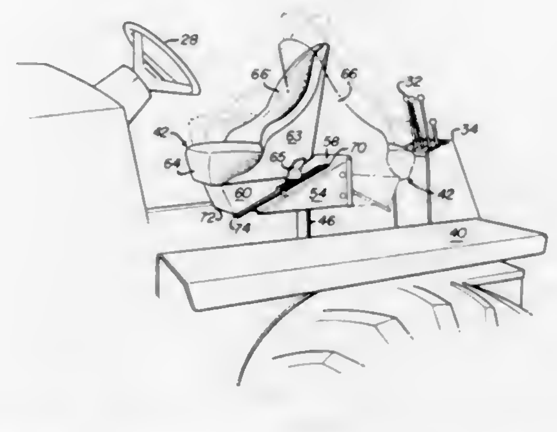
A system for electrically controlling and synchronizing the walking movement cycle of a dragline with no rigid connecting shaft between the walking shoes. A signal, proportional to the difference in angular displacement of the walking shoes, is used in an additive sense



to boost the movement of the lagging shoes and in a subtractive sense to buck the movement of the leading shoe until proper synchronization is achieved.

3,448,820
VEHICLE SEAT STRUCTURE

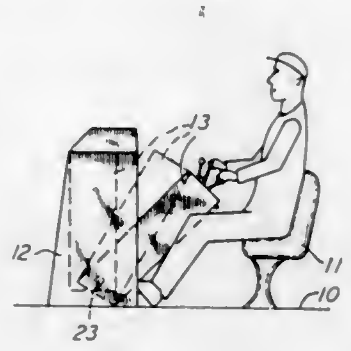
Salvatore F. Aiello, Racine, and John W. Barth, Cudahy, Wis., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed July 20, 1967, Ser. No. 654,777
Int. Cl. B60n *1/02:* **A47c** */023;* **B60k** *27/00*
U.S. Cl. 180—77 4 Claims



A seating structure and arrangement including an inclined support for an operator's seat on a tractor wherein the seat can be moved from a lower to a higher position for the operator's comfort. The seating structure includes a support post and pivot means for reversing the direction of the seat for tractor or for implement operation. The design and arrangement of the support and pivot provides that the operator's seat is substantially at the same elevation when the operator is controlling either the tractor or the implement.

3,448,821
TRACTOR CONTROL STRUCTURE

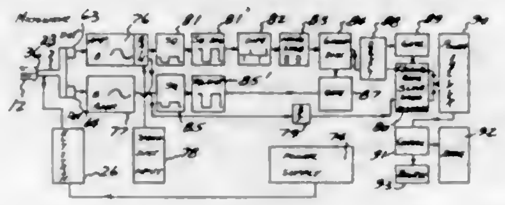
Robert L. McGuire, Burlington, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 6, 1968, Ser. No. 710,841
Int. Cl. B60k *37/00*
U.S. Cl. 180—90 6 Claims



A tractor control structure having a pivotal control box with controls thereon and mounted on the floor of the tractor adjacent the operator's seat for tilting toward and away from the seat. A cowl is mounted on the floor for receiving the control box in the stowed position of the box. Latch means are operative on the box for releasably holding the box in either the stowed position or operating positions where the controls are accessible and convenient for the operator sitting in the operator's seat. Also, foot pedals are adjacent the control box on each side thereof, and the entire structure permits the operator to manipulate the foot pedals and also the hand controls, all while occupying the seat.

3,448,822
VEHICLE ANTI-COLLISION AUTOMATIC CONTROL-SYSTEM

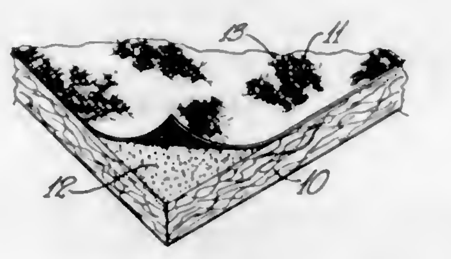
Francis G. La Lone, Pontiac, and Frank R. La Lone, Royal Oak, Mich., assignors to Micro-Electronics International, Inc., Detroit, Mich., a corporation of Michigan
Filed June 23, 1966, Ser. No. 559,856
Int. Cl. B60k *27/00;* **B60t** *7/16*
U.S. Cl. 180—98 17 Claims



A vehicle anti-collision control system having a radiating element for radiating a narrow beam of microwave energy forwardly in the path of the vehicle and for receiving the microwave energy reflected by an obstacle. A Doppler effect signal dependent from the rate of closing or opening between the vehicle and the obstacle is modified in function of the speed of the vehicle and is accepted only if the vehicle and the obstacle are closing. The resulting signal which is proportional to the rate of closure between the vehicle and the obstacle is utilized to opearte the controls of the vehicle for declerating or stopping the vehicle to avoid collision with the obstacle.

3,448,823
ACOUSTICAL PANELS

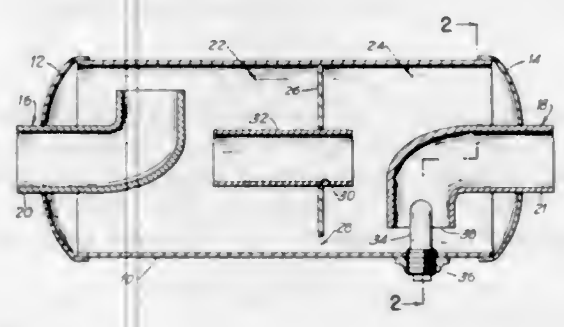
Wayne L. Smith, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,758
Int. Cl. G10k *11/04*
U.S. Cl. 181—33 7 Claims



An acoustical panel having a main sound attenuating body of integrated fibers and a fabric facing adhered thereto. The fabric is preferably woven from a glass fiber yarn having nubs of glass fibers extending outwardly from the fabric. A coating is preferably applied to the nubs to provide a discontinuous layer which will admit sound therethrough to and through interstices in the fabric between the nubs into the sound attenuating body.

3,448,824
SILENCER WITH CURTAIN OF WATER MAINTAINED AT DISCHARGE ORIFICE

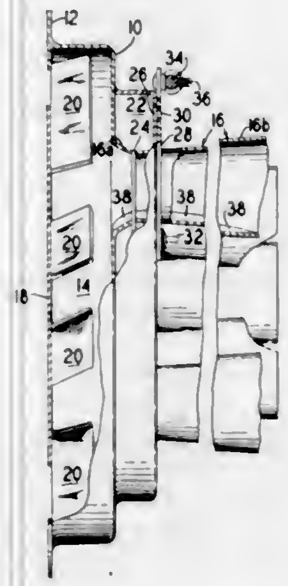
Arthur Bayard Conard, Jr., Shreveport, La., assignor to American Machine & Foundry Company, Inc., a corporation of New Jersey
Filed July 5, 1968, Ser. No. 742,759
Int. Cl. F01n *3/04*
U.S. Cl. 181—52 13 Claims



This invention relates to a wet type in-line silencer adaptable for use with internal combustion engines which works the vapor and its contained sound energy by expansion, contraction and reflection to reduce noise and having a curtain or wall of water around the exit orifice to inhibit the passage of sound.

3,448,825
PROCESS AND APPARATUS FOR SUPPRESSING JET ENGINE EXHAUST NOISE

Fred C. Booth, 117–B Buckingham Drive, Lakewood, N.J. 08701
Filed July 27, 1967, Ser. No. 656,458
Int. Cl. F01n *5/02*
U.S. Cl. 181—35 16 Claims

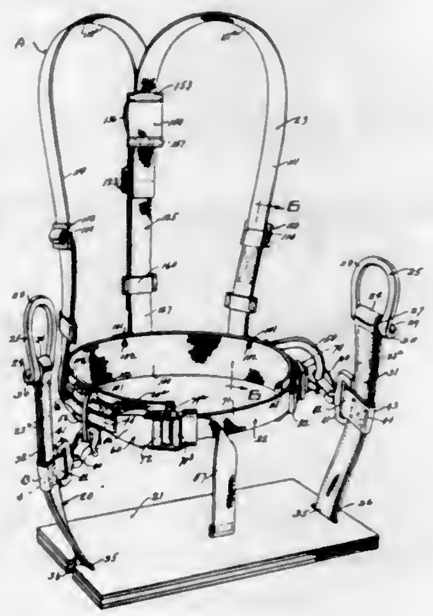


Process and apparatus for discharging the exhaust of conventional jet engines as laminar flow in the supersonic range with small divergence and at approximately, or slightly below, atmospheric pressure and thereby to reduce jet stream noise.

3,448,826
INDUSTRIAL SAFETY BELT AND HARNESS

Robert A. Rosenblum, Lexington, Ky., assignor to Irving Industries Inc., a corporation of New York
Filed Jan. 23, 1967, Ser. No. 610,850
Int. Cl. A62b *1/16, 35/00;* **A47l** *3/04*
U.S. Cl. 182—3 10 Claims

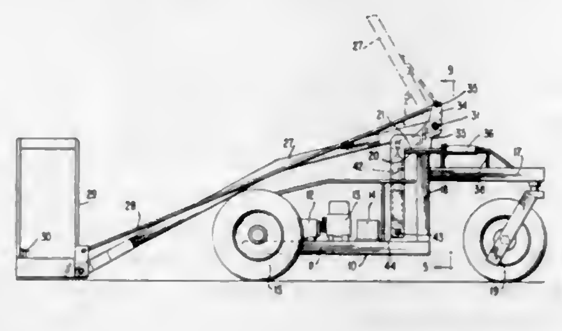
An industrial safety belt and harness having as a basic feature a safety belt for attachment at the waist of a wearer with size adjustment and a safety lanyard attachment: a sling type webbing which can be attached as an accessory to the belt with a rigid seat detachably connected to the sling: the sling having lanyard attachments.



Furthermore, the industrial safety harness includes as an accessory a size adjustable upper body harness for detachable connection with the sides and rear of the belt and having a lanyard connection at the upper part of the body harness.

3,448,827
MOBILE WORKER SUPPORT

Arthur Delt Clark and Francis Delt Clark, both of Rte. 2, Wapato, Wash. 98951
Filed Aug. 16, 1967, Ser. No. 661,008
Int. Cl. E04g *3/16*
U.S. Cl. 182—14 12 Claims

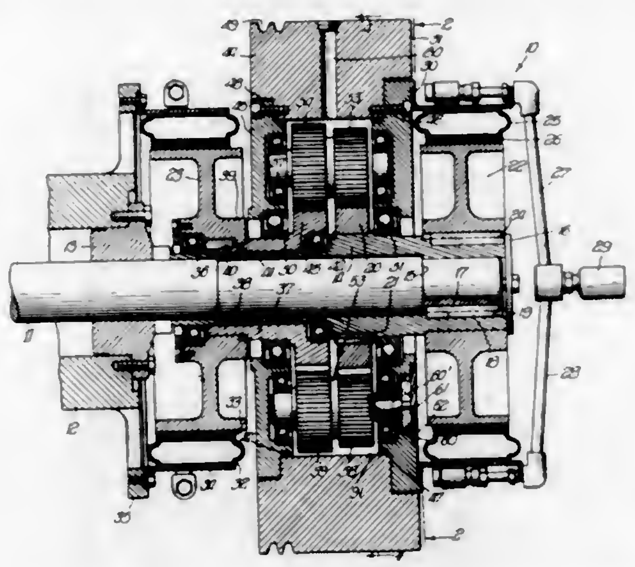


A highly maneuverable, safe and economical machine which is capable of elevating a worker to considerable heights and moving him from side-to-side for substantial distances without the necessity for moving the entire machine as when working in the orchard or the like. The worker may also be lowered close to the ground. The machine controls are all located upon the worker's cage so that the machine can be totally controlled by a single operator.

3,448,828
DRIVE SPEED CONTROL

Charles K. Goldberg, Chicago, Ill., assignor to Dreis & Krump Manufacturing Company, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 455,478, May 13, 1965. This application Mar. 27, 1967, Ser. No. 634,400
Int. Cl. F16n *17/00;* **F01m** *1/02*
U.S. Cl. 184—6 17 Claims

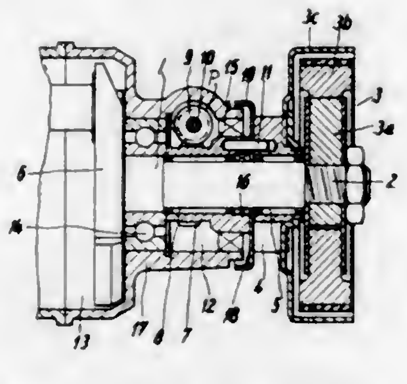
A drive speed control of the planetary transmission type having a lubricating system that does not rely on agitation alone. A sleeve permits keyed mounting of the clutch and brake drums at the factory. An arrangement for air cooling the brake drum is also shown.



3,448,829

PUMP DRIVING CONNECTION, ESPECIALLY FOR MOTOR CHAIN SAWS

Albrecht Rauh, Kleinheppach, and Richard Heermann, Hebsack, Germany, assignors to Andreas Stihl Maschinenfabrik Neustadt, Waiblingen, Germany
Filed Aug. 19, 1966, Ser. No. 573,602
Claims priority, application Germany, Aug. 20, 1965, St 24,298
Int. Cl. F16n *7/14, 7/36, 13/10*
U.S. Cl. 184—27 **4 Claims**



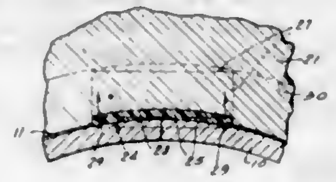
A motor-driven chain saw, the housing of which is provided with a tubular extension through which the motor drive shaft extends. A lubricating pump mounted within the extension and driven by a worm and worm wheel the latter of which is journaled on the drive shaft for rotation thereabout. The worm wheel is pinned to a chain sprocket mounted externally of the housing and which is also journaled for rotation on the drive shaft, and the sprocket is in turn fixedly secured to the drum portion of a centrifugal clutch mounted on the end of the drive shaft.

3,448,830

VISCOUS VIBRATION DAMPING

Charles F. Desmond, Williamsville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Nov. 17, 1966, Ser. No. 594,749
Int. Cl. F16d *57/00, 63/00*
U.S. Cl. 188—1 **10 Claims**

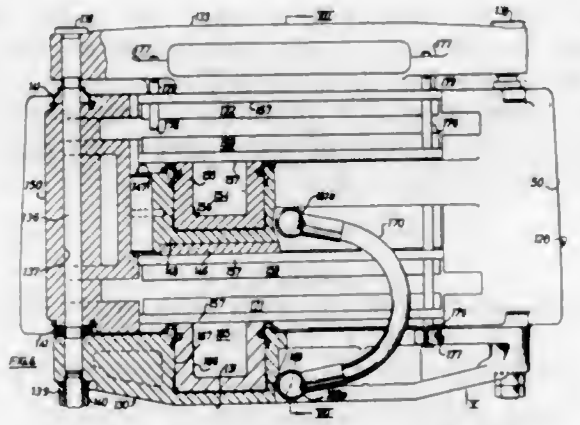
Spring spacer means maintain shear film spaced relation between the confronting parallel working surfaces of a housing and an inertia mass within a working chamber of a vibration damper, the spacer means serving as sliding bearing and desirably frictional resistance damping means supplemental to the viscous shear damping coupling. In the specific disclosure the spring means comprise U-shaped non-metallic members warped and/or compressed between the surfaces engaged thereby.



3,448,831

SPREADING, SPOT-TYPE DISC BRAKE

Charles Newstead, Walsall, England, assignor to Girling Limited, Tyseley, Birmingham, Warwickshire, England
Filed Sept. 5, 1967, Ser. No. 665,522
Claims priority, application Great Britain, Sept. 22, 1966, 42,270/66
Int. Cl. F16d *55/00*
U.S. Cl. 188—73 **13 Claims**

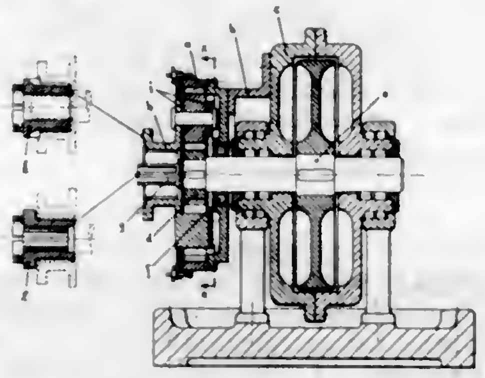


The invention provides a multi-disc brake having preferably two axially spaced discs. A first hydraulic actuator in a fixed body member acts upon inner brake pads cooperating with opposed inward faces of the discs. A yoke or caliper is slidably guided by the body member and acts upon an outer pad cooperating with the outward face of one disc. A second hydraulic actuator acts between the yoke and another outer pad cooperating with the outward face of the other disc. All the brake pads are preferably located by the body member so that the latter receives the drag directly especially from the outer pads. The first actuator may comprise a pair of opposed pistons slidable in a through bore in a medial web portion of the body member or a piston slidable in a blind bore in a cylinder block which is axially slidably guided in the body member.

3,448,832

STEP-UP GEAR DYNAMOMETER BRAKE UNIT

Hans-Joachim Winkler, 6750 Kaiserslautern, Morlauterestrasse 27, Rhineland-Palatinate, Germany
Filed Apr. 27, 1966, Ser. No. 547,091
Int. Cl. F16d *57/02, 57/00;* **F16h** *3/44*
U.S. Cl. 188—90 **5 Claims**

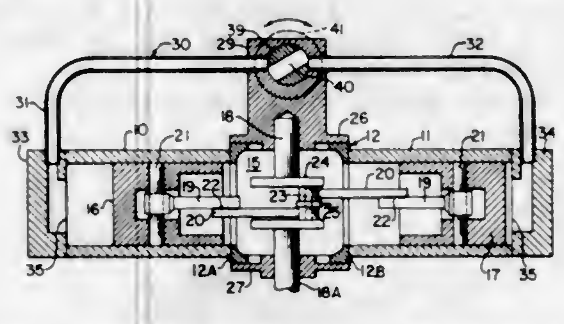


A brake which may be utilized as a dynamometer incorporates a planetary gear set which provides alternate connections to the brake rotor at differing ratios.

3,448,833

HIGH-TORQUE PNEUMATIC-TYPE ROTARY TIMER

Walter T. Weismann, Hackettstown, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 12, 1967, Ser. No. 690,029
Int. Cl. F16d *57/00*
U.S. Cl. 188—91 **2 Claims**

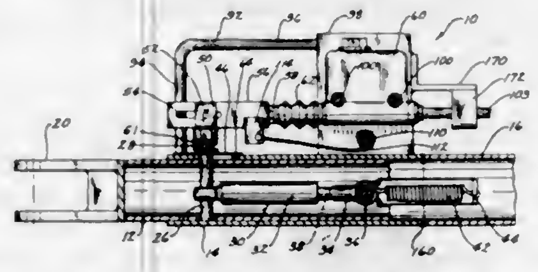


A rotary timer wherein pneumatic escapement at high torque levels is provided. Two coaxial diametrically-opposed air cylinders are mounted on complementary crank case housing blocks which jointly provide a sealed crank case chamber between the cylinders. A pair of opposed pistons, one in each cylinder, are connected with a central common crank shaft, each by a two-part connecting rod, the piston ends of which are coaxial with the pistons and the crank shaft ends of which are offset. An air manifold connects the outer ends of the cylinders to permit air flow from one to the other as a closed system, in response to piston movement as the crank shaft is driven by a torque-producing device or rotary power source to be time controlled. A rotary valve in the manifold connection may be set full open or partially closed to any desired degree to set the timing rate of the timer. This varies the restriction or resistance to air flow through the manifold and thus the rate at which the timing crank shaft may be rotated with applied torque from the controlled device or power source.

3,448,834

SURGE BRAKE SYSTEM

Walter Lammers, Everly, Iowa 51338
Filed Jan. 30, 1967, Ser. No. 612,667
Int. Cl. B60t *7/20*
U.S. Cl. 188—112 **7 Claims**



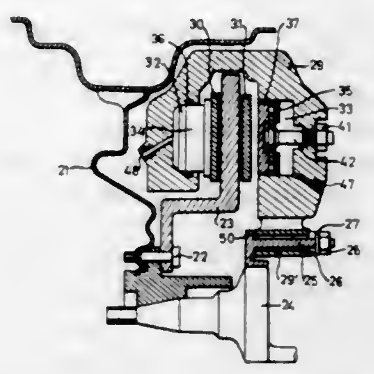
The device for automatically applying the brakes to the ground support wheels of a vehicle upon the lead vehicle moving at a relatively slower speed. A safety device is included which will mechanically operate the brakes on the trailing vehicle in the event that the two vehicles become disconnected and separated from each other.

3,448,835

DISC BRAKE APPARATUS FOR VEHICLES

Masami Inada, Kariya, Japan, assignor to Aisin Seiki Kabushiki Kaisha, Kariya, Aichi Prefecture, Japan
Filed Apr. 24, 1967, Ser. No. 633,091
Claims priority, application Japan, Apr. 23, 1966, 41/25,768, 41/25,769
Int. Cl. B60t *11/10;* **F16d** *65/38*
U.S. Cl. 188—152 **2 Claims**

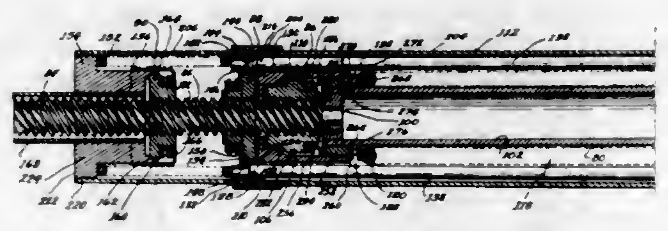
This invention relates to a disc brake apparatus for vehicles controlled by means of a dual system of oil pressure circuits provided with an improved arrangement for attaining full braking effect even in case of any trouble or failure of one of the oil pressure circuits, in order to improve safety.



3,448,836

TWO WAY AUTOMATIC BRAKE ADJUSTER

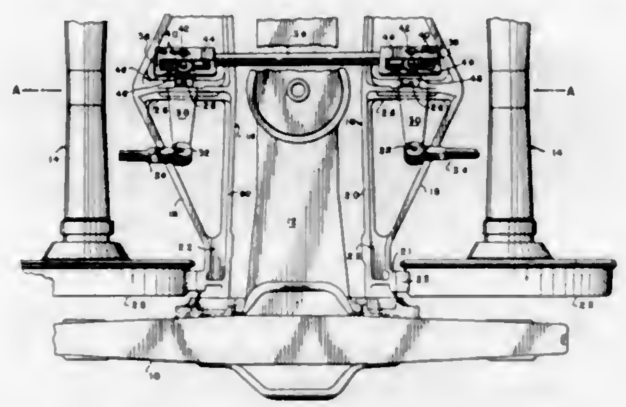
Gerard Rauglas, Aroma Park, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,711
Int. Cl. F16d *65/56, 65/38*
U.S. Cl. 188—202 **9 Claims**



This invention relates to a railroad car rigging brake adjusters that is automatic for both slack take up and let out. The adjuster is shown in both center rod and top rod applications, and comprises a screw member having one end portion thereof received in one end portion of a tubular member, with the other ends of the said members being incorporated in the brake rigging in a conventional manner. The screw members carries a coupling nut that is received within a chamber formed at the end of the said one end portion of the tubular member that engages a stop clutch seat that forms a part of the tubular member chamber during the course of the brake rigging bar stroke, whereby the braking stresses are transmitted between the two members. Also carried by the screw member are a pair of adjusting nuts, and a housing surrounding the nuts at the adjacent portion of said members, with the adjuster main spring acting between the housing and the tubular member to tend to draw the housing over the tubular member. The housing is formed with a stop clutch assembly including spaced stop clutch seats cooperating with the adjusting nut that is adjacent the coupling nut to preclude rotational movement in either direction of such adjusting nut, with one of the stop clutch seats being movable toward the second adjusting nut through rods that are actuated by the brake rigging trigger lever during application of the brakes, with the movable stop seat being connected to the first adjusting nut to carry same in the direction urged by the trigger lever, and with a relatively weak spring acting between the housing and the movable seat to restore the movable seat back to its initial position with respect to the housing and at the same time moving the screw member in a slack take up direction with respect to the tubular member due to its clutching action on the first adjusting nut and the bias of the relatively weak spring. The housing also includes a stop clutch seat engaging the second adjusting nut to prevent rotational movement of same when the housing is moving in the direction of the tubular member, and a resilient connection between the housing and the second adjusting nut to move the latter lengthwise of the screw member when the housing is moved under the action of the rigging trigger lever in extreme situations as where several brake shoes have been lost. The housing also includes a stop arrangement for locking out the biasing effect of the main spring against the tubular member, which is only overcome in the extreme type of situation mentioned where the strength of the main spring is required to insure the amount of slack take up required to maintain the brake cylinder stroke length that is required by AAR regulations. Otherwise, during normal operation the rigging operating or trigger lever operates only against the relatively weak spring to insure minimum power loss while providing slack take up in proportion to brake shoe wear.

3,448,837
RAILWAY BRAKE SAFETY DEVICE

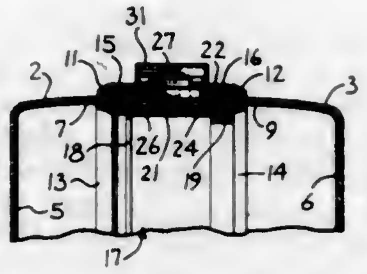
William J. Casey, Highland Park, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Sept. 15, 1967, Ser. No. 667,923
Int. Cl. F16d *65/14*
U.S. Cl. 188—210 6 Claims



A railway brake arrangement having brake levers pivotally connected to bifurcated ends of a brake compression rod by pins and having a secondary means of connection comprised of keepers on the brake levers engaged in openings formed on one side of the bifurcated ends of the brake compression rod. The keepers slide within the openings thereby retaining the brake compression rod in the absence of the connecting pins.

3,448,838
LUGGAGE CASE

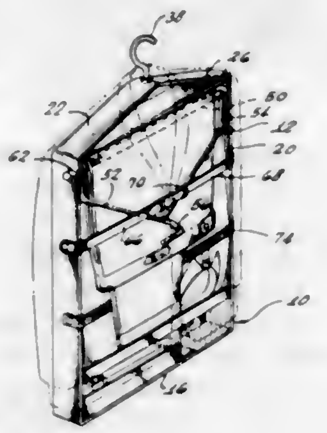
Otto Maile, Villa Park, Ill., assignor to Leathercraft, Inc., a corporation of Illinois
Filed Nov. 20, 1967, Ser. No. 684,211
Int. Cl. A45c *13/00, 3/00*
U.S. Cl. 190—49 4 Claims



A luggage case comprises two hingedly connected sections with a valance that includes extruded aluminum pieces clinched to each section. A U-shaped channel strip is clinched by one of the pieces and projects laterally therefrom and interfits with the other piece when the case is closed. A handle support and locks for the case are housed within the channel strip.

3,448,839
HAND LUGGAGE

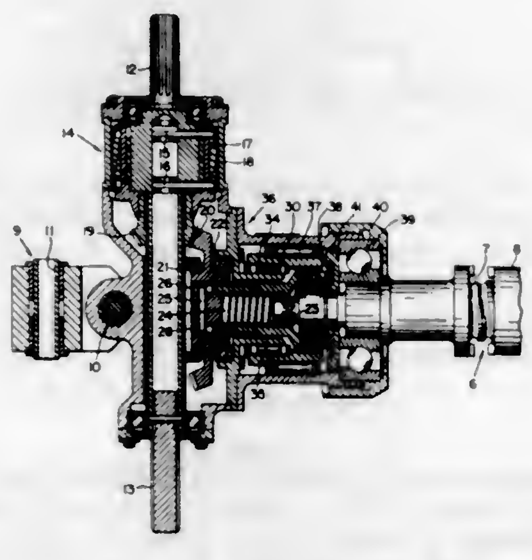
Max J. Lugash, 837 S. Spaulding, Los Angeles, Calif. 90036
Continuation-in-part of application Ser. No. 672,060, Oct. 2, 1967. This application Feb. 28, 1968, Ser. No. 709,121
Int. Cl. A45c *3/00, 13/26;* **A41d** *27/22*
U.S. Cl. 190—49 21 Claims



A piece of hand luggage including a compartmented case or reinforced bag which is adapted to fit within the confines of a suit coat or the like, the case or bag incorporating a hanger for the suit coat and being fitted with a hanging hook extending through the collar of the coat and, also, a carrying handle extended through the coat flaps, both the handle and hanger also extending through a protective cover enclosing the suit coat and case or bag.

3,448,840
ENERGY ABSORBING NO-BACK DRIVE MECHANISM

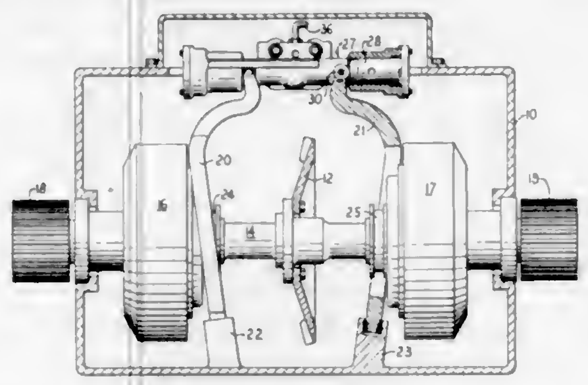
Nathaniel L. Rosin, Torrance, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 17, 1967, Ser. No. 653,896
Int. Cl. F16d *67/00, 57/10, 67/02*
U.S. Cl. 192—8 9 Claims



A mechanism for transmitting torque from one shaft to another employing load responsive clutch means and unidirectional or no-back locking mechanism to minimize oscillation and chatter from the feed-back torque of a load.

3,448,841
HYDRAULIC ACTUATING MEANS FOR TRACTOR STEERING CLUTCHES

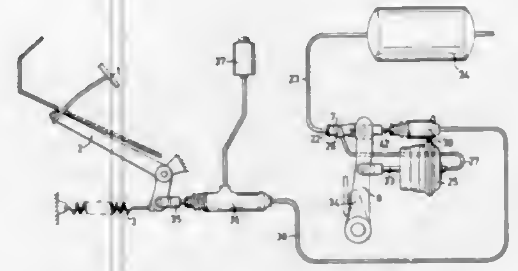
Peter Sidles, Jr., North Aurora, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 28, 1967, Ser. No. 626,491
Int. Cl. F16d *21/08, 25/00, 19/00*
U.S. Cl. 192—87.13 2 Claims



A hydraulic clutch disengaging device in which a fluid actuated piston is in direct engagement with each of two steering clutch yokes avoiding side thrust and periodic adjustments of conventional interconnecting linkages, together with a simple combination of control valves and flow divider which enables the use of fluid under relatively low pressure and low friction conditions.

3,448,842
CONTROL SYSTEM FOR MOTOR VEHICLE CLUTCHES

Sigurd Andrew Mauritz Nordstrom, Sodertalje, Sweden, assignor to Aktiebolaget Scania-Vabis, Sodertalje, Sweden, a corporation of Sweden
Filed Feb. 13, 1967, Ser. No. 615,452
Claims priority, application Sweden, Feb. 17, 1966, 2,042/66
Int. Cl. F16d *13/44, 25/00, 19/00*
U.S. Cl. 192—91 4 Claims

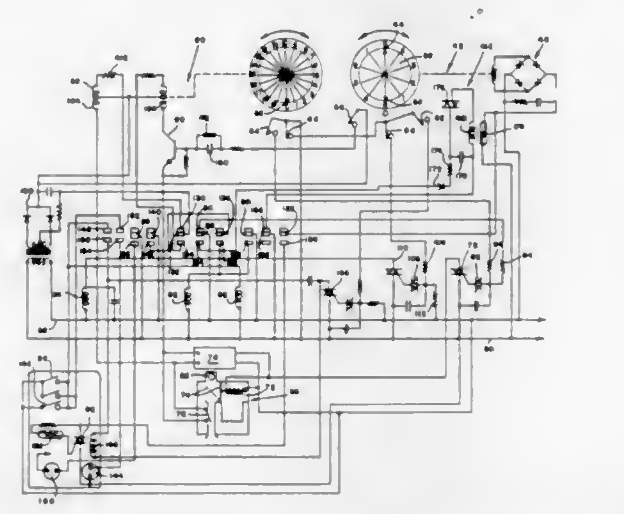


A control system for motor vehicle clutches including a clutch pedal connected with a two-way valve controlling the air flow to a pneumatic clutch releasing servo motor. The valve and the control rod of the servo motor are both connected through a connecting joint to the disengagement arm of the clutch. The connecting joint provides for a lost-motion resulting in a limited relative movement of the members of said joint so as to energize, under normal conditions, the servo motor before the disengagement arm be actuated by the pedal when depressing the same for clutch release.

3,448,843
FLUID DISPENSER HAVING MULTIPLE SIGNAL GENERATORS

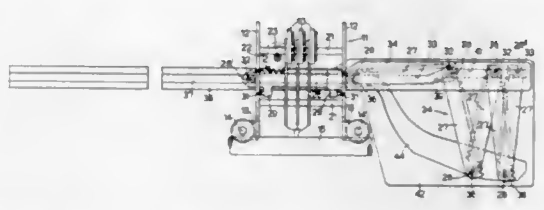
Theodore J. Mesb, Greensboro, N.C., assignor to Gilbert & Barker Manufacturing Company, New York, N.Y., a corporation of Massachusetts
Filed June 8, 1967, Ser. No. 644,581
Int. Cl. G07f *13/00, 15/00;* **B67d** *5/10*
U.S. Cl. 194—5 12 Claims

The present invention relates to the dispensing of fluids and more particularly is directed to a money or token-operated dispensing system in which a quantity of fluid to be dispensed is pre-selected by the introduction of a pre-determined number of coins and/or bills, these providing signal indications which are stored by counter means until fluid dispensation is initiated. The counter means then counts down from the total information stored until the stored delivery signals, which are commensurate with the total quantity of fluid to be dispensed, have been delivered and the dispensing operation is terminated. Additionally, the present invention includes an accelerated pulsing device simulating fluid delivery to penalize one who tampers with the pump after fluid delivery has commenced as well as a circuit-initiated slow-down feature to avoid pump motor drift or overrun and thus insure proper computer price registration.



3,448,844
DEVICE FOR TRANSVERSELY DISPLACING A TYPECARRIER CARRIAGE INCLUDING A FOLDING RACK

Teresio Gassino and Nicolo Giolitti, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed June 12, 1967, Ser. No. 645,179
Claims priority, application Italy, June 20. 1966, 33,976
Int. Cl. B41j *19/18*
U.S. Cl. 197—82 9 Claims

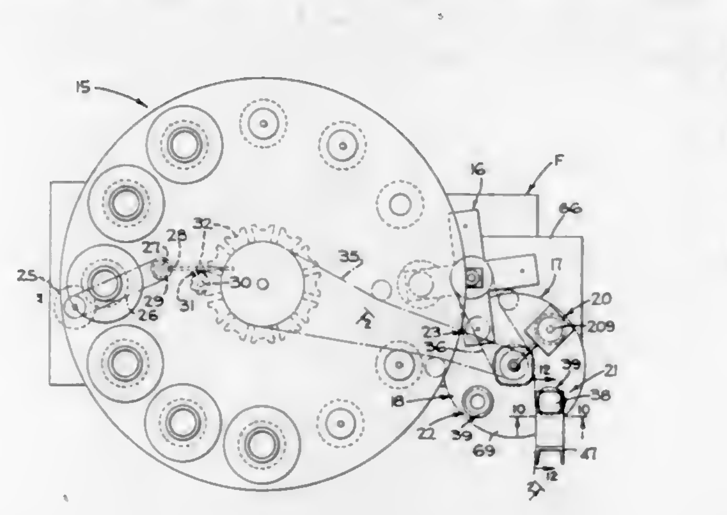


A device for transversely displacing a typecarrier carriage of a typewriter with respect to a stationary platen has a pinion which intermeshes with rack means comprised at least of two mutually hinged racks. One of said racks is connected for movement parallel with said carriage and the other rack has an element thereon so governed by guiding means as to enable it to come to lie along a side end plate of the machine frame when it approaches such plate.

3,448,845
FRUIT-HANDLING APPARATUS

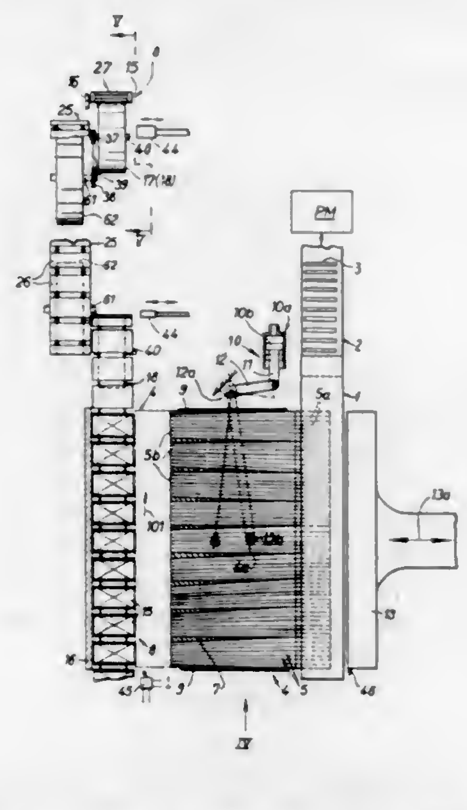
Wilber C. Belk and Beuford N. Willis, Lakeland, and Charles T. Mulford, Auburndale, Fla., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,315
Int. Cl. B65g *47/24, 47/80*
U.S. Cl. 198—33 18 Claims

A grapefruit is properly aligned for subsequent transfer to a sectionizing machine by means for a pair of clusters of pins which surround and engage the core at each end of the fruit and bring it into vertical alignment. The grapefruit is positioned upon a support member which permits it to move both laterally and angularly during the aligning operation, and gripping fingers are provided to close upon the grapefruit after the aligning operation to maintain the grapefruit in its properly oriented position while it is moved to the sectionizing machine.



3,448,846
APPARATUS FOR ASSEMBLING BATCHES OF ROD-SHAPED ARTICLES

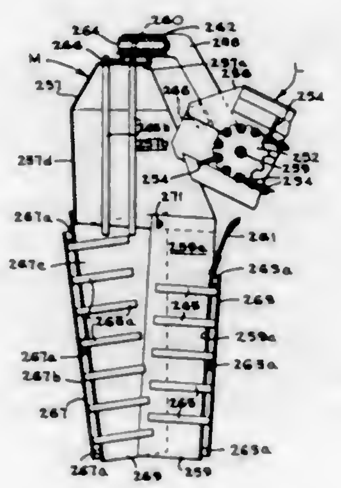
Dietrich Bardenhagen, Hamburg-Lohbrugge, Germany, assignor to Hauni-Werke Korber & Co. KG., Hamburg-Bergedorf, Germany
Filed Oct. 22, 1965, Ser. No. 501,769
Claims priority, application Great Britain, Oct. 23, 1964, 43,227/64
Int. Cl. B65b *19/04, 35/30;* **B65g** *57/00*
U.S. Cl. 198—35 36 Claims



Apparatus for stacking cigarettes comprises a conveyor which advances cigarettes sideways, a suction head which removes long layers of cigarettes from the conveyor, a plunger cooperating with a subdividing device to remove long layers from the suction head, to break such layers without remainder into shorter layers, and to transfer shorter layers into the cells of an intermittently advancing conveyor wherein the shorter layers form stacks ready to be fed toward a packing machine.

3,448,847
DISCHARGE CHUTE FOR HARVESTING MACHINE

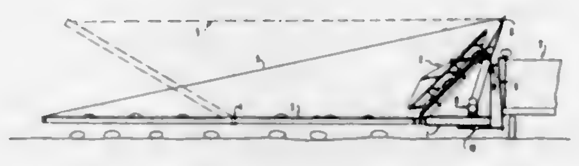
Sandor Csimma, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application July 30, 1964, Ser. No. 386,271, now Patent No. 3,340,935. Divided and this application Mar. 8, 1967, Ser. No. 643,754
Int. Cl. B65g *47/44, 11/12, 11/20*
U.S. Cl. 198—72 4 Claims



A fruit discharge elevator in a harvesting machine, adjustable as to inclination, is provided with a pendent chute to declerate and thus gently lower the fruit into an attendant truck. The chute support includes displaceable support arms and swivel connections to the conveyor to prevent damage if the chute strikes or is struck by an obstruction and to otherwise maintain the chute upright. Resilient fingers within the chute define a tortuous path to decelerate the fruit.

3,448,848
FIELD CONVEYOR FOR GATHERING HARVESTED FARM PRODUCE

Loren Washburn, deceased, late of St. Petersburg, Fla., by Curtis Edward Washburn, administrator, Riverview, Fla., assignor to Progressive Industries, Inc., Tampa, Fla., a corporation of Florida
Filed Apr. 4, 1967, Ser. No. 628,317
Int. Cl. B65g *37/00, 31/02, 41/00*
U.S. Cl. 198—88 8 Claims

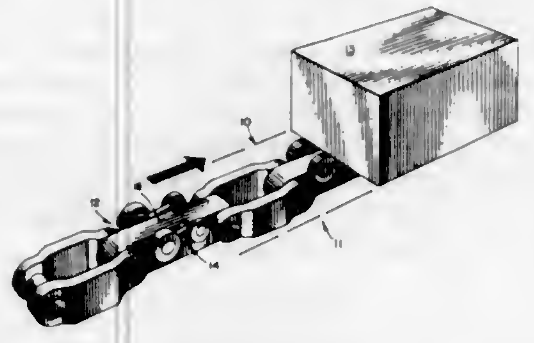


A horizontally disposed, relatively long conveyor for conveying harvested farm produce from the field to an inclined conveyor which delivers the produce to a storage receptacle.

3,448,849
CONVEYOR FITTING

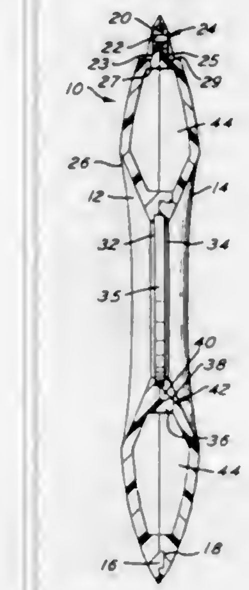
Warren Du Broff, 350 Carol Court,
Highland Park, Ill. 60035
Filed Nov. 13, 1967, Ser. No. 682,334
Int. Cl. B65g *19/02, 19/26*
U.S. Cl. 198—170 4 Claims

A conveyor fitting for pushing a generally rectangular carton along a generally horizontal path wherein the fitting is a pivotally mounted member having rollers at each end so that when the carton is blocked from continuing along the path, the rearward roller is depressed in conjunction with elevation of the forward roller to permit the fitting to pass under the carton.



3,448,850
ORNAMENTAL COIN HOLDER

Joseph M. Segel, Merion, Pa., and William E. Hales, Westmont, N.J., assignors to General Numismatics Corporation, Yeadon, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1967, Ser. No. 686,932
Int. Cl. A45c *11/00;* **B65d** *7/02*
U.S. Cl. 206—.8 4 Claims

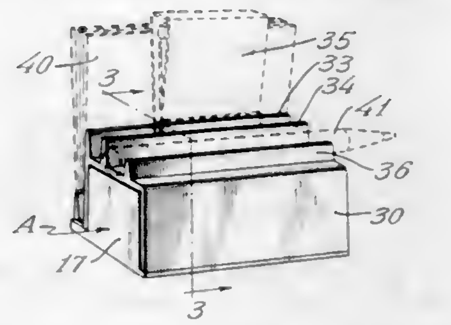


An ornamental coin holder comprising first and second halves, each having an opening through the center portion thereof. Cooperating securing means are provided at opposite ends of the half members and further securing means are provided adjacent the center of the members. Flanges are provided on each half surrounding the openings so that a coin may be held between the halves by the flanges concentric with the faces of the coin exposed through the aligned openings. The ornamental coin holder is secured together by first interconnecting the end securing means and thereafter snapping together the centrally located securing means. When the halves are so interconnected, they have the appearance of a sealed unitary device having a coin fixedly retained therebetween.

3,448,851
COIN HOLDER

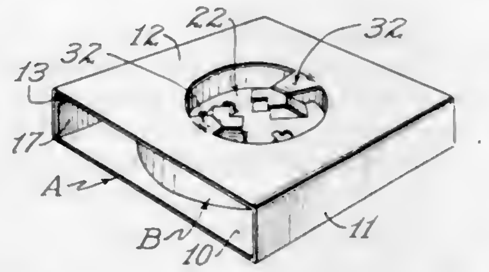
Philip J. Schoenberger, 947 Bellows St.,
West St. Paul, Minn. 55118
Filed Apr. 11, 1968, Ser. No. 720,575
Int. Cl. A45c *11/00*
U.S. Cl. 206—.81 5 Claims

The invention comprises a coin holder including a base portion and a cover. The base portion includes a bottom panel and rectangularly arranged side and end walls extending upwardly therefrom. Partition walls divide the space between the end walls into separate rim compartments which are notched to facilitate insertion and removal of coins. The cover includes front and rear walls and a connection top wall. Flanges extend upwardly from the top wall to provide article supports.



3,448,852
TAPE HOLDING ROLL

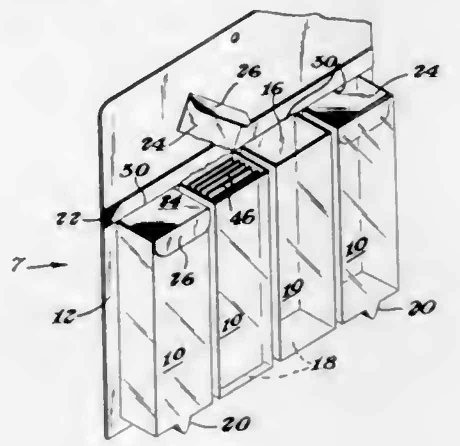
Robert M. Dunning, St. Paul, Minn., assignor to Hoerner Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed Mar. 1, 1968, Ser. No. 709,722
Int. Cl. B65h *55/00, 75/02;* **B65d** *85/04*
U.S. Cl. 206—52 10 Claims



The invention discloses a holder for an object having a generally cylindrical aperture therein or therethrough. A generally circular locking means is formed in the surface of a sleeve enclosing the object, this locking means being supported by two or more supporting means which permit the locking means to be forced into the aperture to prevent lateral movement of the object relative to the sleeve.

3,448,853
DISPENSING CONTAINER FOR DISPLAYING ARTICLES ON A SURFACE

John P. Repko, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application Sept. 12, 1966, Ser. No. 578,556, now Patent No. 3,372,802, dated Mar. 12, 1968. Divided and this application July 31, 1967, Ser. No. 657,132
Int. Cl. B65d *73/00, 25/00;* **A44b** *7/00*
U.S. Cl. 206—78 5 Claims

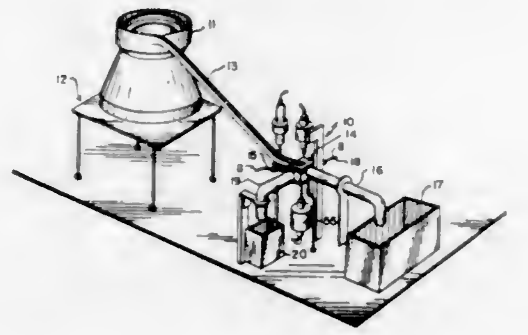


A disposable dispensing container comprising a backing having one or more pockets secured thereto for display of unit packages. Several types of covers for the pockets are disclosed, including a cover comprising a lid panel foldably connected to a back panel which is secured to the backing.

3,448,854

VALVE TESTING MACHINE

Charles B. Holmer, Algonquin, and Kjell Olsson, Crystal Lake, Ill., assignors to Seaquist Valve Company, Division of Pittsburgh Railway Co., Cary, Ill., a corporation of Pennsylvania
Filed June 23, 1965, Ser. No. 466,398
Int. Cl. G01m *3/28;* **B65d** *83/14*
U.S. Cl. 209—72 **19 Claims**

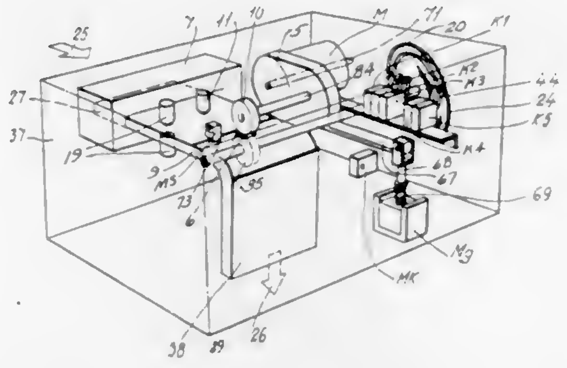


A testing machine especially useful for automatically testing the orifices in aerosol valve bodies consisting of means to hold individual valve bodies, air jet nozzles and engageable with the orifices of said valve bodies, jet air supply means to said nozzles, pressure sensing means opposite said orifices to detect the pressure of air passing through said orifices and jets to collect said valve bodies in accord with detected favorable or unfavorable pressure response.

3,448,855

METHOD AND APPARATUS FOR EXAMINING AND IDENTIFYING BANK NOTES OR THE LIKE, PREFERABLY USED IN CONJUNCTION WITH VENDING MACHINES

Karl Gunnar Rune Söderström, Skebokvarnsvagen 151, Bandhagen, Sweden
Filed Nov. 7, 1966, Ser. No. 592,644
Claims priority, application Sweden, May 2, 1966, 5,987/66
Int. Cl. B07c *5/04, 1/10;* **B07b** *13/04*
U.S. Cl. 209—75 **19 Claims**

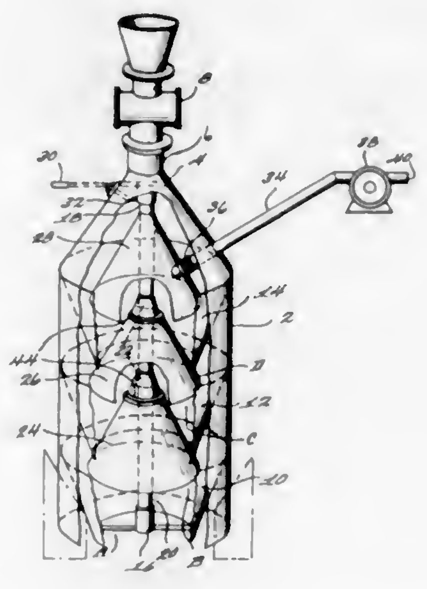


The disclosure involves a method for checking bank notes or the like in a checking station which includes the step of gauging mechanical dimensions at at least one distinguishing area of the bank note. The gauged values obtained are compared with standard signals and a comparison signal produced which is then utilized to distinguish between genuine bank notes and forged or damaged bank notes. The disclosure also involves an apparatus for checking bank notes or the like and for passing genuine notes to an item dispensing device. The apparatus includes a gauging means for gauging mechanical dimensions at at least one distinguishing area of the bank note. A comparator means is used for comparing the gauged values with standard values so as to produce a comparison signal. Utilizing means are provided which are responsive to said comparison signal to differentiate between genuine and forged or damaged bank notes. Means are provided for passing the genuine notes to a collection station and for returning notes which are forged or damaged.

3,448,856

APPARATUS FOR PNEUMATICALLY CLASSIFYING PARTICULATE MATERIALS

Ely K. Thomson, Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware
Filed Oct. 11, 1966, Ser. No. 585,985
Int. Cl. B07b *7/00;* **B07c** *5/02*
U.S. Cl. 209—138 **4 Claims**



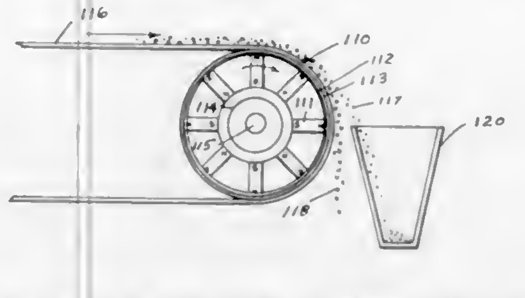
A solids classification and separation apparatus having a vertical housing open at the lower end and closed at the upper end by solids feed mechanism having a plurality of inverted frusto-conical baffles affixed within said housing. The housing supports a vertically adjustable axial member extending through its length that supports several frusto-conical members mounted thereon, the uppermost being fixed and the others being slidably mounted for movement in response to a gas stream passing upwardly between said baffles and frusto-conical members countercurrent to the solids flow through the housing. The gas flow removes the fines from the solids stream through the upper portion of the housing and a suction fan, with the solids product being recovered from the lower end of the housing.

3,448,857

ELECTRODYNAMIC SEPARATOR

William H. Benson and Thomas H. Falconer, Erie, Pa., assignors to Eriez Magnetics, Erie, Pa., a corporation of Pennsylvania
Filed Oct. 24, 1966, Ser. No. 588,969
Int. Cl. B03c *1/02*
U.S. Cl. 209—212 **3 Claims**

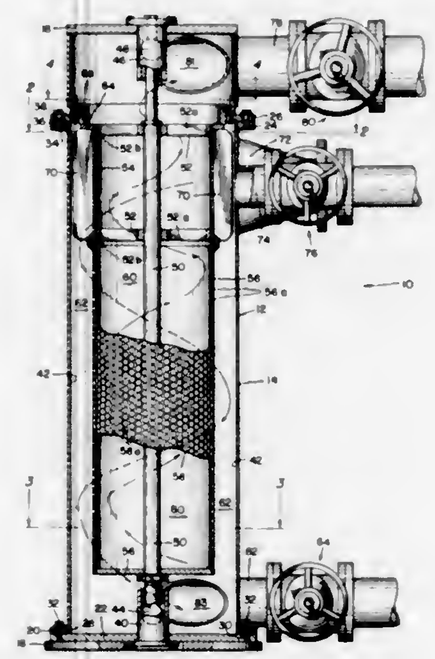
A magnetic separator disclosed herein utilizes a repulsion type principle for separating particles of greater conductivity from particles of less electrical conductivity. The separator is made up of a conveyor belt for carrying materials to be separated. The conveyor belt moves the material past a field which moves at high velocity through the belt and through the material thereby causing the particles of greater conductivity to be projected into a first repository and the particles of lesser conductivity to be projected into a second repository.



3,448,858

CENTRIFUGAL FILTERING APPARATUS

Henri A. Delcellier, Beaureparie, Quebec, and Phillip J. Mills, Sherbrooke, Quebec, Canada, assignors to Canadian Ingersoll-Rand Co., Ltd., Montreal, Quebec, Canada, a corporation of Canada
Continuation of application Ser. No. 547,635, May 4, 1966. This application July 25, 1968, Ser. No. 751,679
Int. Cl. B01d *33/06;* **B07b** *1/24*
U.S. Cl. 209—270 **13 Claims**



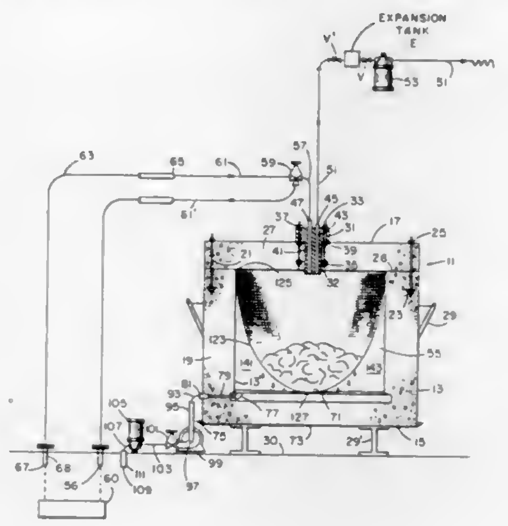
A centrifugal filtering apparatus comprising a housing containing a cavity, and a screen which carries a plurality of paddles and is positioned within the housing cavity. The housing and screen are relatively movable such that the screen may be located either concentrically or eccentrically within the cavity; and a mounting means is provided for rotatably mounting the screen in either of these alternative positions. The fluid inlet and a third or auxiliary outlet, selectively closable by a valve, communicate with the cavity at the level of the paddles and are arranged at least 180 degrees apart such that fluid introduced into the cavity through the inlet may, after acting on the paddles, be immediately discharged through the third outlet.

3,448,859

RADIOACTIVE WASTE REMOVAL METHOD

William C. Hall, Baltimore, Theodore R. Barker II, Pasadena, and Leigh D. Hassell, Jr., Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 8, 1966, Ser. No. 541,400
Int. Cl. B01d *37/00;* **C02b** *1/40*
U.S. Cl. 210—66 **3 Claims**

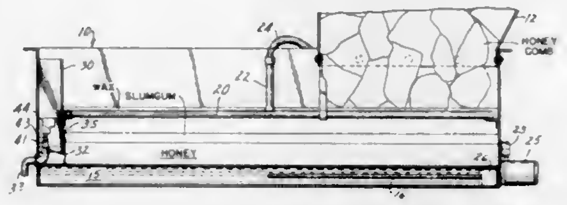
Method of preparing a closed package of solid, low level, radioactive waste for shipment wherein a particular reusable shipping cask is loaded from a closed system with a dryable, liquid-solid mixture of radioactive waste, and the waste is partially dried in the cask by a paraboloid screen filter under suction pressure provided by another closed system and finish dried with a desiccant that fills the cask and underlies and overlies the waste at the center of the cask.



3,448,860

CAPPING SEPARATOR

Harold L. Eckdahl, 2817 N. 2nd St., Minneapolis, Minn. 55411
Filed Mar. 5, 1968, Ser. No. 710,612
Int. Cl. B01d *35/18;* **C02b** *1/02*
U.S. Cl. 210—182 **4 Claims**



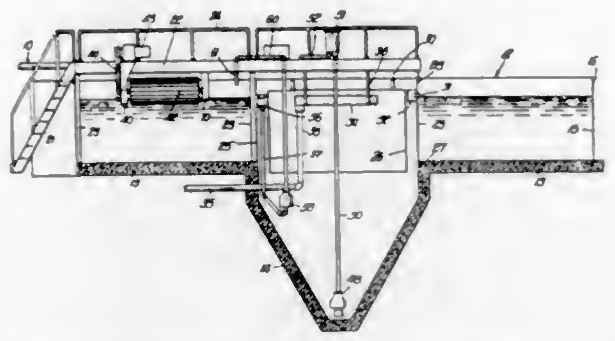
A rectangular tank having horizontally spaced apart heating coils spaced from the bottom thereof and attached by conduits to a hot water compartment underlying the bottom of the tank, which coils and hot water compartment cooperate to maintain the tank at a predetermined temperature so that honeycombs received therein melt to form a layer of honey on the bottom of the tank with the melted wax forming a layer in overlying relationship thereto and any slumgum forming a layer therebetween. The tank includes a honey outlet having a vertically adjustable inlet positioned within the tank and partially surrounded by a baffle forming a chamber having an opening communication with the honey layer. The tank further includes a beeswax outlet having a vertically adjustable inlet within the tank partially surrounded by screen to substantially prevent slumgum from entering the inlet.

3,448,861

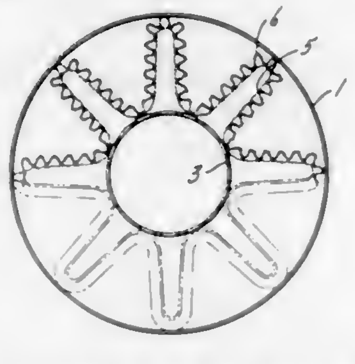
AEROTOR PLANTS FOR TREATMENT OF SEWAGE AND INDUSTRIAL WASTES

William L. Berk, Mount Prospect, Ill., assignor to Lakeside Engineering Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1965, Ser. No. 515,538
Int. Cl. B01d *21/02*
U.S. Cl. 210—195 **8 Claims**

The invention provides a compact and unitary aeration unit having a plurality of connecting chambers which are formed by annular concentric tanks. Flow of the liquid sludge takes place from chamber to chamber until a clear effluent is discharged from the system. In the process the settled sludge and solids are collected with provision for recirculation in part and the present apparatus is further characterized by cage rotors, one being located in each of the annular concentric tanks for aerating the liquid sludge and for effecting flow of the same.

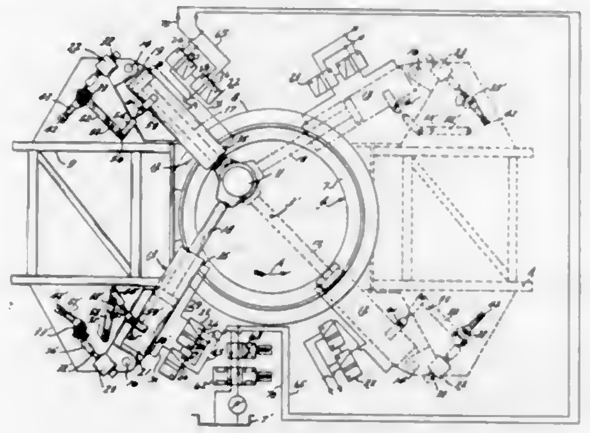


3,448,862
FILTER MEDIA HAVING AN INCREASED FILTER AREA
Walter J. Kudlaty, Elmhurst, Ill., assignor to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,063
Int. Cl. B01d *25/16*
U.S. Cl. 210—489 **1 Claim**



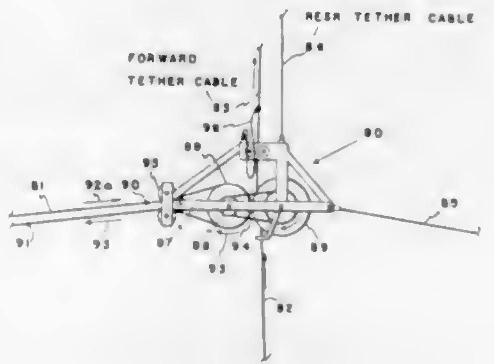
A filter media formed of a first layer of pleated mesh material, a second layer overlying said first layer, said second layer conforming to and following the pleats of said first layer and being itself pleated upon the pleats of said first layer.

3,448,863
SLEWING MECHANISM FOR CRANES
George C. Noll, North Ridgeville, Ohio, assignor to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 24, 1967, Ser. No. 663,153
Int. Cl. B66c *23/84*
U.S. Cl. 212—69 **2 Claims**



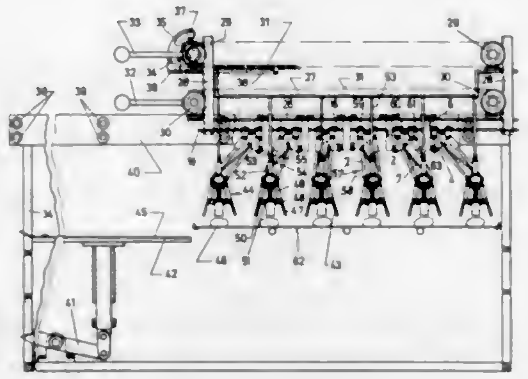
A hydraulically operated slewing mechanism for cranes comprises complementary swing rams for revolving the crane superstructure on its chassis, and a control mechanism for the swing rams including spool valves which are automatically shifted from ram expanding to ram contracting positions, and vice versa, at or near the ends of the expanding and contracting strokes of the rams.

3,448,864
TETHERING SYSTEM FOR AN ELONGATED LIGHTER-THAN-AIR BALLOON
Warren T. Fenn, Tallmadge, Eugene A. Schott, Akron, and Donald B. Tschudy, Canton, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed May 27, 1965, Ser. No. 459,295
Int. Cl. B64b *1/50;* **B64c** *31/06*
U.S. Cl. 212—71 **4 Claims**



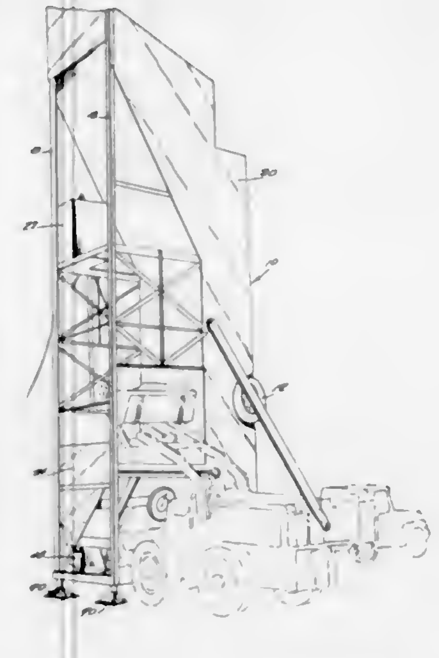
A two cable tethering system for a lighter than air balloon having an aerodynamic lifting surface wherein the forward cable is affixed to a load carrying butt rigging, but the rearward cable is slidable through the rigging and movable with relation to the ground dependent upon the load carried by the balloon, so that as the load is applied, the rearward portion of the balloon is pulled downwardly increasing the angle of attack, and when the load is removed, the rearward portion moves back to its normal position.

3,448,865
EQUIPMENT FOR MANUFACTURING BAKERY PRODUCTS
Herbert Schroder, Angerstrasse, Staffelstein, Upper Franconia, Germany
Filed Jan. 16, 1967, Ser. No. 609,628
Claims priority, application Germany, May 14, 1966, Sch 38,990
Int. Cl. B25j *15/06, 3/00*
U.S. Cl. 214—1 **14 Claims**



An arrangement of holding devices disposed around a central point for taking hold of and depositing worked pieces of dough in batches, with each holding device being connected to its own guide means and movable over a given distance from the center point and back, and the movement of each holding device being effected by mechanical, pneumatic or hydraulic means.

3,448,866
PORTABLE CONCRETE BATCHER APPARATUS
Charles K. Perry and Looney F. Perry, Jr., both of 1405 N. Ave. F, Haskell, Tex. 79521
Filed Feb. 16, 1967, Ser. No. 616,572
Int. Cl. B65g *69/00*
U.S. Cl. 214—2 **1 Claim**

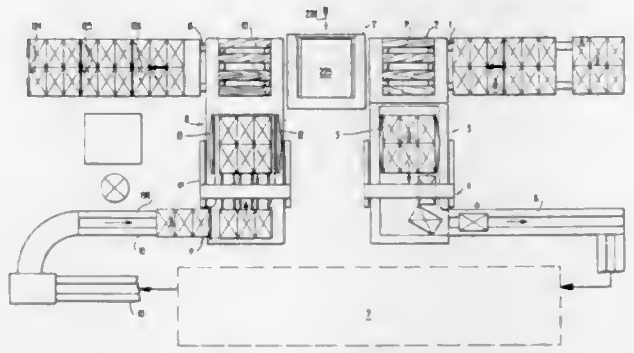


A portable concrete batcher apparatus in which there is a trailer frame supported from the ground by a pair of rotatable wheels, a rotatable pulley mounted from the underside of a rear end of said trailer frame, a guide pulley and a winch adapted to be mounted on a truck base plate, said frame engaging and further supporting from a fifth wheel mounted on a truck base plate, said winch and said guide pulley and said trailer frame pulley having a cable threaded through in which each end terminates on the truck, a pair of parallel push-arms pivotally connected between a fifth wheel support structure on said truck base plate and a respective corresponding point on said frame, and a motor driving said winch so that as the cable being threaded through said pulleys is coiled up on the winch, the trailer frame pulley is thereby drawn toward the truck to push the frame upright by said push-arms engaging said frame.

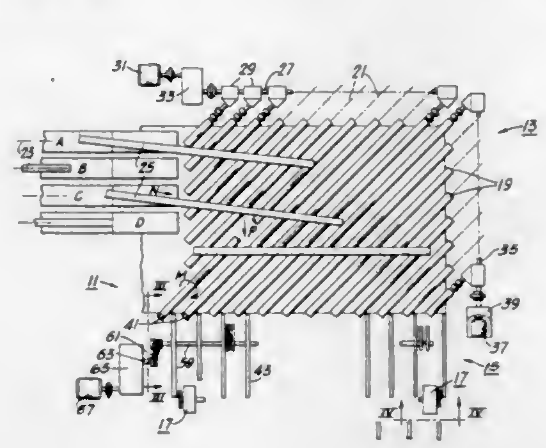
3,448,867
MATERIAL HANDLING SYSTEM
Warren S. Raynor, Port Hope, and Keith A. Burgess, Cobourg, Ontario, Canada, assignors to Rex Chainbelt Inc., a corporation of Wisconsin
Filed Dec. 11, 1964, Ser. No. 417,714
Int. Cl. B65g *57/00*
U.S. Cl. 214—6 **14 Claims**

1. An article unstacking and handling apparatus comprising a supporting station for a unit load composed of several layers of multiple articles each, a pallet station laterally spaced from said supporting station at one end thereof, a straddle car movable between said stations, clamping jaws carried on opposite sides of said straddle car for engaging the bottom layer of articles in a unit load to be transferred from said pallet station to said supporting station, means for raising and lowering said clamping jaws at said stations to lift the unit load at said pallet station and lower the load at said supporting station, an article conveyer laterally spaced from said supporting station, and means for lowering and subsequently transferring the bottom layer from beneath the remainder of the load to said article conveyer while the remainder of the load is clamped and retained by the clamping jaws.

8. An article handling apparatus for receiving individual articles fed in line on an infeed conveyer, forming the articles into a unit load composed of several layers of multiple articles each, and transferring the load as a unit from the apparatus, said apparatus comprising an article accumulation station, means at said accumulation station for accumulating a predetermined number of articles fed from the infeed conveyer into a row, means for transferring the row as a unit to a supporting station, means at said supporting station for assembling a predetermined number of rows into a layer, a straddle car movable between said supporting station and a pallet station laterally spaced from said supporting station, vertically movable clamping means on said straddle car for engaging opposed sides of a layer formed at said supporting station to elevate the layer to permit a subsequent layer to be formed thereunder to form a unit load of a predetermined number of layers, said clamping means engaging and supporting the bottom layer of a unit load formed at said supporting station to transfer the load to said pallet station.



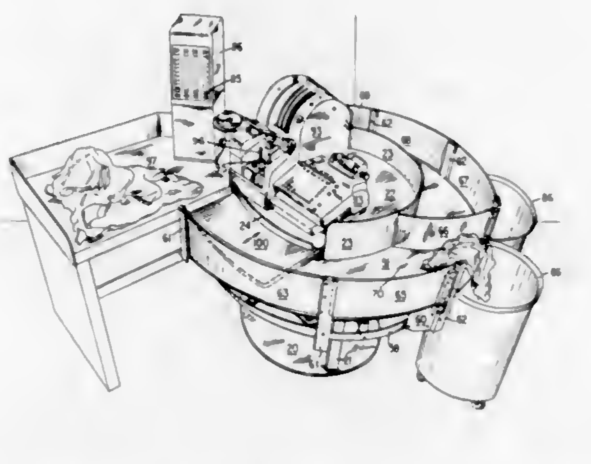
3,448,868
MATERIAL HANDLING APPARATUS
Harry F. Hartzell, Jr., Allison Park, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 17, 1968, Ser. No. 698,536
Int. Cl. B65g *57/00, 47/00;* **B25j** *3/00*
U.S. Cl. 214—6 **14 Claims**



Apparatus for handling stackable products includes a transfer table having angularly positioned rotatable rollers that direct the products toward a dispensing apparatus. The products are dispensed one at a time onto chains that move the products to a stacker. The stacker has a head that accepts one or more products simultaneously and moves them through an angle of 90°, depositing the products on skid rails. A pusher ram actuated by further rotation of the stacker head then moves the stacked products laterally; as the stacker head returns to original position the pusher ram is retracted.

3,448,869
APPARATUS FOR MARKING AND CLASSIFYING ARTICLES OF LAUNDRY

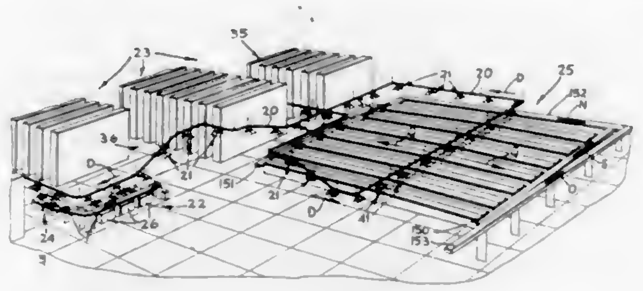
Philip N. Braun and Fredrice Meier, Syracuse, N.Y., assignors to Tag-O-Matic Machine Co., Inc., Syracuse, N.Y., a corporation of New York
Filed July 7, 1966, Ser. No. 563,571
Int. Cl. B65g *47/51, 47/80*
U.S. Cl. 214—11 3 Claims



Upon operation of the laundry marking machine, the marked article is released on a temporary support from which the article is transferred to a conveyor, as by moving the support from under the article. The conveyor is provided with selectively operated gates for discharge of an article from the conveyor at a selected station. Operation of a switch effects actuation of the selected gate and provides power for the marking machine. Actuation of a second switch operates the marking machine through a cycle, at the end of which the marked article is deposited on the support and thence transferred therefrom to the conveyor.

3,448,870
CONVEYOR SYSTEM

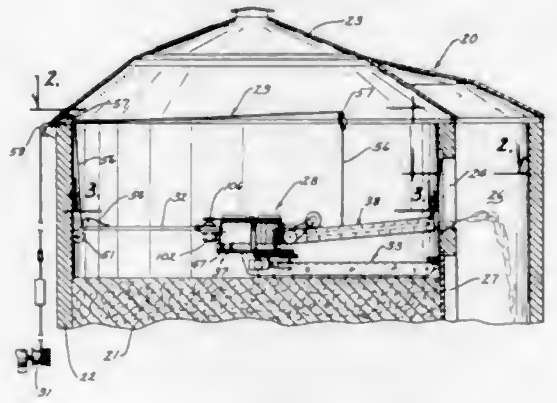
Jules R. Gallo, Los Altos Hills, William W. Smith, San Jose, and Mathew G. Boissevain, Los Altos, Calif., assignors to FMC Corporation, San Jose Calif., a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,478
Int. Cl. B65g *17/44, 47/48, 49/00*
U.S. Cl. 214—16 25 Claims



An endless conveyor for a large storage facility has continuously moving spaced carriers simultaneously to carry some articles to storage and other articles from storage. Tote boxes filled with articles for storage are loaded on empty moving carriers at replenishment stations and coded for automatic delivery to a particular storage station. Empty tote boxes with requests for articles are loaded on empty moving carriers at a dispatch station and coded for the storage station at which the articles are stored. Tote boxes with particular articles of an order are loaded on empty moving carriers at the storage station and coded in accordance with instructions from the dispatch station for delivery to a particular removal station, where all articles for a single order are assembled.

3,448,871
MATERIAL HANDLING APPARATUS

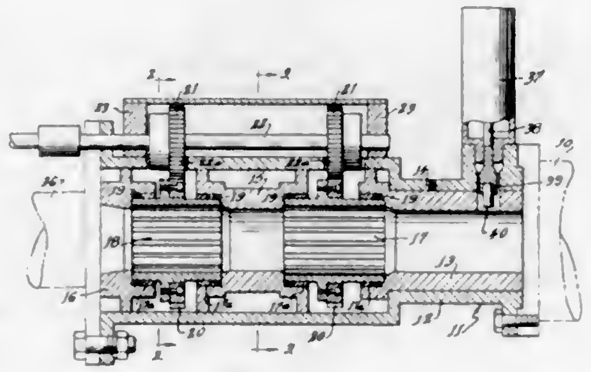
Joseph B. Kucera, Traer, Iowa, assignor of one-half to Rudolph L. Lowell, Des Moines, Iowa
Filed Apr. 5, 1967, Ser. No. 632,502
Int. Cl. B65g *65/32, 65/34;* **A01f** *25/16*
U.S. Cl. 214—17 3 Claims



The silo unloader apparatus has a frame structure provided with attachable cable supported radially extended arms that are engageable with the silo side wall to support and maintain the frame structure centrally of the silo. A rotary conveyer or paddle unit on the frame structure receives silage from a silage gathering conveyer of endless chain type for delivery to a discharge conveyer that moves the silage out of the silo. A power unit on the frame structure drives the rotary conveyer, the silage gathering conveyer and a power transmission means for rotating the silage gathering conveyer horizontally about the frame structure. The discharge conveyer is releasably secured to the frame structure and carries its own power unit. The rotary conveyer includes a paddle assembly and a housing therefor, having a removable side wall. For silo loading the side wall and the discharge conveyer are removed so that the paddle assembly and the silage gathering conveyer cooperate to evenly distribute silage across the silo.

3,448,872
FUEL ELEMENT POSITIONER

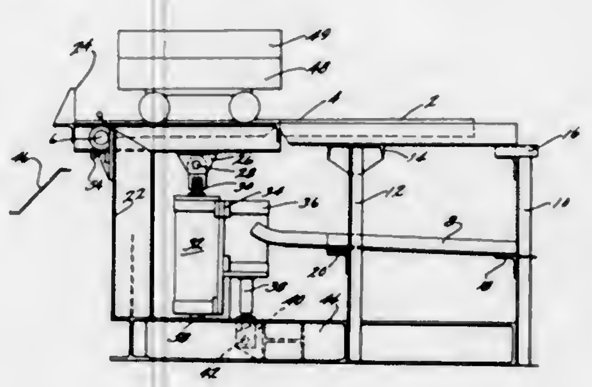
Cecil R. Oak, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 18, 1968, Ser. No. 698,930
Int. Cl. G21c *19/10*
U.S. Cl. 214—23 3 Claims



Apparatus for orienting a ribbed fuel element being inserted in a nuclear reactor. Internally grooved rotators rotate a fuel element having at each end three ribs spaced 90° from one another so that the fuel element enters the reactor with its ribs at the positions of 9 o'clock, 12 o'clock and 3 o'clock.

3,448,873
MOLD DUMPING

Oscar V. Murphy, Newaygo, Mich., assignor to Newaygo Engineering Company, Newaygo, Mich., a corporation of Michigan
Filed Dec. 18, 1967, Ser. No. 691,577
Int. Cl. B65g *67/30*
U.S. Cl. 214—46.22 10 Claims

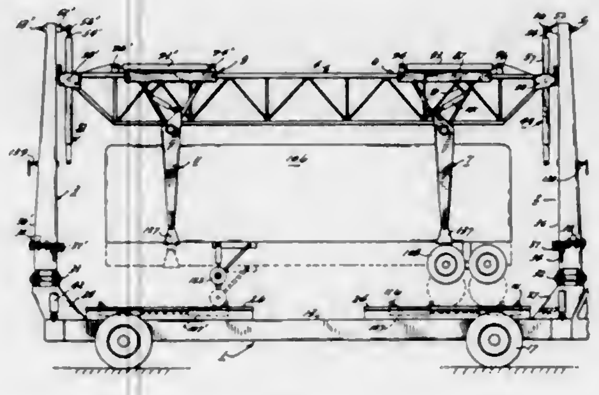


This disclosure relates to a special mold dumping assembly enabling a combination of low profile, simplified construction with a dumping platform that tilts at its end. A mold car is moved from a stationary feeding track to the platform which is rotated upwardly to dump the load from the car. After the car has been dumped, the platform rotates about the axis downwardly to deliver the empty car to a stationary return track which is positioned beneath the feeding track, and the platform then returns to its original position.

The platform or dumping track is moved between positions by a specially arranged and cooperative fluid pressure assembly comprising a pair of cylinders attached directly to each other and positioned in side by side but oppositely oriented relationship. One cylinder has its piston rod attached to the platform at a point spaced from the pivot point, while the second cylinder has its piston rod attached to a fixed pivot mount. Controlled separate and cooperative actuation of the cylinders shifts the platform from the original position to the dumping position, from the dumping position to the car return position, and from the car return position back to the original position.

3,448,874
MOBILE CRANE WITH SPACED PIVOTALLY MOUNTED BOOMS

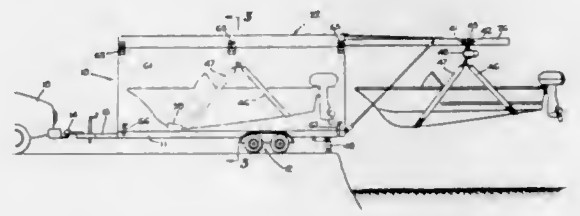
Edwin O. Martinson, Milwaukee, Wis., assignor to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 3, 1967, Ser. No. 650,757
Int. Cl. B60p *1/46, 1/48;* **B65g** *67/02*
U.S. Cl. 214—75 6 Claims



A crane for transferring semi-trailers or their cargo containers from the road to railroad flat cars and vice versa, comprises a wheeled vehicle frame, front and rear booms swingable independently of each other to pickup positions at either side of the vehicle frame, a truss flexibly suspended from the booms by front and rear hoist rams; and front and rear pairs of grapple arms swingably suspended from front and rear crane trolleys on the truss.

3,448,875
CAMPING AND BOAT LAUNCHING TRAILER

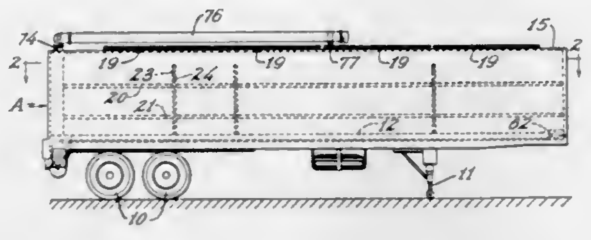
Lloyd R. Robinson, Jr., Box 1321, State College, Starkville, Miss. 39762
Filed Dec. 26, 1967, Ser. No. 693,443
Int. Cl. B60p *1/46, 3/32*
U.S. Cl. 214—75 1 Claim



The invention provides a device for both transporting and launching a boat, in which a trailer adapted to be hauled by another vehicle has a horizontal bed bearing upright support numbers which in turn bear an overhead support means from which the boat is slung. The support means are extendable rearwardly of the trailer, so that the support boat may be carried out clear of the trailer, and subsequently launched. The vertical support means may bear vertical wall panels hinged at the top so that they may swing outwardly and upwardly to form a protective roof.

3,448,876
TRUCK FOR GRANULAR MATERIAL

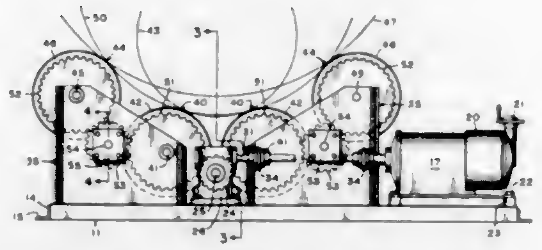
Rolland L. Mosman, Boone, Iowa 50036, and Ronald H. Stromen, 1214 Arizona Ave., Ames, Iowa 50010
Filed Feb. 23, 1967, Ser. No. 623,494
Int. Cl. B60p *1/36, 1/64*
U.S. Cl. 214—83.2 8 Claims



The invention relates to a truck trailer for granular material such as fowl and animal feed, grain and other fluent materials. The truck is normally filled through hatches in the roof into compartments within the truck body. The compartments are formed by pairs of partition panels hinged to opposite side walls of the truck trailer body and secured in overlapping relation. The hinges are detachably secured to the walls so that the panels may be readily moved from one position to another longitudinally of the walls to vary the compartment size, or the panels may be folded against the wall when not used. The granular material is discharged from the rear of the trailer body by a belt conveyor supported for longitudinal movement beneath the floor of the body. Above the conveyor belt is a series of spaced door openings normally closed by longitudinally slidable doors. The doors may be individually opened or closed from a point outside the trailer body, allowing any portion of the granular material to drop onto the conveyor and be discharged to the rear of the truck, at which point it may be directly discharged, or may be delivered to a discharge pipe through screw conveyors.

3,448,877
TURNING ROLL ASSEMBLY

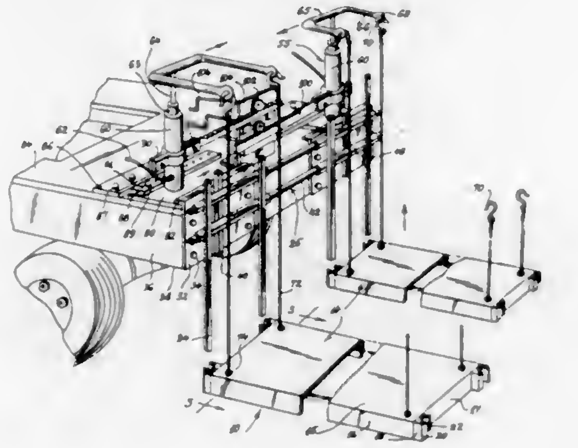
Anthony K. Pandjiris, St. Louis, and Arthur I. Frederick, Webster Groves, Mo., assignors to The Pandjiris Weldment Co., St. Louis, Mo., a corporation of Missouri
Filed Aug. 22, 1966, Ser. No. 573,968
Int. Cl. B65g *7/10*
U.S. Cl. 214—340 **2 Claims**



A turning roll assembly for supporting and rotating workpieces of different dimensions having a first wheel and a second wheel rotatively mounted on a support means at each side of a drive gear defining a fixed drive axis. The pair of first wheels are disposed in side-by-side relation and support a workpiece. The pair of second wheels are located outwardly of the pair of first wheels and support the same or a larger workpiece. A driven gear is connected to and rotatable with each of the wheels, the driven gears of the first wheels meshing with the common drive gear. An idler gear meshes with both driven gears of each pair of associated first and second wheels. The common drive gear positively drives the driven gears of both pair of associated first and second wheels to rotate the wheels in the same direction and turn the supported workpiece.

3,448,878
LOW BED TRAILER

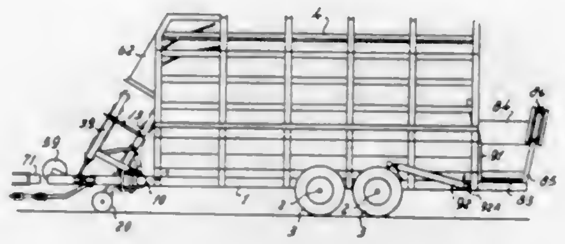
William Schindler, 135 Kohl St., Creve Coeur, Ill. 61611
Filed July 24, 1967, Ser. No. 655,648
Int. Cl. B60p *1/02;* **B62d** *53/06;* **B66b** *9/20*
U.S. Cl. 214—512 **7 Claims**



The disclosure describes a trailer bed which can be lowered down to the ground for unloading heavy equipment and which can be elevated in transit while loaded or unloaded. The trailer bed has a pair of horizontally spaced beams which can be adjusted in spacing. Hydraulic jacks at each corner of the trailer bed lift the trailer bed on cables. A framework of rails is provided for guiding and supporting ends of the beams in horizontal and vertical movements. The rails are made of square tubing. The trailer bed is so arranged that it can be quickly and completely detached from the supporting framework and hydraulic jacks.

3,448,879
AGRICULTURAL VEHICLES

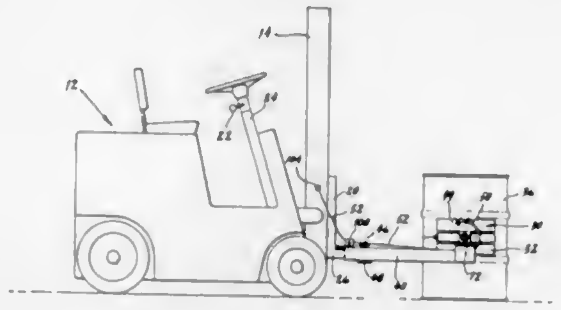
Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., a limited-liability company of the Netherlands Antilles
Filed July 26, 1965, Ser. No. 474,744
Claims priority, application Netherlands, Aug. 5, 1964, 6408946; May 6, 1965, 6505718
Int. Cl. B60p *1/36;* **B65g** *65/06;* **A01d** *87/04*
U.S. Cl. 214—522 **33 Claims**



An agricultural vehicle with a pick-up mechanism having at least one pair of spaced apart conveyors which move in opposite directions. The conveyors are arranged substantially parallel to one another and provided with portions which face one another so that crop can be moved between the conveyors to a loading area.

3,448,880
ARTICLE GRASPING DEVICE FOR FORK LIFT TRUCKS

William E. Howard, West Hartford, Conn., assignor to Materials Handling Systems, Inc., West Hartford, Conn., a corporation of Connecticut
Filed Feb. 23, 1966, Ser. No. 529,456
Int. Cl. B66f *9/06, 9/18*
U.S. Cl. 214—620 **9 Claims**

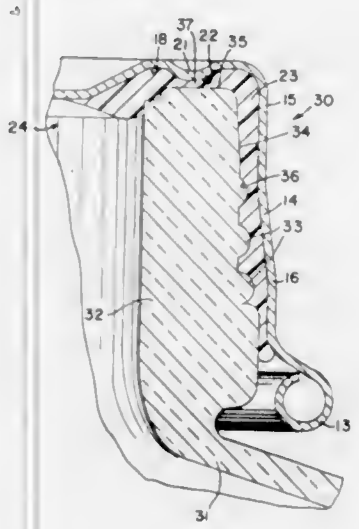


A device attachable to the fork of a fork lift truck permits the truck to grasp, pick up and release an article such as a drum while the operator remains on the truck and without the need for an assistant or powered parts. Two opposing article grasping pads are located on the two prongs of the fork for movement about vertical axes between spread article receiving positions and closed article grasping positions, and are biased toward the article receiving positions so that as an empty fork is moved toward an article the engagement of the pads with the article moves the pads toward their article grasping position. The pads are additionally supported for rotation about axes which are coaxially arranged when the pads are in their article grasping positions to allow the pads and the article grasped thereby to be rotated after the article is picked up by raising the fork. The pads are also supported by carriers which swing about horizontal axes generally parallel to the fork prongs. During an article receiving process the pads are swung upwardly about these latter axes to increase the spacing between the pads, and as the fork is thereafter raised the weight of the article swings the pads downwardly about these axes to

decrease the spacing therebetween and to thereby cause the article to be firmly grasped.

3,448,881
CLOSURE WITH MEANS TO CONTROL OPENING TORQUE

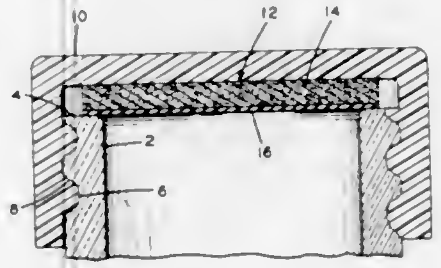
Donald H. Zipper, Western Springs, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 2, 1967, Ser. No. 635,439
Int. Cl. B65d *33/00*
U.S. Cl. 215—40 **11 Claims**



A package including a container and a closure cap of the press-on turn-off type having means to prevent settling of the cap onto the container finish after application thereby to prevent an increase in removal torque. One means to prevent increase in torque removal consists of forming the top panel of the shell of the cap with a debossment or groove which, on the underside, forms a ridge axially opposed to the top rim of the closure. If continuous, the ridge defines with the rim a thin gasket area serving to reduce oxygen permeation through the gasket.

3,448,882
VENTED CLOSURE

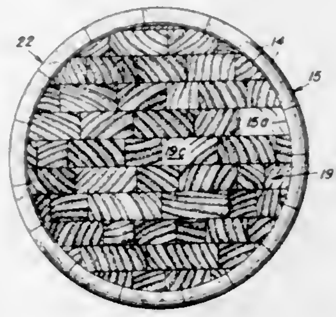
Gerald L. Roy, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed June 24, 1968, Ser. No. 739,321
Int. Cl. B65d *51/16, 53/00*
U.S. Cl. 215—56 **3 Claims**



A self-venting closure for containers which tends to build up internal vapor pressure. Containers often carry liquids which, due to storage in warm places, exposure to sunlight or subjection to agitation, will build up internal vapor pressures within the container in which they are confined. The liner for the self-venting closure cap permits the escape of gas to relieve the internal buildup of pressure. The liner is composed of a pulpboard backing with a facing of fibrous, semi-permeable polytetrafluoroethylene which permits the passage of gases, but is not wetted by and prevents the passage of liquid.

3,448,883
WOODEN BOWL ASSEMBLY AND METHOD OF MAKING

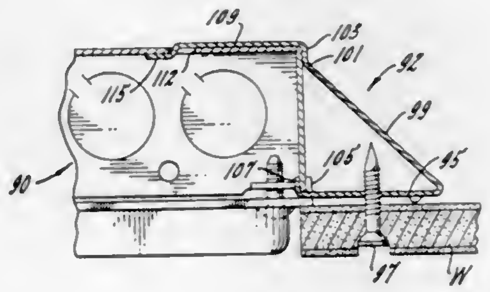
James E. Boswell, Lebanon, Mo., assignor to Independent Stave Company, Inc., Lebanon, Mo., a corporation of Missouri
Filed Dec. 28, 1967, Ser. No. 694,276
Int. Cl. B65d *9/04*
U.S. Cl. 217—5 **5 Claims**



The wooden bowl has an annular wall beveled at its bottom and secured to a bottom whose peripheral edge is complementarily beveled. The wall is made up of glued together staves whose grain runs in the longitudinally axial direction of the bowl and the angle between the radial rays of the grain and the outside face of each stave averages approximately 45 degrees. The staves are assembled so the radial rays of the grain are mixed. The bottom has a plurality of relatively small pieces glued together. The grain in each piece extends in the longitudinal direction of the bowl and the angle between the radial rays forming the grain and a longitudinal axial extending face of each piece interiorly of the periphery averages approximately 45 degrees. The pieces in the bottom interiorly of the peripheral pieces are shaped as parallelepiped prisms. No piece is big enough to cause a joint or the wood to fail.

3,448,884
ELECTRICAL BOX MOUNTING CLIP FOR DRY WALL CONSTRUCTION

Wesley William Swanquist, Oswego, and Wesley A. Weber, Aurora, Ill., assignors to All-Steel Equipment, Inc., a corporation of Illinois
Original application Sept. 14, 1965, Ser. No. 487,191. Divided and this application Jan. 3, 1968, Ser. No. 695,371
Int. Cl. H02g *3/12, 3/18;* **F16b** *5/06*
U.S. Cl. 220—3.9 **1 Claim**



A clip for mounting an electrical outlet box of the type having a bottom wall and upstanding side walls, the box walls having knock-outs to form holes therein, the clip comprising a broad mounting member adapted to engage the reverse side of supporting wall board or the like, a channel at one end of the mounting member for receiving an edge of the box side wall therein, a support member extending between the end of the mounting member and the box side wall at a place thereon adjacent the intersection of the side and bottom wall of the box, and a securing member extending from the support member parallel with the box bottom wall and having its end secured thereto.

3,448,885

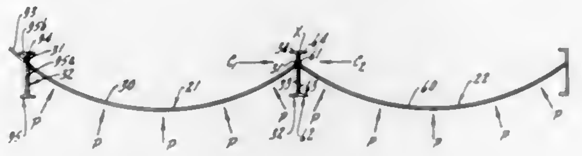
CELLULAR PUMP STATION STRUCTURE

John W. Parks, Shawnee Mission, Kans., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Sept. 15, 1967, Ser. No. 668,042

Int. Cl. B65d *7/02, 7/12, 25/24*

U.S. Cl. 220—5 **13 Claims**



A longitudinally elongated container for an underground equipment installation. The container is fabricated in separate sections having truncated cylinder wall segments and transported to a site where sections are joined. Wall segment arch strength counteracts lateral load.

3,448,886

STORAGE TANKS

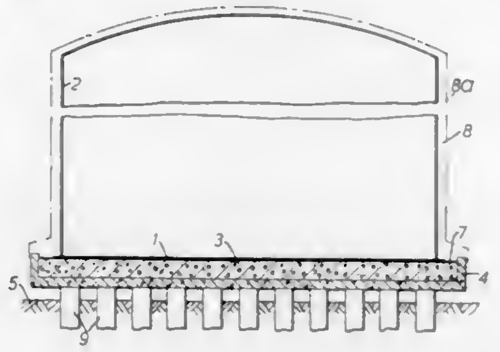
Gordon Todd and Edward Francis Shields, Stockton-on-Tees, Durham, England, assignors to Whessoe Limited

Filed June 30, 1966, Ser. No. 561,981

Claims priority, application Great Britain, July 1, 1965, 27,978/65

Int. Cl. B65d *25/18*

U.S. Cl. 220—9 **5 Claims**



A tank for storing cold liquids which is supported on a layer of loose, divided insulating material contained in a tray to avoid spreading of the material, said tray having means to protect it against the ingress of moisture.

3,448,887

CONTAINER WITH EASY-OPENING DEVICE

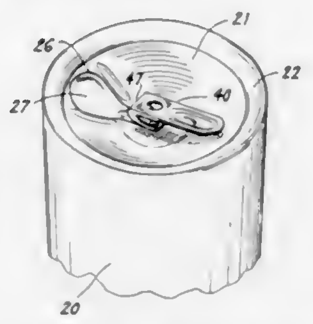
Joseph A. Geiger, Fairfax, Va.

(7258 Parkwood Court, Falls Church, Va. 22042)

Filed Dec. 12, 1967, Ser. No. 689,894

Int. Cl. B65d *17/20*

U.S. Cl. 220—54 **19 Claims**



A tear tab and a radial tear strip in the concave integral end panel of an aluminum beverage container, with the tear strip starting portion contained in a small, tension-stressed center panel and the tear strip main portion in the compression-stressed concave main panel. The tear tab has an elevated handle and, when pivoted upward, rolls up the starting portion over a cam and then locks together with the main portion which can be twisted out, or which snaps out under leverage, when provided with a stiffening profile.

3,448,888

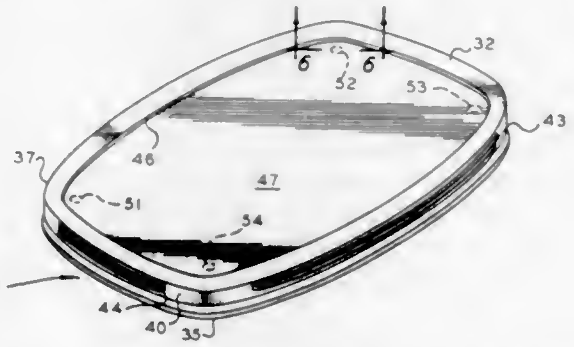
DENESTABLE CONTAINER COVER

Ernest L. Smith and Stafford D. Collie, Kansas City, Mo., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 15, 1968, Ser. No. 713,434

Int. Cl. B65d *43/10, 21/04, 41/18*

U.S. Cl. 220—60 **10 Claims**



A cover, for cornered containers having an inverted U-shaped rim with a lip extending outwardly from the bottom of the outer leg of the U, is provided with a top surface member and a depending rim flange. The rim flange has outwardly extending indentations therein, except at the corners, to receive the container lip. Vertical walled depressed areas are provided in the top surface wall to serve as stacking lugs.

3,448,889

CONTAINERS

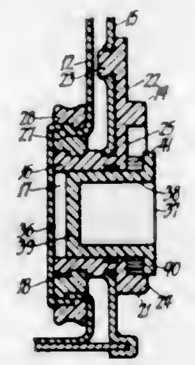
Charles Henry Malpas, Leicester Park, Bellarine Highway, Leopold, Geelong, Victoria, Australia

Filed Apr. 10, 1968, Ser. No. 720,311

Claims priority, application Australia, Apr. 14, 1967, 20,383/67; Mar. 29, 1968, 35,707/68

Int. Cl. B65d *25/16, 47/12, 33/16*

U.S. Cl. 220—63 **12 Claims**



A container, for liquids, having a substantially rigid outer container—as one made of tinplate, cardboard or a relatively rigid plastic material—has a flexible bag-like inner container mounted within it. A tubular housing is fastened to the outer container and is adapted to receive a tap or cock for engagement with the inner container, and the inner container is fastened to the housing by retainer ring means which lock the inner container to the housing and, therefore, relative to the outer container. A removable plug is fitted within the tubular housing to ensure that when the inner container is fitted, it does not become inadvertently disengaged from the housing storage or transport.

The inner container and the locking ring means may be made as a subassembly to facilitate the production of the complete container.

3,448,890

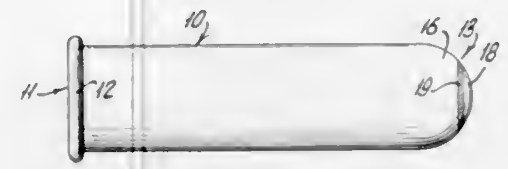
PLASTIC TUBE CONSTRUCTION

Frank McGrath, Maplewood, N.J., assignor to Lusteroid Container Company, Inc., a corporation of New Jersey

Filed May 2, 1966, Ser. No. 546,751

Int. Cl. B65d *11/20*

U.S. Cl. 220—67 **10 Claims**



1. A centrifuge vessel of plastic material comprising an elongated tube open at one end and having a converging taper to define a restricted circular opening at the other end, and a circular plastic bottom insert of diameter intermediate the bore diameter and the restricted-opening diameter, said insert being secured to said tube in concentric overlap with said taper, said securing being at the region of overlap and circumferentially sealing said insert to provide a permanently sealed closure of the tube.

3,448,891

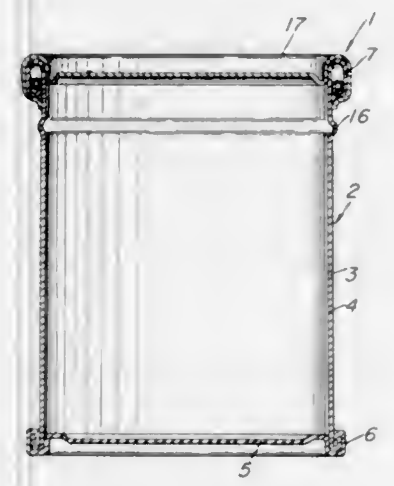
RECEPTACLES AND METHOD OF MAKING SAME

John D. Czarnecki, Downers Grove, Ill., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 461,903, June 7, 1965. This application Jan. 16, 1967, Ser. No. 614,766

Int. Cl. B65d *7/34, 7/42*

U.S. Cl. 220—74 **8 Claims**



A receptacle having curls disposed one within the other around the open end of the receptacle body, and method of making same.

3,448,892

FUEL TANK FILLER TUBE

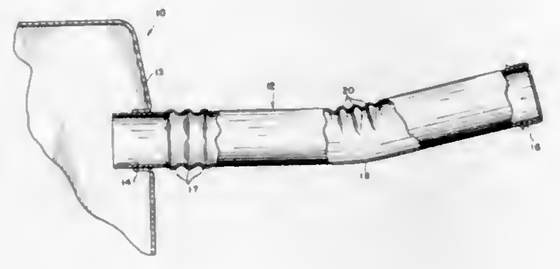
Graham F. Thieman, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana

Filed Aug. 24, 1966, Ser. No. 574,633

Int. Cl. B67d *3/00;* **B67c** *3/00*

U.S. Cl. 220—86 **1 Claim**

A filler tube in combination with an automotive vehicle fuel tank in which said tube is an elongated rigid unitary tube having a discharge end connected to said tank and a fill end. The tube is bent along its length and is provided with a first set of corrugations along the inside curve of said bend and a second set of corrugations outside the extent of said bend. The sets of corrugations are transverse to the tube axis and reduce the columnar strength of said tube to permit it to bend easily upon impact.



3,448,893

SUSPENSION DEVICES FIXED ON RECEPTACLES, IN PARTICULAR ON METAL RECEPTACLES

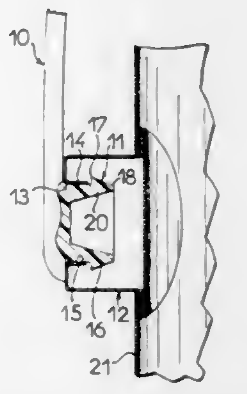
Adrien Louis Marie Jeanneau, Paris, France, assignor to Etablissement J. J. Carnaud & Forges de Basse-Indre, Paris, France

Filed Aug. 3, 1966, Ser. No. 569,950

Claims priority, application France, Aug. 30, 1965, 29,823

Int. Cl. B65d *1/16*

U.S. Cl. 220—91 **1 Claim**



There is disclosed a receptacle suspension device comprising a flexible wide strap-like central gripping section and a radially deformable mounting piece integrally formed at each end thereof for attachment to a receiving boss on a receptacle, each mounting piece including a cylindriform pivot mounting portion ending in a frustoconical end portion having at one end a diameter greater than that of the cylindriform mounting portion to provide a retaining shoulder projection and at its other end a diameter less than the diameter of the cylindrical mounting portion thereby to provide a free insertion end portion, the frusto-conical portions thus being readily placeable in opposed axial alignment.

3,448,894

DISPENSING DEVICE FOR SINGLY DISPENSING MAGNETIZABLE ITEMS

Henry John Modrey, Eagle Drive, Stamford, Conn. 06903, and Gerhard Steinmeyer, Heppen, Kreis Bielefeld, Germany; said Steinmeyer assignor to said Modrey

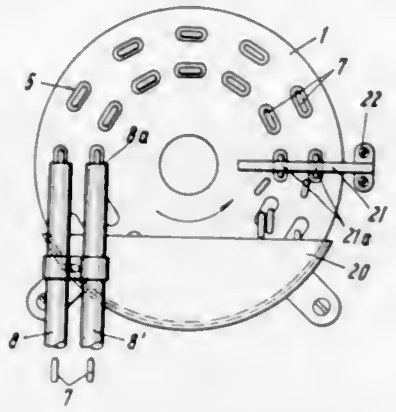
Filed July 31, 1967, Ser. No. 657,232

Claims priority, application Germany, Mar. 23, 1967, M 73,316

Int. Cl. B23q *7/12;* **B65h** *9/00*

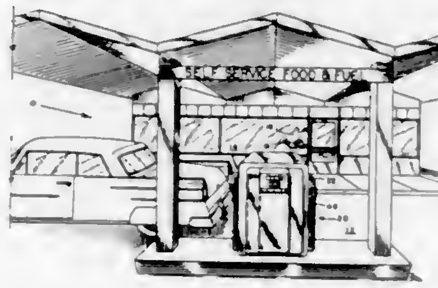
U.S. Cl. 221—160 **31 Claims**

There is disclosed a dispensing device for automatically withdrawing discrete items such as pins, rivets, screws, etc., from a supply and dispensing the items one by one. The items, after being picked up from the supply, singly or in clusters, are singled and positioned by magnetic action and selector means.



3,448,895
PRE-SET AUTOMATIC DISPENSING SYSTEM

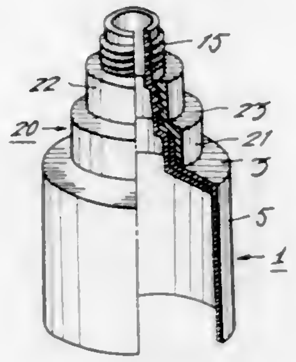
Theodore J. Mesh, Greensboro, N.C., assignor to Gilbert & Barker Manufacturing Company, Greensboro, N.C., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 625,897
Int. Cl. B67d *5/04;* **G01f** *11/00*
U.S. Cl. 222—20 **10 Claims**



This invention relates to a dispensing system for use in automobile service stations and, more particularly, to a pre-set dispensing system through which automobile service station customers may serve themselves by operating an automatically controlled pre-set dispensing system designed to deliver a selected quantity of fluid which may be programmed for delivery at the pump site by the station operator or cashier at a remote location.

3,448,896
DISPENSING TUBE ASSEMBLY

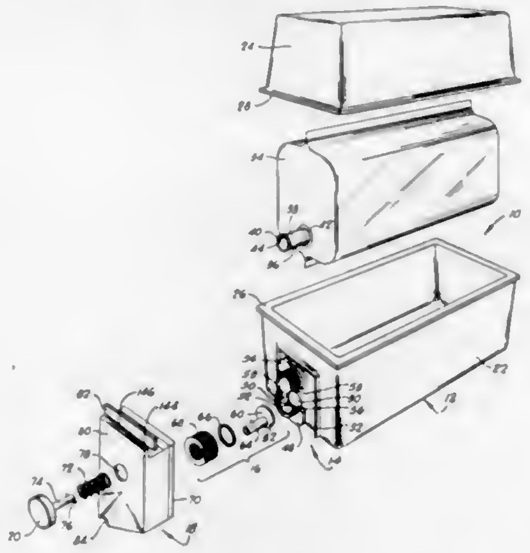
Harumi Kobayashi and Toru Sakuta, Osaka, Japan, assignors to Sunstar Dentifrice Company Limited, Osaka, Japan, a company of Japan
Filed Feb. 14, 1967, Ser. No. 615,989
Claims priority, application Japan, Feb. 23, 1966, 41/16,127
Int. Cl. B65d *35/16, 25/42*
U.S. Cl. 222—92 **3 Claims**



An assembly of a plastic nozzle means with the metallic head of a dispensing tube. The nozzle means includes two portions assemblable with one another by screw threads, with one nozzle portion being disposed at least partially interiorly of said tube head and the other portion being disposed exteriorly thereof, to thus protectively sandwich at least a portion of the metallic tube head between the plastic nozzle portions.

3,448,897
APPARATUS FOR THE STORAGE AND DISPENSING OF LIQUIDS

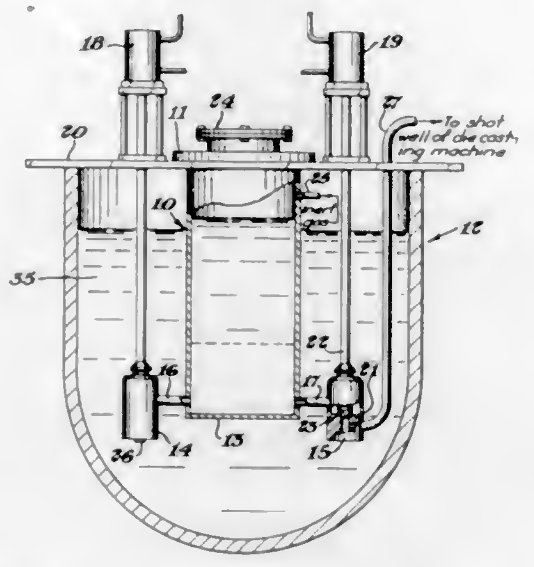
Ronald W. Sterling, 741 Musgrave, Oklahoma City, Okla. 73114
Filed Dec. 16, 1966, Ser. No. 602,286
Int. Cl. B65d *35/56;* **B67d** *3/00;* **F16k** *51/00*
U.S. Cl. 222—105 **9 Claims**



An apparatus for storage and dispensing of liquids wherein a rigid container receives a liquid-filled, flexible bag having a preformed nozzle outlet thereon, the nozzle outlet being insertable through a shaped opening in the rigid container; a capping assembly is then positioned on said nozzle to hold a flexible spout thereon and a housing and lever member can be affixed by a single fastener such that the lever operates a pinch valve sealing edge to open and close the spout.

3,448,898
APPARATUS AND METHOD FOR METERING MOLTEN METAL

Foster C. Bennett, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 9, 1967, Ser. No. 615,300
Int. Cl. B67d *5/54;* **G01f** *11/00*
U.S. Cl. 222—152 **6 Claims**



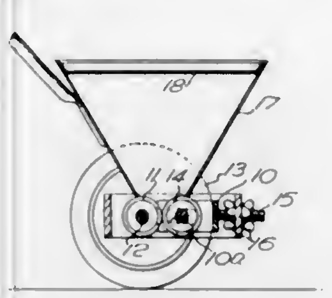
Apparatus for metering molten metal comprising a partially submersible vessel having an inlet valve and an outlet valve associated therewith adjacent the bottom

of the vessel. A gas line communicates with the upper part of the vessel and is connected to controllable compressed inert gas supply and controllable vacuum means. The effluent from the outlet valve is directed via a pipe line to a reservoir such as a shot well of a die casting machine. The inlet valve and the outlet valve are each controllable from above the level of the melt.

The method comprises admitting molten metal into a vessel partially submersed therein and discharging the molten metal from the vessel by gas pressure, via an outlet valve, in controlled amounts or charges and especially in a plurality of charges per filling of the vessel.

3,448,899
DISTRIBUTORS

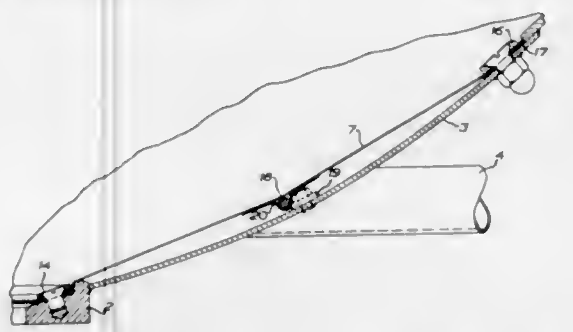
Derek Burtt Hargreaves, Wych Cottage, Wych Lane, Adlington, near Macclesfield, England, and Eric Staniforth, Wood End Farm, Kerridge Road, Rainow, Macclesfield, England
Continuation-in-part of application Ser. No. 388,766, Aug. 11, 1966. This application Apr. 28, 1966, Ser. No. 546,079
Int. Cl. A01c *15/02, 15/08*
U.S. Cl. 222—177 **14 Claims**



A distributor for delivering powdered granular or like material onto the ground comprising a hopper having an outlet at its lower end, a pair of rollers providing a closure for such outlet one at least of which is resilient to provide a pressurised resilient roller-like nip for direct delivery of the material from between the rollers with their nip forming surfaces moving in the same direction and at the same speed. Delivery rate of material from hopper may be varied by varying pressure between rollers, or by varying speed of rollers with respect to speed of rotation of distributor wheels.

3,448,900
CONTAINERS FOR THE TRANSPORT OF FLUIDIZABLE MATERIALS

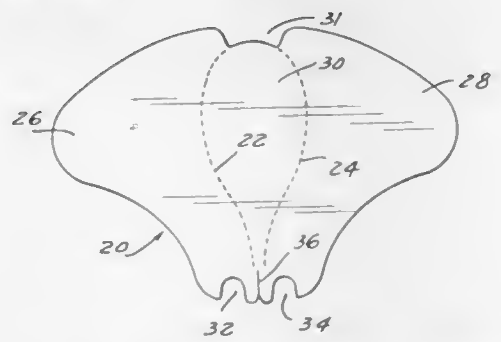
Rolf Elis Jakobsson, Tvaaker, and Kurt Allan Andersson, Falkenberg, Sweden, assignors to Aktiebolaget Interconsult, Malmo, Sweden
Filed May 2, 1967, Ser. No. 638,183
Claims priority, application Sweden, May 4, 1966, 6,094/66
Int. Cl. B65g *3/12, 69/06, 53/04*
U.S. Cl. 222—195 **4 Claims**



In a container for the transport of fluidizable, particulated or pulverized material a device comprising air permeable means at the output area of the container, said means being carried by and mounted on a frame by air permeable mounting means in such a way that the surface of the air permeable means is substantially smooth and the air permeable surface provided is substantially equal to the geometrical surface of the air permeable means and/or the frame.

3,448,901
PACKAGING INSERT FOR COLLARS

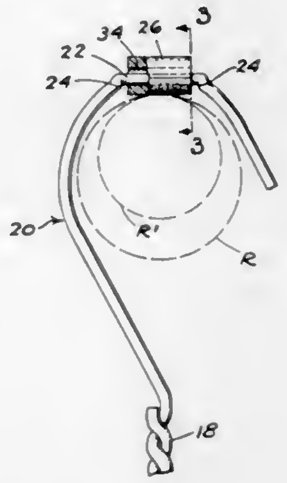
Myron S. Strasser, Jr., 16 Sky Hollow Drive, Menands, N.Y. 12204, and Samuel A. Strasser, 124 Salisbury Road, Delmar, N.Y. 12054
Filed Dec. 29, 1967, Ser. No. 694,454
Int. Cl. D06c *15/00*
U.S. Cl. 223—83 **7 Claims**



A garment collar insert for use in article packaging that is configured substantially to that of a collar thereby to be received and retained between the collar and garment front. The insert being formed from a unitary blank of material which is sufficiently rigid when folded to prevent collar deformation when the article is packaged together with other similar articles.

3,448,902
CLOTHES HANGER

Mark C. Stebbins, Detroit, Mich., assignor to Mark C. Stebbins & Sons, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 3, 1967, Ser. No. 672,589
Int. Cl. A47j *51/08;* **B60b** *7/02;* **B21b** *31/08*
U.S. Cl. 223—85 **5 Claims**

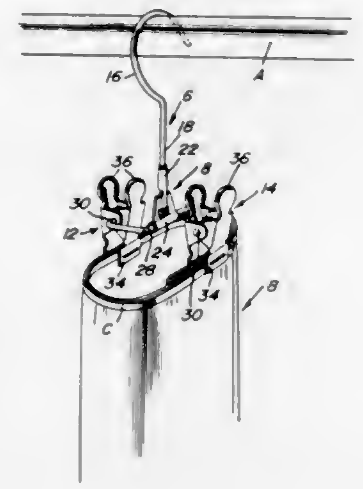


Anti-friction roller on hook portion of clothes hanger is made of flexible plastic strip with beading and recessing at its opposite edges which interengage in a snap-over manner so that the roller can be formed around the hook after roller-retaining shoulders have been provided thereon.

3,448,903
SKIRT HANGER

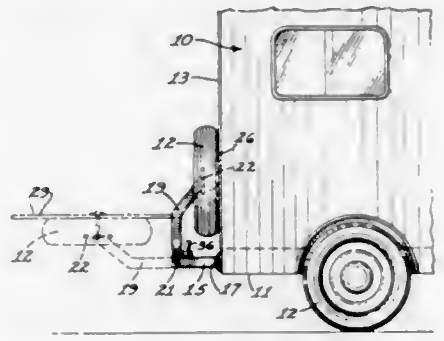
Imogene V. Snow, 122 Wedgewood Drive, Eugene, Oreg. 97402
Filed Nov. 6, 1967, Ser. No. 680,917
Int. Cl. A47j *51/14*
U.S. Cl. 223—96 **4 Claims**

This skirt hanger is preferably, but not necessarily, made from five oriented components; namely, a hook having a depending suspension shank, a unique coupling unit swivelly joined to the lower end of the shank, a novel rod providing a special bracket, and a pair of twin jaw spring-biased garment clasps or clamps pivoted on journal-like end portions of the bracket. The median parts of the bracket provides a shaft and renders the bracket self-leveling. The clasps are adjustable. The over-all device is an innovation in that it is easy-to-use, and, being compact and convenient, lends itself to feasible but reliable usage in limited quarters and places difficult of access.



3,448,904
COMBINATION SPARE TIRE CARRIER AND TABLE

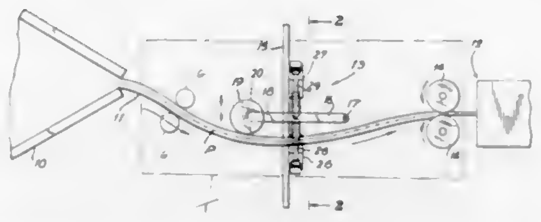
Kenneth D. Sahr, Phoenix, Ariz., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,381
Int. Cl. B62d *43/02;* **A47b** *3/06*
U.S. Cl. 224—42.01 2 Claims



A combination spare tire carrier and demountable table for campers in which the spare tire serves as a support for a table top support.

3,448,905
ARTICLE FEED CONTROL

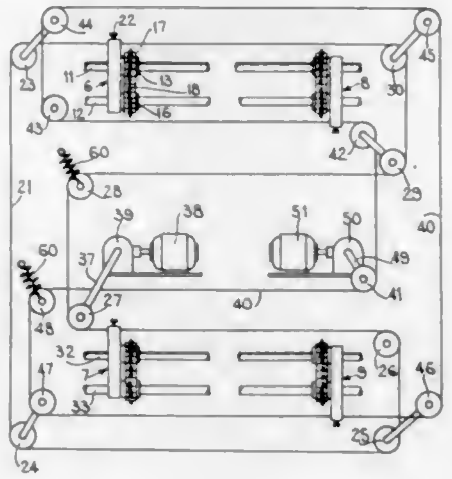
Alfred Heilbrunn, Scranton, Pa., assignor to Topps Chewing Gum, Incorporated, Brooklyn, N.Y., a corporation of New York
Filed Feb. 7, 1967, Ser. No. 614,467
Int. Cl. B65h *25/04*
U.S. Cl. 226—44 10 Claims



This invention relates to a feed control for governing the speed of a non-linearly advancing, flexible, elongated article, such as an extruded rope or filament of plastic or the like, or a flexible web. The speed control means of the invention coordinate the rate of advance between an article feed and an article take-up apparatus in such manner as to maintain the length of the advancing article between the two stations at a desired, predetermined level. The device senses deviations of the article from a predetermined catinary or non-linear path and applies corrections in accordance with the nature of the error, the corrector incorporating novel apparatus to prevent over-correction by immediately interrupting the corrective force as soon as the effects of the applied correction are sensed.

3,448,906
WEB POSITIONING APPARATUS

Charles Bernard Walsh, Hemmingford Grey, and Geoffrey Wilfred Sturman, Letchworth, England, assignors to International Computers and Tabulators Limited, Putney, London, England, a British company
Filed Nov. 23, 1966, Ser. No. 596,593
Claims priority, application Great Britain, Dec. 7, 1965, 51,758/65
Int. Cl. G03b *1/30, 1/24;* **B65h** *17/38*
U.S. Cl. 226—75 4 Claims

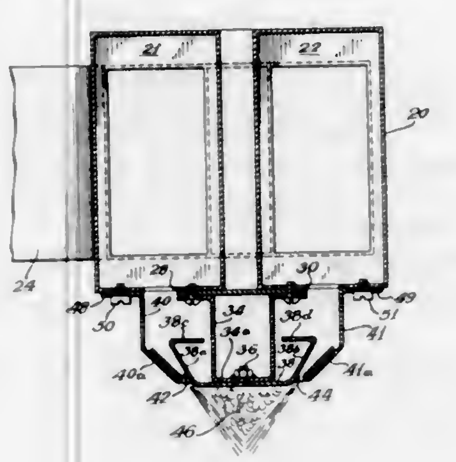


Web positioning apparatus is described in which a web is fed longitudinally by a number of feeding stations along the length of the web. At each station the web, which may, for example, have edge perforations for the purpose, is engaged by separate web-feeding devices at opposite edges. All those web feeding devices, at all of the stations, which engage one particular side of the web are connected together by a flexible linkage. Similarly those web feeding devices, all of which are engageable with the opposite side of the web are also connected by a second linkage. The web feeding devices are mounted for transverse movement perpendicular to the longitudinal axis of the web, and the linkages are guided by pulleys to follow a path back and forth across the line of feeding of the web such that all feeding devices associated with one side of the web are moved synchronously and to the same extent. The two linkages are independently associated with their own drive motors, so that they may be driven in either direction independently. Also it is arranged to drive both motors together, so that all the devices, on both sides of the web, may be moved in synchronism.

3,448,907
WEB POSITIONER BAR

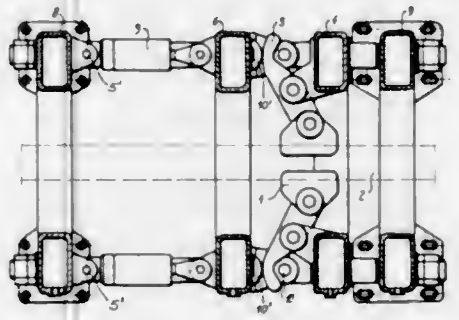
Rudolph T. Otepka, Wheaton, and Arthur G. Stout, Lincolnwood, Ill., assignors to Web Press Engineering, Inc., a corporation of Illinois
Filed Dec. 5, 1966, Ser. No. 599,285
Int. Cl. B65h *17/22*
U.S. Cl. 226—97 6 Claims

Web positioning mechanism for supporting a web of moving material, such as paper, on an air barrier comprising an elongated housing having separate chamber therein adapted to receive pressurized air and having a pair of spaced elongated openings in an end thereof, each opening communicating with a chamber, and deflectors on the housing adjacent the openings for directing the air streams in converging relationship.



3,448,908
FEED MECHANISM FOR AN INGOT PRODUCED BY CONTINUOUS CASTING, ESPECIALLY OF STEEL

Leszek Gruszczynski, Gliwice, and Henryk Adler, Katowice, Poland, assignors to Biuro Projektow Przemyslu Hutniczego "Biprohut," Gliwice, Poland, a corporation of Poland
Filed Dec. 19, 1966, Ser. No. 602,847
Claims priority, application Poland, Dec. 20, 1965, P 112,106
Int. Cl. B65g *25/04*
U.S. Cl. 226—164 4 Claims

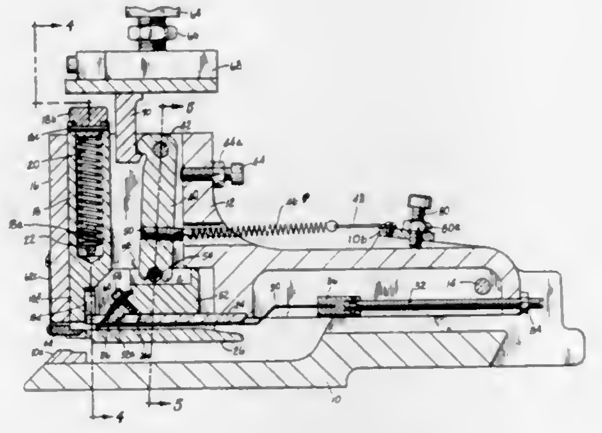


A feed mechanism for advancing the elongated continuous ingot of a system for the continuous casting of steel in which a frame carries a pair of double-arm levers with inner ends forming jaws engageable with the ingot and outer ends engaged in opposite direction by an actuating frame, both frames being freely movable parallel to the ingot on guideways flanking same. The guideways are supported on a pair of further frames while a hydraulic unit is anchored to one of the supporting frames and acts upon the actuating frame for reciprocating same.

3,448,909
METAL LABEL STRIP APPARATUS

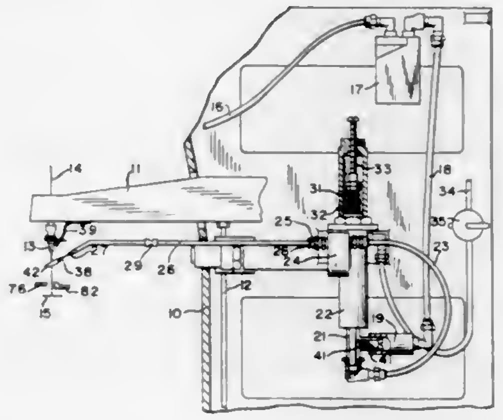
Larry Italiano, 235 North St., New Hdye Park, N.Y. 11040
Filed Oct. 22, 1965, Ser. No. 501,659
Int. Cl. B25c *5/02*
U.S. Cl. 227—86 13 Claims

A label feeding and applying machine is provided, having many features including: a special cutter that enters a V-groove between labels to sever labels without raising a burr; a driver that erects the legs of the labels approaching the driving position; a support for the lead label of the strip that swings out of the insertion path of the lead label; a reverse feed-adjusting resilient stop for the label strip; and a positive-acting strip feeder that operates after an initial delay in the return stroke of a ram that operates the label-applying apparatus.



3,448,910
APPARATUS TO SEVER WIRE BONDED TO SEMICONDUCTOR DEVICES

Charles Fredrick Miller, Anaheim, and Raymond O. Zenker, Whittier, Calif., assignors to Sola Basic Industries, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 2, 1966, Ser. No. 577,582
Int. Cl. B23k *27/00*
U.S. Cl. 228—3 11 Claims

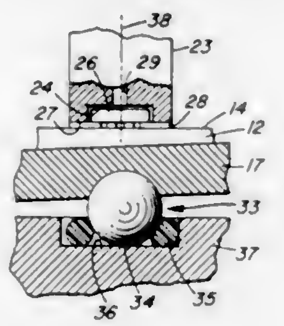


In a semiconductor bonding machine, a hydrogen flame impinges on a thin gold wire to sever the gold wire, which has been bonded to a work piece such as a transistor, whenever an auxiliary fuel pump drives the hydrogen fuel through a burner nozzle to increase the size of the flame. The flame cuts the wire and effects formation of properly sized balls at the ends of the wire. Alternatively, a flame baffle rises to expose the flame and effect severence of the wire. A pair of gripper jaws are also provided to grip and pull away the tail of an attached wire.

3,448,911
COMPENSATING BASE FOR SIMULTANEOUSLY BONDING MULTIPLE LEADS

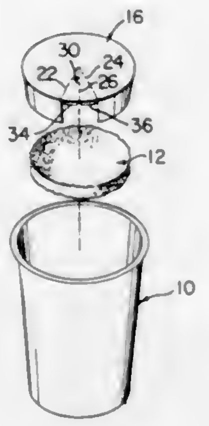
Robert Holbrook Cushman, Princeton Junction, N.J., assignor to Western Electric Company Incorporated, New York, N.Y., a corporation of New York
Filed June 15, 1967, Ser. No. 646,249
Int. Cl. B23k *19/00*
U.S. Cl. 228—44 9 Claims

In simultaneously bonding a plurality of leads extending from a multileaded device to associated bonding sites on a generally planar surface of a workpiece such as contact areas on a thin-film circuit, difficulty is experienced (1) in compensating for lack of parallelism between the generally planar surface of the workpiece and a planar bonding surface of a bonding tool so as to apply substantially the same bonding pressure to each lead, and (2) in compensating for such lack of parallelism without permitting any substantial lateral displacement of the workpiece relative to the bonding tool which would either disturb the alignment of the leads relative to their associated bonding sites or damage the device and/or workpiece. A compensating base is disclosed having a platform for supporting a workpiece, and having a pivot mounted for lateral displacement for pivotally supporting the platform. A bonding tool is also disclosed having a recessed portion for receiving the multileaded device with each lead extending across a planar bonding surface of the bonding tool. As the bonding tool is displaced to bring the multileaded device into engagement with the workpiece, the workpiece is pivoted about the first point of contact to bring the workpiece into parallelism with the bonding tool so as to apply substantially the same bonding pressure to each lead to simultaneously bond the leads to their associated bonding sites. As the pivot which pivotally supports the platform is permitted lateral displacement, the workpiece pivots about the first point of contact with the bonding tool without any substantial lateral displacement of the workpiece relative to the bonding tool.



3,448,912
ABSORBENT CUP INSERT

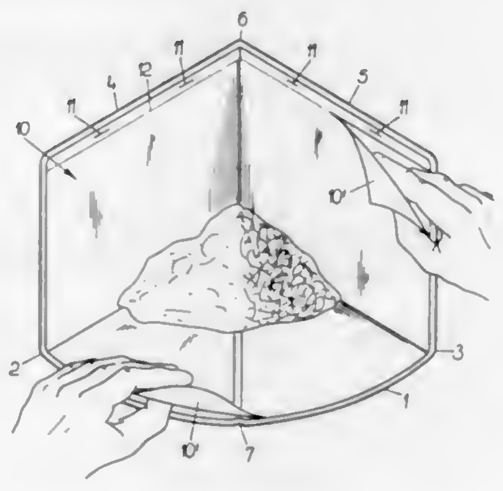
Edward J. Arnosky, 4017 "K" St., Philadelphia, Pa. 19124, and Robert C. Arnosky, 229 Belmont Ave., Croydon, Pa. 19020
Filed Oct. 4, 1967, Ser. No. 672,837
Int. Cl. B65d *3/24, 3/26, 17/24*
U.S. Cl. 229—1.5 9 Claims



An insertable combination for use with a disposable cup wherein a quantity of moisture absorbing material may be positioned at the bottom of the cup below a protective insert of moisture resistant material. When the contents of the cup have been substantially drained, the moisture absorbing material can be employed to absorb the last remaining drops by squeezing the lower portion of the cup to bend the insert and thus expose the moisture absorbing material.

3,448,913
WORK SUPPORT, MORE PARTICULARLY FOR HOUSEHOLD PURPOSES

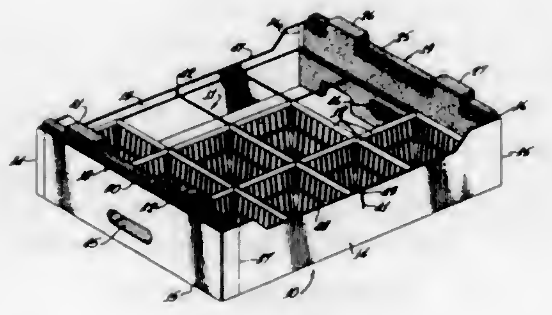
Joachim Wolff, Hilden, Rhineland, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany, a corporation of Germany
Filed Sept. 7, 1967, Ser. No. 670,509
Claims priority, application Germany, Oct. 22, 1966, B 89,531
Int. Cl. B65d *5/06, 25/14;* **B65h** *75/24*
U.S. Cl. 229—14 7 Claims



A work support for household operations. The work support has a base sheet having a pair of intersecting edges. A pair of upright sheets have bottom edges joined to these intersecting edges, respectively, and the upright sheets are joined to each other to define a vertical arris.

3,448,914
COLLAPSIBLE CONTAINER

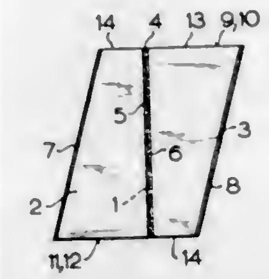
William A. Scholz, 322 E. Hawthorne, Ontario, Calif. 91762
Filed Jan. 11, 1968, Ser. No. 697,051
Int. Cl. B65d *3/24, 5/26, 5/46*
U.S. Cl. 229—15 14 Claims



A container arrangement that includes a collar having an open top and bottom receiving a frame, which is supported by abutments in the collar, and from the frame, in turn, are suspended individual containers, such as berry baskets. In the absence of the frame within the collar, the collar is collapsible to a flat condition for shipment and storage.

3,448,915
TAPERED BAGS OR SLEEVES MADE FROM PLASTIC MATERIAL SHEETING AND JOINED BY TEARABLE PERFORATION LINES

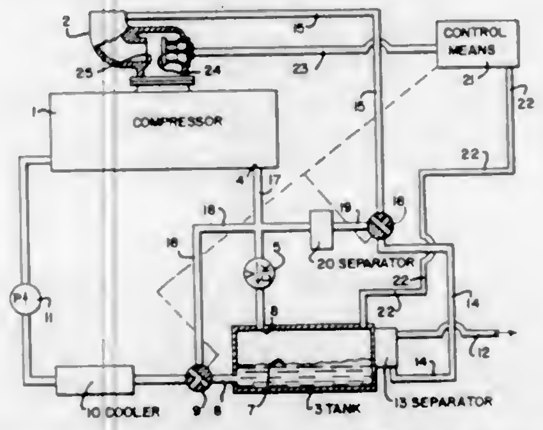
August Schwarzkopf, Lengerich, Westphalia, Germany, assignor to Messrs. Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Aug. 21, 1967, Ser. No. 662,166
Claims priority, application Germany, Aug. 29, 1966, W 42,304
Int. Cl. B65d *31/12, 31/00, 33/00*
U.S. Cl. 229—56 7 Claims



Double bags or sleeves are provided, which have the configuration of a rhombus or rectangle.

3,448,916
UNLOADING SYSTEM FOR COMPRESSORS

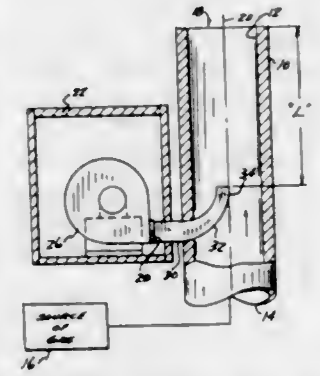
Grover D. Fraser, Painted Post, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed June 16, 1967, Ser. No. 646,607
Int. Cl. F04b *49/02*
U.S. Cl. 230—24 7 Claims



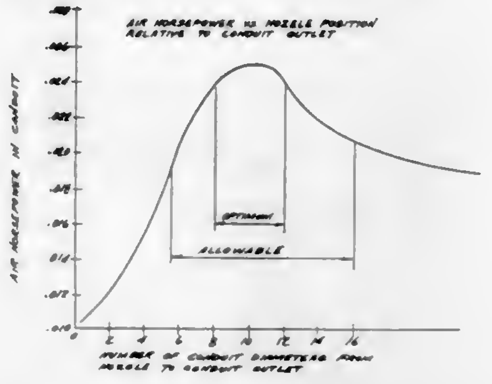
An unloading system for an oil-flooded, rotary, gas compressor having means for throttling the intake to effect desired unloading, which bleeds off discharge pressure, and maintains circulation of sealing and cooling oil.

3,448,917
AIR JET PUMP

William R. Dewey, Detroit, and Howard W. Locker, Birmingham, Mich., assignors to Jetdraft, Inc., Detroit, Mich., a corporation of Michigan
Filed May 9, 1967, Ser. No. 637,179
Int. Cl. F04f *5/00*
U.S. Cl. 230—95 7 Claims

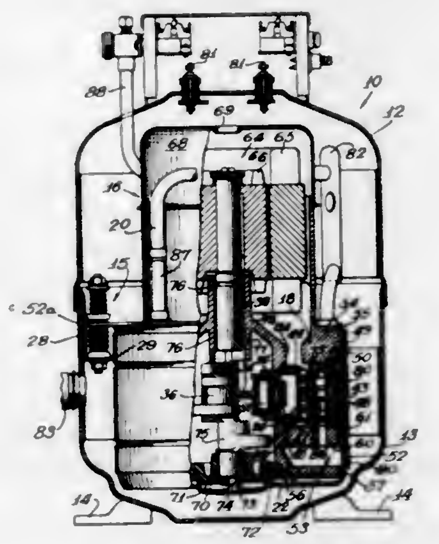


An air ejector mounted within and near the outlet of a chimney to create an artifical draft of the chimney gases. A rectangular or square nozzle supported a predetermined distance from the outlet and offset from the axis of the chimney discharges pressurized air toward the outlet to induce a positive gas flow.



3,448,918
DISCHARGE GAS MANIFOLD CONSTRUCTION FOR HERMETIC REFRIGERANT COMPRESSOR

Richard E. Cawley, Hurst, Tex., assignor to Lennox Industries Inc.
Filed Oct. 23, 1967, Ser. No. 677,385
Int. Cl. F04b *39/00, 35/04*
U.S. Cl. 230—232 3 Claims

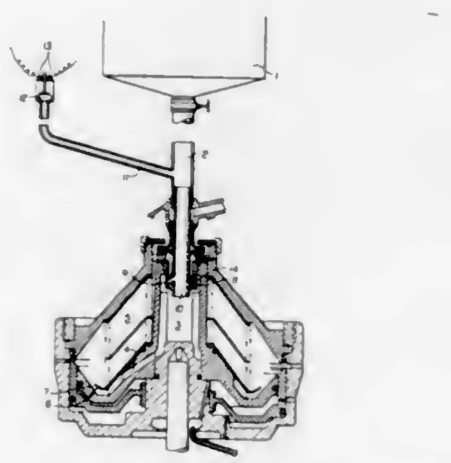


A hermetic refrigerant compressor having an annular sleeve cooperating with the compressor block to define a discharge gas muffler therebetween. Three annular flanges are provided on the compressor block so as to define upper and lower compartments in the discharge gas muffling chamber, with a seal on the intermediate flange to seal between the upper and lower compartments.

3,448,919
AUTOMATIC DESLUDGING APPARATUS

Heinrich Hemfort, Oelde, Westphalia, Germany, assignor to Westfalia Separator Aktiengesellschaft Oelde, Westphalia, Germany, a corporation of Germany
Filed Sept. 13, 1966, Ser. No. 579,148
Claims priority, application Germany, Sept. 17, 1965, W 39,937
Int. Cl. B04b *11/08*
U.S. Cl. 233—20 4 Claims

Centrifuge adapted to resolve solid-liquid mixtures or multi-component liquid solid mixtures having several liquid components of different specific gravities, which centrifuge has a chamber having a liquid and a solid outlet opening therein and an inlet opening thereto, which inlet opening is positioned along the bottom of the chamber and extends radially into the chamber such a distance as to be adapted to be blocked by the accumulation of solids in the chamber. There is further provided axially disposed means for recirculating feed upon the blockage of said inlet opening and switching means activatable by the recirculating feed whereby to cause sludge discharge from the chamber.



3,448,920

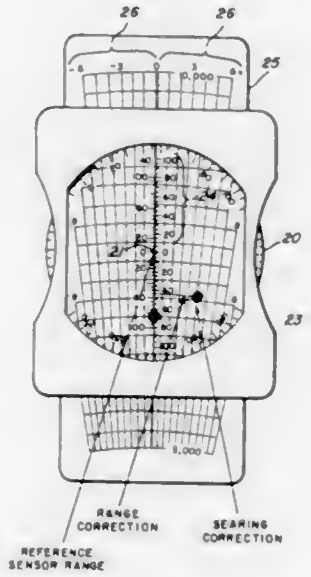
PARALLAX CORRECTION COMPUTER

John P. Hall, San Diego, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 4, 1967, Ser. No. 658,986

Int. Cl. G06c *1/00*

U.S. Cl. 235—61 6 Claims



This disclosure is concerned with a device for quickly and accurately computing the parallax corrections which must be made because of parallax errors introduced between first and second points relative to a remote point by reason of displacement of the first point from the second point. The present disclosure employs a circular scale having a center indicium and incremental azimuthal indicia disposed relative to that center indicium. Typically the incremental azimuthal indicia may be divided down into appropriate increments representative of zero through 360 degrees. A base member is provided which receives and rotatably supports the circular scale. The base member supports the circular scale in such a position that the center of rotation of the circular scale is coincident with a central point on the base member structure.

The base member also has a distance scale disposed along a fixed axis and divided into appropriate increments representative of distance in terms of yards, for instance. The distance scale on a base member is intended to be representative of linear distance between first and second points which may be either known or determinable. A third element, preferably in the form of a slide, is adapted to be received by the base member and is provided with a central axis slidably aligned with the fixed axis of the distance scale disposed on the base member. The slide member has radial indicia disposed angularly relative to its central axis. The slide also includes distance indicia substantially in the form of chords of circles disposed concentrically and representative of distances from one of the first or second points to the remote point.

3,448,921

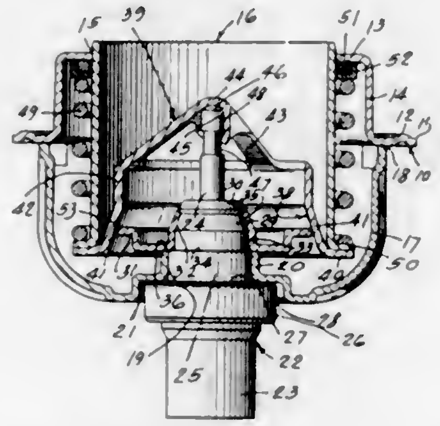
UNBALANCED SLEEVE THERMOSTAT

Douglas E. Kelly, Northfield, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Dec. 8, 1966, Ser. No. 600,096

Int. Cl. F01p *7/16*

U.S. Cl. 236—34 6 Claims



A waterline thermostat with a transverse wall piece having a peripheral edge thereof fitted within a conduit and having a portion thereof disposed downstream of the peripheral edge to guide a sleeve member which is actuated in response to a thermal power unit fixedly positioned within a base wall of the thermostat. The sleeve member has an internal stirrup, a portion of which is a downstream converging throat. The power member of the thermal power unit is rockably mounted within the stirrup, and the movable sleeve member is biased into a closed position with a fixed poppet-type valve head by a coil spring which is properly orientated to simultaneously bias the sleeve member into a closed position and to seat a ring seal against the upstream surface of the transverse wall piece.

3,448,922

THERMOSTATICALLY CONTROLLED GOVERNOR VALVES

Pierre Albert Courtot, Marnes-la-Coquette, France, assignor to Centre Technique des Industries de La Fonderie, Paris, France, a public utility institute of France

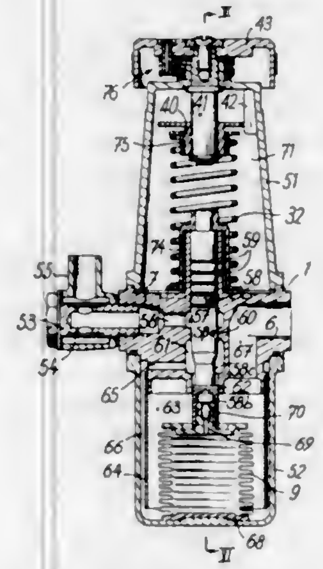
Filed Oct. 31, 1966, Ser. No. 590,636

Claims priority, application France, Nov. 4, 1965, 37,319; Sept. 30, 1966, 78,377

Int. Cl. G05d *23/20, 23/12*

U.S. Cl. 236—93 11 Claims

A governor valve for the cooling fluid of a forming mold which controls the output of the fluid as a function of the temperature of the fluid having a variable closure member located in a main passage which connects an upper and a lower chamber. The closure member is connected to a thermostatic control bellows which is in thermal connection with the fluid flowing in one of the chambers and a biasing member acts against the bellows. The biasing member is adjustable and an auxiliary passage having means for adjusting the diameter thereof connects the upper and lower chambers to by-pass the passage and places the upper and lower chambers in permanent communication with one another.



3,448,923

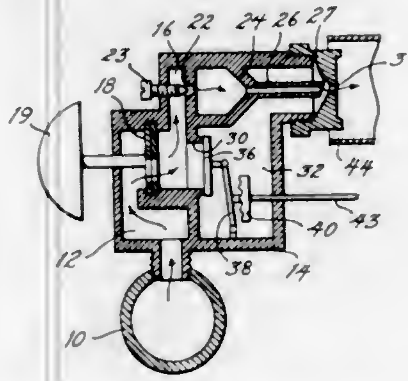
FLUID FUEL FLOW CONTROL FOR GAS BURNING TOP BURNER

Domenick Saponara, Allentown, Pa., assignor to Caloric Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 602,285, Dec. 16, 1966. This application May 27, 1968, Ser. No. 740,774

Int. Cl. F23d *13/02;* **F23n** *5/02, 1/00*

U.S. Cl. 236—99 2 Claims



A thermostatically controlled valve for enabling an automatic top burner to operate at an extremely low B.t.u. in-put without any risk of extinguishing the flame.

3,448,924

RESONANT PULSE JET FOGGER

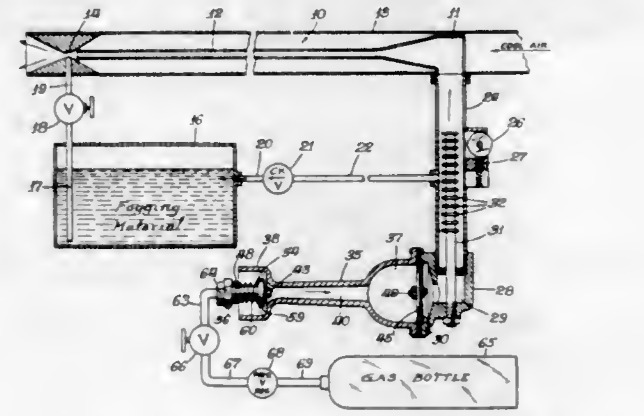
George L. Congdon, Fort Atkinson, Wis., assignor to Burgess Vibrocrafters, Inc., Grayslake, Ill., a corporation of Delaware

Filed Dec. 12, 1966, Ser. No. 600,807

Int. Cl. B05b *1/24*

U.S. Cl. 239—129 6 Claims

The present invention relates to a fogger of the type wherein a resonant pulse jet engine is employed to develop the heat and fluid flow for the dispersing of a liquid material in the form of a fog. For engine fuel the present invention employs gas released from a pressurized gas bottle. The structure is such that the gas as it is released aspirates air to form a combustible mixture and forces the combustible mixture through a backflow obstructing valve, which is so constructed as to permit the mixture flow therethrough under the pressure developed by the aspirating gas. This greatly facilitates the ability to start the engine.



3,448,925

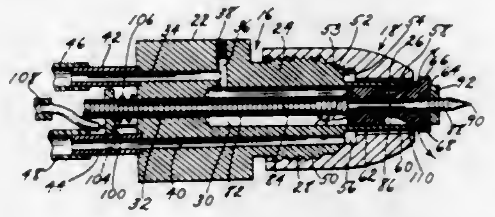
AIR SPRAY GUN FOR ELECTROSTATIC COATING SYSTEMS

Earl G. Cross, Du Quoin, Ill., assignor to Turco Manufacturing Company, Du Quoin, Ill., a corporation of Missouri

Filed Oct. 21, 1966, Ser. No. 588,603

Int. Cl. B05b *5/04, 1/34, 7/08*

U.S. Cl. 239—15 6 Claims



An air and liquid type electrostatic spray gun with concentric passages for air in the inner passage and liquid in the outer passage. The inner passage has a longitudinally adjustable conically tapered plug terminating an a flange acting to deflect air radially. There are whirler means upstream of the plug.

3,448,926

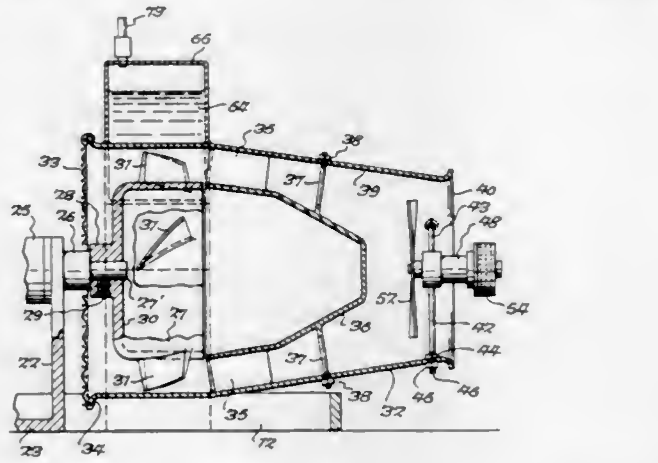
PORTABLE SPRAYER

Coyle E. Knowles, Gowanda, N.Y., assignor to Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N.Y.

Filed Mar. 14, 1967, Ser. No. 623,034

Int. Cl. A01n *17/10;* **B05b** *9/08*

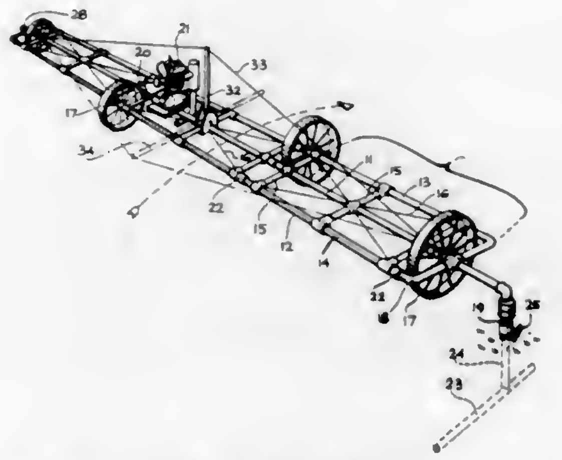
U.S. Cl. 239—77 7 Claims



A portable ultra-low volume liquid sprayer including a shell mounted on a base with a motor driven fan at one end of the shell, air straightening vanes in the shell, a liquid dispersing mechanism at the opposite end of the shell including an annular rotatable apertured cage driven by a propeller in the airstream produced by the fan, conduit means extending into the cage from a pressurized liquid tank, and a sealing plate mounted over an open end of the cage to confine all of the liquid deposited in the cage for dispersion into the air stream emanating from said opposite end of the shell.

3,448,927
IRRIGATION SPRAY LINE

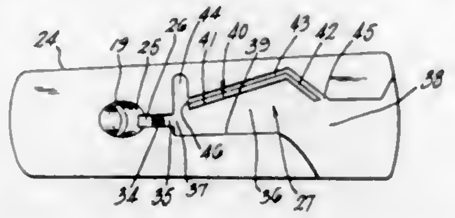
James Blair, 23 Pembroke St., Eastwood,
New South Wales, Australia
Filed June 12, 1967, Ser. No. 645,241
Claims priority, application Australia, Aug. 22, 1966,
9,994/66
Int. Cl. B05b *3/12, 15/06;* **A01g** *25/02*
U.S. Cl. 239—177 4 Claims



An irrigation spray device comprising a liquid carrying pipe which is part of an elongated frame structure, ground engaging wheels for supporting the frame structure, an inlet connected to the frame structure for conducting water from a supply source to the liquid carrying pipe, spray means on the liquid carrying pipe, and drive means for displacing the spray device in a circular path of travel around the inlet. Additional liquid carrying pipes may be provided in communication with the first mentioned liquid carrying pipe.

3,448,928
LIQUID DISPENSING APPARATUS AND MOTOR USEABLE FOR OPERATING SAME

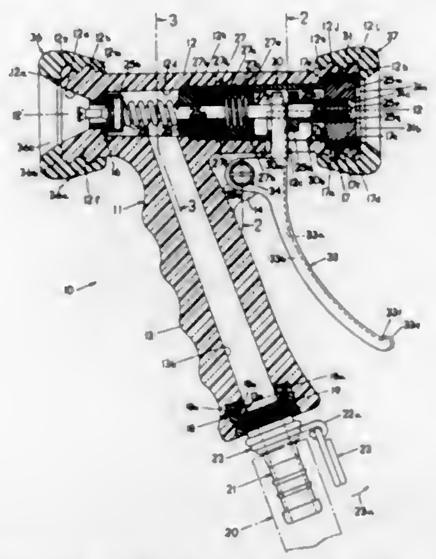
George L. Turner, Hickory Corner, Gerould A. Johnson, Battle Creek, and Richard A. Disbrow, Hickory Corner, Mich., assignors to H. B. Sherman Manufacturing Company, Battle Creek, Mich., a corporation of Michigan
Filed July 21, 1967, Ser. No. 655,141
Int. Cl. B05b *3/06, 1/02*
U.S. Cl. 239—251 11 Claims



This invention concerns a simplified fluidic motor and more specifically a rotary lawn sprinkler utilizing said simplified fluidic motor as part of same, and where part of the main stream of water passing through said sprinkler and its fluidic motor is intermittently bypassed through a single vacuum passageway which is located along one side of said main stream. The passageway for said main water stream first having a venturi beyond which said passageway first expands sidewise on one side along said vacuum passageway wall and then retracts gradually to a point where the end of same would normally contact the side of said main water stream if flowing straight through said motor without diversion. The inlet end of said vacuum passageway being just beyond the end of said retracting wall with said main passageway wall extending a short distance beyond said inlet and substantially in line with the side of said straight flowing main stream. The opposite side of said main stream passageway extending from said venturi and clearing the side of the straight flowing main stream but terminating short of the outer end of said opposite retracting wall and opening outward as shown in the drawing for sidewise delivery of said water stream. Means also being supplied ahead of said venturi for varying the water flow without varying the inlet pressure to said lawn sprinkler. The bi-stable or flip-flop operation of the present invention is as follows: With the main water stream flowing straight through said motor without diversion and said vacuum passageway full of air, the vacuum produced by said venturi will draw some water from said main water stream into the inlet of said vacuum passageway and this will vary the vacuum produced by said venturi and said main water stream will then move sidewise and follow said sidewise expanding wall to said retracting portion which will divert same sidewise so that it clears the inlet end of said vacuum passageway and allows air to start flowing into same, while said sidewise diverted water will give a rotary force to said lawn sprinkler to rotate same. This entry of air into said vacuum passageway again varies the vacuum produced by said venturi and the main water stream will again shift to straight through position to restart the cycle again.

3,448,929
WATER-CONTROL FITTING FOR THE END OF A HOSE

Dietrick Strahman, Livingston, and Henry Strahman, Bloomfield, N.J., assignors to Strahman Valves, Inc., Florham Park, N.J., a corporation of New Jersey
Filed Oct. 24, 1966, Ser. No. 588,801
Int. Cl. B05b *1/32, 15/00;* **F16k** *21/04*
U.S. Cl. 239—288.5 9 Claims



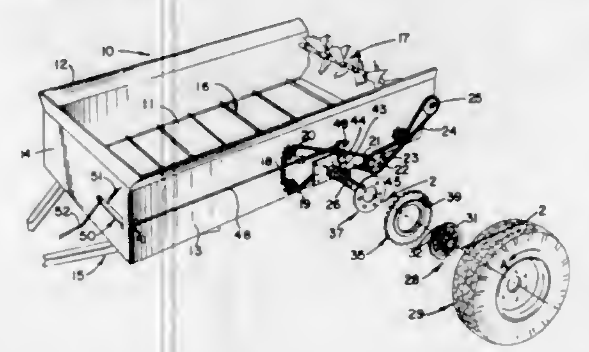
The water-control fitting is in the nature of a hand-held adjustable nozzle which can be manually manipulated to direct the water that is discharged and vary the flow thereof. The fitting has a T-shaped plastic body composed of a horizontal barrel and a tubular handle which depends from the barrel. The end of the hose is attached to the lower end of the plastic handle. The water flows through the handle to the plastic barrel and is discharged through the front end of the barrel.

The body is molded in one piece of high-impact plastic that, as compared to brass, is light in weight and has low heat-conductivity. The plastic barrel has enlargements adjacent to its front and rear ends. Each end together with its companion enlargment is covered with an annular bumper that is composed of a tough elastomer.

Spaced inwardly from the front end of the plastic barrel there is a metal orifice-member, about which the barrel is molded. This orifice-member has an orifice through which the water passes and is then discharged through the front end of the plastic barrel. Coacting with the orifice-member there is flow-varying means which, in effect, closes the orifice or opens it by varying amounts. The flow-varying means includes a pin, a valve-member carried by the pin, and a coil spring which embraces the pin. The plastic barrel is of such internal configuration that the pin and valve-member and the coil spring can be inserted into the barrel from the rear thereof and then moved into coacting relationship with the orifice-member that is toward the front of the barrel.

3,448,930
SPREADER DRIVE MECHANISM

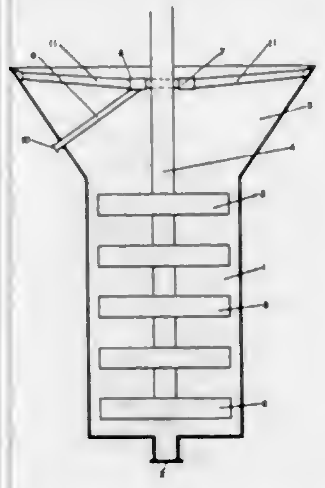
Jacob H. Lepp, Grimsby, Ontario, and Neil J. Bottrill, Hamilton, Ontario, Canada, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 27, 1967, Ser. No. 670,888
Int. Cl. A01c *17/00*
U.S. Cl. 239—685 10 Claims



A manure spreader having a body and an axle mounting wheels for supporting the body. The spreader includes an unloading mechanism for the spreader body. The unloading mechanism is selectively driveable in response to rotation of a ground wheel by means including a clutch mechanism mounted about the axle. The clutch mechanism is selectively operable by a control linkage assembly mounted on the spreader body and accessible to an operator riding a tractor pulling the spreader.

3,448,931
MILLING PROCESS

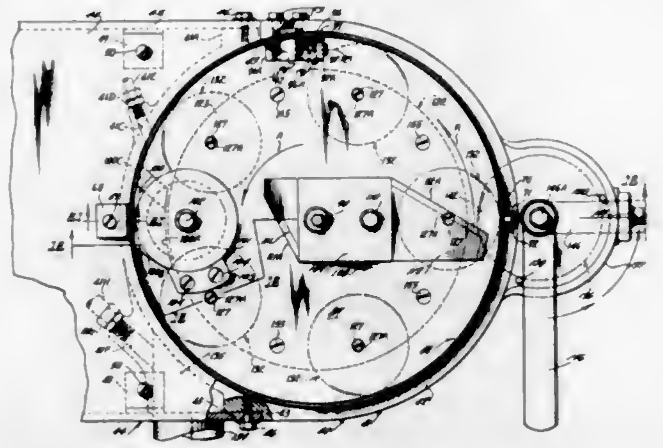
James Kenneth Myatt, Redcar, England, assignor to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom
Filed July 14, 1966, Ser. No. 565,256
Claims priority, application Great Britain, July 31, 1965,
32,882/65
Int. Cl. B02c *7/08, 13/18, 19/00*
U.S. Cl. 241—20 10 Claims



A process and apparatus for grinding of solids in liquids is disclosed. The process and apparatus provide for the recovery of the ground solids with a significantly reduced content of grinding medium.

3,448,932
WASTE DISPOSAL DEVICES

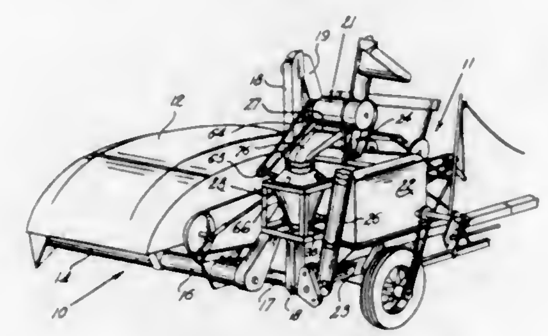
Robert F. Prohl, 2715 Fargo St., Boise, Idaho 83703
Continuation-in-part of application Ser. No. 183,155, Mar. 28, 1962. This application July 23, 1962, Ser. No. 211,574
Int. Cl. B02b *5/02;* **B02c** *11/08, 9/04*
U.S. Cl. 241—42 22 Claims



20. A waste disposal device, comprising: a frame; a housing supported by said frame having a wall defining a cylindrical chamber for receiving waste material; a storage hopper for waste material mounted upon said wall above said chamber; a shaft mounted in said housing for rotation about a vertical axis; drive means connected with said shaft; rotor means carried by said shaft; rotor means carried by said shaft disposed in said chamber, said rotor means including a circular portion of slightly smaller diameter than said chamber; mulching knife means mounted upon said circular portion for chopping and distributing waste material in said chamber from said hopper, said circular portion having a feed slot extending therethrough; a feed knife mounted upon said circular portion and partially overlapping said slot; a stationary cutter bar projecting inwardly from said wall above said circular portion and including a blade positioned to cooperate with said feed knife to chop waste material to a size to pass through said feed slot and to aid in effecting feeding of the chopped waste material through said feed slot; a plurality of stacks of alternate grinding blades and spacers disposed below said circular portion; a retainer plate below said stacks of spacers and grinding blades; means securing said circular portion, stacks of spacers and grinding blades, and retainer plate in assembled relation, including means holding the grinding blades of said stacks from relative rotation with respect to each other, and holding said stacks of grinding blades from rotating relative to said circular portion and retainer plate, the wall defining said chamber having longitudinal grooves formed therein in the portion thereof surrounding said rotor means to retard movement of waste material relative to said chamber walls, said housing having an enlargement at one side thereof providing a compartment communicating with said chamber; a stack of alternate spacers and finger blades located in said compartment; means retaining said finger blades from rotating relative to each other and relative to said compartment; means for adjusting said finger blades from a retracted position within said compartment to a position in which they extend between the grinding blades, said last-mentioned means including a handle adjustable from the exterior of said enlargement, said housing having an inlet for a water jet located in the plane of said stacks of grinding blades, but below said circular portion, said housing also having a discharge opening at the bottom of the chamber and an inlet for a water jet in the plane of said discharge opening, said retainer plate being located near the bottom of said chamber; and impeller vanes attached to said retainer plate at the lower side thereof for expelling waste material from said chamber through said discharge opening.

3,448,933
APPARATUS FOR USE WITH A COMBINE TO DESTROY THE GERMINATION OF WEED SEEDS

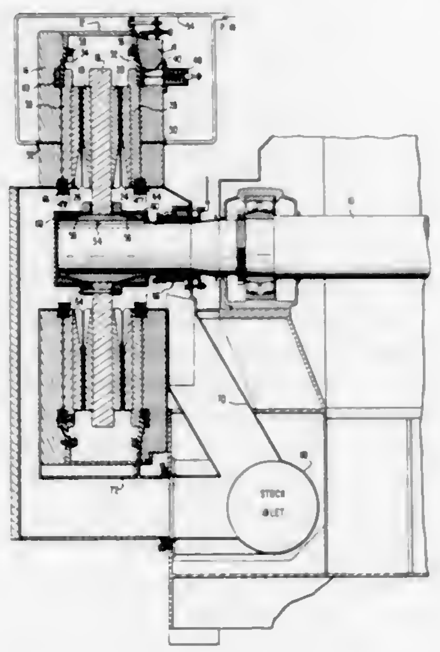
Melvin C. Roy, Clarion, Iowa, assignor of one-half to Ray V. Bailey, Clarion, Iowa
Filed Oct. 14, 1966, Ser. No. 586,727
Int. Cl. B02c *17/10, 2/10, 19/00*
U.S. Cl. 241—68 3 Claims



Following the separation of grain and weed seed in a combine operation, the separated weed seed is discharged into a removable bag container or the like, which on becoming filled is removed and the seeds emptied therefrom. By virtue of the bag container being susceptible to damage, overfilled prior to removal, or inadequately supported on the combine to receive all of the separated weed seed, some of the weed seed is permitted to fall to the ground for later germination. To eliminate such occurrence, as well as the inconvenience encountered in observing and handling the bag container, the invention provides for the separated weed seed being directly admitted into a weed seed destroying apparatus that is carried on the combine and which may consist of either a grinding apparatus, a heating apparatus or a germicide spray apparatus, that operates to totally destroy the weed seed against later germination. With the weed seed thus rendered sterile it may be continuously discharged from the apparatus to the ground from which grain has been previously harvested.

3,448,934
REFINING APPARATUS

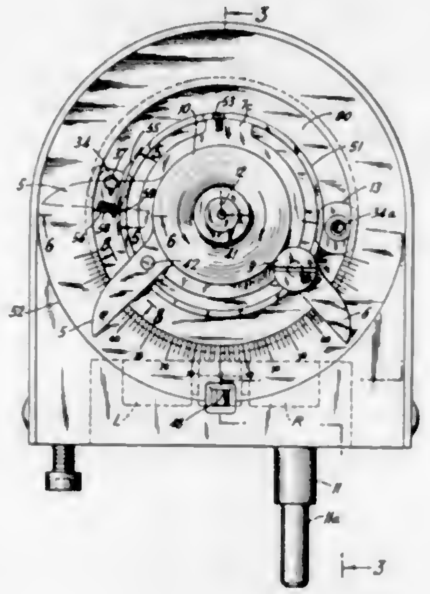
Frank C. Vaughan, 103 W. Brookland Park Blvd., Richmond, Va. 23222
Filed Aug. 12, 1966, Ser. No. 572,066
Int. Cl. B02c *7/02, 7/14, 23/00*
U.S. Cl. 241—146 6 Claims



A disc-type refining apparatus is disclosed in which the non-rotating disc or discs are resiliently mounted within the housing in fluid tight relation thereto for limited movement toward and away from the rotating disc. Fluid pressure from an external source is applied between the housing and the non-rotating discs to urge them toward the rotating disc.

3,448,935
WINDING MACHINE CONTROL DEVICE

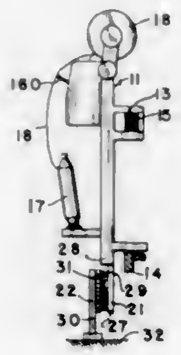
Rudolf Fahrbach, Union, N.J., assignor to Universal Manufacturing Company, Inc., Irvington, N.J., a corporation of New Jersey
Filed Jan. 12, 1967, Ser. No. 608,788
Int. Cl. G01b *5/04*
U.S. Cl. 242—4 5 Claims



A winding machine is provided with an indexing mechanism which moves a toroidal core workholder in opposite directions to cause the coils being wound to fall into level layers of selectable lengths. The lengths of the layers are determined by a pair of concentric discs cooperating with each other through latch means to move associated switch operators to reverse the direction of the workholder drive in accordance with the selected relative positions of said discs.

3,448,936
SELF-MONITORING AUTOMATIC WINDER

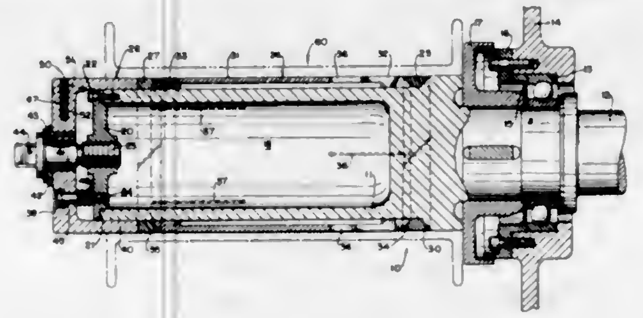
Morris M. Bryan, Jr., Jefferson, and Morris W. Roberts, Chamblee, Ga., assignors to The Jefferson Mills, Inc., Jefferson, Ga., a corporation of Georgia
Filed July 28, 1966, Ser. No. 573,738
Int. Cl. B65h *63/00, 59/38*
U.S. Cl. 242—35.5 5 Claims



An automatic winder having a plurality of winding heads that traverse a closed path, monitoring means for monitoring an operating condition of each winding head, means to indicate each winding head individually as it is being monitored by the monitoring means, and accumulating means for accumulating the results of several monitorings of each winding head.

3,448,937
EXPANDING ARBOR FOR WIRE SPOOLING MACHINE

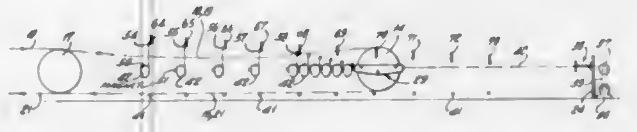
Alvin F. Beck, Sea Girt, N.J., assignor to Synchro Machine Company, Perth Amboy, N.J., a corporation of Delaware
Filed Jan. 4, 1967, Ser. No. 607,244
Int. Cl. B65h *75/30, 17/02, 75/18*
U.S. Cl. 242—46.6 8 Claims



An expending arbor having an arbor body with expansion rings on the arbor and a cylindrical sleeve with slotted ends between the rings. The rings and sleeve have mating beveled camming surfaces thereon, and the arbor is provided with a cap means at one end thereof to exert an axial force on the rings and sleeve, whereby the rings are cammed bodily outwardly from the arbor against the bore of a spool placed thereon and the slotted sleeve ends are moved inwardly against the arbor body.

3,448,938
ACCUMULATOR FOR ELONGATED FLEXIBLE MATERIAL

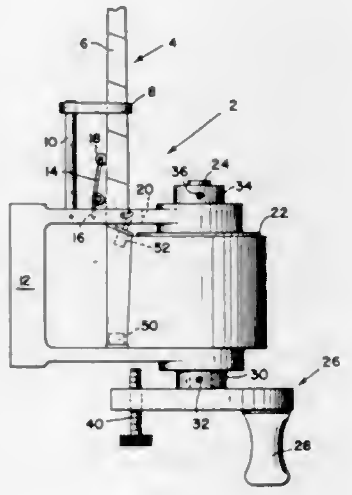
Edward Tanis, Midland Park, N.J., assignor to John Royle & Sons, Paterson, N.J., a corporation of New Jersey
Filed Jan. 19, 1968, Ser. No. 699,264
Int. Cl. B65h *51/08*
U.S. Cl. 242—47.09 9 Claims



An accumulator provided with a plurality of movable carriages between sheaves for supporting a loop of material. Means is provided for sequentially widely spacinf the carriages longitudinally as the sheaves move apart, and for returning the carriages to at least substantially abutting positions when the sheaves are moved relatively toward each other into their retracted terminal position. Such means takes the form of magnetic coupling means between successive pairs of carriages and the rearmost carriage and the movable sheave, the coupling means progressively increasing in coupling strength toward the movable sheave, and cooperating stop means on the frame and dogs on the carriages for sequentially disengaging the couplings and for holding the respective carriages at predetermined longitudinal positions as the sheaves move apart.

3,448,939
SELF-ERECTING SPIRAL TUBE DEVICE

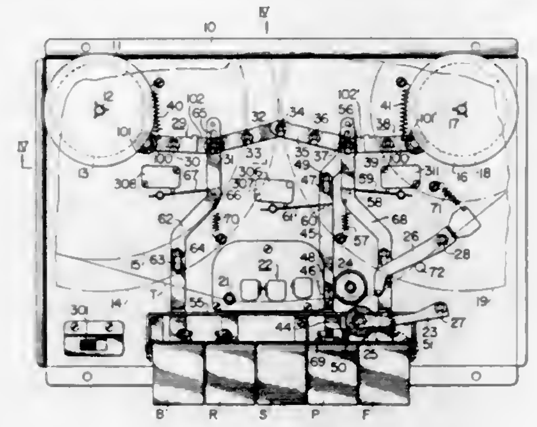
William J. Bieber, Doylestown, Pa., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,894
Int. Cl. B65h *75/00;* **E04h** *12/18;* **B60g** *11/14*
U.S. Cl. 242—54 2 Claims



A self-erecting helical tube has guide bearings to provide for reverse winding on a drum having an axis substantially parallel to the axis of the tube.

3,448,940
TAPE DRIVE AND BRAKE MECHANISM FOR A MAGNETIC TAPE RECORDER

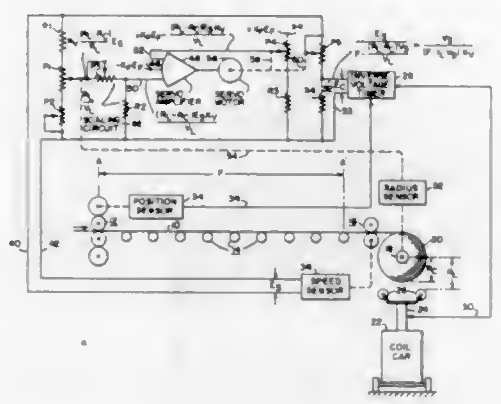
Katsuya Atsumi, Tokyo, Japan, assignor to Akai Electric Company Limited, Tokyo, Japan
Filed Mar. 1, 1966, Ser. No. 530,888
Claims priority, application Japan, Mar. 3, 1965, 40/12,059
Int. Cl. G11b *15/44*
U.S. Cl. 242—55.12 1 Claim



A tape drive and brake mechanism for magnetic tape recorders having a pair of motorized tape reels for alternately feeding and winding tape. A pair of braking rollers are mounted in proximity of the reels and are spring biased into contact therewith. A system of linkages extending between the braking rollers and a plurality of control buttons is arranged so that the braking roller associated with the reel which is feeding tape is applied to that reel before the braking roller associated with the reel which is winding tape is applied. In releasing the braking rollers, that braking roller which is associated with the reel which is winding tape is released before the braking roller associated with the reel which is feeding tape.

3,448,941
LIFT MECHANISM INITIATE CONTROL SYSTEM

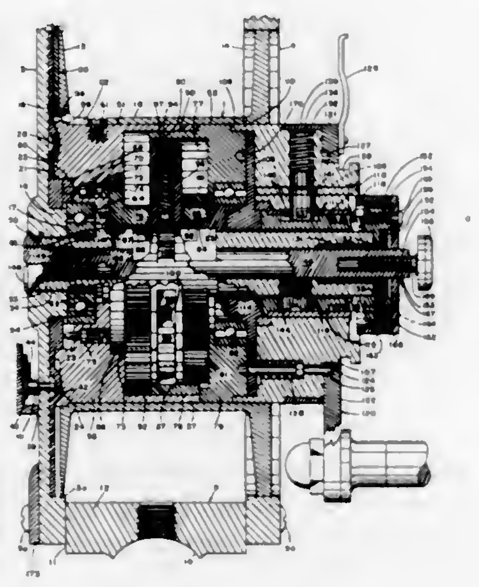
Henry A. Dickerson, Snyder, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 13, 1967, Ser. No. 675,143
Int. Cl. B21c *47/00*
U.S. Cl. 242—79 8 Claims



A control system activates a lift mechanism at the proper time to effect movement of a lift mechanism to receive coils having variable radii being formed from strip being run at variable speeds. A control signal indicative of the proper time to activate the lift mechanism is generated in response to the speed of the strip and the radius of the coils being wound. A timing cycle is initiated when the end of the coil reaches a predetermined point and, in response to the control signal, times out to activate the lift mechanism at the proper time.

3,448,942
TWO SPEED FISHING REEL DRIVE

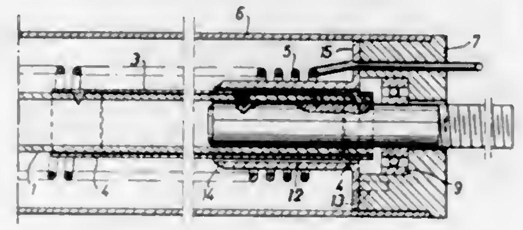
Bert H. Parks, Grants Pass, Oreg., assignor to Rogue Reels, Inc., a corporation of California
Continuation of application Ser. No. 386,368, July 30, 1964, which is a continuation of application Ser. No. 238,679, Nov. 19, 1962. This application Apr. 25, 1966, Ser. No. 545,161
Int. Cl. A01k *89/00*
U.S. Cl. 242—84.54 30 Claims



A two-speed transmission usable in a fishing reel employs planetary gearing so that a manually operated center pin is axially shifted to position a gate between a closed position wherein a planetary carrier is locked from turning with the input to produce a first drive ratio to the output spool and a second position wherein the carrier is free to turn with the input to produce a one-to-one drive to the spool.

3,448,943
ROLLER SCREENS

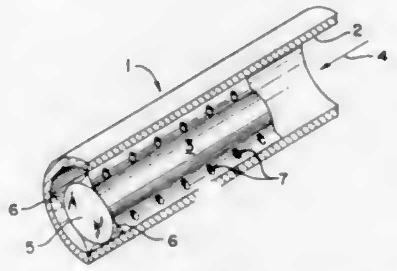
Lars Borje Svante Herou, Slatvarsgatan 24, Vastra Frolunda, Sweden
Filed May 12, 1967, Ser. No. 638,054
Claims priority, application Sweden, May 16, 1966, 6,680/66
Int. Cl. B65h *75/48*
U.S. Cl. 242—107 3 Claims



A winding mechanism comprising a spring placed around a stationary core and secured thereto at one end has the opposite end secured to a winding drum. A rotatable sleeve means is provided between the core and the spring and is secured against axial displacement by locking rings.

3,448,944
FINNED CAPSULES

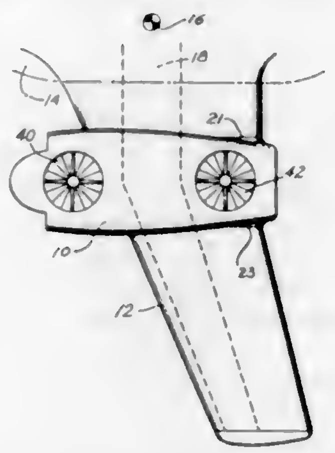
Kent R. Shellene, Houston, Tex., and Paul T. Chu, Peekskill, N.Y., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,163
Int. Cl. B65g *51/04*
U.S. Cl. 243—32 10 Claims



Articles may be transported cross-country through large-diameter pipelines carrying a fluid flow stream by enclosing the articles in a capsule. The capsule is centered within the pipeline bore by radially extending fins and is swept axially therethrough by the flow stream fluid.

3,448,945
CONVERTIBLE PROPULSION PACKAGE

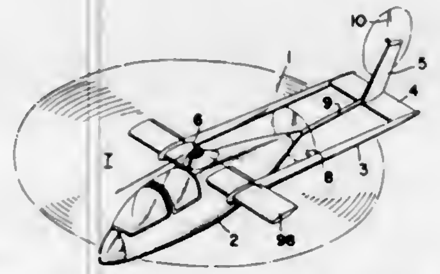
Leonard A. Ascani, Jr., Palos Verdes Estates, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Aug. 9, 1966, Ser. No. 571,340
Int. Cl. B64c *29/00;* **B64d** *9/00*
U.S. Cl. 244—12 8 Claims



An air vehicle has releasable and interchangeable propulsion systems for converting the same into a high speed transport or into a VTOL vehicle. In the VTOL mode, the wing-mounted nacelles contain fans situated fore and aft of the main wing spar to avoid oddly shaped or heavy spar configurations. The fans are turbine driven by exhaust gas from two turbojet engines having aft-directed gas exits and diverter valves.

3,448,946
COMPOUND HELICOPTER

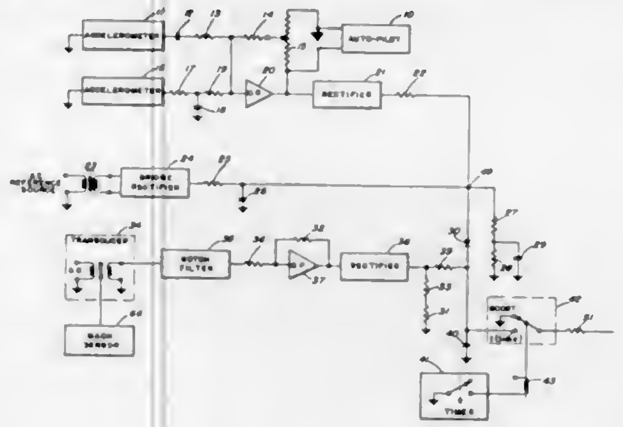
Teisuke Nagatsu, Gifu-shi, Gifu-ken, Japan, assignor to Kawasaki Kokuki Kogyo Kabushiki Kaisha, Kobe-shi, Hyogo-ken, Japan, a corporation of Japan
Filed May 4, 1967, Ser. No. 636,160
Claims priority, application Japan, Sept. 16, 1966, 41/61,002
Int. Cl. B64c *27/08, 27/22, 27/74*
U.S. Cl. 244—17.19 10 Claims



A compound helicopter having a main rotor for vertical thrust, an independent rotor for forward thrust, and a tail rotor for anti-torque thrust; the tail rotor being driven via a shaft extending in concentric relation to the axis of the independent rotor.

3,448,947
FUEL THROTTLING COMPUTER

Woodrow Seamone, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 30, 1967, Ser. No. 614,526
Int. Cl. B64c *13/50;* **B64d** *31/00*
U.S. Cl. 244—77 7 Claims

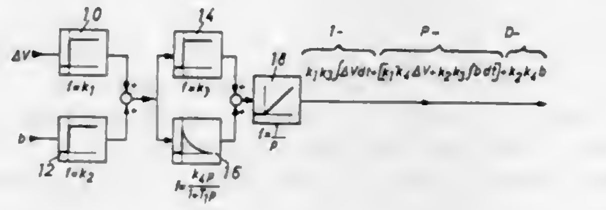


The apparatus is for use in a missile which uses a ramjet engine and provides a control system to modulate fuel flow to the engine. This is accomplished by limiting the maximum fuel flow to the engine as a function of missile attitude and speed.

3,448,948
AIRCRAFT SPEED CONTROLLER

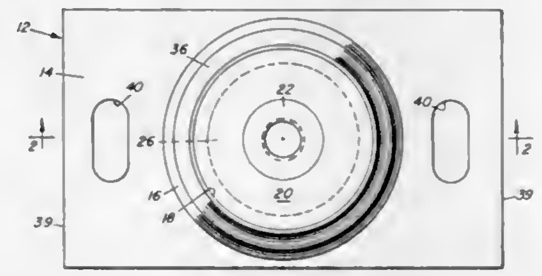
Hans-Peter Reerink, Meersburg (Bodensee), Germany, assignor to Bodenseewerk Perkin-Elmer & Co., G.m.b.H., Uberlingen (Bodensee), Germany, a corporation of Germany
Filed June 21, 1967, Ser. No. 647,738
Claims priority, application Germany, July 26, 1966, F 49,783
Int. Cl. B64c *13/50, 15/00, 17/00*
U.S. Cl. 244—77 4 Claims

Air gust compensation for an aircraft is provided and includes means for generating a signal proportional to the deviation in air speed from a preselected value and for generating a signal proportional to the longitudinal acceleration of the aircraft. These signals are superimposed by circuit means and are transmitted both proportionally and differentially to a thrust control means for controlling the thrust of aircraft propulsive units.



3,448,949
VIBRATION AND SHOCK ABSORPTION MOUNTING

Theron R. Kelley, Mattapoisett, Mass., assignor to Tedan, Inc., West Hanover, Mass., a corporation of Massachusetts
Filed Aug. 4, 1967, Ser. No. 658,410
Int. Cl. F16f *15/08, 1/36;* **F16m** *5/00*
U.S. Cl. 248—9 7 Claims



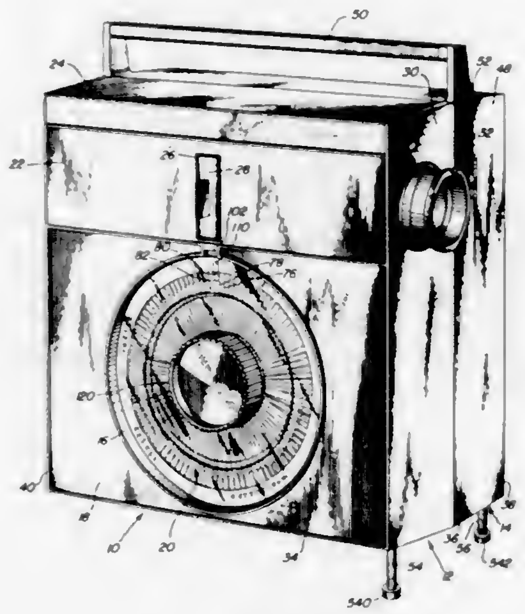
A vibration and shock absorption mounting of the type interposed between a relatively movable member, such as an engine, and a rigid support therefor including a carrier member of relatively inactive elastomer having a receiving chamber enclosing the sides and bottom of a cushion member comprising a mass of relatively active elastomer, the contiguous surfaces of the carrier and receiving chamber being co-operatively contoured to retain the cushion member in the carrier, and associated means including a rigid connector insert axially arranged in the cushion member and having a peripheral flange thereon to wedge the cushion member against the carrier upon upward movement of the connector insert, a compression restrictor of the like material to the carrier positioned to limit downward movement of the connector insert, a compression member overlying the carrier and cushion member to transmit forces to the carrier wall, and a connector mounted in the connector insert carrying means positioning the compression member.

3,448,950
PROJECTOR TILT ADJUSTMENT

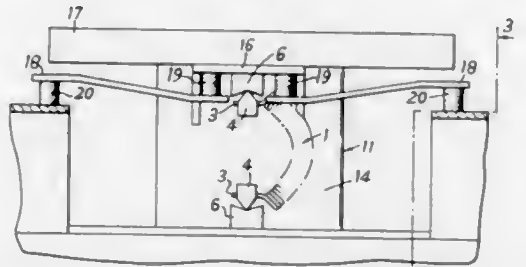
Robert D. Kluge, Westminster, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Original application Aug. 16, 1965, Ser. No. 480,032, now Patent No. 3,349,510, dated Oct. 31, 1967. Divided and this application June 29, 1967, Ser. No. 658,973
Int. Cl. F16m *1/00, 11/16*
U.S. Cl. 248—11 4 Claims

1. A leveling apparatus for raising, lowering and angularly displacing the projecting lens end of a projector, comprising a foot fixedly connected to a central end portion of a V-shaped plate forming a base of the projector, a wall forming a pair of spaced-apart apertures at an opposite end of the base and on opposite sides of the longitudinal center line of the projector, a channel

mounted within the projector extending across the said opposite end of the base, a first pair of angularly displaced walls forming a non-aligned aperture in each flange of the channel at one of its ends and a second pair of angularly displaced walls forming a second pair of non-aligned apertures in a channel at its opposite end portion, a first leg passing through the first pair of the non-aligned apertures and one of the associated apertures in the base, a second leg passing through the second pair of non-aligned apertures and the other aperture in the base, a brake member having a flat plate extending between the legs at a position that is between the flanges of the channel, a biasing means connected to the inner surface of the base plate and the brake member to force gripping edge portions formed on the opposite ends of the flat plate away from the base plate into gripping engagement with their associated legs and force the opposite side of the legs into frictional retaining engagement with portions of the non-aligned walls in the flange portion of the channel with which they are associated, and a push-button operably connected with the brake member to manually compress the brake member against the biasing means to free the gripping portions from the legs so that a change in length of either leg can be accomplished when it is placed in a first depressed push-button position and to effect the aforementioned leg gripping action when the push-button is placed in a second released position.

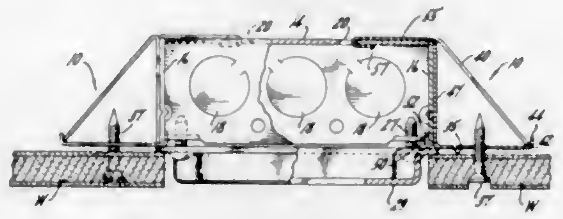


3,448,951
VIBRATION ISOLATION SYSTEM
David Vaughan Watkins, 66 Bedford Gardens, London, W. 8, England
Filed Oct. 13, 1967, Ser. No. 675,152
Claims priority, application Great Britain, Oct. 18, 1966, 46,621/66
Int. Cl. F16f *15/06;* **E02d** *27/44;* **F16m** *7/00*
U.S. Cl. 248—18 **4 Claims**



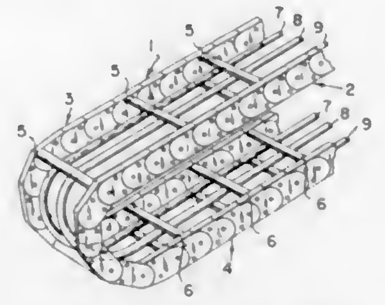
A vibration isolation system for isolating a suspended mass utilises a plurality of bowed coil springs, carrying a knife edge member at each end and supporting said mass. The size and number of the coil springs is selected in accordance with the suspended mass and the springs may be adjusted to the mass by adjustment of the position of the knife edges on the terminal portion of the spring. Movement of the suspended mass in the horizontal plane is restrained by radius rods or the like.

3,448,952
ELECTRICAL BOX MOUNTING CLIP
Wesley W. Swanquist, Oswego, and Wesley A. Weber, Aurora, Ill., assignors to All-Steel Equipment Inc., a Corporation of Illinois
Filed Sept. 14, 1965, Ser. No. 487,191
Int. Cl. E04g *17/18;* **B42f** *13/00;* **H02g** *3/08*
U.S. Cl. 248—27 **3 Claims**



A clip for mounting an electrical outlet box of the type having a bottom wall and upstanding side walls, the walls having knock-outs to form holes therein, the clip comprising a broad mounting member adapted to engage the reverse side of the supporting wall, a channel at one end of the mounting member for receiving an edge of a side wall therein, a support member connected between the end of the mounting member opposite the channel and the side wall in the channel at a place thereon adjacent the intersection of the side and bottom wall of the box and a member extending from the support member parallel with the bottom wall.

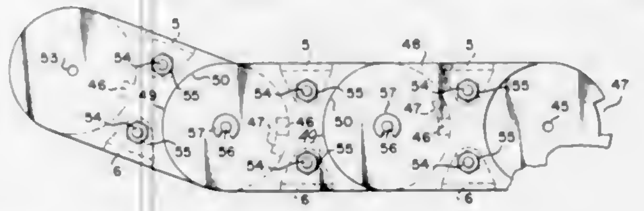
3,448,953
CHAIN FOR SUPPORTING FLEXIBLE CONDUIT
Sam Kurlandsky, Kalamazoo, Mich., assignor to Aero-Motive Mfg. Co., Kalamazoo, Mich., a corporation of Michigan
Filed Aug. 30, 1967, Ser. No. 664,510
Int. Cl. F16l *3/14;* **F16g** *13/07*
U.S. Cl. 248—51 **15 Claims**



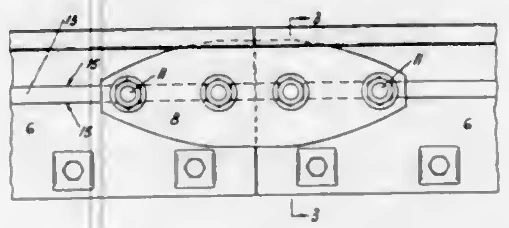
Chain for supporting flexible conduit formed of links, pivotally interconnected at their ends, and having a tongue extending from each link and pivotally connected to an adjacent link, and four pins mounted in each link adapted to engage the pivotal tongue of an adjacent link and to provide two limiting positions of pivotal movement between each pair of links and to provide separate points of support at each limiting position.

3,448,954
CHAIN FOR SUPPORTING FLEXIBLE CONDUIT
Sam Kurlandsky, Kalamazoo, Mich., assignor to Aero-Motive Mfg. Co., Kalamazoo, Mich., a corporation of Michigan
Filed Aug. 30, 1967, Ser. No. 664,540
Int. Cl. F16l *3/14;* **F16g** *13/07*
U.S. Cl. 248—51 **19 Claims**

A chain for supporting flexible conduit formed of links pivotally interconnected at their ends, each link formed of at least two plates each having a convexly arcuate end and a concavely arcuate end, the links thereby being adapted for nesting between the concavely arcuate end and convexly arcuate end of adjacent links.

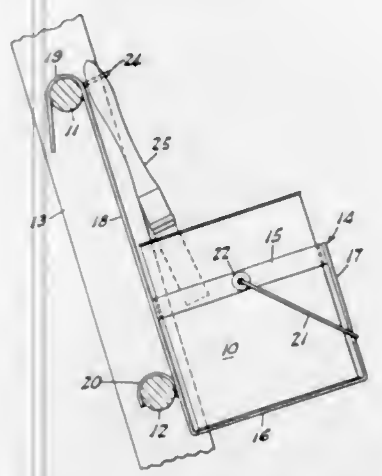


3,448,955
SPLICE JOINT FOR CABLE TRAYS
Keith Thomas Fussell, Roseville Chase, New South Wales, Australia, assignor to Guest, Keen & Nettlefolds (Aust.) Pty. Limited, Alexandria, New South Wales, Australia
Filed Dec. 9, 1966, Ser. No. 600,415
Claims priority, application Australia, Dec. 16, 1965, 67,989/65
Int. Cl. F16l *3/00*
U.S. Cl. 248—58 **5 Claims**



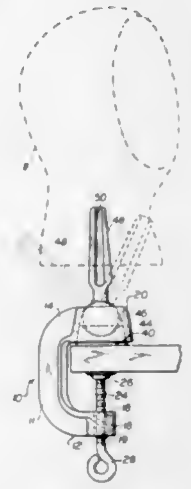
A ladder-like cable tray comprising two side-plates and a floor of rungs fixed to the side-plates and splice-joints in the side plates each comprising an external fish-plate bolted on the outside of the plates, above the level of the floor rungs, by bolts which do not intrude into the cable space of the tray; the plate metal about the bolt holes is relieved of bearing stress and the bolts are relieved of shear stress by provision of one or more interfitting keys and keyways which extend longitudinally and as part of the lapping surfaces of the splice.

3,448,956
PAINT CAN HOLDER
Michael Kuhaneck, Jr., 24 Yale Place, Buffalo, N.Y. 14210
Filed Sept. 8, 1967, Ser. No. 666,316
Int. Cl. B44d *3/14*
U.S. Cl. 248—210 **1 Claim**



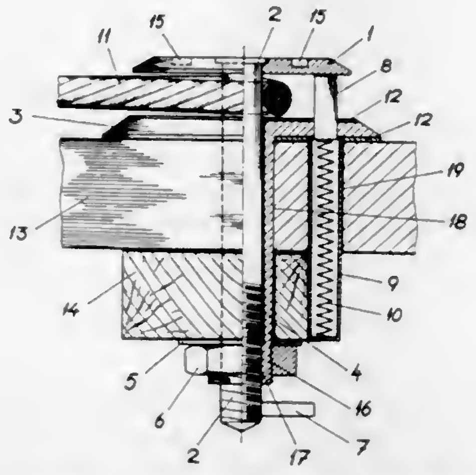
A paint can holder comprising two sheet metal strap members which are rigidly attached to each other by welding or the like to form a unitary paint can holder for rigid association with a ladder by connection with respect to a pair of adjacent rungs of the ladder.

3,448,957
WIG BLOCK SUPPORT
Morris Friedman, Fort Lee, N.J., assignor to Master Appliances, Inc., Marion, Ind., a corporation of Illinois
Filed May 31, 1967, Ser. No. 642,441
Int. Cl. A45d *44/14*
U.S. Cl. 248—226 **8 Claims**



A wig form support permitting selective positioning and orientation of a wig form on a dressing table or the like to implement combing and dressing of a wig, said support having a C-clamp selectively attachable to a desired table surface with a wig form engaging post coupled to said C-clamp by means of a universal joint with the securement means for said C-clamp serving to simultaneously secure the C-clamp to the table surface, and the form engaging post in a desired orientation, whereby manipulation of a single securing element permits attainment of all desired adjustments.

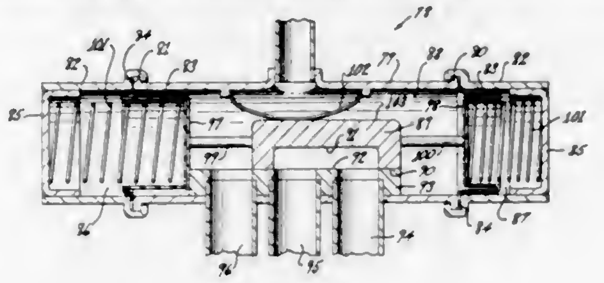
3,448,958
FASTENING DEVICE FOR SCAFFOLDS
Jalmari Selim Virkki, Tuulitie 3, Vantaa, Finland
Filed Mar. 8, 1967, Ser. No. 621,638
Int. Cl. F16l *3/00*
U.S. Cl. 248—237 **5 Claims**



A fastening device for scaffolds which are to be mounted upon the roof of a building, includes a bolt extending through a sleeve to the roof and carrying a flange which is used as a support for fastening ropes.

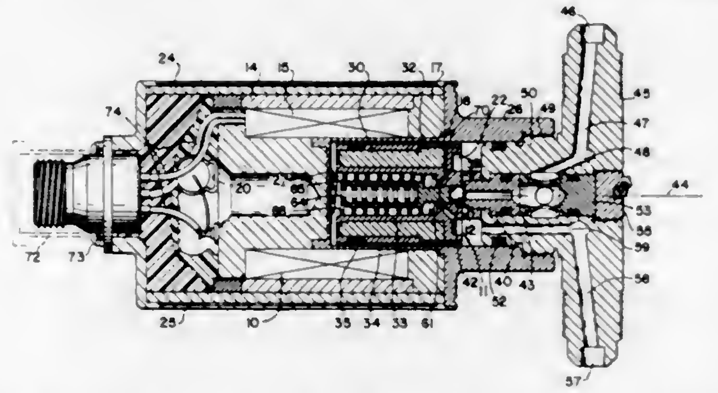
3,448,959
VALVE CONSTRUCTION HAVING ROLLING DIAPHRAGM ACTUATOR MEANS THEREFOR
William L. McHale, Broomall, and Svend E. Sorensen, King of Prussia, Pa., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Oct. 1, 1963, Ser. No. 313,040. Divided and this application Aug. 29, 1966, Ser. No. 594,296
Int. Cl. F16k *31/165*
U.S. Cl. 251—31 **2 Claims**

This disclosure relates to a reversing valve system wherein a main valve is shifted between its positions by a pilot valve means that is adapted to direct actuating fluid to the actuating means of the main valve means, the main valve means having a movable valve member interconnected to opposed piston portions that cooperate with the housing means to define three separated chambers therein whereby the outboard chambers can have the pressure therein changed by the pilot valve means to position the main valve member relative to its valve seat.



3,448,960
SOLENOID VALVE

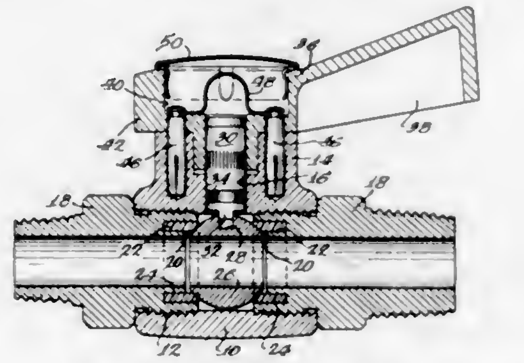
Edward H. Medley, Grand Rapids, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Apr. 22, 1966, Ser. No. 544,425
Int. Cl. F16k *1/14, 31/04*
U.S. Cl. 251—129 **9 Claims**



A miniature valve for fluid flow control having a permanent magnet and spring arrangement for latching in either the open or closed position. A pulse actuated electromagnet provides the valve operating force and a particular armature-pole piece configuration, providing a variable effective radial air gap, encourages secure latching while requiring only a minimum of power for the valve operation. All magnetic components of the valve are completely encapsulated for isolation from the fluid under control.

3,448,961
VALVE

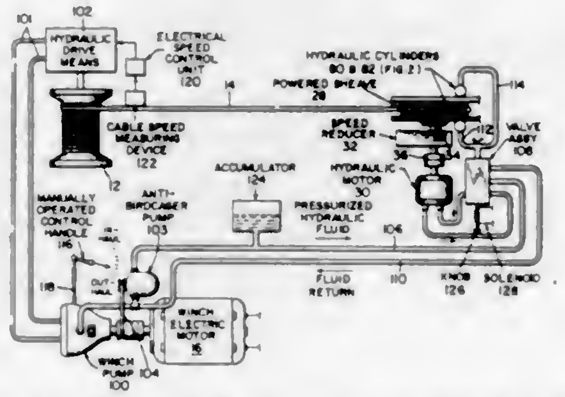
Bruno E. Enssle, Boulder, Colo., assignor, by mesne assignments, to Binks Research and Development Corporation, Boulder, Colo., a corporation of Colorado
Filed July 8, 1965, Ser. No. 470,517
Int. Cl. F16k *51/00*
U.S. Cl. 251—288 **3 Claims**



A ball valve characterized in the first instance by a body receiving a valve ball and a pair of integral fittings, each fitting having a recess for receiving a tubular fluorocarbon seal in such manner that the confined volume of the seal greatly exceeds the unconfined volume of the seal and the outer peripheral surface of the seal is supported throughout its length, each fitting also having a flange engaging the body and thereby determining the compressive force applied to the seal. Secondly, the ball valve is characterized by a limit stop and handle arrangement so constructed that the handle will indicate the on-off condition of the valve; the handle being reversibly mounted on the valve stem so that it will also indicate the direction of fluid flow through the valve.

3,448,962
CABLE TENSIONING DEVICE FOR WINCHES

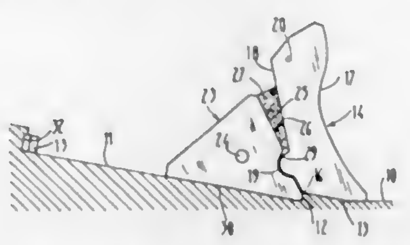
Marvin O. Miller, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 11, 1967, Ser. No. 652,633
Int. Cl. B66d *1/76, 1/00;* **B65h** *59/00*
U.S. Cl. 254—175.7 **11 Claims**



A device for continually applying a selected degree of tension to a wire rope or cable during paying out or taking in of the latter by a winch in order to prevent the turns of the wire rope from becoming "birdcaged" (that is, twisted or jammed) on the winch drum. The tensioning is accomplished by means of a unit termed an "anti-birdcager" (ABC) which includes a sheave over which the cable passes. Pressure-loaded and spring-retracted rollers are mounted adjacent the sheave to force the cable against it so that no slippage can occur therebetween. By applying power to the sheave so that it tends to pay out wire at a speed faster than that at which the wire is actually paying out, tension is maintained on the latter in the region between the sheave and the winch drum. This precludes any overriding turns from occuring and creating a fouled winch drum which can prevent additional wire rope from paying out and must be corrected before winch operation can resume.

3,448,963
SAFETY BARRIER

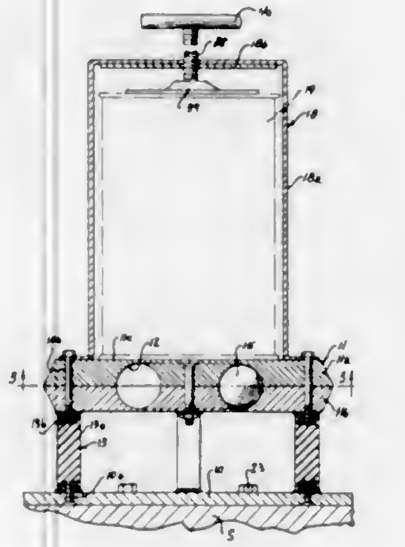
Philippe Edouard Léon Alexis Gravisse, 14, Allee H. Sellier, 92, Puteaux, France
Filed June 14, 1968, Ser. No. 737,019
Claims priority, application France, June 28, 1967, 112,274
Int. Cl. E01f *15/00;* **E01c** *11/22*
U.S. Cl. 256—13.1 **7 Claims**



Safety barrier made up of rigid elements connected with one another. The barrier is so designed that the elements which undergo the impact of a vehicle are displaced by the impact and take along with them the adjacent elements; thus the deformations undergone by the vehicle and the elements are strongly lowered.

3,448,964
MIXING APPARATUS

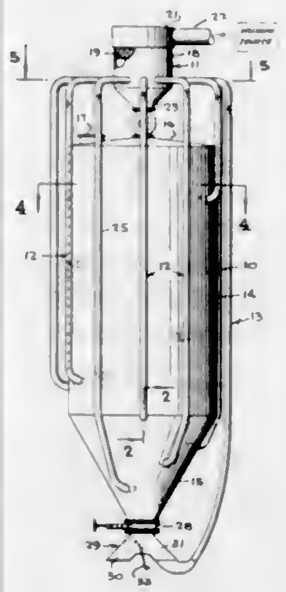
David R. Wickes, 1720 Edgebrook Drive, Rockford, Ill. 61111
Filed May 17, 1968, Ser. No. 730,043
Int. Cl. B01f *9/00*
U.S. Cl. 259—72 **10 Claims**



An apparatus for mixing liquid materials in a closed container, in which the container is mounted on a housing supported for movement in a generally horizontal orbit, and orbital movement of the housing and container is produced by an air impelled weight element rolling in an annular raceway in the housing.

3,448,965
APPARATUS FOR BLENDING PARTICULATE SOLIDS

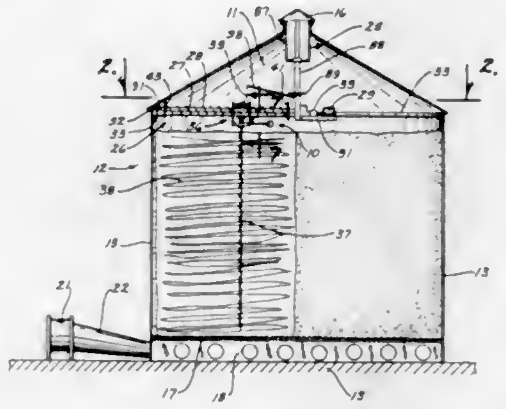
Henry T. Young, R.D. 2, Muncy, Pa. 17756
Filed Mar. 10, 1967, Ser. No. 622,223
Int. Cl. B01f *5/12, 15/00, 5/10*
U.S. Cl. 259—95 **31 Claims**



A blending apparatus including container means for a mass of particulate solids, elevated collector means, a plurality of passage means for conveying solids from the container means to the collector means, the passage means having inlets disposed at selected loci in the container means, positive means for causing material flow in the passage means from the selected loci in the container means to the collector means and means permitting gravity flow of the solids from the collector means to the container means.

3,448,966
VERTICAL AUGER STABILIZING APPARATUS

Eugene G. Sukup, Sheffield, Iowa 50475
Filed Dec. 19, 1967, Ser. No. 691,841
Int. Cl. B01f *7/08, 7/24*
U.S. Cl. 259—111 **6 Claims**

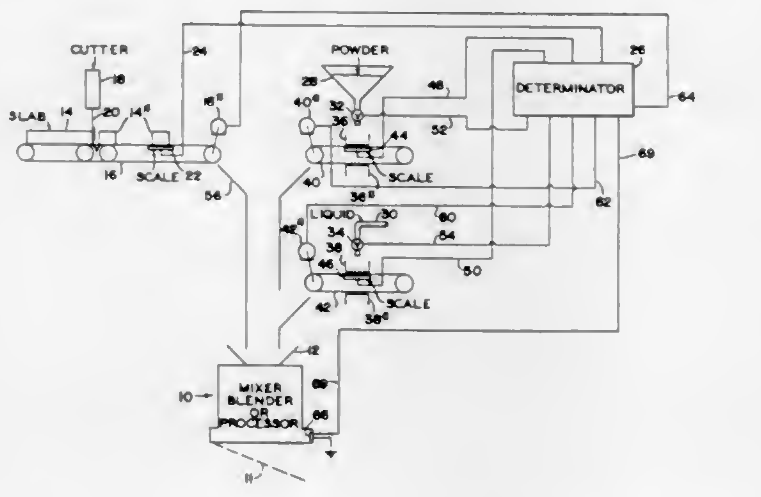


This invention relates to a pivotal weight apparatus arcuately swingable about a frame unit from which a vertically dependent, rotating auger is suspended, the frame unit being mounted on and arcuately swingable about a rotatable, horizontally disposed shaft, the weight apparatus automatically countering the pendulum swing of the rotating shaft transmitted to the frame unit.

3,448,967
APPARATUS FOR AUTOMATICALLY MEASURING PROPER ADDITIVE QUANTITIES IN A MIXING APPARATUS

Rex C. Seanor, Akron, Ohio, and S. Everett Perlberg, Fairlawn, N.J., assignors to Adamson United Company, Akron, Ohio
Filed Aug. 16, 1967, Ser. No. 661,048
Int. Cl. B28c *7/04;* **B67d** *5/08, 5/14*
U.S. Cl. 259—154 **9 Claims**

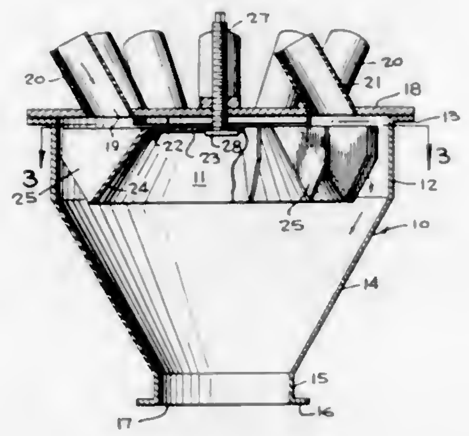
Apparatus for automatically weighing an elastomer mass and for providing and weighing the compounding ingredients for mixture therewith. Controls shut off the feed of the compounding ingredients in proper proportion for mixture with the weighed elastomer mass and prepare such elastomer mass and compounding ingredients for discharge into a mixer, blender, or other processing means.



3,448,968
SOLIDS FLOW COLLECTOR

Henry T. Young, R.F.D. 2, Muncy, Pa. 17756
Filed Dec. 4, 1967, Ser. No. 687,730
Int. Cl. B01f *5/26, 15/02*
US. Cl. 259—180 **16 Claims**

A solids flow collector for combining a plurality of streams of particulate solids withdrawn from an elevated mass of solids including a housing member having a plurality of inlet ports communicable with passage means for the streams of particulate solids and an outlet port, a flow restrictor disposed in the housing member between the inlet ports and the outlet port, the flow restrictor having a configuration suitable for intercepting solids introduced into the housing member and the housing member having a flange disposed adjacent the inlet ports for preventing cross flow of solids between the inlet ports.



3,448,969

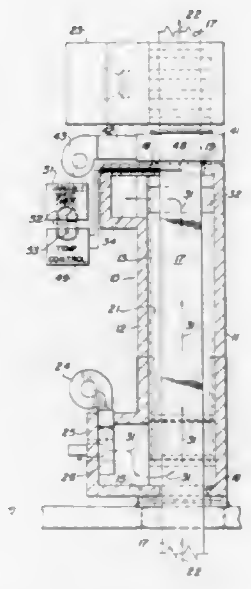
FLUID PRESSURE SEALING SYSTEM FOR PROCESSING OVEN

Charles A. Windsor, Plymouth, Mich., assignor to Michigan Oven Company, Romulus, Mich., a corporation of Michigan

Filed Jan. 8, 1968, Ser. No. 696,392

Int. Cl. F27b *9/28;* **F26b** *13/00, 21/00*

U.S. Cl. 263—3 6 Claims



An automatic control for preventing excess leakage of gas inwardly or outwardly from the upper opening in a continuous-strand processing oven employing an air pressure seal. Two oven structures are described; one is a foil-coating oven using a pressure box seal and the other is a wire-enamelling oven using a venturi seal. In each, a thermocouple or other thermal sensor located in the upper opening controls the speed of a blower to maintain an effective seal and prevent excessive leakage.

3,448,970

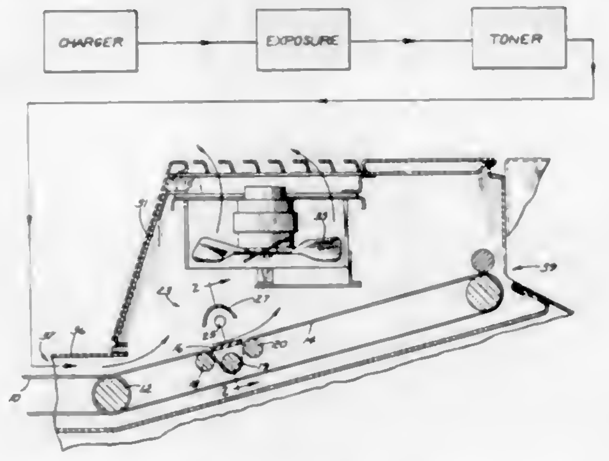
FUSER FOR ELECTROSTATIC IMAGES

James A. Kolibas, Cleveland, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Aug. 4, 1967, Ser. No. 663,185

Int. Cl. F27b *9/24;* **H05b** *1/00*

U.S. Cl. 263—8 5 Claims



A belt conveyor, subject to heat deterioration, is provided with an inert heat sink section with a radiant heat lamp flooding the heat sink area, and hooded for directing air to move between the belt and the source of heat.

3,448,971

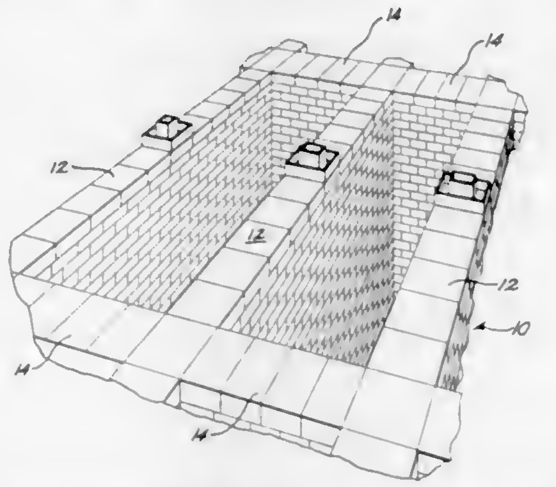
CARBON BAKING FURNACES

Albert Lajos Renkey, Bethel Park, Pa, assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Texas

Filed Jan. 26, 1968, Ser. No. 700,983

Int. Cl. F27d *1/00;* **F23m** *5/00*

U.S. Cl. 263—46 9 Claims



Carbon baking furnace having a plurality of flues which are composed of burned alumino-silicate refractory brick of very low alkali content and linear subsidence.

3,448,972

APPARATUS FOR REFINING IMPURE METALS

Leslie Jack Derham, Avonmouth, Bristol, England, assignor to Imperial Smelting Corporation (N.S.C.) Limited (formerly The National Smelting Company Limited), London, England

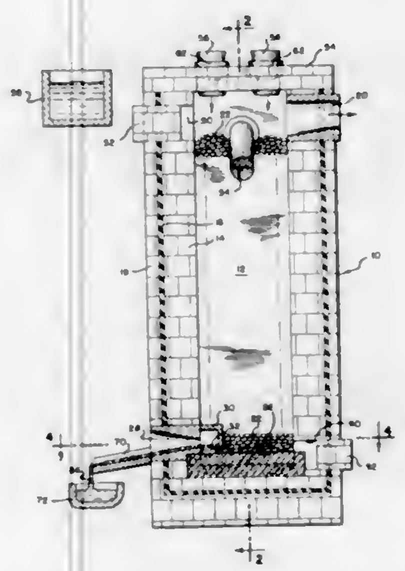
Continuation-in-part of application Ser. No. 308,134, Sept. 11, 1963. This application Sept. 22, 1965, Ser. No. 489,266

Claims priority, application Great Britain, Sept. 11, 1963, 36,763/63

Int. Cl. C21b *7/00*

U.S. Cl. 266—37 30 Claims

Applicant deals with an electrothermic furnace heating chamber in the form of an upright shaft for refining impure metals, the metal-to-be-refined containing at least one metal impurity with a boiling point higher than the boiling point of the metal-to-be-recovered. A column of carbon lumps is confined in the heating chamber, the carbon lumps forming an important structural operating part of the chamber. A pair, or more, of electrodes, usual in electrothermic furnaces, spaced vertically extends deeply into the chamber in contact with the carbon lumps. The heat generated initially by the current passing through the carbon lumps is sufficient to melt, if necessary, some of the impure metal-to-be-refined. The carbon lumps function essentially as a physical support for and a carrier of the resulting impure molten metal. The interstices between adjacent carbon lumps also function as interconnecting pathways for trickling streamlets of the impure metal descending through the column. The carbon lumps are covered at least in part with films of the molten metal-to-be-refined as the molten metal-to-be-refined trickles, or percolates, downwardly in intimate contact with the carbon lumps. The films and streamlets of molten metal form an essential physical conductor for the passage therethrough of the current of electricity. The current of electricity passes through the column to generate enough heat to melt the volatilizable metal-to-be-recovered, and to permit the resulting molten metal to form said films and streamlets. The films and trickling streamlets in turn are sufficient in amount to form an essential overall physical conductor for the passage therethrough for the current of electricity. The films and streamlets of molten metal are sufficient as a conductor to permit the original low electrical conductivity and low electrical conductance column to change into a relatively high electrical conductance and hence a relatively high electrical conductance column and thus provide a highly efficient and effective electrothermic heating chamber selectively to melt and then to volatilize the molten metal-to-be-recovered. The resulting metal vapour is withdrawn from the chamber and separately treated in any desired manner.



3,448,973

APPARATUS FOR PURIFYING METALS AND RECOVERY OF METAL PRODUCTS THEREFROM

Leslie Jack Derham, Avonmouth, Bristol, England, assignor to Imperial Smelting Corporation (N.S.C.), Limited, London, England, a British company

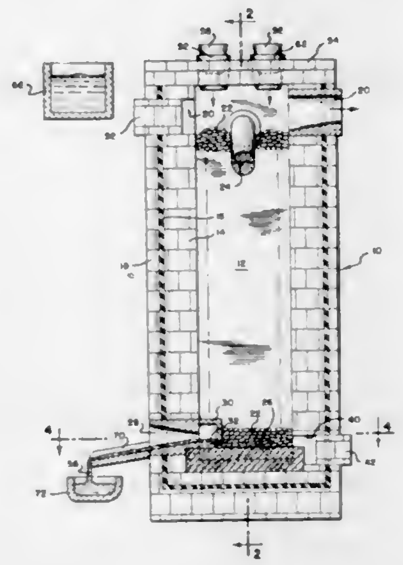
Continuation-in-part of application Ser. No. 308,134, Sept. 11, 1963. This application Sept. 22, 1965, Ser. No. 489,268

Claims priority, application Great Britain, Sept. 27, 1962, 36,763; Oct. 15, 1962, 38,975

Int. Cl. C21b; H05b *3/60;* **C22b**

U.S. Cl. 266—37 21 Claims

An upright electrothermic furnace heating chamber is described for recovering at least one volatilizable metal present in a metal alloy containing at least one other metal with a boiling point higher than the boiling point of the metal-to-be-recovered, in which a column of mixed (a) relatively large carbon lumps and (b) relatively small briquettes containing the metal alloy in finely divided form is confined in and made a structural operative part of the upright heating chamber. The column descends substantially continuously through the electrothermic heating chamber while a current of electricity is passed through the column to generate enough heat to melt the volatilizable metal-to-be recovered in the briquettes and to cause the resulting molten metal to ooze out of and to form films of molten metal thereof on the briquettes as well as on the carbon lumps, and streamlets of trickling molten metal pass downwardly through the column. The films and trickling streamlets are sufficient in amount to form an essential overall physical conductor for the passage therethrough of the current of electricity. The films of molten metal on the carbon lumps and the metal alloy briquettes and the resulting trickling molten metal-to-be-recovered are sufficient as a conductor to permit the original low electrical conductivity and low electrical conductance column to change into a relatively high electrical conductance and hence a relatively high electrical conductance column and thus provided a highly efficient and effective electrothermic heating chamber selectively to melt and then to vaporize the molten metal-to-be-recovered. The resulting metal vapour is withdrawn from the chamber and separately treated in any desired manner.



3,448,974

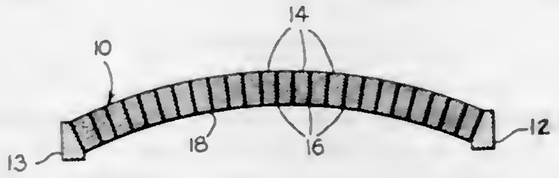
SPACER FOR BASIC REFRACTORY BRICK IN METALLURGICAL VESSELS

Edward M. Sarraf, 22290 Blossom Drive, Rocky River, Ohio 44116

Filed Jan. 3, 1967, Ser. No. 606,897

Int. Cl. C21b *7/06;* **F27d** *1/16;* **B32b** *29/04*

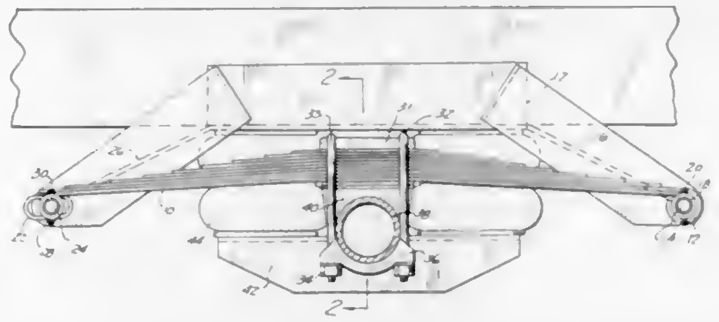
U.S. Cl. 266—43 4 Claims



The present invention relates to a novel spacer for use between basic refractory brick in metallurgical vessels. The spacer consists of a sandwich having an inner core of metallic oxide material capable of reacting with the basic brick at elevated temperatures and an outer sheath of combustible material to allow for thermal expansion of the metallic oxide.

3,448,975
VEHICLE WHEEL SUSPENSION

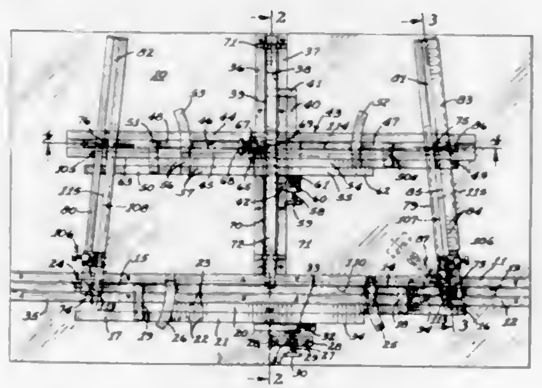
Sam C. Verdi, Detroit, Mich., assignor to Dura Corporation, Oak Park, Mich.
Filed Oct. 21, 1966, Ser. No. 588,443
Int. Cl. B60g *11/34, 11/46;* **B62d** *61/12*
U.S. Cl. 267—31 4 Claims



This invention relates to a suspension for a motor vehicle. In its preferred embodiment it comprises an upside-down leaf spring urging an axle upwards opposed by air bags rigidly connected to the axle forcing the axle down when inflated into a ground engaging load carrying position.

3,448,976
WINDOW FRAME MITERING APPARATUS

Joe Ware Armstrong, 1723 W. Camelback, Phoenix, Ariz. 85015
Filed May 15, 1967, Ser. No. 638,464
Int. Cl. B25b *1/20*
U.S. Cl. 269—37 3 Claims

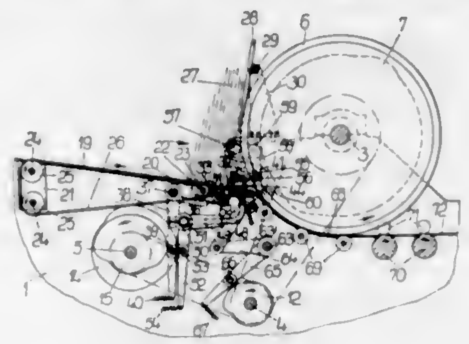


A universally adjustable jig and mitering apparatus particularly adapted to assembling and simultaneously cutting the miter joints of overlapping pairs of frame side members together with measuring devices for precisely initially positioning the screen frame or window frame for accurate cutting to length and mitering of the abutting end portions of the sides of the frame.

3,448,977
APPARATUS FOR DRAWING BAGS, ENVELOPES AND THE LIKE

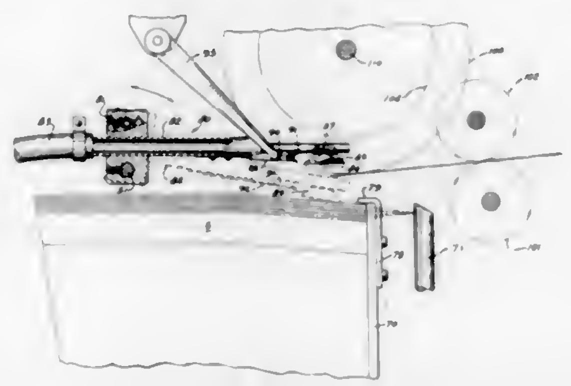
Kurt Stemmler, Irlich (Rhine), Germany, assignor to Winkler & Dunnebier KG, Neuwied (Rhine), Germany, a corporation of Germany
Filed Feb. 24, 1967, Ser. No. 618,441
Claims priority, application Germany, Mar. 17, 1966, W 41,161
Int. Cl. B65h *3/08, 5/08*
U.S. Cl. 271—5 6 Claims

Flat stiff bags, envelopes and similar articles arranged in a vertical stack are fed singly to a machine which applies adhesive to them by a feeding apparatus which includes a suction device separating an article from the stack and other suction devices moving the separated article to conveyor discs with the aid of presser rollers.



3,448,978
PAPER-FEEDING METHOD AND MACHINE

George A. Gibson, 365 W. 20th St., New York, N.Y. 10011
Filed Mar. 13, 1967, Ser. No. 622,663
Int. Cl. B65h *5/08, 5/06, 3/08*
U.S. Cl. 271—11 3 Claims



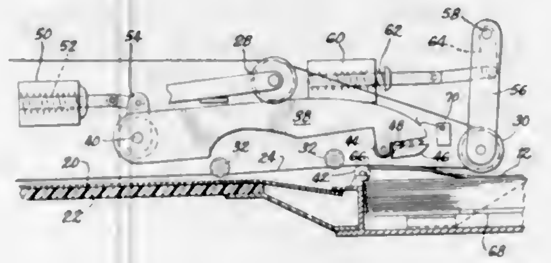
Apparatus and method for feeding individual sheets of paper one at a time from a sheet supply. Several of the uppermost sheets are held in suspended separation by an air blast, the topmost sheet bearing against an overhanging lip. An oscillating suction arm picks up the topmost sheet on its downward stroke and carries it to a suction wheel on its upward return stroke, whereupon vacuum to the suction arm is broken and the suction wheel and pull-out rollers transport the sheet away from the paper supply. Each sheet is flexed as it is drawn past the overhanging lip, so as to break any suction force permeating the topmost sheet of paper and thereby individually separate the sheets of paper from one another.

The paper supply is carried on a table which is elevated through gearing mechanism in response to a change in the paper level to thereby maintain the paper supply at a substantially constant level. A stopcock valve automatically opens and closes in synchronization with the suction arm to apply a vacuum to the suction wheel only at predetermined intervals of time.

3,448,979
FEEDING AND TRANSPORTING MECHANISM FOR X-RAY FILMS OR OTHER SHEETS

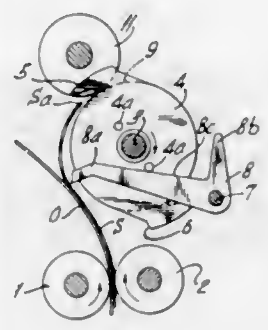
Robert B. Farmer, Glenview, Ill., assignor to Schick X-Ray Co., Inc., Chicago, Ill., a corporation of Illinois
Filed May 10, 1967, Ser. No. 637,441
Int. Cl. B65h *3/20*
U.S. Cl. 271—33 12 Claims

A mechanism for feeding and transporting X-ray films or other sheets, comprising a supply mechanism for holding a pack of the sheets, an endless adhesive belt for transporting each sheet from the supply magazine to an exposure station and then into a receiving magazine, pulleys for supporting the belt, a drive motor connected to one of the pulleys for selectively advancing the belt, the supply magazine including a flange overlapping the leading edges of the sheets, a guide roller adjacent said flange for normally holding the belt away from the pack, a movable arm for deflecting the belt around the guide roller and into adhering relation with the adjacent sheet in the pack, a first solenoid for operating said arm, a second solenoid for moving one of the pulleys to tighten the belt and thereby separate the adhering sheet from the pack, the adhering sheet being moved out from under the flange in a direction opposite from the direction of advancing movement of the belt, a switch for starting the drive motor when the arm is moved away from the pack, a second switch for stopping the belt when the sheet arrives at the exposure station, and a third switch for preventing operation of the drive motor until the pressure plates at the exposure station are moved away from the sheet.



3,448,980
AUTOMATIC SEPARATION MECHANISM FOR THE USE OF A COPYING MACHINE

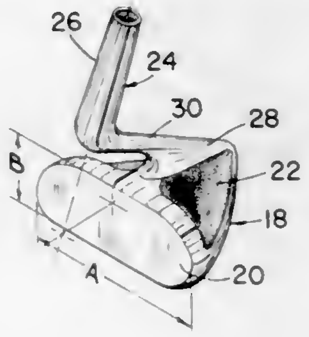
Nobuyuki Yanagawa, Yokohama-shi, Japan, assignor to Kabushiki Kaisha Ricoh, a corporation of Japan
Filed Aug. 28, 1967, Ser. No. 663,617
Claims priority, application Japan, Aug. 29, 1966, 41/81,416; Jan. 27, 1967, 42/5,028
Int. Cl. B65h *29/00, 29/64*
U.S. Cl. 271—64 3 Claims



A sheet separating device for a copying machine including a rotatable separating member having peripheral tangentially addressed notches, the open face of said notches looking backward in relation to the direction of rotation of the separating member, a bell crank stopper member pivoted adjacent to said separating member and adapted to be tripped by an edge of a sheet passing through the copy machine to permit limited rotation of said separating member, pins on said separating member for restoring said stopper member to a position where it arrests the rotation of said separating member.

3,448,981
GOLF CLUB

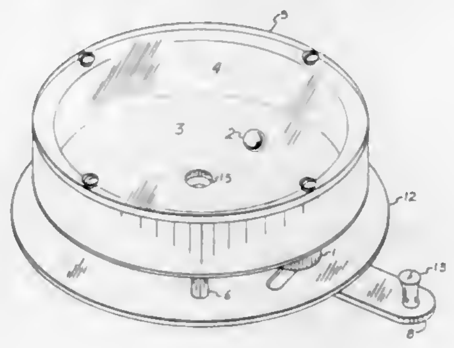
Donald M. Anweiler, 105 E. Paulding Road, Fort Wayne, Ind. 46807
Filed Sept. 16, 1966, Ser. No. 579,942
Int. Cl. A63b *53/12*
U.S. Cl. 273—80 2 Claims



A golf club comprising a shaft, a head and a shank portion. The head has a dimension measured rearwardly of and perpendicular to the striking surface which is less than the horizontally disposed dimension between the opposite boundaries of the striking surface when the head is in a ball-striking position. The shank portion includes opposite end portions respectively secured to the shaft and to the head. The securance of the shank portion and the head is at a position rearward of the striking surface of the head. The shank end portions are offset from each other in a manner such that the shaft axis is spaced from the striking surface of the head by substantially the radius of a golf ball and the shaft axis, when extended, passes through the center of the golf ball addressed by the head in a position midway between the opposite boundaries of the striking surface.

3,448,982
MAGNETIC DEFLECTION BALL GAME

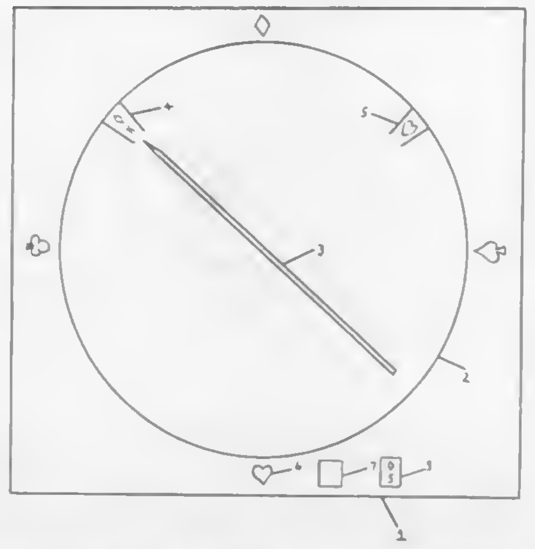
Chester Olin Griggs, 519 N. Peterson Ave., Douglas, Ga. 31533
Filed Mar. 16, 1966, Ser. No. 534,720
Int. Cl. A63g *7/10*
U.S. Cl. 273—119 8 Claims



A magnetic ball game apparatus having a non-magnetic horizontal surface with a depression therein and an upstanding side rail. A magnet is movably positioned beneath the base between a ball influencing position inwardly of the rail and a ball releasing position generally beneath the rail. A magnetic ball is moved over the upper surface between such positions until the ball contacts the rail and then travels around the rail. Then the magnet is moved back to influence the ball while it is rolling on the upper surface to deflect same toward the depression and become seated therein when accurately deflected. A lever and spring return is associated with the magnet to permit movement thereof by the player.

3,448,983
SPINNER GAME INCLUDING A STANDARD DECK OF CARDS

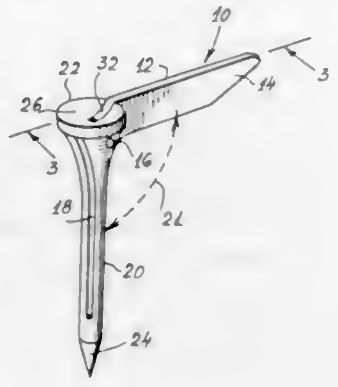
Russell A. Foote, Sr., 1615 E. White Ave.,
Fresno, Calif. 93728
Filed Feb. 26, 1965, Ser. No. 435,603
Int. Cl. A63f *3/00, 1/18;* **A63b** *71/00*
U.S. Cl. 273—135 1 Claim



1. In combination: a deck of fifty-to standard playing cards and a game board; said game board comprising a circular array of fifty-six sectors, fifty-two of which respectively bear indicia identical to the individual indicia of said cards, and the remaining four sectors each having thereon a suit symbol facsimile respectively of a Heart, a Club, a Diamond and a Spade, acting as scoring indicia; said game board having a centrally mounted spinner whereby any one of said fifty-six sectors can be indicated thereby; four additional suit symbol facsimiles each disposed on said game board approximately ninety degrees apart to respectively indicate the playing positions of the players and associating each playing position with the corresponding sectored suit symbol facsimile; whereby a plurality of players, each associated with one of said sectored suit symbols, are dealt thirteen cards face down and wherein the scoring of a win or loss is determined by a player's spinning of said spinner on the game board with said player's win or loss depending on the difference in value between the player's turned up card of his deck of thirteen cards and the gameboard card indicia indicated by said spinner.

3,448,984
GOLF TEE WITH DIRECTIONAL POINTER

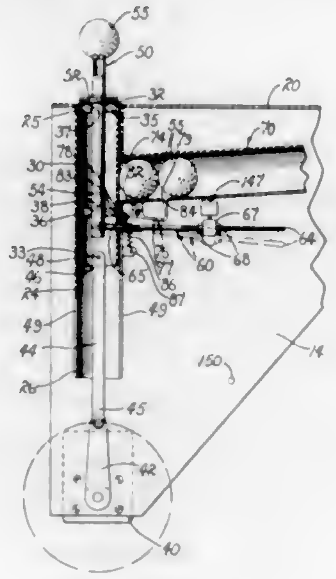
Joseph Dreyfus, 730 Fort Washington Ave.,
New York, N.Y. 10040
Original application July 28, 1964, Ser. No. 385,684, now Patent No. 3,347,551, dated Oct. 17, 1967. Divided and this application Aug. 9, 1967, Ser. No. 659,424
Int. Cl. A63b *57/00, 69/36*
U.S. Cl. 273—183 4 Claims



A golf tee having an elongated slot centrally thereof, extending from the head of the tee to its point. The upper portion of the slot has a pivot in which is rotatably mounted, in frictional relationship, a pointer plate which can be retracted within the slot of the tee or extended to a position perpendicularly to the elongated tee so that when the tee is inserted in the ground, it cain be turned so that the directional pointer is facing in a direction in which the ball is to be driven. The directional pointer can be retracted within the slot to get it out of the way when not in use.

3,448,985
GOLF BALL TEEING APPARATUS

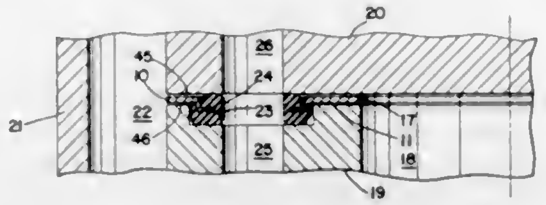
Howard A. Scott, 6476 N. Pleasant,
Fresno, Calif. 93705
Filed Oct. 21, 1966, Ser. No. 588,518
Int. Cl. A63b *57/00*
U.S. Cl. 273—201 8 Claims



A golf ball teeing apparatus including a tee vertically reciprocated by an electric motor which operates in cycles. A cycle is initiated when the struck ball leaves the tee and is automatically terminated when the tee with a ball thereon has been raised to its uppermost position. Balls are stored in a hopper and conveyed to the upper end of an inclined delivery tube whose exit end is aligned with the tee when the tee is in its lowermost position. A rocking lever is pivoted at the exit end to feed one ball at a time onto the tee. Insertion of a coin causes the apparatus to tee the first of a predetermined number of balls.

3,448,986
GASKET AND JOINT FOR CYLINDER HEADS

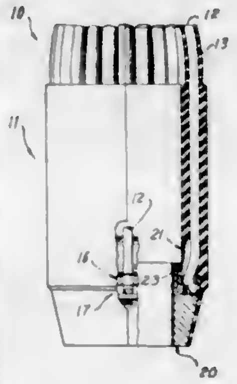
Jerry G. Jelinek, Whittier, and Harrell M. Dial, Los Angeles, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 4, 1966, Ser. No. 570,236
Int. Cl. F16j *15/08, 15/10*
U.S. Cl. 277—180 19 Claims



A gasket and joint for the cylinder head of an internal combustion engine wherein the cylinder head and cylinder block have coolant passages and have flat surfaces surrounding the cylinder bore, one of the parts having a counterbore surrounding the coolant passage and the other part having its flat surface extending opposite the counterbore, the gasket comprising a thin metal sheet having faces sealingly engaging the head and block surfaces and having a cup shaped portion with an elastomeric packing ring attached thereto that sealingly engages the counterbore bottom and the opposed flat surface.

3,448,987
OIL WELL SWAB

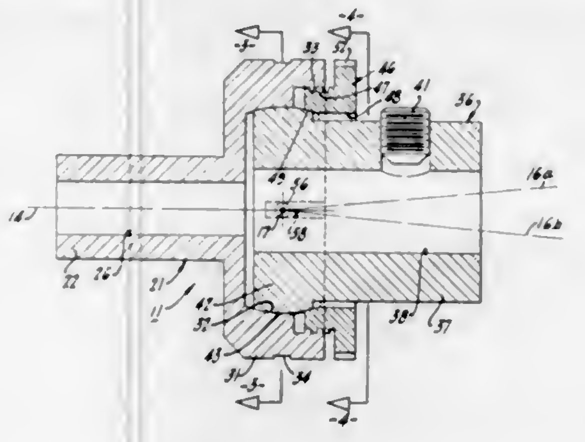
Milton G. Stowe, P.O. Box 4426, Station A,
Dallas, Tex. 75208
Filed Oct. 21, 1966, Ser. No. 588,604
Int. Cl. E21b *33/26;* **F16j** *9/08*
U.S. Cl. 277—181 3 Claims



An oil well swab having a generally cup-shaped molded body formed of neoprene, or other like resilient material, and reinforced by wire stays spaced circumferentially and arranged longitudinally of the body and having their lowermost ends bent inwardly and outwardly and retained in radial arrangement by an anchor ring having a series of apertures therein to receive the lower ends of the stays at the bends therein and having an adjacent stabilizing ring formed with circumferentially spaced indentations which embrace the lowermost outwardly bent portions of the stays whereby to retain these members in proper alignment and against rotation while the cup body is molded.

3,448,988
PRECISION TOOLHOLDER

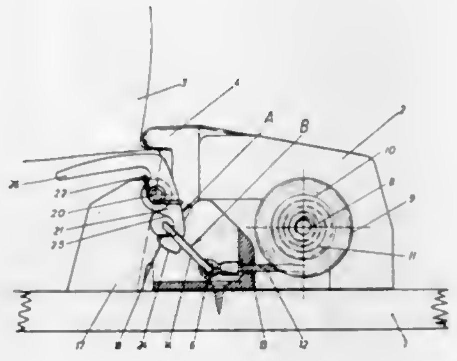
John G. Athanasiou, 564 Parkway,
South San Francisco, Calif. 94100
Filed May 31, 1966, Ser. No. 554,053
Int. Cl. B23b *5/22, 5/34, 31/24*
U.S. Cl. 279—16 4 Claims



A precision tool holder has a body with a hub formed with an internal socket and a shank for attachment to a machine, the hub having a circumferential indicator groove. Fitting in the body is an adapter having a spherical knob and a second shank, the knob having a center point lying in the plane of the middle of the groove, the shank rotatable through 360° relative to the body. The knob has a radial pin in the plane engaging a flat surface in the body so that the body and adapter may drive each other. A retainer threaded into the hub detachably secures the body and adapter together.

3,448,989
RETAINING DEVICE FOR SAFETY SKI BINDINGS

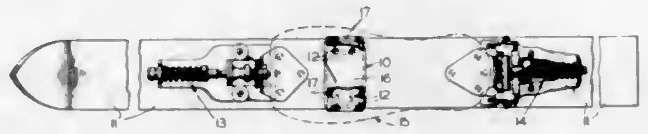
Hannes Marker, Hauptstrasse 51–53, Garmisch-Partenkirchen, Germany
Filed May 1, 1967, Ser. No. 635,258
Claims priority, application Germany, May 6, 1966, M 69,413; Sept. 27, 1966, M 71,080
Int. Cl. A63c *9/00, 9/04*
U.S. Cl. 280—11.35 18 Claims



A retaining cable is fixed at one end to the ski and is releasably fixed at the other end to the skiing boot. The releasable fixation is effected by coupling elements, which automatically interengage in response to the application of the boot and are disengageable only by hand or another arbitrary actuation.

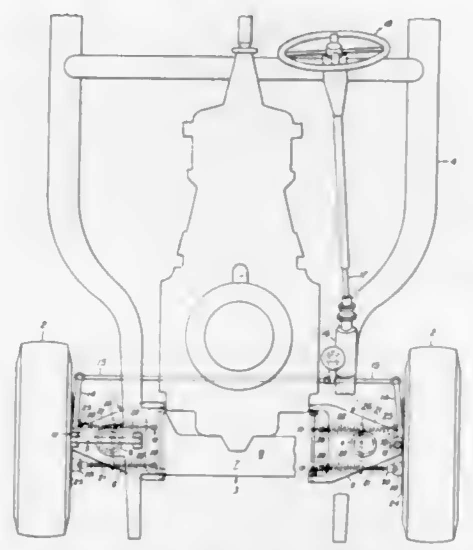
3,448,990
SAFETY DEVICES FOR REDUCING FRICTION BETWEEN A SKI AND A SKIER'S BOOT SOLE

Mitchell H. Cubberley, 121 Bell St., Belleville, N.J. 07179, and Gordon C. Lipe, West Lake Road, Skaneateles, N.Y. 13152
Filed June 21, 1967, Ser. No. 647,777
Int. Cl. A63c *9/08*
U.S. Cl. 280—11.35 11 Claims



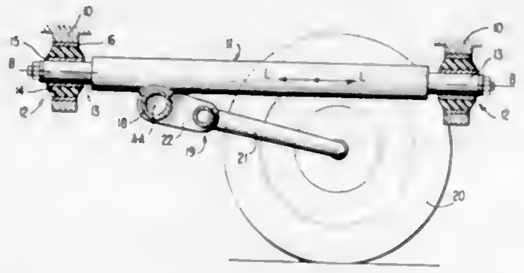
Devices for use in conjunction with automatically releasable heel and/or toe ski bindings which reduce friction between the sole of a ski boot and the ski in the area beneath the ball of the skier's foot, thus preventing failure of the toe binding to release the ski boot in response to an abnormally strong lateral pull caused by a fall or other skiing mishap. The new devices include friction reducing means having two superposed elements, the upper one being slidable laterally relative to the lower one, and means for mounting the devices on a ski. Flexible sheet members, base plates and intermediate lubricants facilitate sliding relative movement of the upper element over the lower element. A lubricant enclosed in a sealed envelope or other types of relatively slidable elements having plastic or plastic coated surfaces and oil-bronze bearing surfaces may be employed.

3,448,991
VEHICLE STEERING CONTROL
James L. Leggett, 760 Amherst Drive,
Abilene, Tex. 79603
Filed June 7, 1967, Ser. No. 644,344
Int. Cl. B62d *7/08*
U.S. Cl. 280—94 **14 Claims**



A motor vehicle having a pair of front wheels steerable in unison and equipped with a steering control stabilizing the steerable wheels against accidental misalignment by pairs of compression spring units each acting laterally on a wheel, each unit including a pair of alternately acting compression springs reacting oppositely against a cross member mounting the adjoining steerable wheel.

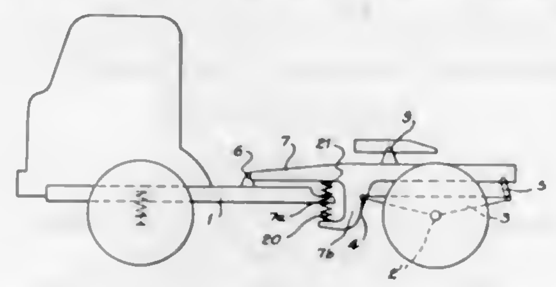
3,448,992
AXLE SUSPENSION FOR MOTOR VEHICLES
Karl Wilfert, Gerlingen-Waldstadt, and Béla Barényi, Stuttgart-Vaihingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Sept. 20, 1966, Ser. No. 580,646
Claims priority, application Germany, Sept. 25, 1965, D 48,289
Int. Cl. B60g *7/00*
U.S. Cl. 280—112 **9 Claims**



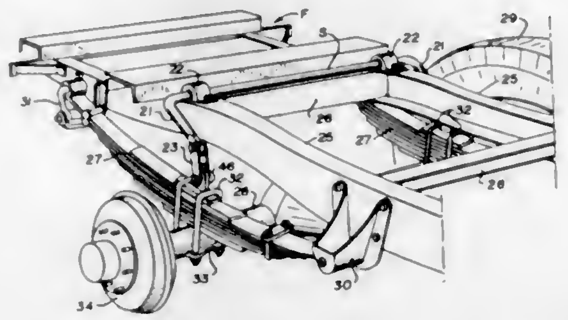
An axle suspension system wherein the wheel guide members are pivoted about a transverse axis for the resilient vertical support of the wheels and connected to for movement with a bearer member that is pivotally supported about a longitudinal axis and resiliently supported in the longitudinal direction with respect to the vehicle superstructure.

3,448,993
SPRING SUPPORT FOR TRUCK BODIES
Werner Gorge, Gauting, and Alois Moser, Dachau, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg AG, Munich, Germany
Original application Dec. 16, 1964, Ser. No. 418,708, now Patent No. 3,315,980. Divided and this application Apr. 19, 1966, Ser. No. 558,527
Claims priority, application Germany, Dec. 23, 1963, M 59,366; Nov. 14, 1964, M 63,123
Int. Cl. B62d *63/04, 53/06*
U.S. Cl. 280—124 **1 Claim**

In a truck having a front cabin carrying portion joined to a rear load carrying portion, the joint is such that the front and rear portions are vertically movable with respect to each other against the action of an opposed pair of springs.

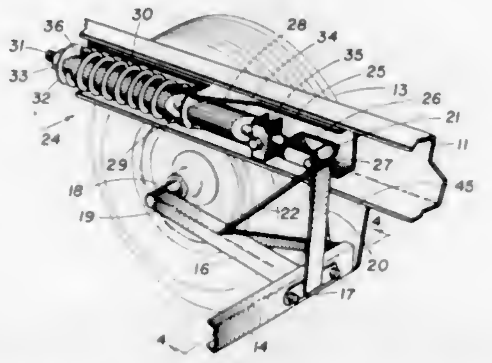


3,448,994
SWAYBAR FOR VEHICLES
Louis J. King, Denver, and Ronald M. King, Arvada, Colo., assignors to Denver Spring Service, Inc., Denver, Colo., a corporation of Colorado
Filed Oct. 26, 1966, Ser. No. 589,709
Int. Cl. B60g *11/04, 11/12*
U.S. Cl. 280—124 **4 Claims**



A swaybar stabilizer assembly for a vehicle of the type having a horizontal, longitudinally-disposed frame spring-supported upon and over a wider transverse axle, including a torsion bar in the form of a wide-base U with the length of the base exceeding the width of a frame and with shorter parallel arm portions turning from each end of the base portion, a pair of spaced bearings on the torsion bar base mounted transversely on the frame and rearwardly of the axle housing to hold the base across the frame at a position where the ends of the arms are no further forwardly than a position over the axle housing when the base is twisted to position the arm substantially horizontally, and a link which pivotally depends from the outstanding end of each horizontally disposed arm and is pivotally connected to the axle.

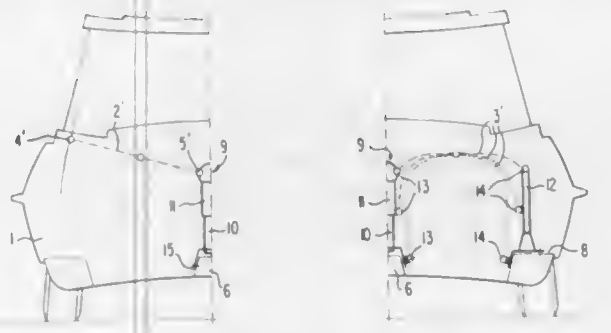
3,448,995
ANTI-ROLL AXLE
George Hugh Stallard, 503 E. 16th St., and Doreen Elizabeth Allen, 75 Carling St., Apt. 208, both of Hamilton, Ontario, Canada
Filed Feb. 1, 1967, Ser. No. 613,248
Int. Cl. B60g *11/20, 19/02*
U.S. Cl. 280—124 **6 Claims**



This specification discloses mechanism for suspending a pair of wheels from a trailer frame to minimize side sway by transferring loads from one seel to the other with the

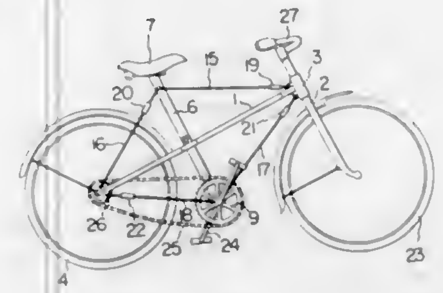
mechanism including: an axle in the form of a torsion bar pivotally mounted on the frame with the pivots fixed relative to the frame; a pair of trailer arms extending from the torsion bar and rigidly secured thereto; a wheel rotatably mounted at the free end of each torsion bar; a pair of radius rods each having one end driveably secured to the torsion bar; and a shock absorber between the other end of each radius rod and the frame.

3,448,996
ARRANGEMENT OF SAFETY BELTS IN VEHICLES
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 9, 1966, Ser. No. 593,187
Claims priority, application Germany, Nov. 11, 1965, D 48,621
Int. Cl. B60r *21/10;* **A62b** *35/00*
U.S. Cl. 280—150 **27 Claims**



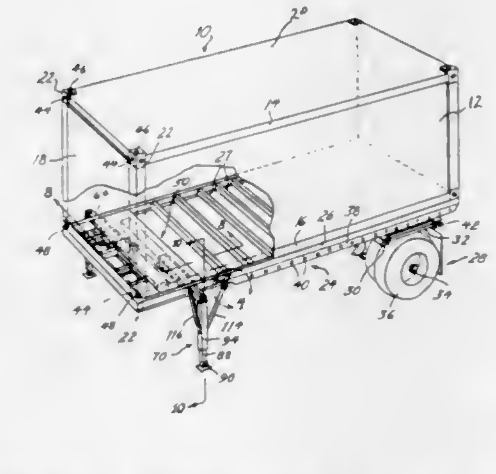
An arrangement for safety belts in motor vehicles, whereby one anchoring element, secured to a fixed vehicle part such as the floor or tunnel section, is provided, which extends upward approximately in the center plane of the vehicle and which may be composed of a plurality of detachable sections, one of which may be deformed by bending to dissipate sudden impact forces exerted thereon. The anchoring element is preferably of hollow construction, thus providing for the storing of the belt in a retracted condition therein, and includes retracting means which are operable to firmly grasp the belt upon a predetermined acceleration imparted to a belt. The present invention further contemplates the provision of an additional anchoring element between the end of the vehicle seat and the lateral body wall of the vehicle, which element may incorporate the features of the first element.

3,448,997
BICYCLE SKELETON FRAME
Jiro Kosugi, 36–23, 1-chome, Wada, Suginami-ku, Tokyo-to, Japan
Filed June 13, 1967, Ser. No. 645,804
Int. Cl. B62k *3/00, 7/00, 19/00*
U.S. Cl. 280—281 **2 Claims**



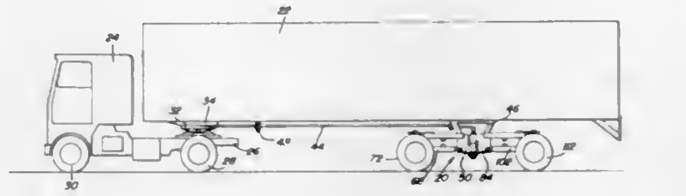
A cross-shaped structure consisting essentially of a forked longitudinal strut and a rigid seat tube pivotally connected to each other and braced by wire ties connecting their ends constitutes the skeleton frame of a bicycle, the longitudinal strut being fixed at its front end to a head tube for rotatably receiving the bicycle front fork stem and at its rear end to the rear wheel axle, and the seat tube supporting, respectively at its upper and lower ends, a saddle and a bracket cross tube for rotatably receiving the bracket axle. Each wire tie is provided with a turnbuckle and at least one readily disconnectable end, whereby the skeleton frame can be readily folded into a compact form.

3,448,998
FOLDABLE STORABLE LANDING GEAR
Andrew Abolins, Langhorne, Pa., assignor to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1967, Ser. No. 610,070
Int. Cl. B60g *25/00;* **B62d** *53/06*
U.S. Cl. 280—415 **7 Claims**



Landing gear or supports for a vehicle which is comprised of a van size cargo container and a chassis substantially coextensive with the container including running gear and upon which chassis the container is demountably attached. The chassis includes a king pin assembly at its front end which has transverse pockets and the landing gear is movable from inoperative stored positions in the pockets to operative support positions outboard of the chassis so that the wheels of a tractor can pass between the landing gear to effect coupling of the tractor to the king pin of the chassis.

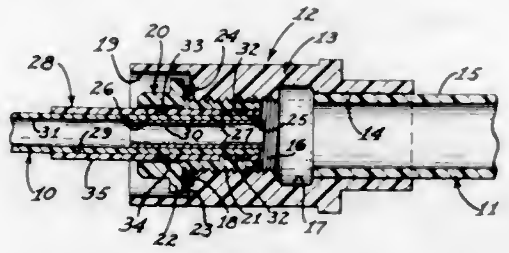
3,448,999
TRAILER SUSPENSION WITH STEERABLE AXLE
Melvin M. Kollander, P.O. Box 135, Cedar Crest, N. Mex. 87008, and Norman A. Kollander, 1122 N. Broadway St., Stillwater, Minn. 55082
Filed Dec. 22, 1966, Ser. No. 604,044
Int. Cl. B62d *53/06*
U.S. Cl. 280—426 **7 Claims**



A control for the full castering axle or wheels on a trailer-type vehicle for controlling the position of the castering axle or wheels when the vehicle is backing or moving rearwardly. The control includes an articulate mounting for the axle or wheels to enable full castering when the vehicle is moving forwardly and a linkage assembly connected with the towing vehicle in offset relation to the pivotal connection with the trailer-type vehicle for controlling the castering movement when backing up.

3,449,000
DEMOUNTABLE HOSE COUPLING

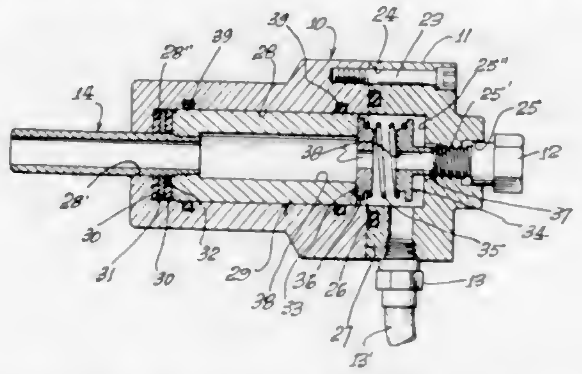
Robert J. Kane, 5035 N. 12th St., P.O. Box 7044, Phoenix, Ariz. 85014
Filed Sept. 5, 1967, Ser. No. 665,470
Int. Cl. F16l *33/22, 37/24*
U.S. Cl. 285—174 1 Claim



A quick connectable and disconnectable coupling for a hose to a supply pipe of simple and leakproof construction which securely holds to hose against inadvertent disconnection under rough use. The hose is secured to a coupling sleeve which has L-shaped slots formed therein. A locking bushing is threaded into a body member. The locking bushing has pin means radially disposed in its bore to cooperate with the L-shape slots to hold the members assembled.

3,449,001
ROTARY VACUUM UNION

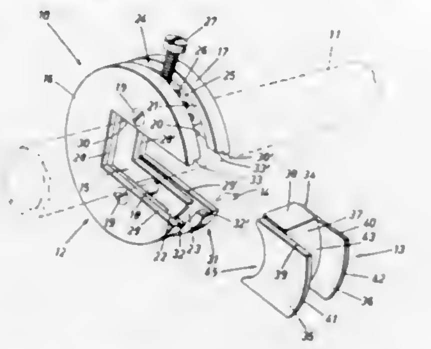
John J. Mullion, Fullerton, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Aug. 8, 1966, Ser. No. 570,985
Int. Cl. F16l *27/00, 27/08*
U.S. Cl. 285—279 6 Claims



A rotary union which provides a connection capable of transmitting a vacuum pressure therethrough while connected to a rotating or oscillating body adapted for holding objects by means of the vacuum pressure.

3,449,002
CONNECTOR FOR DISPLAY STRUCTURES AND THE LIKE

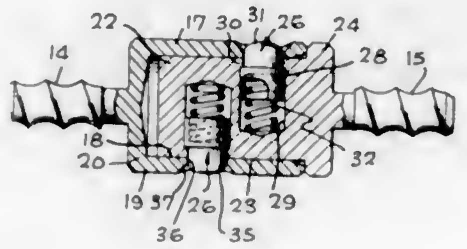
Frank J. Bernard, 200 Geary Ave., Toronto, Ontario, Canada
Original application July 17, 1961, Ser. No. 124,593, now Patent No. 3,193,634, dated July 6, 1965. Divided and this application Oct. 22, 1964, Ser. No. 405,729
Int. Cl. F16d *1/06;* **B60b** *27/06;* **F16o** *3/10*
U.S. Cl. 287—52.03 3 Claims



The invention relates to a two-part connector with a central passage for a structural element and an access passage thereto, a closure for said passage is secured by a displacable element having a means carried thereon for urging the closure element against the structural element.

3,449,003
SNAP COUPLING

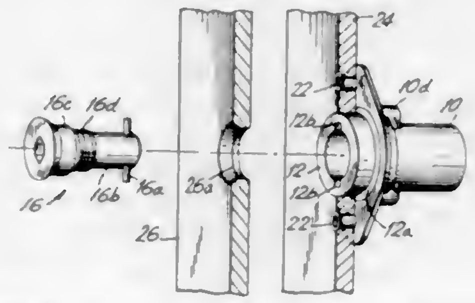
Robert G. Hunt, Los Angeles, Calif., assignor to Marco Products Company, Los Angeles, Calif., a partnership
Filed Nov. 8, 1965, Ser. No. 506,791
Int. Cl. F16b *7/00;* **F16d** *1/00;* **F16c** *21/00*
U.S. Cl. 287—119 1 Claim



The application discloses a coupling for flexible rods and the like comprising interfitting inner and outer members and latching elements carried by the inner member and received in openings in the outer member.

3,449,004
PANEL FASTENER

Allan G. Anderson, Cypress, Calif., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Aug. 16, 1967, Ser. No. 660,963
Int. Cl. F16b *1/00, 5/00, 7/00, 39/00, 43/00*
U.S. Cl. 287—189.36 5 Claims

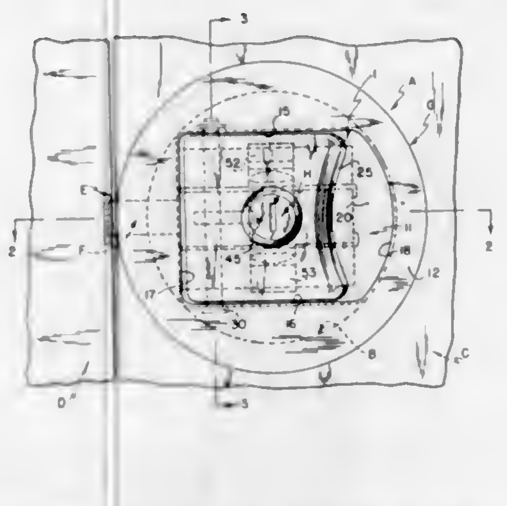


A fastener having a floating nut element contained within a housing by a bushing at an open end of the housing. The housing is arranged to be secured to a substructure with the bushing extending into a pre-cut hole in the substructure. A partially threaded bolt enters the housing through the bushing for insertion into the nut. The bushing and nut have axially aligned slots through which a diametral pin at the leading end of the bolt passes. The bolt and nut are arranged for the diametral pin to pass through the slots in the nut before the bolt threads engage the nut threads.

3,449,005
DOOR LOCK

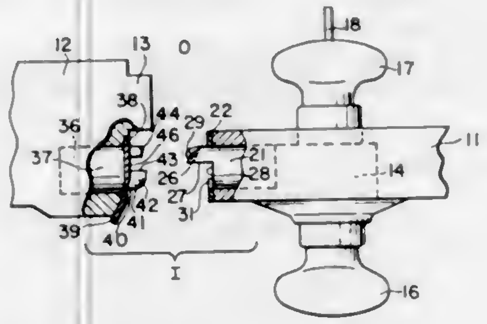
John V. Pastva, Jr., Parma Heights, Ohio, assignor to The Eastern Company, Cleveland, Ohio, a corporation of Connecticut
Filed Sept. 2, 1966, Ser. No. 576,930
Int. Cl. E05c *1/12*
U.S. Cl. 292—173 1 Claim

A recessed or flush mounted paddle-type lock, either key or non-key, having a limited number of parts adapted to be economically produced by dieing operation and mountable in a circular opening in a closure member. The locking mechanism consists of a spring projected sliding bolt operated by a pivoted lever. The lever is mounted in a substantially rectangular depression having one arcuate side wall and disposed in a circular plate.



3,449,006
BURGLAR-PROOF LOCK

Andrew Petri, 1787 Lombard St., San Francisco, Calif. 94123
Filed Oct. 23, 1967, Ser. No. 677,339
Int. Cl. E05b *15/12, 15/02*
U.S. Cl. 292—346 3 Claims

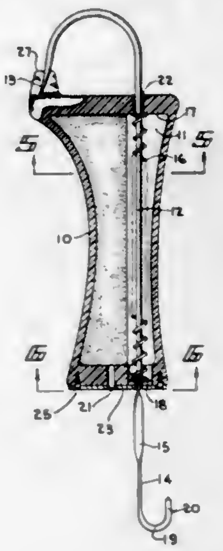


The commonly-used Schlage-type lock is modified to improve its resistance to burglary. A secondary bolt is installed in the jamb of the door, such bolt being spring-biased outward and provided with a "dead-latch" plunger which prevents retraction of the secondary bolt when the plunger is retracted. The primary bolt on the door is fixed in projected position so that it can only be retracted by turning the door knob on the inside of the doorway or the key on the outside. The primary bolt has a projection which is positioned to engage the dead-latch plunger of the secondary bolt when the door is closed. The two bolts are formed with complementary flats so that the bolts interfit when the door is closed. When a burglar attempts to force the primary bolt inwardly with a blade inserted between the door stop and door, the force is resisted by both bolts. Since the housing of the secondary bolt is recessed relatively deeply into the jamb, the jamb does not rupture readily.

3,449,007
FOLDING GAFF

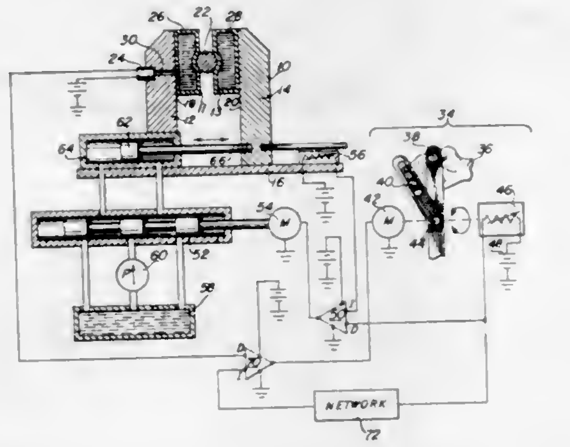
Leslie E. White, 124 S. Japonica Drive, Orlando, Fla. 32807
Filed Oct. 14, 1966, Ser. No. 586,821
Int. Cl. A01k *97/14*
U.S. Cl. 294—26 4 Claims

This invention relates to a folding gaff having a hook that can be deployed into operative position by a fisherman even though he has only one hand free for accomplishing this purpose. This one handed deployment is made possible by the fact that the hook portion of the gaff is integral with a shank slidable in the handle of the device, and on the lowermost portion of this shank, means are provided so that the fisherman can push or strike such means against a part of his body or on a near-by object, thus to cause the hook to extend into the position for gaffing a fish.



3,449,008
OBJECT HANDLING SYSTEM WITH REMOTE MANUAL CONTROL

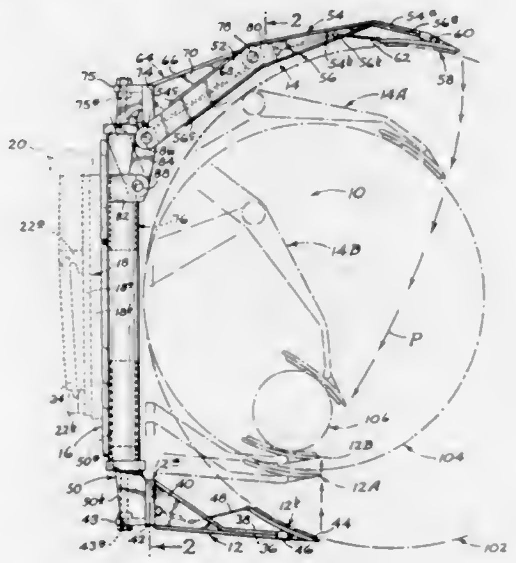
Raymond L. Colechia, Mystic, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed June 8, 1967, Ser. No. 644,518
Int. Cl. B66c *1/42;* **B25b** *5/16;* **F15b** *13/14*
U.S. Cl. 294—88 3 Claims



A system for handling objects by means of a manipulator operated by a hand actuated control through a servo mechanism. The servo mechanism is operative to position the manipulator in object grasping relation and to provide at the hand control a sensible indication of the reaction force of the object against the manipulator. The servo mechanism itself includes a position responsive feedback system which adjusts the manipulator to a position corresponding to the position of the hand control and another feedback system which applies to the hand control a force proportional to the reaction force being applied by the object against the manipulator. Thus, the operator senses or feels the resistance exerted by the object against movement of the manipulator into the position dictated by the position control system.

3,449,009
CLAMPING MECHANISM

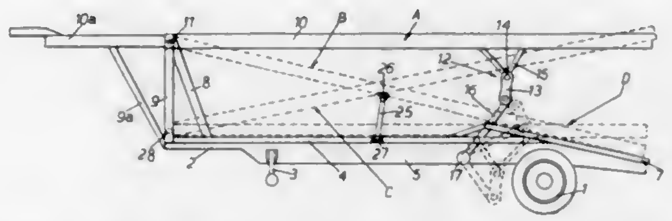
Donald M. Faust, Estacada, and Henry F. Chochrek, Portland, Oreg., assignors to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed June 9, 1967, Ser. No. 645,027
Int. Cl. B66c *1/42, 1/62*
U.S. Cl. 294—104 **4 Claims**



Clamping mechanism including a frame and a pair of opposed relatively movable arms mounted thereon for movement toward and away from one another. The arms include a short arm mounted on the frame through an arm base that permits shifting of the arm along a substantially straight path on the frame, and further includes a long arm mounted on the frame through mounting structure which accommodates both translation of the long arm back and forth on the frame, and swinging of the arm's outer end along a flattened arcuate path toward and away from the short arm.

3,449,010
LOAD TRANSPORTING VEHICLES

Gordon Hoy, Chelmsford, England, assignor to Hoynor Limited, Danbury, Chelmsford, England, a corporation of Great Britain
Filed Feb. 13, 1967, Ser. No. 615,518
Int. Cl. B60p *1/16;* **B62d** *23/00*
U.S. Cl. 296—1 **6 Claims**

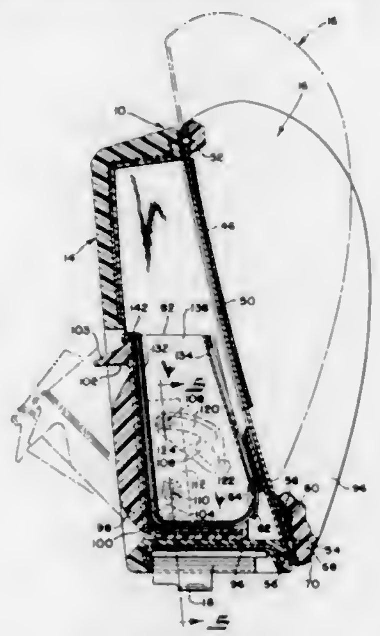


Load transporting vehicle, trailer or wheeled vehicle or self propelled vehicle, having lower deck and upper load carrying platform with means for raising and lowering front and rear ends of upper platform, with removable mid-way prop for upper platform about which upper platform may see-saw, and power operated means for raising and lowering rear end of upper platform.

3,449,011
HEAD REST AND WASTE CONTAINER ASSEMBLY

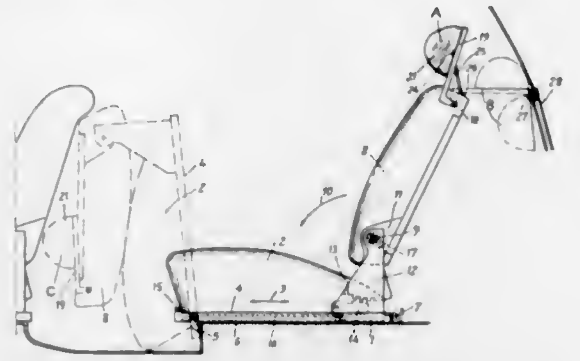
Robert L. Edwards and George F. Gielow, Mansfield, Ohio, assignors to Artnell Company, Chicago, Ill., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,301
Int. Cl. A47c *7/38, 7/62;* **A61g** *15/00*
U.S. Cl. 297—391 **10 Claims**

A combination head rest and waste container wherein the container includes a separate receptacle adapted to be hidden when not in use and movable to an exposed position for either filling the same or for temporarily removing the same entirely from the container for emptying and/or cleaning the same.



3,449,012
REAR SEATS OF VEHICLES

Georges Caron, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, and Societe Industrielle et Commerciale des Automobiles Peugeot, Paris, France
Filed Aug. 15, 1967, Ser. No. 660,651
Claims priority, application France, Sept. 16, 1966, 76,637
Int. Cl. A47c *1/10, 7/36;* **B60n** *1/02*
U.S. Cl. 297—403 **5 Claims**

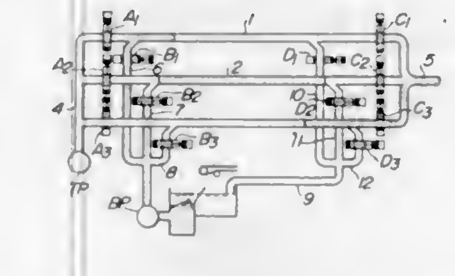


A rear seat of a vehicle, characterised in that its back is provided at its upper portion with a headrest support pivotally mounted and adjustable for variable inclination in the fore-and-aft direction in relation to the seat and that said headrest is retractably mounted at the rear of said support whereby the assembly can be used at will as a headrest or a rear tray, or alternately be retracted completely behind the seat.

3,449,013
APPARATUS FOR HYDRAULICALLY TRANSPORTING GRANULAR SOLID MATERIAL

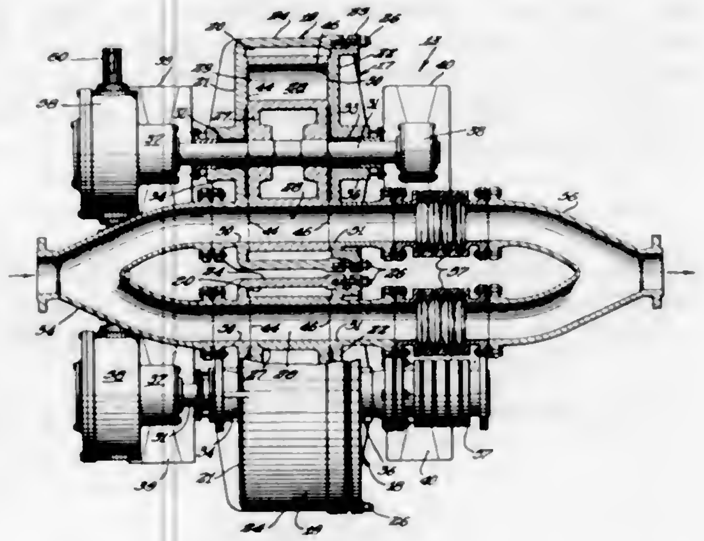
Masakatsu Sakamoto and Hidehiko Seki, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Feb. 19, 1968, Ser. No. 706,307
Claims priority, application Japan, Mar. 3, 1967, 42/13,084; Apr. 7, 1967, 42/21,827; Apr. 12, 1967, 42/30,055; Apr. 24, 1967, 42/25,821
Int. Cl. B65g *53/30*
U.S. Cl. 302—14 **14 Claims**

There is disclosed an apparatus for hydraulically transporting granular solid material with high head, wherein improvements reside in that the valves in pipe lines are always closed in clear water without lowering transport efficiency, that the valves are less liable to bite the solid material if they are closed in the solid-water mixture, that the valves are automatically closed to guarantee the safety of the apparatus when oil-hydraulic pressure actuating the valves has disappeared, that the valves are firmly closed to prevent leakage but are opened with a little force and with little wear, and that the solid-water mixture has very high solid concentration.



3,449,014
REVOLVING CHIP FEEDER

Arnold J. Roerig, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Mar. 11, 1966, Ser. No. 533,668
Int. Cl. B65g *53/30;* **B01d** *43/00*
U.S. Cl. 302—14 **3 Claims**

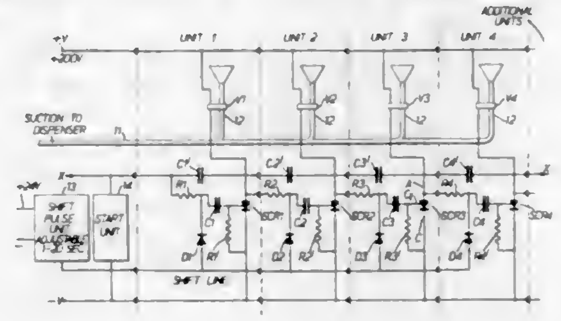


A revolving chip feeder including a pair of rotors arranged in side-by-side relation on parallel axes for successively removing chips from a first liquor flowing through passages formed therein and for transferring the chips to a second liquor for delivery to a digester. The rotors are rotated together and at the same speed and the passages formed therein are so arranged that chips are continuously delivered to the digester.

3,449,015
ELECTRONIC CONTROLLED PNEUMATIC CONVEYOR

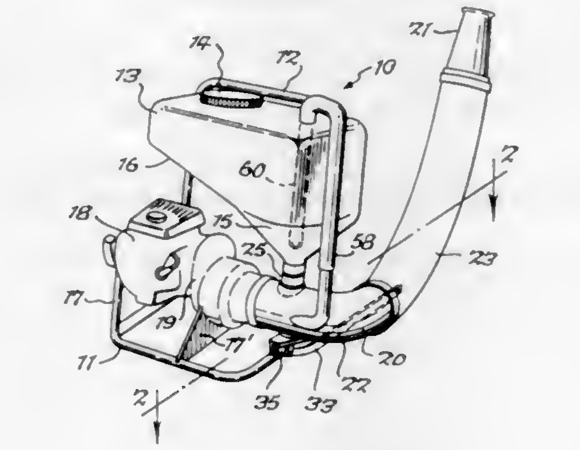
Alfred John Payne, High Wycombe, England, assignor to Detexomat Limited, High Wycombe, Buckinghamshire, England, a British company
Filed Jan. 19, 1968, Ser. No. 699,110
Claims priority, application Great Britain, Jan. 26, 1967, 4,016/67
Int. Cl. B65g *53/04;* **H01k** *47/14*
U.S. Cl. 302—27 **5 Claims**

A pneumatic conveyor particularly for conveying stockings or other hose from circular knitting machines to collection points around the hosiery mill. The conveyor comprises a collector conduit with branch conduits leading into it. Each branch conduit has a separate pneumatic control valve controlled by a separate electrical control arrangement including a semiconductor gate controlled device or a thermionic grid controlled device. The controlled devices are arranged in a control circuit so that the pneumatic control valves are actuated sequentially for sequential collection of articles from the branch conduits to be delivered at the collection point.



3,449,016
BLOWER FOR PULVERULENT MATERIAL

Coyle E. Knowles, Gowanda, N.Y., assignor to Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N.Y.
Filed June 23, 1966, Ser. No. 559,827
Int. Cl. B65g *53/40, 53/14*
U.S. Cl. 302—36 **22 Claims**

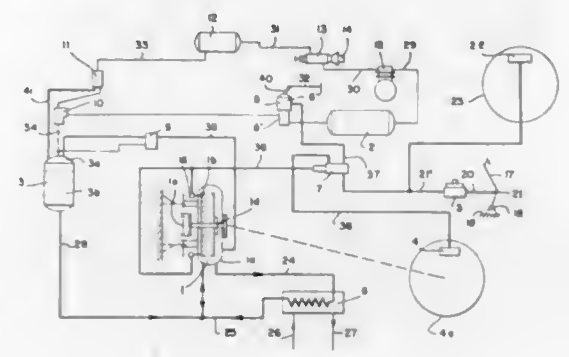


A blower for pulverulent materal including a frame mounting a blower, a first conduit leading from the blower, a nozzle at the end of the conduit remote from the blower, a valve arrangement mounted on said first conduit for conducting pulverulent material into the gas stream in said first conduit, the valve arrangement including a housing, a valve body slidable with a linear reciprocating motion into and out of said housing, and a second conduit in said valve body in alignment with said first conduit for conducting air through said second conduit, a third conduit in said housing for conducting pulverulent material into the second conduit from a hopper, an inclined plate dividing the second conduit and the third conduit for preventing air from said second conduit entering into the housing, a fourth conduit in communication with the first conduit and with the hopper for producing flowing gas proximate the entry point of the pulverulent material into the valve housing, and linkage means for varying the amount that the valve body moves into the housing so as to vary the amount of air passing through the second conduit means and thereby vary the amount of pulverulent material which is deposited into the conduit means.

3,449,017

BRAKE SYSTEM

John R. Botterill, Warwickshire, England, and Hans-Christof Klein, Hattersheim, and Heinrich Oberthur, Offenbach-Rumpenheim, Germany, assignors to Alfred Teves Maschinen-und Armaturenfabrik KG., Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 22, 1967, Ser. No. 669,941
Claims priority, application Germany, Sept. 24, 1966, T 32,131
Int. Cl. B60t *8/02, 9/02*
U.S. Cl. 303—2 **12 Claims**

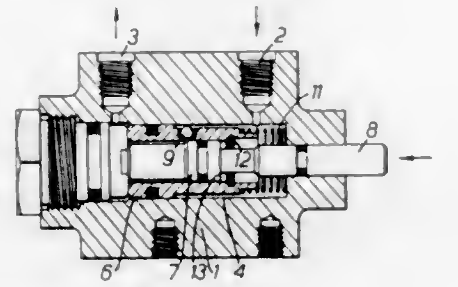


A vehicle-brake installation having a hydrodynamic brake and a friction brake pressurizable with hydraulic fluid by a master cylinder to brake a common wheel, a pressure-retentive charging vessel containing hydraulic fluid and communciating with the hydrodynamic brake, and a suction side and a pressure side of a compressor connected to the charging vessel by valves selectively applying gas pressure to the vessel or subjecting it to suction.

3,449,018

HYDRAULIC BRAKE CONTROL VALVES

Eric Charles Hales, Birmingham, England, assignor to Girling Limited
Filed Jan. 22, 1968, Ser. No. 699,645
Claims priority, application Great Britain, Feb. 21, 1967, 8,216/67
Int. Cl. B60t *13/00, 8/18, 11/10*
U.S. Cl. 303—6 **4 Claims**

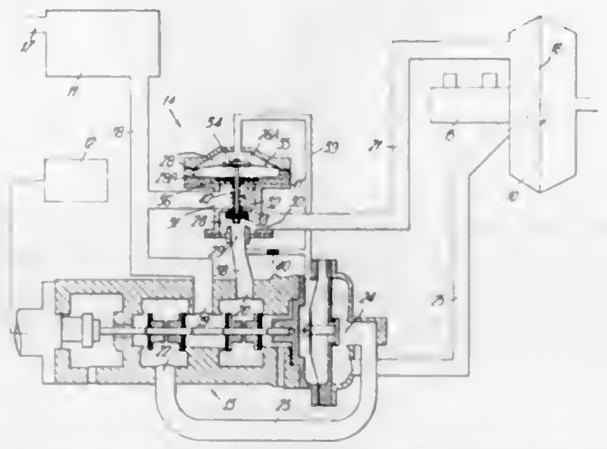


In a brake pressure control valve of the type having a piston controlling operating movement of an internal valve for cutting off the inlet from the outlet of the control valve, the piston works within a sleeve which is itself slidable in a bore in the valve body. When the inlet pressure increases, the piston is moved relative to the sleeve to close the internal valve, and thus vary the rate at which pressure is transmitted through the control valve. When the inlet pressure is relieved, outlet pressure is quickly relieved by displacement not only of the piston, but also of the sleeve. The internal valve may be a valve ball located in a radial bore through the sleeve and cooperating with a seat formed in the bore. The ball is normally held off its seat by the piston, but when the piston is displaced relative to the sleeve, due to an increase in inlet pressure, the valve is allowed to close, assisted by the increased pressure.

3,449,019

VEHICLE BRAKING SYSTEMS

Frederick J. Walker, Kenilworth, England, assignor, by mesne assignments, to Harry Ferguson Auto Research, Inc., New Castle, Del., a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,322
Claims priority, application Great Britain, July 15, 1967, 32,644/67
Int. Cl. B60t *13/10*
U.S. Cl. 303—21 **9 Claims**

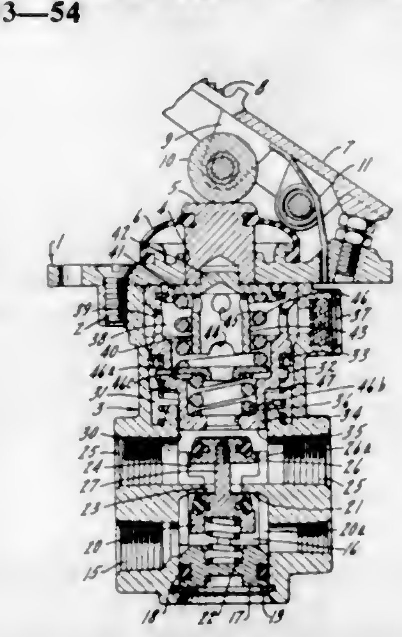


In a vehicle servo-assisted braking system including, in combination, a servo-mechanism and anti-skid apparatus for relieving brake-assisting action of the servo-mechanism in the event of wheel-lock, a fail-safe valve is provided for by-passing the said apparatus should the apparatus fail in its operative condition. The fail-safe valve, upon such failure of the anti-skid apparatus, connects the servo-mechanism direct to its energising source (for example a vacuum-tank) after a short time delay, and consists of a by-pass valve operable by a spring-biassed flexible diaphragm one side of which is in communication with the servo-mechanism by way of a restricted-flow pipe connection.

3,449,020

DUAL FORCE TREADLE APPLICATION VALVE

Boleslaw Klimek, Des Plaines, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Feb. 19, 1968, Ser. No. 706,431
Int. Cl. B60t *15/12, 15/06*
U.S. Cl. 303—54 **2 Claims**

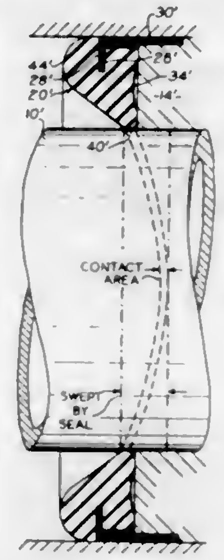


A brake application valve productive of small pressure output increments in response to initial brake pedal movement and of larger pressure output increments in the later brake pedal movement. The brake application valve having a valve member movable in response to a piston, a brake pedal and a variable force-transmitting assembly between the pedal and the piston. The force-transmitting assembly consists of two axially aligned springs of different force vs. deflection rates or ratios with a transmitting plate between the springs, the plate being movable into contact with the piston at a stage in brake application.

3,449,021

LOW FRICTION RESILIENT SEALING RING

Peter H. Palen, Lake Mohawk, N.J., assignor to C. E. Conover & Co., Inc., Caldwell, N.J., a corporation of New Jersey
Filed May 9, 1966, Ser. No. 548,727
Int. Cl. F16c *29/02, 17/02;* **F16j** *15/16*
U.S. Cl. 308—3.5 **6 Claims**

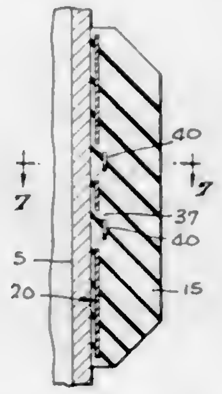


This seal assembly has an elastomer ring of novel shape for preventing escape of liquid or gas along a rotating or reciprocating shaft and for preventing entry of dust, dirt or other foreign matter from reaching a bearing. The sealing ring has a relatively short axial length of contact on the shaft, and the pressure is light so as to keep friction to a minimum. One embodiment has the area of contact with the shaft follow a wavy line so that it contacts with a substantial axial length of the surface of the shaft for each revolution of the shaft. The cross-section of the ring increases progressively as it extends radially away from the shaft so that the contact surface is supported against failure by spiralling, bunching, or tension fatigue. The area of contact of the ring on the shaft is offset axially from its center of mass and in a direction toward the pressurized side of the ring to obtain a reactive force against the ring.

3,449,022

DRILL PIPE PROTECTOR

Burt Stanley Minor, 1811 E. Kanola, La Habra, Calif. 90631
Continuation-in-part of application Ser. No. 573,706, Aug. 19, 1966. This application May 27, 1968, Ser. No. 732,336
Int. Cl. F16c, *1/26, 17/00, 21/00*
U.S. Cl. 308—4 **6 Claims**

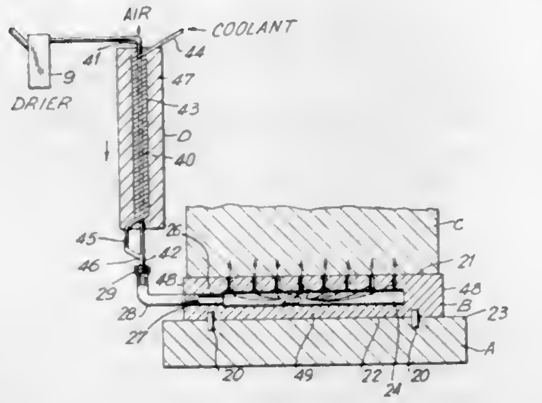


My invention comprises a longitudinally split annual elastomeric drill pipe-protecting body having a metallic reinforcing band embedded in and bonded thereto, and is characterized by having partially resiliently interrupted elongated slots through the reinforcing band in critical relationship to particularly shaped, radially compressibe, stem-engaging boss portions of the body whereby to enable said boss portions to be compressed into adequate frictional engagement with the stem without compressing them beyond their maximum moduli of elasticity.

3,449,023

AIR BEARING

Jacob H. Sperman, 2199 E. 21st St., Brooklyn, N.Y. 11029
Filed Nov. 24, 1967, Ser. No. 685,496
Int. Cl. F16c *1/24, 33/10, 33/74*
U.S. Cl. 308—5 **7 Claims**

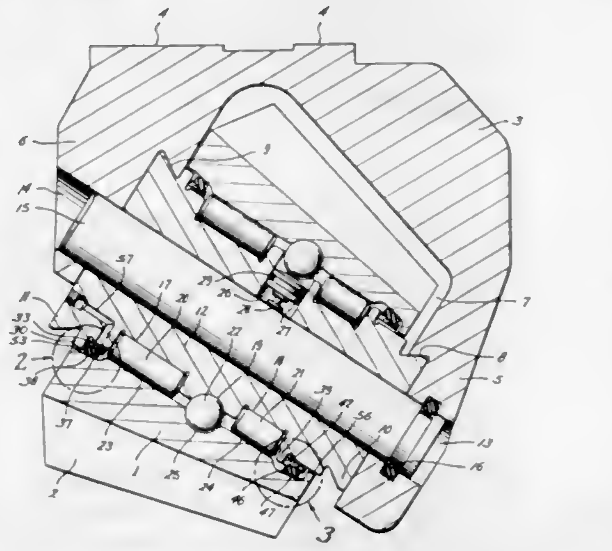


The present disclosure sets forth an air bearing in which an air bearing plate having a plurality of small outlets is used to support a relatively weighty object and permit ready movements or dispersements thereof by reason of the force of air elevating it from its support. The dehydrated air which is used for this purpose is chilled so that it will be below ambient or room or atmospheric temperature and so that it will have greater lifting capacity.

3,449,024

SEAL ARRANGEMENT BETWEEN RELATIVELY ROTATABLE MEMBERS

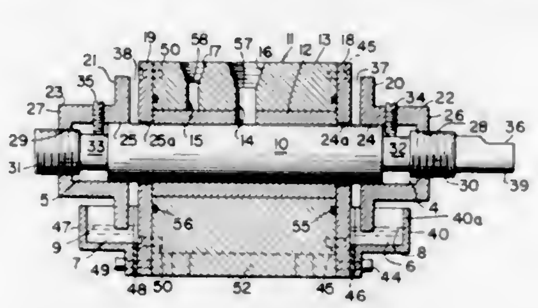
Carl L. Lichte, Dallas, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 437,990, Mar. 8, 1965. This application Nov. 6, 1967, Ser. No. 681,037
Int. Cl. F16c *19/00, 29/00, 33/72*
U.S. Cl. 308—8.2 **8 Claims**



The disclosure involves a bearing shaft having one integral part extending through a rolling annular cutter and supported by parts engaging its projecting ends. The maximum possible part of the length of the cutter is taken up by radial and thrust bearings rotatably supporting the cutter on the shaft to hermetically seal the bearing space by seals each having a rigid ring yieldably carried by and sealed to the shaft or cutter and resiliently urged axially into sealing engagement with an axially facing integral shoulder on the other. Both rings are axially movable in the same direction into place in the cutter and in the opposite direction into place on the shaft.

3,449,025
SEALING SYSTEM

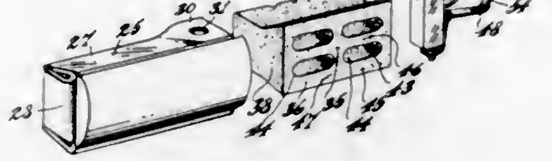
David B. Cox, Sewell, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed June 7, 1966, Ser. No. 555,785
Int. Cl. F16c *17/02;* **F16j** *15/40*
U.S. Cl. 308—36.3 **10 Claims**



An improved lubricant sealing system is provided in which movement of the lubricant about to escape is opposed by the use of a viscoelastic liquid. The normal forces effect generated in the viscoelastic liquid is in a direction which is in opposition to the direction of the escaping lubricant, with the result that such escape is prevented and the lubricant remains in the desired location.

3,449,026
JOURNAL CENTERING GUIDE OF PLASTIC FOR A RAILWAY JOURNAL

Franklin G. Fisher, Wyomissing, and Luther Lewis Bollinger, Sr., Reading, Pa., assignors to Reading Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1967, Ser. No. 610,931
The portion of the term of the patent subsequent to Apr. 16, 1985, has been disclaimed
Int. Cl. F16c *13/02*
U.S. Cl. 308—40 **2 Claims**

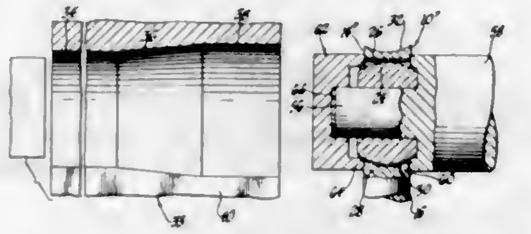


The present invention relates to an improved journal centering guide for a railway journal. The plastic of the guide is recessed behind the head to make it better withstand impact. The guide is held in its retainer by an improved latch which is protected against distortion.

3,449,027
ROD END BEARING MEMBER

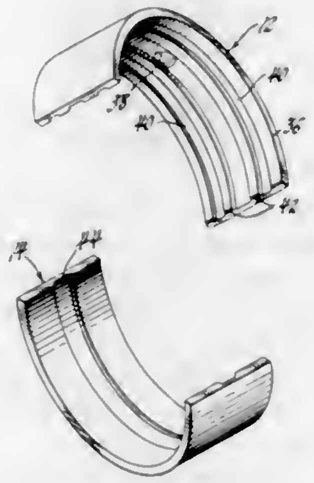
George I. Bannister, Orange, Calif., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Application Feb. 20, 1967, Ser. No. 617,419, which is a continuation of application Ser. No. 470,375, July 8, 1965. Divided and this application Nov. 1, 1967, Ser. No. 679,804
Int. Cl. F16c *11/06*
U.S. Cl. 308—72 **7 Claims**

In a preferred form the present invention relates to a rod and member and bearing assembly which includes a banjo-type member having a cylindrical outside diameter with an inside diameter separated from a ball member by some low friction material, said inside diameter substantially conforming to the outside diameter of the ball-type member.



3,449,028
ANTI-CAVITATION BEARING GROOVING

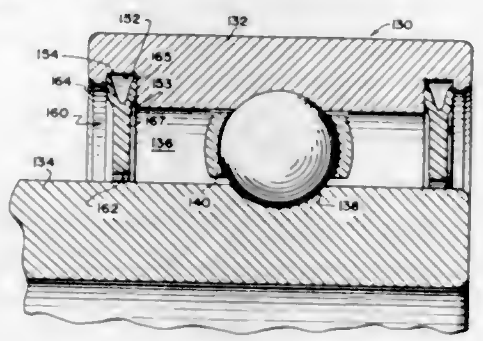
Arnold O. De Hart, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 22, 1965, Ser. No. 489,167
Int. Cl. F16c *33/66, 17/02;* **B61f** *17/00*
U.S. Cl. 308—122 **4 Claims**



A hydrodynamic type plain bearing for a shaft subjected to a high fluctuating radial load is provided with a circumferential groove on each side of its central lubricant supply groove in the area of the bearing diametrically opposed to the high fluctuating load. These circumferential grooves are fluidly connected to the central supply groove and prevent cavitation erosion of this area of the bearing.

3,449,029
BEARING ASSEMBLY AND SEAL

Richard J. Smith, Valparaiso, Ind., assignor to McGill Manufacturing Company, Inc., Valparaiso, Ind., a corporation of Indiana
Continuation-in-part of application Ser. No. 488,194, Sept. 17, 1965. This application Jan. 17, 1968, Ser. No. 698,637
Int. Cl. F16c *1/24, 33/78*
U.S. Cl. 308—187.2 **3 Claims**

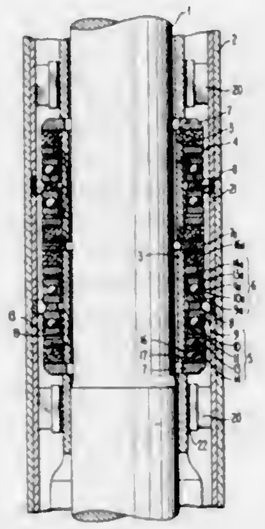


A bearing assembly has an outer race ring which is rotatable with respect to the inner race ring. A radially extending groove is located in the outboard axial end of the outer race ring. An annular sealing ring of synthetic

material has a radial face defined by an outer peripheral edge and an inner annular edge. An integral extension extends upwardly divergent to the radial face. The ring is supported in the outer race ring by inserting the outer peripheral edge into the groove with the outer extension forming an interference fit with the wall of the groove. The extension applies pressure to the sealing ring to maintain it in a running contact fit with the opposite wall of the groove.

3,449,030
BALL THRUST BEARING FOR DRIVING SHAFT SUBJECTED TO AXIAL THRUST, PARTICULARLY FOR TURBODRILL SHAFT

Wladimir Tiraspolsky, Issy-les-Moulineaux, and Roger Rouviere, Aix-en-Provence, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
Filed June 29, 1967, Ser. No. 649,949
Claims priority, application France, July 1, 1966, 67,989
Int. Cl. F16c *19/10*
U.S. Cl. 308—230 **7 Claims**

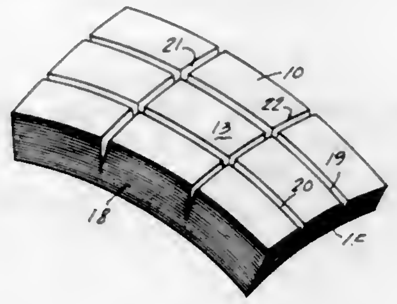


A ball thrust bearing composed of a plurality of coaxial elements distributed between two complementary stages for absorbing opposed axial thrusts, wherein each stage includes a ball bearing having one of its races joined to an axial bearing element connected to either a stator part or the driving shaft by a connection which, at least in the absence of a blocking of the ball bearing, is nonrotative. Each stage further including a safety element in contact with one of the ball races and slidable thereon with a friction factor at least equal to the friction factor of the balls on the ball races, and an elastic damping element in a precompressed state, whose characteristics of compressibility are such that its flattening during the assembling, under the action of a precompression having a value smaller than the maximal compression thrust during operation, is greater than the supplemental flattening which results of the application of the maximal thrust.

3,449,031
LAMINATED BEARING ADAPTED TO BEND IN A PLURALITY OF PLANES

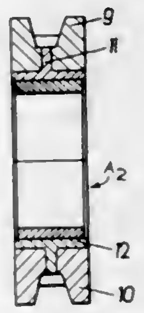
Robert G. Josephson, Jamestown, N.Y., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 22, 1967, Ser. No. 648,105
Int. Cl. F16c *27/02, 27/06*
U.S. Cl. 308—237 **8 Claims**

A laminated bearing capable of conforming to nonplanar mating surfaces. The bearing consists of a plurality of thin laminae of alternating metal and elastomer bonded together to provide a laminated planar bearing. A mosaic of cuts is provided into the bearing stack from opposite faces thereof. The cuts do not extend through the bearing to the opposite face but terminate in the bearing stack.



3,449,032
BEARING AND HOUSING INSTALLATION

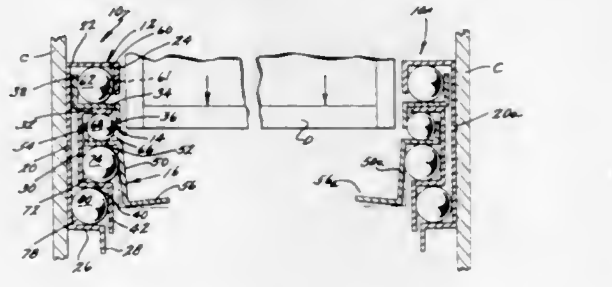
Roland Scheufler, Neckarsulm, Germany, assignor to Karl Schmidt G.m.b.H., Neckersulm, Germany, a corporation of Germany
Filed July 16, 1965, Ser. No. 472,510
Int. Cl. F16c *9/04*
U.S. Cl. 308—237 **16 Claims**



Journal bearing having embedded therein a steel reinforcing member disposed wholly within the bearing-bearing base.

3,449,033
CANTILEVER LOADING DRAWER RAIL AND ASSEMBLY

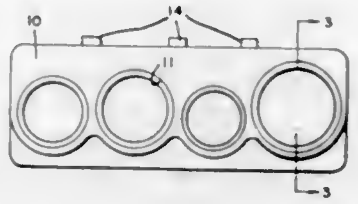
John Pipe, Grand Rapids, Mich., assignor to Steelcase, Inc., Grand Rapids, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 497,266, Oct. 18, 1965. This application Dec. 11, 1967, Ser. No. 689,481
Int. Cl. A47b *88/10;* **F16c** *35/02*
U.S. Cl. 312—339 **3 Claims**



A cantilever loading drawer rail assembly and a drawer apparatus including a drawer and a pair of mirror image cantilever loading drawer rail assemblies having multiple ball tracks, wherein the drawer, when inserted, forcefully distorts a depending lower panel portion of each of the drawer rails of the assemblies from a free standing position where such portions protrude downwardly-inwardly toward each other at a small acute angle to a spread condition that causes application of torsional force to the rails to forcefully retain the walls of the tracks in engagement with the balls therein.

3,449,034
COIN HOLDER

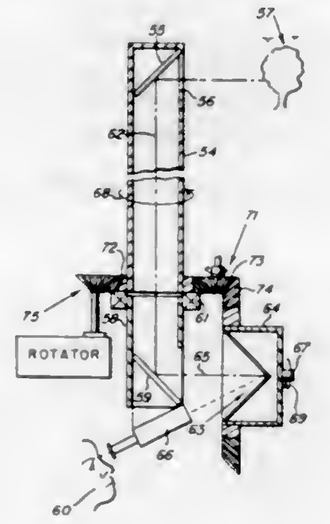
Albert Joseph Holst, Sr., 3853 Feder Place, St. Louis, Mo. 63116, and Thomas O. Sparks, 2636 E. 27th St., Granite City, Ill. 62040
Filed July 25, 1966, Ser. No. 567,520
Int. Cl. G07d *1/08*
U.S. Cl. 312—45 **7 Claims**



A one piece die-cast plastic coin holder having coin retaining compartments provided with finger openings in the bottom wall and slots in the front wall to remove coins from the compartments. The coin slots are located so that the bottom is about one-half the thickness of the coin above the inner bottom wall of the compartment and the finger hole is of lesser diameter than the coin. A coin is removed by inserting a finger in the finger opening and lifting the lowermost coin to align it with the slot and moving the coin through the slot. Means are provided to attach the holder to a support.

3,449,035
STROBOSCOPE MIRROR DEVICE

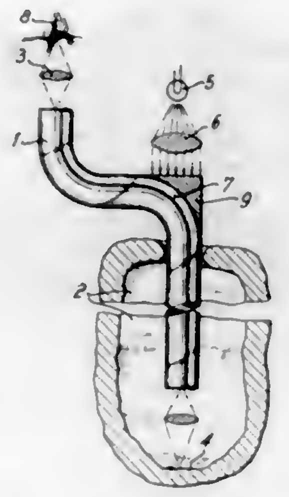
James J. Denaro, 542 Bedford St., Concord, Mass. 07142
Filed June 1, 1965, Ser. No. 460,446
Int. Cl. G01p *3/40;* **G02b** *23/08*
U.S. Cl. 350—7 **5 Claims**



A rotating image of an object or scene produced by rotation of the object or rotation of an optical device directed at the scene, is directed to a pair of mirrors disposed in orthogonal planes and fastened together on a line common to both. The mirrors are rotated on an axis transverse to the line and bisecting the angle defined by the mirrors so that the image viewed in them does not appear to rotate at the same rate as the rotating image directed to them.

3,449,036
ATTACHMENT FOR INTRODUCING LIGHT INTO AN IMAGE TRANSMITTING FIBER-OPTICAL SYSTEM FOR ILLUMINATING AN OBJECT

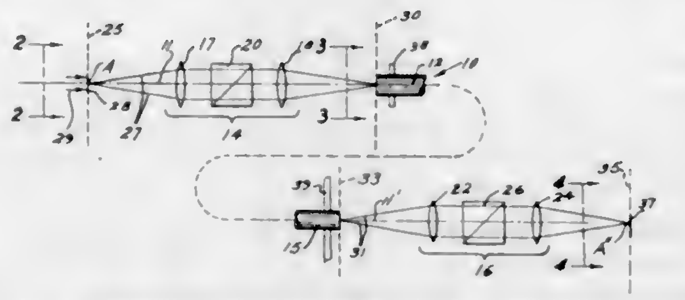
Alfred Jacobsen, Mainz, Germany, assignor to JENAer Glaswerk Schott & Gen., Mainz, Germany, a corporation of Germany
Filed Jan. 11, 1966, Ser. No. 519,848
Int. Cl. G02 *5/16*
U.S. Cl. 350—96 **4 Claims**



Light rays are introduced laterally into and between the ends of an image transmitting fiber-optical system composed of a bundle of light conducting fibers. This bundle of light conducting fibers This bundle of light conducting fibers is formed between its ends with a right-angle bend or with a conical enlargement and the light rays are introduced at this bend or at the conical enlargement. The light rays are reflected toward that end of the bundle of fibers where an object to be illuminated is arranged whose image is to be transmitted to the other end of said bundle of light conducting fibers for viewing.

3,449,037
FIBER OPTICAL IMAGE-ENHANCING DEVICES, SYSTEMS, AND THE LIKE

Charles J. Koester, South Woodstock, Conn., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 534,214
Int. Cl. G02b *5/16*
U.S. Cl. 350—96 **3 Claims**



Optical system employing fiber optical image-transmitting assembly and light-dispersing and image-forming means in fixed, spaced relation to the opposite end faces of said assembly for enhancing the resolution of two-dimensional full color images transmitted by said system.

3,449,038
ELECTRO-OPTICAL SWITCHING DEVICES

Gordon George Scarrott, Wokingham, England, assignor to International Computers and Tabulators Limited
Filed Mar. 9, 1965, Ser. No. 438,320
Claims priority, application Great Britain, Mar. 10, 1964, 10,133/64
Int. Cl. G02f *1/26, 1/36*
U.S. Cl. 350—150 **9 Claims**

An electro-optical device is provided to control the

transmission of light through an information storage medium by means of mutually orthogonal electrical fields applied to an electro-optically active material. This material is positioned between two polarizers, the polarizers having mutually orthogonal planes of polarization, and upon application of two electrical fields, each parallel to the planes of polarization of the polarizers, respectively, a resultant electrical field is produced. The resultant field operates in a plane perpendicular to the light transmission path to elliptically polarize light through the material and thereby allow transmission of light through the device. A matrix arrangement is effected by providing a plurality of pairs of conductors to separate areas on the material so that by selectively energising appropriate conductors, particular switching areas can be made to elliptically polarize light therethrough.

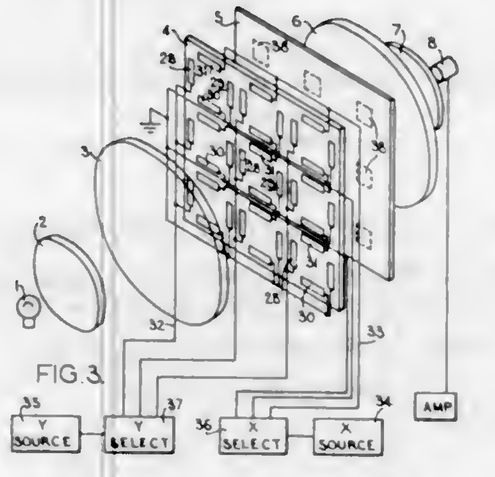
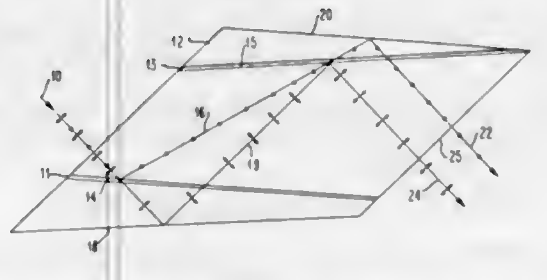


FIG. 3

3,449,039
NON-PARALLEL SURFACED LIGHT-DEFLECTOR SELECTOR

Harry S. Hoffman, Jr., Saugerties, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 2, 1965, Ser. No. 469,148
Int. Cl. G02f *1/24;* **G02b** *5/30, 27/28*
U.S. Cl. 350—157 **8 Claims**

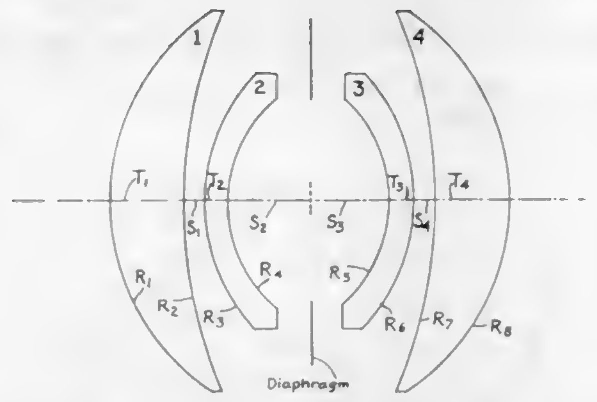


A light deflector-selector capable of separating ordinary and extraordinary polarized light into distinct beams of their respective polarization. The input beam is introduced into an elongated isotropic block which has a pair of thin birefringent plates embedded therein. One polarization component is reflected from one plate while the other complement is reflected from a surface beyond that plate. The two reflected rays are then directed against a second embedded plate which has an optic axis opposite the first plate. The output consists of compensated light beams which appear at the far end of the elongated block.

3,449,040
SYMMETRICAL PROJECTION LENS

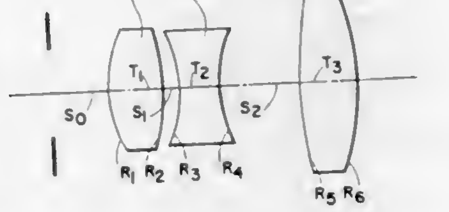
Paul L. Ruben, Rochester, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 5, 1964, Ser. No. 387,659
Int. Cl. G02b *9/34, 9/36*
U.S. Cl. 350—209 **1 Claim**

There is disclosed a symmetrical lens especially suitable for projecting an image at full size or a magnification ratio of 1:1, the lens being made up of only four simple meniscus elements arranged symmetrically, the first and last elements being positive meniscus elements, and the second and third elements being negative meniscus elements. The lens is truly symmetrical not only with respect to shape but also with respect to the kind of glass employed.



3,449,041
TRIPLET-TYPE OBJECTIVE LENS

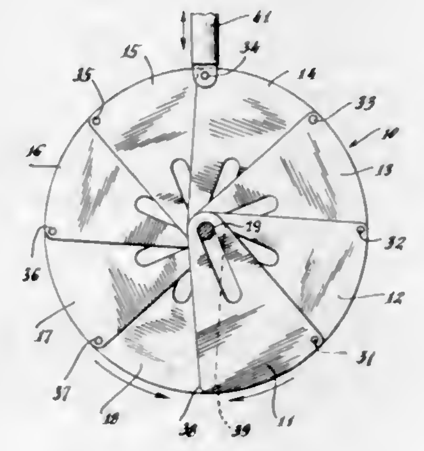
Donald De Jager, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 611,117
Int. Cl. G02b *9/14*
U.S. Cl. 350—226 **2 Claims**



An all plastic photographic objective of the simple triplet type is disclosed which is well corrected for all aberrations, particularly chromatic and spherical aberrations.

3,449,042
EXPANDABLE DIAPHRAGM

David R. Auerbach, Wilton, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Sept. 23, 1966, Ser. No. 581,618
Int. Cl. G03b *9/02;* **G02f** *1/30*
U.S. Cl. 350—273 **10 Claims**

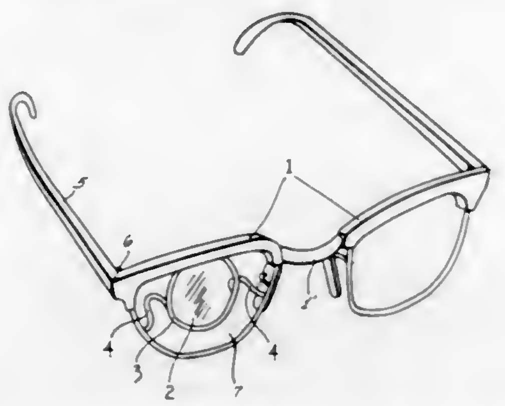


This invention comprises an expandable optical diaphragm having a plurality of blades which slide outward to obstruct an annular aperture.

3,449,043

SPECTACLES FOR USE WITH MONOCULAR AND BINOCULAR INSTRUMENTS

William Houston, 106 Sunningdale Borrow St./9th Ave., P.O. Box 1949, Bulawayo, Southern Rhodesia
Filed Mar. 3, 1964, Ser. No. 349,046
Claims priority, application Great Britain, Mar. 6, 1963, 8,912/63
Int. Cl. G02c *5/00;* **G02b** *7/02*
U.S. Cl. 351—158 **1 Claim**

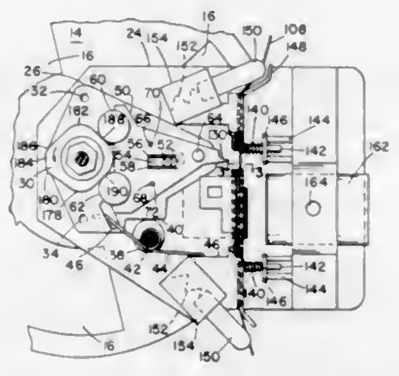


A small corrective lens is held in axial alignment at a distance behind one empty lens frame of an otherwise conventional spectacles frame by arms attached to the lens frame, thereby permiting the wearer to bring the ocular lens of an optical instrument close to his eye. The arrangement may be duplicated on the other lens frame for use with binocular instruments.

3,449,044

MOTION PICTURE PROJECTOR

Lawrence Anthony Caprio, Whitman, Mass., assignor, by mesne assignments, to Atlas-Rand Corporation, Clifton, N.J., a corporation of New Jersey
Filed Dec. 6, 1966, Ser. No. 599,453
Int. Cl. G03b *41/00, 21/46*
U.S. Cl. 352—79 **10 Claims**



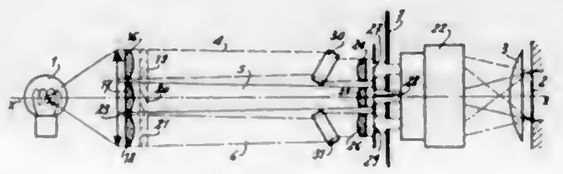
A motion picture projector is adjustable to accommodate two different film formats, the two formats having different image areas and different sprocket hole locations but the sprocket hole locations of the two formats having a significant lateral overlap. The projector employs a claw of width less than the overlap dimension of the sprocket holes and a drive for the claw that has a fixed locus of movement corresponding to the larger of the two spacings of the sprocket holes of the two formats so that both formats may be driven in the projector without changing the lateral position or length of throw of the claw.

3,449,045

ADDITIVE LAMPHOUSE

Armand Roux, 14 Rue Maublanc, Paris 15eme, France
Filed Aug. 5, 1966, Ser. No. 570,647
Claims priority, application France, Aug. 26, 1965, 29,468
Int. Cl. G03b *21/54*
U.S. Cl. 353—31 **2 Claims**

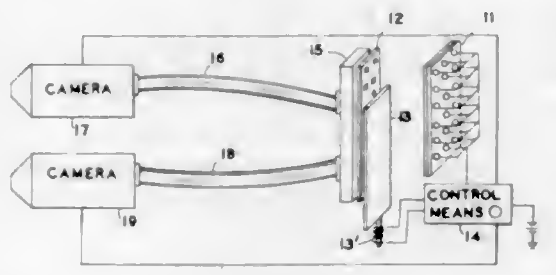
An additive lamphouse which is adapted to mix the light of three differently coloured light beams upon the object to be illuminated. There is provided simple optical and light control means for superposing upon the object three differently coloured images of a single source of white light.



3,449,046

FILM CODE ANNOTATING MEANS

Robert E. White, Westbury, N.Y., assignor to OPTOmechanisms, Inc., Plainview, N.Y.
Filed Jan. 4, 1967, Ser. No. 607,194
Int. Cl. G03b *27/00*
U.S. Cl. 355—1 **3 Claims**

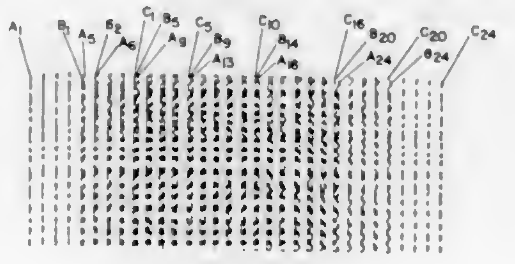


An apparatus for annotating camera film with code masks. A fiber optic cable connects the camera and lens to an encoding mask and light source. A moveable shutter is located between the encoding mask and the light source for selectively covering and uncovering openings in the encoding mask.

3,449,047

PROCESS AND APPARATUS FOR THE PRODUCTION OF A DERIVED SEISMOGRAM

Philippus C. P. Hartmann, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,823
Claims priority, application Netherlands, Oct. 27, 1965, 6513889
Int. Cl. G03b *27/32*
U.S. Cl. 355—2 **6 Claims**

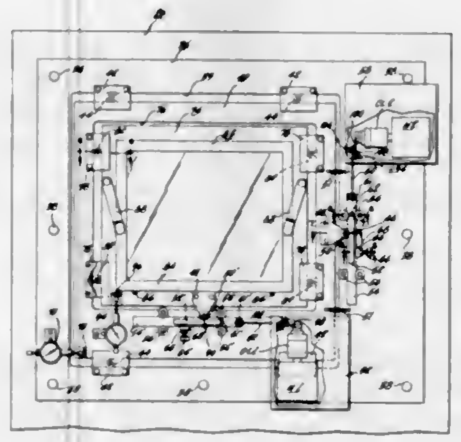


A system for the production of a derived seismogram from a number of different original seismograms which form a multiple source of information. The device used for producing the derived seismogram displays the original seismograms in a side by side relationship which is recorded on a movable light sensitive medium by the use of an optical system. The optical system serves to reduce the trace width while maintaining substantially the original trace distance.

3,449,048

METHOD AND APPARATUS FOR PRODUCING PRECISION SPREADS

Thomas K. Allison, Moorestown, N.J., assignor to The Beck Engraving Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 445,389, Apr. 5, 1965. This application Dec. 14, 1967, Ser. No. 701,802
Int. Cl. G03b *27/52*
U.S. Cl. 355—40 **13 Claims**

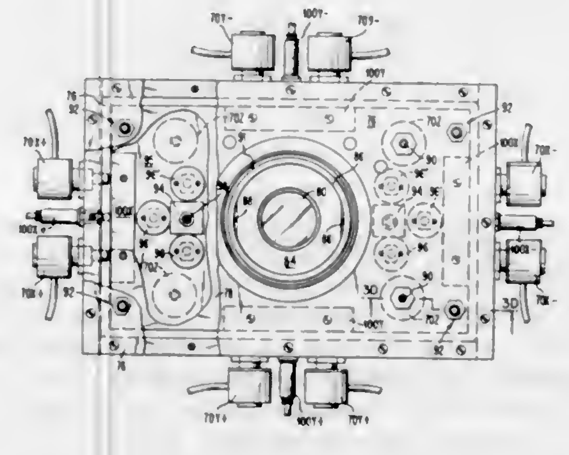


A method of making a precision spread from a negative which comprises photographing the negative while providing a predetermined planar movement of the negative. Apparatus for carrying out the method includes an attachment for a process camera copyholder which automatically provides a predetermined planar movement of the negative in either a rectilinear or circular path.

3,449,049

HIGH RESOLUTION MULTIPLE IMAGE CAMERA AND METHOD OF FABRICATING INTEGRATED CIRCUIT MASKS

William E. Harding, John A. Perri, and Jacob Riseman, Poughkeepsie, and Winfield S. Ruder, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 14, 1966, Ser. No. 520,582
Int. Cl. G03b *27/42*
U.S. Cl. 355—53 **6 Claims**

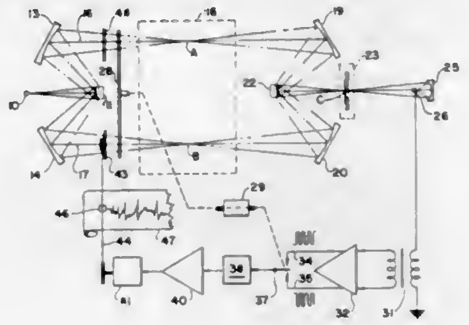


A method for photocopying a plurality of individual images by projection thereof on a photosensitive element through a lens whose relative position to the element is relocated for recording successive images on separate segments of the photosensitive element.

3,449,050

SPECTROPHOTOMETER

Gerald T. Keahl, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Apr. 29, 1965, Ser. No. 451,859
Int. Cl. G01j *3/42, 3/12*
U.S. Cl. 356—89 **20 Claims**

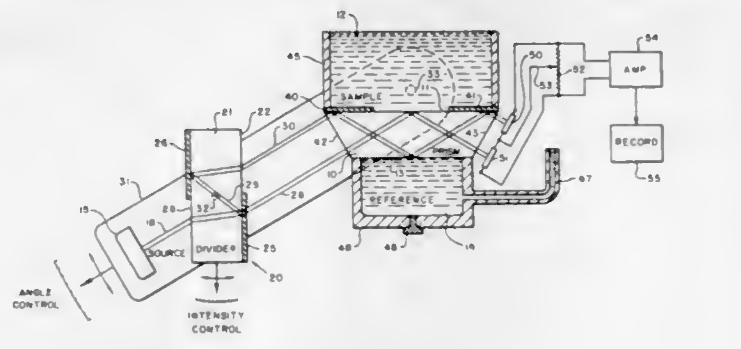


There is disclosed an optical analyzer in which the photometer section is constructed of four identical mirrors and two identical beam splitting prisms arranged in such a manner that source images at unity magnification are present in the sample and reference beam path and in the recombined common path and which utilizes a monochromator constructed of a variable interference filter with linear varying wavelength transmission characteristics and a variable slit, the height of the filter section being varied in such a manner as to compensate for variations in background energy as a function of wavelength.

3,449,051

DIFFERENTIAL OPTICAL SYSTEM AND OPTICAL ELEMENTS THEREFOR

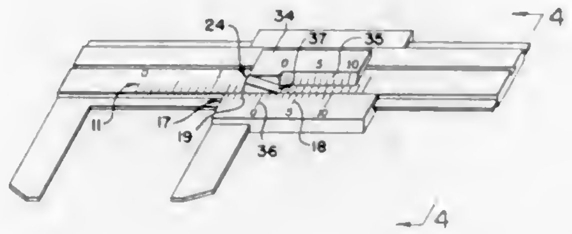
Ralph S. Levitt, Ossining, N.Y., assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,369
Int. Cl. G01h *21/46*
U.S. Cl. 356—130 **12 Claims**



A differential optical system comprising a common prism having plane parallel surfaces each in contact with a different external environment. Two beams of radiation are transmitted through the prism in such manner that one beam reflects off the interface of one parallel surface with the environment and the other beam reflects off the interface of the other parallel surface with the environment, and the two beams are then detected by a differential detection system to measure the difference in the signal levels representative of the beam intensities. The geometry is arranged so that the angle of incidence of the beams on the interfaces is just below the critical angle. For a refractometer, the change in the refractive index of one environment will produce a change in the output signal level. As a light beam tracker, if the source of the beams moves changing the angle of incidence, an output signal can be used to measure that change. A novel beam splitter is also described for providing two parallel spaced beams from a single source.

3,449,052
OPTICAL VERNIER INTERPOLATOR

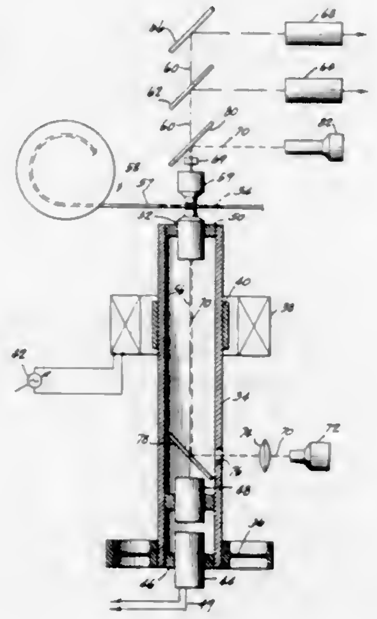
Bayard Rankin, 2853 Coleridge Road, Cleveland Heights, Ohio 44118
Filed May 7, 1964, Ser. No. 365,629
Int. Cl. G01b *11/04, 5/00;* **G02b** *27/02*
U.S. Cl. 356—170 12 Claims



An optical interpolator is provided which has a prism that contracts a primary scale to cause its subdivisions to be spaced in accordance with the spacing of a vernier scale which cooperates with the primary scale. When the interpolator is positioned to cause coincidence between the primary scale and vernier scale when the primary scale is viewed through the prism, the interpolator is set in a position relative to the primary scale where a second vernier scale on the interpolator has a predetermined interpolated relationship with respect to the subdivisions of the primary scale as the first vernier scale.

3,449,053
MICROSCOPIC EXAMINING APPARATUS UTILIZING SCANNING TECHNIQUES

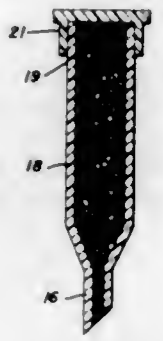
Samuel J. Cannady, Pacific Palisades, Donald C. Fisher, Northridge, and Vern E. Hamilton, Palos Verdes Estates, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Apr. 29, 1965, Ser. No. 451,837
Int. Cl. G01j *3/46;* **G01w** *21/06;* **G01n** *21/22*
U.S. Cl. 356—178 12 Claims



A structure for investigating microscopic particles is disclosed, in which a light beam is moved to scan a specimen by nutationally moving the structure that houses the beam forming and focusing elements. The light passing through the specimen is sensed by a pair of photodetectors to provide electrical signals that are processed logically to selectively indicate a bacteria count: Direct viewing structure is also incorporate in the optical system.

3,449,054
MARKING PEN

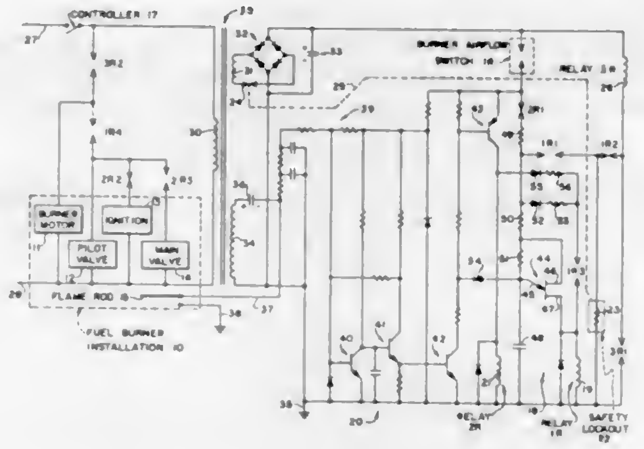
Christian B. Lundsager, Ashton, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed May 20, 1966, Ser. No. 551,632
Int. Cl. B43k *5/00*
U.S. Cl. 401—198 2 Claims



A marking pen from a polymeric material comprising a body having an impermeable exterior sheet and an open pore cellular core with a marking tip formed at one end of said body. The pen can be filled with a marking fluid occupying the intercellular pore space.

3,449,055
BURNER CONTROL APPARATUS WITH PREPURGE TIMING

James C. Blackett, Rosemount, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,193
Int. Cl. F23q *23/00;* **F23n** *5/00*
U.S. Cl. 431—26 9 Claims



A burner control apparatus having a burner motor relay adapted to energize a burner motor to institute air flow to the burner, a unijunction prepurge timer having a capacitor and a unijunction transistor which are energized when an air flow switch responds to air flow, a main control relay which is energized by the discharge of the capacitor through the unijunction transistor and which is adapted to energize a pilot valve and ignition means, an electronic flame detector having transistors and a flame relay which is adapted to de-energize the ignition and energize a main valve upon the presence of pilot flame, and a bimetal operated safety lockout device which is de-energized upon the presence of pilot flame.

CHEMICAL

3,449,056
DYEING HUMAN HAIR WITH 1-AZAANTHRAQUINONES

Franz Pum, Stamford, Conn., assignor to Clairol Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 12, 1966, Ser. No. 549,466
Int. Cl. A61k *7/12;* **C07d** *33/52*
U.S. Cl. 8—10.1 8 Claims

The invention relates to a method for dyeing human hair and keratinaceous fibers with dyes of the 1-azoanthraquinone series, especially the 5,8-bis(alkylamino)-1-azaanthraquinone compounds.

3,449,057
PROCESS FOR ALTERING THE ACID DYE RECEPTIVITY OF NYLON

George C. Ward, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,951
Int. Cl. D06p *3/24, 1/68*
U.S. Cl. 8—15 10 Claims

A method for increasing the affinity of nylon for acid dyes which comprises treating the nylon for which the acid dye receptivity is to be increased with an alkyldimethylbenzylammonium chloride prior to the dyeing operation preferably by applying the ammonium chloride compound in solution form to the nylon and drying and heating to a temperature in the range of about 50 to 200 degrees centigrade.

3,449,058
COLORED DOUBLE-KNIT FABRIC MATERIAL OF CELLULOSE ORGANIC ACID ESTER HAVING LESS THAN 0.29 FREE HYDROXYL GROUPS PER ANHYDROGLUCOSE UNIT

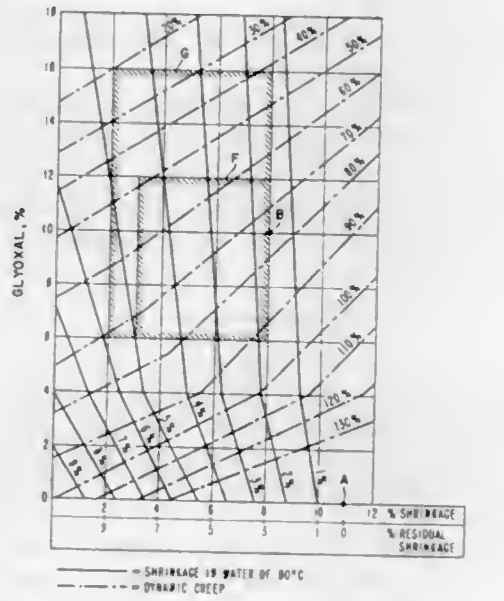
David H. Hellman, Livingston, N.J., and Joseph S. Warner, Charlotte, N.C., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 7, 1965, Ser. No. 424,130
Int. Cl. D06p *3/82, 3/40*
U.S. Cl. 8—24 13 Claims

A colored double-knit fabric material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the fibers of which are substantially free of brittleness and comprise a cellulose organic ester of low hydroxyl content produced by contacting the uncolored fabric material with an excess of a liquid containing a dyestuff carried in a mixture of water, organic solvent and a thiocyanate selected from the group consisting of alkali-metal and ammonium thiocyanates; and removing the excess liquid, scouring and finishing to obtain the colored double-knit material.

3,449,059
PROCESS FOR IMPARTING CONTROLLED MECHANICAL CHARACTERISTICS TO THE HIGH TENACITY RAYON YARNS USED AS REINFORCEMENTS IN ARTICLES OF RUBBER OR PLASTIC MATERIAL

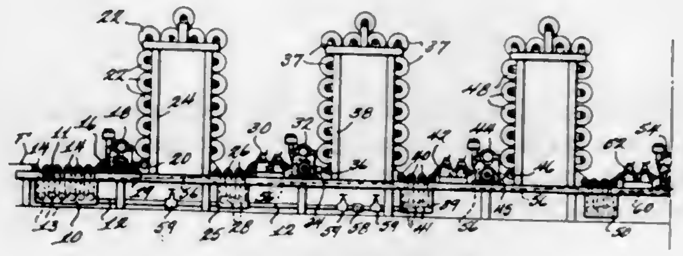
Pietro Tono, Milan, Italy, assignor to Algemene Kunstzijde Unie, N.V., Arnhem, Netherlands, a corporation of the Netherlands
Filed June 21, 1963, Ser. No. 289,613
Claims priority, application Italy, July 14, 1962, 14,359/62
Int. Cl. D06m *13/12*
U.S. Cl. 8—116.4 6 Claims

1. In a process for imparting in a controlled way improved mechanical characteristics to high tenacity rayon yarns intended for use as reinforcements in composite articles of rubber or plastic material by impregnating the yarn with an aqueous solution of a dialdehyde and thereafter heat-treating the yarn so treated, the improvement comprising the steps of passing the yarn continuously through said solution to bring about absorption of said dialdehyde by said yarn to an extent of between about 4% and 16% by weight based on the dry weight of the yarn; adjusting the speeds of the yarn at the entrance to and at the exit from said solution in such a way that the yarn leaving the solution has a controlled residual shrinkage of between 2% and 9%; and heat-treating the yarn under tension while moving at the same speed it has as it leaves said solution.



3,449,060
TREATMENT OF TEXTILE FABRIC

John R. Schenck, Charlotte, N.C., assignor to Klopman Mills, Inc., Asheboro, N.C., a corporation of Delaware
Filed Nov. 4, 1963, Ser. No. 321,096
Int. Cl. D06m *1/02, 9/12, 9/04*
U.S. Cl. 8—125 4 Claims



1. A continuous process for causticizing a textile fabric containing cellulosic-linear polyester blends which comprises impregnating the fabric with aqueous caustic soda solution at a temperature between 100° and 110 °F., a plurality of times, and aerating the thus treated fabric after each said impregnation for .13 to .23 minute, maintaining said fabric under lengthwise tension throughout said impregnating and aerating steps with minimal widthwise tension sufficient only to keep the fabric smooth and wherein said fabric is washed, steamed and dried after said impregnating and aerating steps, all of said operations being carried out continuously.

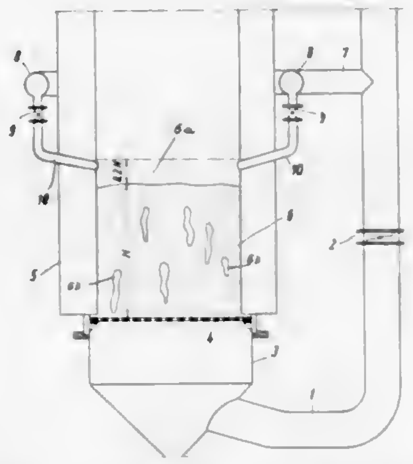
3,449,061
WOOL FIBERS SENSITIZED FOR SETTING BY APPLYING THERETO ONE MEMBER OF A REDUCING AGENT-PRODUCING COREACTANT PAIR, MECHANICALLY FINISHING AND APPLYING THE SECOND MEMBER OF SAID PAIR

Earl Peters and James Palmer Cain, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,359
Int. Cl. D06m *3/02*
U.S. Cl. 8—127.6 **24 Claims**

1. A novel process for presensitizing keratin fibers for subsequent durable setting comprising
(1) contacting keratin fibers with a reducing agent precursor;
(2) subjecting said fibers to any desired mechanical finishing operation; and
(3) then exposing said fibers to a gaseous reducing agent activator chemical which can react with the precursor to form a different chemical compound which is a reducing agent for the keratin fibers whereby said fibers are presensitized for subsequent durable setting.

3,449,062
PROCESS OF CONTROLLING THE TEMPERATURE IN AND IMPROVING THE PERFORMANCE OF ENDOTHERMIC PROCESSES CARRIED OUT IN A FLUIDIZED BED

Lothar Reh, Frankfurt, Roland Maurer, Offenbach, and Walter Pierson and Bodo Peinemann, Frankfurt, Garmany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Sept. 27, 1966, Ser. No. 582,345
Claims priority, application Germany, Oct. 5, 1965, M 66,851
Int. Cl. C01b *17/58*
U.S. Cl. 23—1 **7 Claims**



The temperature of a fluid bed performing an endothermic reaction is controlled by introducing secondary oxidizing gas at certain rates and angles into a zone immediately above the bed.

3,449,063
METHOD OF CONTROLLING EXHAUST EMISSION

Margaret E. Griffing, Southfield, Frances W. Lamb, Orchard Lake, and Ruth E. Stephens, Detroit, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed May 13, 1966, Ser. No. 549,789
Int. Cl. B01j *11/22;* **B01d** *53/34*
U.S. Cl. 23—2 **10 Claims**

Reduce the unburned hydrocarbons, carbon monoxide and oxides of nitrogen content of the exhaust gas of an internal combustion engine by contacting the exhaust gas together with oxygen and ammonia with a supported copper oxide or copper oxide-palladium catalyst.

3,449,064
PROCESS FOR PREPARING INDIUM AND SCANDIUM ANTIMONATES

Gerhard Bayer, Hinteregg, Zurich, Switzerland, assignor, to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed June 24, 1963, Ser. No. 290,176
Int. Cl. C22b *59/00*
U.S. Cl. 23—20 **4 Claims**

1. A method of preparing a rutile-type crystalline compound having the formula $InSbO_4$ which comprises preparing a solution of an indium salt which is decomposable to In_2O_3 in an oxidizing atmosphere, evaporating the salt to dryness, intimately admixing the indium salt with an Sb_2O_3 compacting the mixture, and slowly heating the mixture in an oxidizing atmosphere to decompose the indium salt to In_2O_3, and continuing heating of the mixture to a temperature above about 900° C. to about 115° C. until said $InSbO_4$ rutile-type compound is formed, the ratio of said indium salt and said Sb_2O_3 being sufficient to form the compound $InSbO_4$,

2. A method of preparing a rutile-type crystalline compound having the formula $ScSbO_4$ which comprises preparing a solution of a scandium salt which is decomposable to Sc_2O_3 in an oxidizing atmosphere, evaporating the salt to dryness, intimately admixing the scandium salt with Sb_2O_3, compacting the mixture, and slowly heating the mixture in an oxidizing atmosphere to decompose the scandium salt to Sc_2O_3, and continuing heating of the mixture to a temperature above about 950° C. to about 1200°C. until said $ScSbO_4$ rutile-type compound is formed, the ratio of said scandium salt and said Sb_2O_3 being sufficient to form the compound $ScSbO_4$.

3,449,065
METHOD OF SEPARATION OF RADIUM

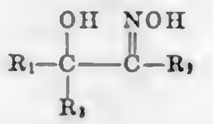
Marcelle Kremer, Ermont, France, assignor to Commissariat à l'Energie Atomique, Paris, France
No Drawing. Filed May 8, 1964, Ser. No. 366,185
Claims priority, application France, May 28, 1963, 936,318
Int. Cl. C01f *13/00*
U.S. Cl. 23—22 **9 Claims**

The present invention relates to a method of removal of radium by physicochemical process from radioactive liquids and especially effluents which are derived from the treatment of uranium-bearing ores. The method comprises the steps of adding to said effluent a solution of a soluble barium salt and a solution of at least one fatty acid salt. After precipitation of the solids formed, the solids are separated from the supernatant remaining. The preferred barium salt is barium chloride and preferably both solutions added to the effluent are aqueous solutions.

3,449,066
RECOVERY OF MOLYBDENUM VALUES FROM AQUEOUS SOLUTIONS USING α-HYDROXY OXIMES

Ronald R. Swanson, New Hope, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,060
Int. Cl. C01g *39/00*
U.S. Cl. 23—22 **12 Claims**

Molybdenum values are recovered from aqueous solutions by contacting such solutions with a liquid organic phase containing an α-hydroxy oxime of the idealized formula



$$R_1-\overset{\overset{\displaystyle OH}{|}}{\underset{\underset{\displaystyle R_3}{|}}{C}}-\overset{\overset{\displaystyle NOH}{\|}}{C}-R_2$$

where R_1, R_2 and R_3 are alkyl groups of 1 to about 14 carbon atoms, R_1 and R_3 are attached to the hydroxy substituted carbon atom through primary carbon atoms and the oxime contains a total of 8 to about 44 carbon atoms. The molybdenum values can be stripped from the organic phase by aqueous basic stripping solutions and then recovered from such stripping solutions.

3,449,067
PRODUCTION OF SODIUM BICARBONATE

Karl Otto Schmitt, Mannheim, Guenter Hansen, Frankenthal, Pfalz, and Hans Mueller, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Mar. 2, 1966, Ser. No. 531,071
Claims priority, application Germany, Mar. 9, 1965, B 80,880
Int. Cl. C01d *7/18*
U.S. Cl. 23—65 **4 Claims**

In the production of sodium bicarbonate and ammonium chloride by stepwise reaction of ammonia and carbon dioxide in a recycled mother liquor containing sodium chloride, the whole amount of ammonia is introduced into the mother liquor in a first stage and, at the same time or separately, carbon dioxide is introduced in the amount necessary to form a solution practically saturated with sodium bicarbonate. A temperature of not more than 60° C. is maintained. The mother liquor is then introduced—if desired, after cooling—at a maximum temperature of 35° C. into a second stage to which the remaining amount of carbon dioxide is supplied without further cooling. The precipitated sodium bicarbonate is separated, fresh sodium chloride is dissolved in the mother liquor, which, after the removal of ammonium chloride by cooling, is recycled to the first stage.

3,449,068
PROCESS FOR THE MANUFACTURE OF POLYPHOSPHATES

Gerhard Hartlapp, Hermulheim, near Cologne, and Werner Kowalski and Helmut Klee, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
No Drawing. Filed Feb. 7, 1967, Ser. No. 614,417
Claims priority, application Germany, Feb. 9, 1966, K 58,367; July 16, 1966, K 59,798
Int. Cl. C01b *25/30, 25/28*
U.S. Cl. 23—105 **12 Claims**

Process for the manufacture of polyphosphates, wherein an orthophosphate solution or suspension, sprayed inside a spray tower in the presence of a reducing substance, at a temperature of 200 to 500° C., is combined with a solution of an oxidant oxidizing the reducing substance and its decomposition products, contacted therewith for a period of less than 1 second, and the combined solutions are sprayed jointly. The polyphosphates so made are white and odorless.

3,449,069
PURIFICATION OF PHOSPHATES

Daniel J. Brenzel, Menlo Park, Calif., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 8, 1966, Ser. No. 532,565
Int. Cl. C01b *25/28, 25/04*
U.S. Cl. 23—107 **14 Claims**

Treatment of condensed phosphates to remove heavy metal contaminants. In one embodiment, an aqueous solution of tetrapotassium pyrophosphate containing about 6 to 20 p.p.m. of Fe is made more alkaline by addition of KOH and an adsorbant (such as synthetic magnesium silicate) is added. The resulting solution has a greatly reduced heavy metal content.

3,449,070
STABILIZED ZEOLITES

Carl Vance McDaniel, Laurel, and Philip Kenerick Maher, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Continuation-in-part of applications Ser. No. 353,288, Mar. 19, 1964, and Ser. No. 611,256, Jan. 24, 1967. This application Dec. 20, 1967, Ser. No. 691,983
The portion of the term of the patent subsequent to Dec. 20, 1983, has been disclaimed
Int. Cl. C01b *33/28;* **B01j** *11/40*
U.S. Cl. 23—111 **18 Claims**

Processes for producing stabilized faujasite zeolites having a silica to alumina mole ratio of about 3.5 to 7 and having an alkali metal content, expressed as the oxide, of either less than one percent by weight or from greater than 1% to 4% by weight and also the latter as a composition of matter. The composition of matter has particular utility in the preparation of and as cracking catalysts. The process is characterized by the ion exchange removal and replacement of the major portion of the alkali metal cation content of the zeolite with hydrogen ions or ions, such as for example, ammonium ions, which are convertible to hydrogen ions. Further, this process does not require the use of stabilizing ions, such as the cations of rare earth metals, in the ion exchange solutions nor any metal cations other than hydrogen ions or ions which are convertible to hydrogen ions and also in the use of a single calcination step—which stabilizes the zeolite. The stabilizing calcination step is effected at temperatures of from 1300 to 1900° F. where the sodium content, expressed as the oxide is less than 1% by weight, and where the sodium content, expressed as the oxide, is from 1% to 4% by weight, the minimum calcination temperature used is determined as a function of sodium content according to the equation:

$$T=1238+60A$$

wherein

T=calcination temperature,
A=weight percent alkali metal content expressed as the chemical equivalent weight of Na_2O.

3,449,071
PREPARATION OF ALUMINA CRYSTALS FROM A VAPOR PHASE REACTION BY MONITORING THE SPECTRAL SCATTERING OF LIGHT

William B. Campbell, Belmont, and William D. Kingery, Marion, Mass., assignors to Lexington Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 28, 1965, Ser. No. 490,935
Int. Cl. C01f *7/20*
U.S. Cl. 23—142 **11 Claims**

The invention is an improvement in processes for growing crystalline bodies by deposition from a vapor phase reaction. It provides a method of determining and controlling product morphology by monitoring scattering of light by particles in the vapor phase and adjusting the reaction conditions according to the degree of scattering.

3,449,072
SYNTHESIS OF FINELY DIVIDED OXIDE POWDERS

Mark Phillips Freeman, Darien, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 383,947, July 20, 1964. This application July 27, 1967, Ser. No. 656,316
Int. Cl. C01f *7/02;* **C01b** *35/00;* **C01g** *23/04*
U.S. Cl. 23—142 **7 Claims**

This invention relates to the preparation of refractory metal oxides by the oxidation of a salt of the metal corresponding to the desired oxide. In accordance with the present invention, the temperature in the zone in which the reaction between oxygen and the metal salt is initiated, is maintained sufficiently high to prevent precipitation of the oxide product therein and yet low enough to permit rapid cooling of the oxide vapor in a quenching zone contiguous with said reaction zone. In other words, the temperature in the initial reaction zone is high enough to prevent a state of supersaturation with respect to the oxide product and formation of any other solid and liquid particles which can serve as centers of nucleation.

3,449,073
PROCESS FOR PREPARING CHROMIUM DIOXIDE AND PRODUCT THEREOF

Joseph H. Balthis, Jr., Mendenhall, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,825

Int. Cl. C01g *37/02*

U.S. Cl. 23—145 **9 Claims**

Described and claimed is a process for preparing ferromagnetic chromium oxide at elevated temperatures and pressures from at least one chromium oxide wherein the average valence of chromium is at least 4 in the presence of an alkali metal dichromate and water. When the only chromium oxide present is CrO_3, fibrous ferromagnetic chromium oxide is produced, and this novel material forms an additional aspect of the invention.

3,449,074
PROCESS FOR REMOVING TITANIUM AND VANADIUM FROM PHOSPHORIC ACID

John Schertzer, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 457,823, May 21, 1965. This application Jan. 29, 1968, Ser. No. 701,480

Int. Cl. C01b *25/22*

U.S. Cl. 23—165 **4 Claims**

This invention relates to a process for recovering a purified phosphoric acid from phosphate rock by the removal of titanium and vanadium values from the phosphoric acid during the extraction step. The removal of vanadium and titanium is accomplished by forming a solution of the vanadium and titanium-containing phosphoric acid in a water-immiscible extraction agent, contacting the phosphoric acid-extraction agent solution with an aqueous solution of hydrogen peroxide and allowing the aqueous and organic phases to separate. The phosphoric acid remains in the organic phase and the titanium and vanadium are removed in the aqueous phase.

3,449,075
PRODUCTION OF BARIUM HYDROXIDE MONOHYDRATE

David Goldstein, East Brunswick, and Robert Joseph Gleason, Iselin, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 15, 1966, Ser. No. 594,513

Int. Cl. C01f *11/02*

U.S. Cl. 23—186 **10 Claims**

Process for the production of barium hydroxide monohydrate wherein particles of hydrated barium hydroxide containing a plurality of moles of water per mole of $Ba(OH)_2$ are heated in a fluidized bed to an elevated temperature whereby said particles are dehydrated and converted to particles of barium hydroxide monohydrate which are recovered from said bed.

3,449,076
PREHEATING OXIDIZING GAS REACTANT IN TiO_2 PIGMENT MANUFACTURE

Elmer S. Monroe, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,303

Int. Cl. C01g *23/04*

U.S. Cl. 23—202 **7 Claims**

In the manufacture of titanium dioxide by oxidation of titanium tetrachloride, the method of heating the gaseous oxygen employed for oxidation comprising heating it to a temperature of 800°–1,300° C., and then further heating it to a higher temperature attained by injecting liquid droplets of fuel countercurrently into the gaseous oxygen.

3,449,077
DIRECT PRODUCTION OF GRAPHITE FIBERS

Dagobert E. Stuetz, Westfield, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,374

Int. Cl. C01b *31/07*

U.S. Cl. 23—209.1 **12 Claims**

The continuous preparation of uniformly high modulus graphite fibers from preoxidized polybenzimidazole fibers by controlled passage of said fibers through certain fuel/oxidant flames.

3,449,078
PROCESS FOR THE PREPARATION OF HYDROGEN

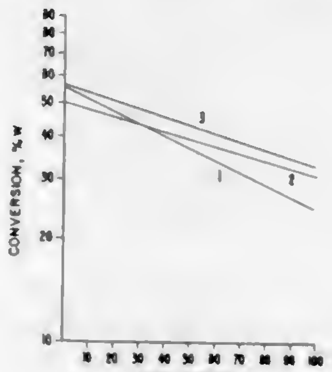
Willem C. J. Quik and Pieter A. van Weeren, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Feb. 24, 1967, Ser. No. 618,533

Claims priority, application Netherlands, Mar. 17, 1966, 6603481

Int. Cl. C01b *1/16*

U.S. Cl. 23—212 **10 Claims**



Hydrogen is produced by the conversion of hydrocarbons in the presence of steam with a catalyst comprising rhenium supported on a carrier, with and without heavy metal promoters, stabilized by the addition of a small amount of alkali metal.

3,449,079
HYDROGEN HALIDE OXIDATION IN ACID MEDIUM

Huibert S. Jongenburger, Milltown, James P. Van Hook, Basking Ridge, and Christiaan P. van Dijk, Westfield, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Feb. 6, 1967, Ser. No. 614,172

Int. Cl. C01b *7/10*

U.S. Cl. 23—216 **11 Claims**

A process for halogen production by oxidation of a hydrogen halide with an aqueous nitric and sulfuric acid mixture wherein the initial concentration of sulfuric is at least 80 percent and wherein this initial concentration can vary not more than 8 percent during oxidation. The sulfuric is introduced into the oxidation zone in a weight ratio of at least 8:1 with respect to hydrogen halide and is maintained in excess with respect to the combined remaining acids in the oxidation zone. A vaporous product effluent is obtained from which product is separated and a liquid effluent is recovered and treated for regeneration of nitric and sulfuric acids.

3,449,080
DEVICE FOR DETERMINING SODIUM OR CHLORIDE CONCENTRATION IN BODY FLUIDS

Warren R. Edwards, Somerset, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed Oct. 29, 1964, Ser. No. 407,514

Int. Cl. G01n *31/04, 33/16*

U.S. Cl. 23—230 **6 Claims**

A diagnostic device consisting of a bibulous paper impregnated with a weakly basic or a weakly acidic ion exchange resin and a pH indicator for use in making rapid determination of the level of chloride or sodium, respectively, in body fluids.

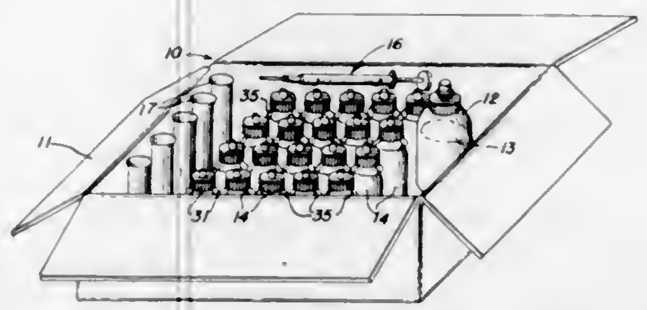
3,449,081
TEST KIT

Leonard A. Hughes, Oakland, Calif., assignor to Electronic Instrument Co., Berkeley, Calif., a corporation of California

Filed Mar. 29, 1965, Ser. No. 443,490

Int. Cl. B01d *37/04, 27/04*

U.S. Cl. 23—253 **11 Claims**



A kit for performing blood tests comprising: (1) A plurality of first squeeze bottles each containing an identical premeasured quantity of a first reagent and having a removable cap with an opening and filter material in the removable cap, so that upon inversion each bottle becomes a pressure filter. Plastic film in each first squeeze bottle, normally held on by the cap, prevents contact of the first reagent with the filter material during storage and transportation. (2) A measuring syringe having a piston-cylinder arrangement with a stop for the syringe which limits intake to a specific amount of liquid, the stop being set to relate this specific amount to the quantity of the first reagent in each of the first squeeze bottles so that when a sample is drawn by the syringe, it premeasures an amount for use with the premeasured first reagent. (3) A plurality of colorimeter cuvettes having at least two marking lines, a lower one for filtrate from a first squeeze bottle after a syringe sample has been added to the reagent in the first squeeze bottle and the precipitate filtered therefrom, as indicated in (1). (4) At least one second squeeze bottle containing a second reagent which is added to the cuvette to bring the quantity from the lower marking line to an upper one. The pressure filter unit and measuring syringe are notable in themselves.

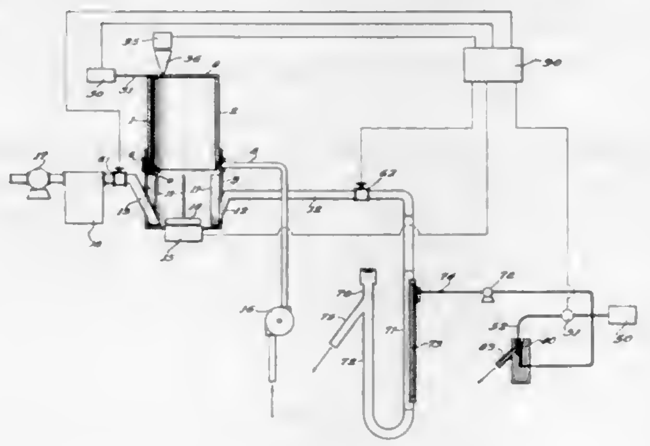
3,449,082
DIGESTION CELL AND ANALYZING SYSTEM CONTAINING SAME

Arthur N. Baumann and Hugh H. Roberts, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York

Filed Sept. 23, 1965, Ser. No. 489,708

Int. Cl. G01m *31/00;* **G01n** *33/00*

U.S. Cl. 23—253 **15 Claims**



A cylindrical cell for utilization in the digestion of solid materials by means of a solvent which comprises a plurality of solvent inlet orifices located intermediate the top and bottom of the cell and radially spaced apart from one another about the interior surface of the cell, arcuate baffle means positioned to downwardly direct liquid entering the interior of the cell through the inlet orifices, and liquid outlet means for removing digestion liquor from the cell at a level below the inlet orifices. The liquid outlet means includes a conduit having a portion thereof extending in an upward direction and being adapted to trap air therein during the filling of the cell with solvent. The digestion cell is useful in a system for determining the composition of solvent-digestible solid samples.

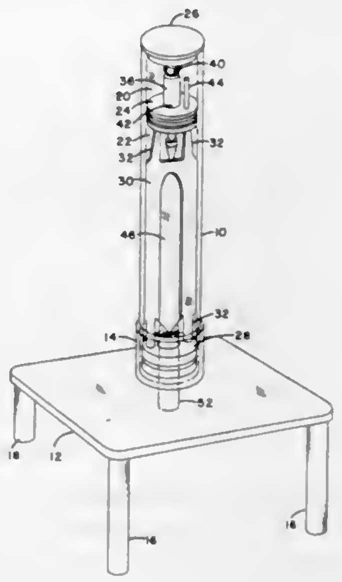
3,449,083
DESCENDING THIN LAYER CHROMATOGRAPHY APPARATUS

Nicholas Pelick, State College, Pa., assignor to Applied Science Laboratories, Inc., State College, Pa.

Filed Feb. 10, 1966, Ser. No. 536,499

Int. Cl. G01n *31/08*

U.S. Cl. 23—253 **7 Claims**

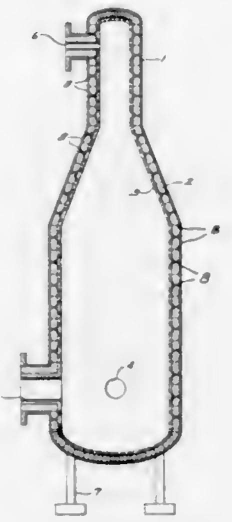


A cylindrical column mounted on a stage so as to be inclined close to the vertical position is divided into an upper solvent chamber, a development chamber positioned below the solvent chamber, and a valve between these two chambers to control the flow of solvent therethrough. The development chamber contains a chromatoplate having a groove therein in which are contained absorbent chemicals. The chromatoplate is positioned under the valve to allow the flow of solvent through the groove and to without the apparatus. A container is positioned under the groove to collect the flow of solvent therefrom. The sample components are eluted and collected into individual fractions which can be used for further analysis and/or quantitation of the component.

3,449,084

LINING FOR SECONDARY AMMONIA REFORMER

Thomas William Smoot, Bethel Park, and George D. Cobaugh, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 20, 1966, Ser. No. 543,964
Int. Cl. B01j *9/02;* **B01d** *53/00*
U.S. Cl. 23—277 **1 Claim**

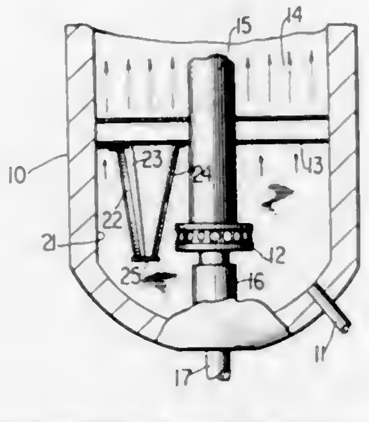


A secondary ammonia reactor having a working lining consisting of high alumina refractory material and a back up lining consisting of fireclay refractory material.

3,449,085

BAFFLES FOR REACTOR VESSEL

Charles W. Stokes, Lake Charles, La., assignor to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,806
Int. Cl. B01t *1/14*
U.S. Cl. 23—283 **8 Claims**

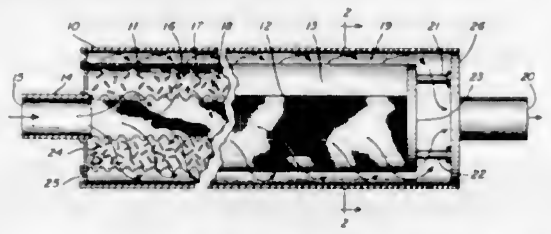


A cylindrical reactor vessel having an internal axially located recycling conduit with the intake of a transversely mounted centrifugal pump at the base of the conduit and baffles located opposite the discharge ports of the centrifugal pump to eliminate vortex separation of the discharged fluid into the gas and liquid phases. The baffles are a plurality of substantially vertical plates supported by the distributor plate and angularly placed in relation to the radius of reactor vessel preferably at 60°.

3,449,086

CATALYTIC MUFFLER

William Beveridge Innes, Upland, Calif., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Sept. 22, 1964, Ser. No. 398,308
Int. Cl. B01d *53/34;* **B01j** *9/04*
U.S. Cl. 23—288 **1 Claim**

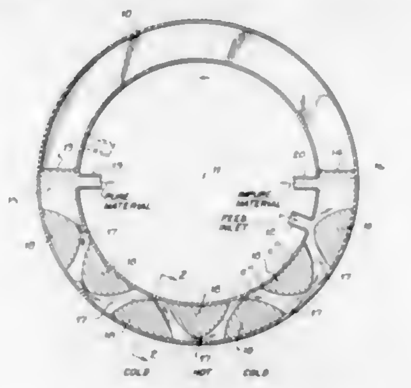


In a catalytic muffler of the radial type, wherein an annular catalyst layer is disposed horizontally between a central foraminous gas distributing pipe and an outer perforated cylindrical retaining sleeve, fluidization and channeling of catalyst at the top of the annulus are prevented by making the top of the retaining sleeve imperforate.

3,449,087

PURIFICATION BY SELECTIVE CRYSTALLIZATION AND REMELT

Charles Proffer Saylor, Adelphi, Md., assignor to the United States of America as represented by the Secretary of Commerce
Filed June 27, 1966, Ser. No. 560,494
Int. Cl. B01d *9/00;* **B01j** *17/20;* **C01d** *3/20*
U.S. Cl. 23—296 **11 Claims**



1. The process of purifying a material contained within an elongated tubular receptacle between two spaced-apart transverse boundaries therein, which comprises:

(a) maintaining the regions adjacent said boundaries and at least one interconnecting narrow zigzag region relatively hot and the remaining regions relatively cold so that the material within said hot regions is liquid and the material in said cold regions is solid;

(b) relatively moving both of said spaced apart transverse boundaries and the material therebetween through said tubular receptacle;

(c) withdrawing liquid material from said regions adjacent said boundaries; and

(d) adding liquid feed material to said interconnecting narrow zigzag region.

3,449,088

EXTRACTION OF LITHIUM, CALCIUM AND MAGNESIUM BROMIDES USING HYDROXYETHERS AND GLYCOLS

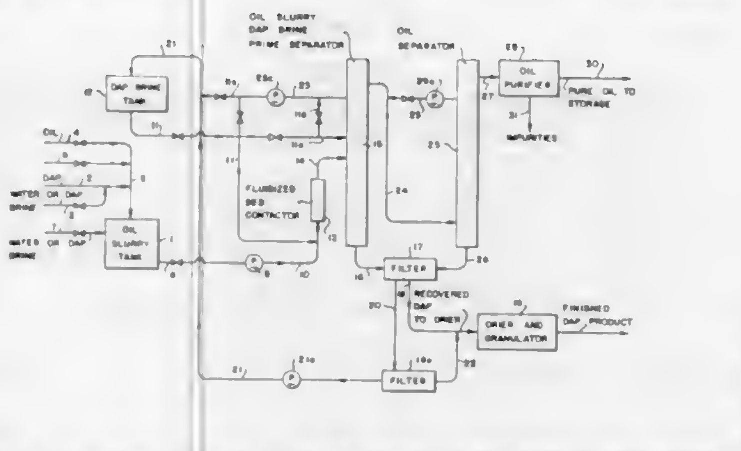
John M. Lee, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 1, 1965, Ser. No. 444,851
Int. Cl. B01j *9/04*
U.S. Cl. 23—312 **10 Claims**

A process for the selective extraction of bromine values and the associated metal values from brines which comprises intimately contracting said brine with certain glycol derivatives or hydroxyl-containing polyethers as extraction agents. After contact, the extraction agent containing the bromine and metal values is separated from the depleted brine.

3,449,089

USE OF WATER TO IMPROVE SEPARATION OF DIAMMONIUM PHOSPHATE FROM OIL SLURRIES

Calvin J. Kuhre, Kensington, and Ronald K. June, Pleasant Hill, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 654,416, July 19, 1967. This application Feb. 16, 1968, Ser. No. 705,970
Int. Cl. B01j *9/22*
U.S. Cl. 23—312 **5 Claims**



An improved method of recovering diammonium phosphate (DAP) solid particles from an oil slurry by contacting the oil slurry with an aqueous solution of an electrolyte comprising treating the diammonium phosphate solid particles with a small amount of an aqueous solution prior to, during or after the formation of the oil slurry.

3,449,090

POLYFLUOROMETAL SALTS OF CIS-DIFLUORODIAZINE

David Moy, Andover, and Archie R. Young, Montclair, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,549
Int. Cl. C01b *21/08;* **C01c** *3/16*
U.S. Cl. 23—356 **13 Claims**

Novel stable polyfluorometal salts of cis-difluorodiazine (cis-N_2F_2) are prepared by reacting cis-N_2F_2 with a corresponding metal fluoride. For example, fluorodiazonium hexafluoroarsenate ($N_2F^+AsF_6$) is prepared by reacting cis-N_2F_2 with AsF_5.

3,449,091

HALIDE-MODIFIED PHOSPHONITRILIC CHLORIDES

George M. Nichols, Chicago, Ill., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 126,871, June 26, 1961. This application Jan. 27, 1967, Ser. No. 612,087
Int. Cl. C01b *21/52*
U. S. Cl. 23—357 **10 Claims**

Halide modified phosphonitrilic chloride polymeric compositions useful as high temperature lubricants, having the formula

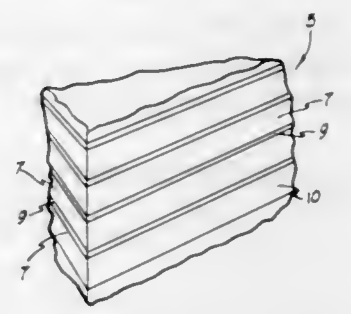
$$Cl[PCl_2{=}N]_nPCl_3^+EX_{(v+1)}^-$$

wherein E is an element having an electronegativity value of from 1.2 to 2 and differs in electronegativity from the halogen portion of the halide by a maximum of 2.5, X is halogen, v is the valence of element E and n is from 1 to 10 inclusive, are prepared by reacting phosphorus pentachloride with ammonium chloride and a halide wherein the nonhalogen portion of the halide is an element having an electronegativity value of 1.2 to 2 and differs in electronegativity from the halogen portion of the halide by a maximum of 2.5.

3,449,092

SUPERCONDUCTING MATERIAL

Robert H. Hammond, San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 535,284
Int. Cl. C23c *13/02*
U.S. Cl. 29—194 **12 Claims**

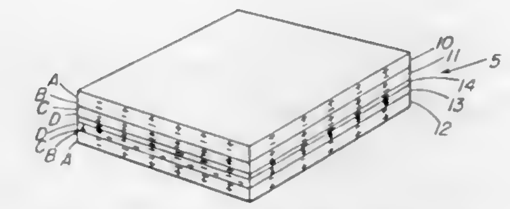


An improved superconductive material is provided which comprises a plurality of layers of one material which has superconductive electrical properties at a low absolute temperature. Disposed intermediate each pair of layers of the one material is a layer of a second material which has nonsuperconductive electrical properties at the low absolute temperature, thus providing a composite material of alternate layer construction. Each layer of second material is substantially thinner than the layers of the first, superconductive material. An improved method for making such a material is also provided which comprises alternately depositing a thin layer of the first superconductive material and intermittently halting such deposition and depositing a layer of the second nonsuperconductive material.

3,449,093

LAMINATED POLARETS

Lawrence M. Baxt, John R. McDowell, and Lawrence L. Stewart, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Oct. 23, 1965, Ser. No. 503,244
Int. Cl. B32b *15/04;* **H01b** *3/00*
U.S. Cl. 29—195 **6 Claims**



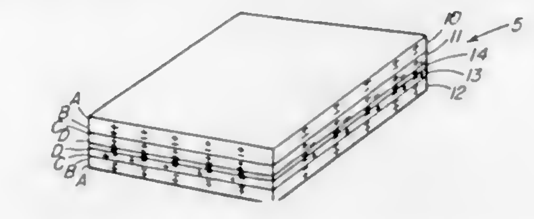
An electrically charged sandwich structure including two electrified substances each having opposite sides one of which has an adherent layer of conducting material, and an electrically conductive adhesive joining the layers of conducting material.

3,449,094

LAMINATED ELECTRETS

Lawrence M. Baxt, John R. McDowell, and Lawrence L. Stewart, Richmond, Va., assignor to Phillip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Oct. 23, 1965, Ser. No. 503,921
Int. Cl. B32b *15/04;* **H01b** *3/00;* **H01f** *29/00*
U.S. Cl. 29—195 **6 Claims**

An electrically charged sandwich structure including two electrets each having opposite sides one of which has an inherent layer of conducting material, and an electrically conductive adhesive joining the layers of conducting material.



3,449,095
GASOLINE COMPOSITIONS

Warren L. Perilstein, Orchard Lake, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,706

Int. Cl. C10l *1/14, 1/18, 1/22*

U.S. Cl. 44—63 **7 Claims**

A gasoline having improved detergency and anti-icing properties is described. The improved properties are effected by adding to the gasoline a small but effective quantity of a novel reaction product of (a) 1-hydroxyethyl-2-alkenyl imidazoline and (b) an alkylene oxide. The novel additive and the method of preparing it are also described.

3,449,096
JET FUEL COMPOSITIONS CONTAINING AMMONIUM OXIDATES

Jerzy J. Bialy, Lagrangeville, and Kenneth L. Dille, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,165

Int. Cl. C10l *1/22;* **B01j** *1/16*

U.S. Cl. 44—71 **4 Claims**

A jet fuel composition containing an ammonium salt of a lubricating oil oxidate which gives high temperature stability of the fuel.

3,449,097
LIQUID HYDROCARBON FUELS CONTAINING AMINE SALTS OF ETHYLENE DIAMINE TETRA ACETIC ACID AS ANTISTATIC AGENTS

Harry J. Andress, Jr., Pitman, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Mar. 5, 1968, Ser. No. 710,632

Int. Cl. C10l *1/22*

U.S. Cl. 44—71 **7 Claims**

Liquid hydrocarbon compositions are provided containing, in an amount sufficient to impart anti-static properties, amine salts of ethylene diamine tetra acetic acid.

3,449,098
FUEL ATOMIZING UNIT

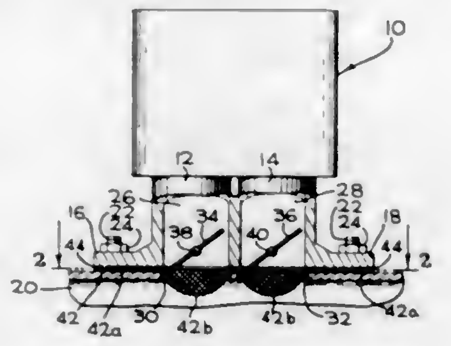
Raymond C. Larson, Sr., 2944 Rustic Drive, San Jose, Calif. 95124

Filed June 17, 1964, Ser. No. 375,846

Int. Cl. F02m *29/04, 61/04*

U.S. Cl. 48—180 **1 Claim**

A fuel atomizing unit including a semi-spherical screen projecting from the fuel inlet passageway into the intake manifold of an internal combustion engine together with a butterfly valve of generally circular configuration, mounted on a transverse pivot centered relative to the semi-spherical screen so as to project thereinto.



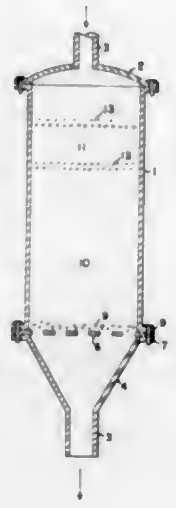
3,449,099
PROCESS FOR REACTING HYDROCARBONS AND STEAM USING SPENT CATALYST FOR PRETREATING

William F. Taylor, Scotch Plains, John H. Sinfelt, Berkeley Heights, and Henry Berk, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 10, 1964, Ser. No. 343,538

Int. Cl. C10g *35/06*

U.S. Cl. 48—214 **2 Claims**



In producing gases containing methane, hydrogen, and carbon dioxide by reaction of paraffin hydrocarbons with steam in the presence of a highly active catalyst containing nickel interspersed with alumina or silica to give the catalyst a nickel surface area of about 20 to 60 m.^{2}/g. of catalyst when freshly prepared and activated by treatment with hydrogen, the hydrocarbon feed-steam mixture is first passed through a bed of said catalyst which has been deactivated by use in said reaction but retains residual nickel surface area for removing sulfiding and coking contaminants from the reactant mixture before the reactant mixture is passed through a bed of the freshly prepared and activated catalyst under reaction conditions for producing the desired gas products.

3,449,100
METHOD OF CONDITIONING FORMING ROLLERS TO FORM GLASS CERAMIC

Richard E. Allen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Nov. 17, 1965, Ser. No. 508,266

Int. Cl. C03b *13/02, 39/00*

U.S. Cl. 65—24 **5 Claims**

A method of conditioning glass forming rollers to reduce adhesion thereto of molten high dielectric constant fluorine free glass ceramic and glass compositions by first rolling a quantity of molten glass ceramic or glass material containing an effective amount of at least 0.25 percent by weight of fluorine computed on a free fluorine basis and, thereafter, rolling said fluorine free composition by the same rollers.

3,449,101
PROCESS AND APPARATUS FOR SUPPORTING SHEET MATERIAL ON A GAS BED

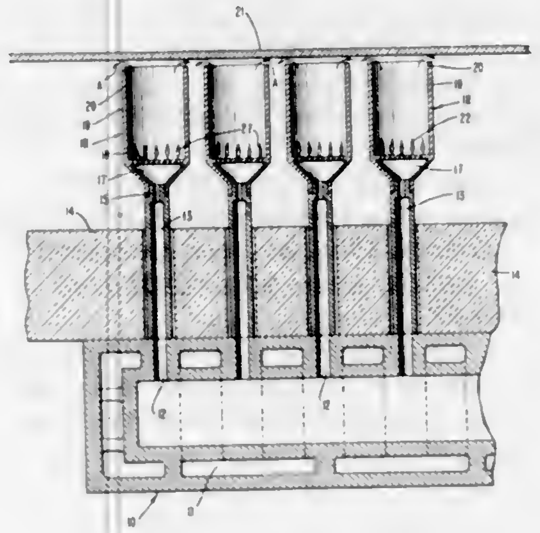
Pierre Rene Heymes, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Filed Aug. 19, 1965, Ser. No. 481,007

Claims priority, application France, Sept. 8, 1964, 987,413

Int. Cl. C03b *39/00*

U.S. Cl. 65—25 **14 Claims**



An operation of supporting a glass sheet over a pressurized bed of hot gas formed by burner cups aligned with their open ends in a common surface.

3,449,102
METHOD AND APPARATUS FOR SUPPORTING SHEETS ON A GASEOUS BED

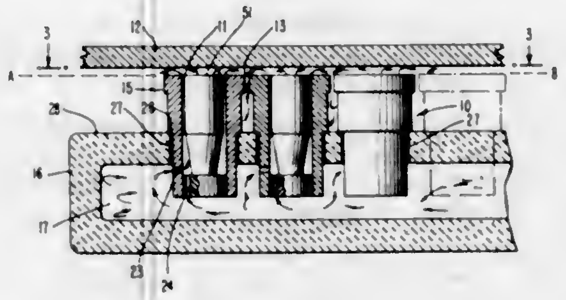
Maurice Nedelec, Paris, France, and Henri Chaumont, Brussels, Belgium, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Continuation of application Ser. No. 441,246, Mar. 19, 1965. This application Feb. 2, 1968, Ser. No. 702,756

Claims priority, application France, Mar. 25, 1964, 968,609

Int. Cl. C03b *17/04, 9/12*

U.S. Cl. 65—25 **10 Claims**



Method and apparatus for supporting sheets of glass on a cushion of gas formed by gas forced under pressure from a regular pattern of narrow slits opening vertically through a generally horizontal surface. Each plurality of discrete slits, has a passage or passages associated therewith and extending downwardly from the surface, for the escape of gas after emerging from the related slit or group of slits.

3,449,103
PHOTOCHROMIC GLASS MAKING

Stanley D. Stookey, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,222

Int. Cl. C03c *3/30*

U.S. Cl. 65—30 **4 Claims**

This invention relates to photochromic glass compositions wherein the glasses exhibit very low optical transmission upon exposure to actinic radiation, even when the glass shape is a very thin cross section since said glasses have a high concentration of radiation sensitive crystals which is related to a silver content greater than 0.7% and the halogen content which is greater than 0.6%.

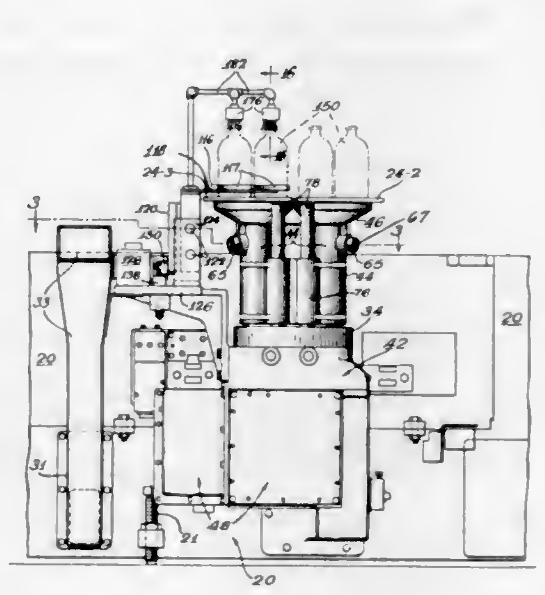
3,449,104
ROTATING DEADPLATE MECHANISM

Joseph R. Hamilton, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana

Filed Dec. 20, 1965, Ser. No. 515,108

Int. Cl. C03b *25/02*

U.S. Cl. 65—181 **12 Claims**



A three-station rotating deadplate mechanism having three deadplate sections with means to automatically and sequentially elevate the deadplate sections at a receiving station to receive freshly blown ware. The deadplate mechanism is indexed so that the section which received the ware passes through a second station, and after another indexing operation arrives at a third station, the ware all the time being cooled by wind supplied at both the second and third stations. The ware is then transferred to a take-away conveyor by a wipe-off mechanism at the third station, following which the deadplate mechanism is indexed again for bringing the deadplate section back to the receiving or first station.

3,449,105
FLEXIBLE SHAPING TOOL

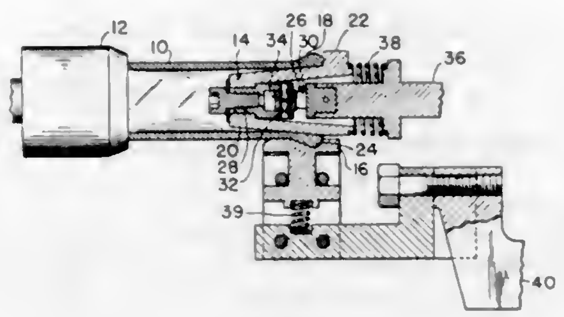
Wendell R. Dieman, Richard L. Lambden, and Arnold Pickles, Muskogee, Okla., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 11, 1966, Ser. No. 533,704

Int. Cl. C03b *29/02, 23/04*

U.S. Cl. 65—298 **7 Claims**

A device for shaping a flange on the end of a tubular glass article. The device comprises a conical forming tool having a flange at its larger end. The device is pivotally supported on the same side of the flange as the smaller end of the conical surface to permit lateral displacement



in order to compensate for variations in glass wall thickness.

3,449,106

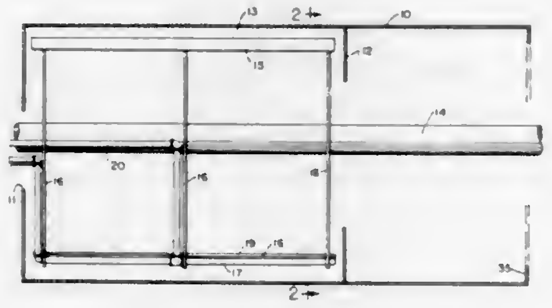
PROCESS AND APPARATUS FOR PREPARING GRANULAR FERTILIZER FROM ORGANIC MATERIALS

Harrell W. Paden, Leland, and Hullet C. Carr and Alfred W. McDowell, Wilmington, N.C., assignors, by mesne assignments, to USS Agri-Chemicals, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,361

Int. Cl. C05f *13/00, 7/00;* **C05c** *3/00*

U.S. Cl. 71—13 **9 Claims**



A method of granulating fertilizer materials in which the materials are separated into heavy and fine particles and the fine particles are preferentially wet during the granulating process.

3,449,107

PROCESS FOR PREPARING MELTS COMPRISING AMMONIUM NITRATE AND PHOSPHATE

John Dickinson Chapman, Geoffrey Thomas Dee, Stanislaw Maria Janikowski, and Roger Hugh Peters, Suffolk, England, assignors to Fisons Fertilizers Limited, Suffolk, England

Filed Sept. 10, 1965, Ser. No. 486,569

Claims priority, application Great Britain, Sept. 23, 1964, 38,747/64

Int. Cl. C05g *1/02*

U.S. Cl. 71—36 **8 Claims**

A process for forming liquid melts containing ammonium nitrate and ammonium phosphate wherein the water content of an acid mixture containing nitrate, phosphate and ammonium ions is reduced from a value in the range 1.3% to 20% to a value of less than 2% by weight, by passing air through the acid mixture and then treating the dry or almost dry acid mixture with ammonium gas.

3,449,108

METHOD OF INHIBITING POSTHARVEST DETERIORATION OF HARVESTED PLANTS

William C. McConnell, Atlanta, Ga., and Henry W. Rahn, Pittsburgh, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of applications Ser. No. 358,121, Apr. 7, 1964, Ser. No. 400,216, Sept. 29, 1964, and Ser. No. 605,200, Dec. 28, 1966. This application Aug. 8, 1967, Ser. No. 659,033.

Int. Cl. A01n *3/00;* **A23k** *3/00*

U.S. Cl. 71—68 **8 Claims**

Potassium or sodium azide is applied to harvested agricultural produce such as fruits, grains, vegetables, or flowers to inhibit postharvest deterioration. The azide may be dusted on the plant as dry powder or it may be applied in solution.

3,449,109

PHOSPHORYLATED ACETAMIDES AS HERBICIDES

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

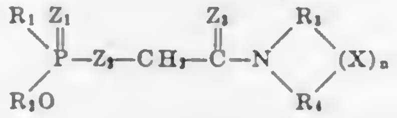
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,641

The portion of the term of the patent subsequent to Oct. 31, 1984, has been disclaimed

Int. Cl. A01m *9/36;* **C07f** *9/40*

U.S. Cl. 71—87 **9 Claims**

A process for controlling undesirable plant life which comprises applying to said plant life, in a quantity which is herbicidally toxic, a compound of the formula



wherein Z_1, Z_2 and Z_3 are independently selected from the group consisting of sulfur and oxygen; R_1 is aryl; R_2 is selected from the group consisting of alkyl, aralkyl and aryl; R_3 and R_4 are independently selected from the group consisting of alkyl, acyl, aryl, aralkyl, hydroxyalkyl, alkenyl, cycloalkyl, and hydrogen provided that a maximum of one of R_3 and R_4 is hydrogen, and alkylene; *n* is an integer from 0 to 1; and X is selected from the group consisting of oxygen, sulfur, $>NY$ and $>CHY$ wherein Y is selected from the group consisting of lower alkyl and hydrogen, provided that when *n* is 0, R_3 and R_4 are selected from the group consisting of alkyl, acyl, aryl, aralkyl, hydroxyalkyl, alkenyl, cycloalkyl, and hydrogen provided that a maximum of one of R_3 and R_4 is hydrogen and when *n* is 1, R_3 and R_4 is alkylene.

3,449,110

HERBICIDAL MIXTURE OF A 4,4′-BIPYRIDYLIUM SALT AND THIOUREA

Stephen Henry Crowdy, Southampton, and John Alan Farrington and Roger Sidney Locklngton Jeater, Bracknell, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 362,964, Apr. 27, 1964. This application Jan. 11, 1968, Ser. No. 697,025

Claims priority, application Great Britain, Apr. 29, 1963, 16,773/63

Int. Cl. A01n *9/22, 5/00*

U.S. Cl. 71—92 **5 Claims**

A heribicidal composition comprising a synergistically effective mixture of a 4,4′-bipyridylium salt and thiourea.

3,449,111

METHOD OF ELIMINATING WEEDS

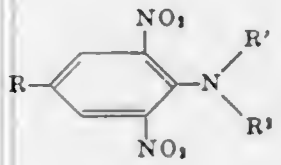
William L. Wright, Greenfield, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Dec. 8, 1966, Ser. No. 600,053

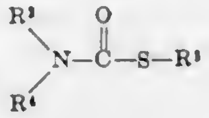
Int. Cl. A01n *9/20*

U.S. Cl. 71—100 **3 Claims**

The present invention is directed to compositions, and the herbicidal use of such compositions, comprising a mixture of (1) a dinitroaniline of the formula



wherein R is hydrogen, C_1–C_3 alkyl, halo having an atomic weight below 85, halo-substituted C_1–C_3 alkyl wherein halo has an atomic weight below 85, C_1–C_3 alkylsulfonyl, sulfonamido, or cyano; and R′ and R^2 are the same or different members of the group consisting of ethyl, n-butyl, and n-propyl; and (2) an alkyl N,N-dialkylthiolcarbamate of the formula



$$R^3R^4N-\overset{\overset{O}{\parallel}}{C}-S-R^5$$

wherein R^3, R^4, and R^5 have the same meaning as R′ and R^2 as defined hereinabove. In their herbicidal application, these compounds exhibit numerous advantages.

3,449,112

P-ISOTHIOCYANATOBENZOATES AS HERBICIDES

Alan J. Lemin, Richland, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 4, 1966, Ser. No. 536,569

Int. Cl. A01n *9/18;* **C07c** *161/04*

U.S. Cl. 71—104 **6 Claims**

Certain lower-alkyl p-isothiocyanatobenzoates have been found to be useful as herbicides. Herbicidal activity is also present when the benzene ring is substituted with a methyl group, a nitro group, a halogen atom, a methoxy or ethoxy group, or another isothiocyanato group. The compounds are prepared by known methods. Rates of application and representative herbicidal compositions are described.

3,449,113

METHOD OF COMBATING UNDESIRED PLANT GROWTH WITH SUBSTITUTED CARBOXAMIDOOXYALKANOIC ACIDS AND SALTS THEREOF

Ralph P. Neighbors, Olathe, Kans., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 374,813, June 12, 1964. This application May 26, 1967, Ser. No. 641,487

The portion of the term of the patent subsequent to Aug. 6, 1985, has been disclaimed

Int. Cl. A01n *9/24;* **C07c** *69/00*

U.S. Cl. 71—106 **4 Claims**

Undesired plant growth is combated by applying to the locus of the plants certain carboxamidoöxyalkanoic acids or salts thereof which possess varied selectivity of herbicidal action.

3,449,114

HERBICIDAL METHOD EMPLOYING N-ALLYLDIPHENYLACETAMIDE

Albert Pohland, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Original application Sept. 9, 1960, Ser. No. 54,851, now Patent No. 3,120,434, dated Feb. 4, 1964. Divided and this application Oct. 29, 1963, Ser. No. 319,681

Int. Cl. A01n *21/02, 9/20*

U.S. Cl. 71—118 **7 Claims**

1. The method of preventing germination of seeds and controlling growth of plants which comprises contacting said seeds and plants with a hermicidally effective amount of N,N-diallyl diphenylacetamide.

3,449,115

METHODS OF MAKING ALLOY POWDERS AND THE CORRESPONDING POWDERS

Philippe Marie Galmiche, Paris, and André Hivert, Pontoise, France, assignors to Office National d'Etudes et de Recherches Aerospatiales O.N.E.R.A., Chatillon-sous-Bagneux, France, a body corporate of France

No Drawing. Filed Apr. 5, 1966, Ser. No. 540,216

Claims priority, application France, Apr. 8, 1965, 12,506

Int. Cl. B22f *9/00;* **C22c** *27/00*

U.S. Cl. 75—.5 **9 Claims**

This invention is directed to a method of preparing an ultra-fine alloy powder by preparing a mixture of a powder of a reducible metal compound and of an inert diluting powder, then reducing the metal compound in the presence of the inert diluting powder, after which a powder of a different metal is mixed into the reduced mixture and the resultant mixture is heated in a hydrogenated and halogenated atmosphere to cause diffusion of one of the metals into the other to form the desired alloy powder.

3,449,116

METHOD OF PURIFYING METALS AND RECOVERY OF METAL PRODUCTS THEREFROM

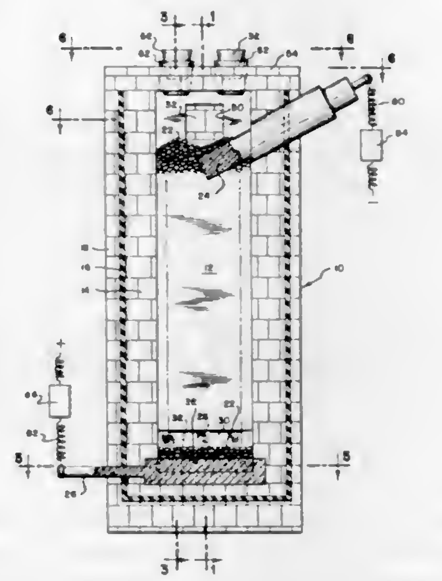
Leslie Jack Derham, Avonmouth, Bristol, England, assignor to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company

Continuation-in-part of application Ser. No. 308,134, Sept. 11, 1963. This application Sept. 22, 1965, Ser. No. 489,263

Claims priority, application Great Britain, Sept. 27, 1962, 36,763/62; Oct. 15, 1962, 38,975/62

Int. Cl. C22b *5/16, 19/04;* **C22d** *7/00*

U.S. Cl. 75—10 **61 Claims**



Impure metal containing a metal impurity with a boiling point higher than the boiling point of the metal-to-be-refined is heated while in transit to a temperature sufficiently high to effect its volatilization but at a temperature sufficiently low to retain essentially unvolatilized the higher boiling point metal impurity, and separating the two basic metals. To this end the impure metal is fed to an upright column of carbonaceous lumps in an electrothermically heated zone. The resulting molten impure metal trickles through the column, covering the carbon lumps at least in part while the heating zone is brought to an optimum point to volatilize the metal-to-be-refined while the metal impurity is retained, at least in large part, in its unvolatilized state. The former is removed by selective volatilization from the heating zone and the latter is removed in its unvolatilized form by withdrawal from the heating zone. Such impure metals as lead, antimony, mercury, cadmium and zinc are contemplated.

3,449,117

METHOD OF PURIFYING METALS AND RECOVERY OF METAL PRODUCTS THEREFROM

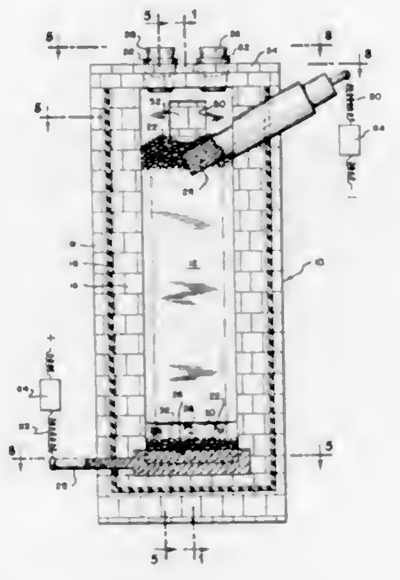
Leslie Jack Derham, Avonmouth, Bristol, England, assignor to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company

Continuation-in-part of application Ser. No. 308,134, Sept. 11, 1963. This application Sept. 22, 1965, Ser. No. 489,267

Claims priority, application Great Britain, Sept. 27, 1962, 36,763/62; Oct. 15, 1962, 38,975/62

Int. Cl. C22b *5/16, 19/04;* **C22d** *7/00*

U.S. Cl. 75—10 20 Claims



A method of recovering at least one volatilizable metal in an alloy of metals containing at least one metal with a boiling point higher than the boiling point of the metal to be recovered. A continuous upright column of a mixture of separate carbonaceous lumps and separate briquettes containing the alloy metals in finely divided form is passed by gravity through an electrothermically heated zone at a temperature sufficiently high to melt, and then to distill, the metal to be recovered; but at a temperature sufficiently low to retain the metal of higher boiling point in unvaporized form. The briquettes of finely divided metal alloy become spent residues by the time they reach the bottom of the column. The residues are separated from the carbonaceous lumps and removed from the system. The carbonaceous lumps are unconsumed and retain substantially their original form for reuse in the treatment of further briquettes of alloy metals of the same type.

3,449,118

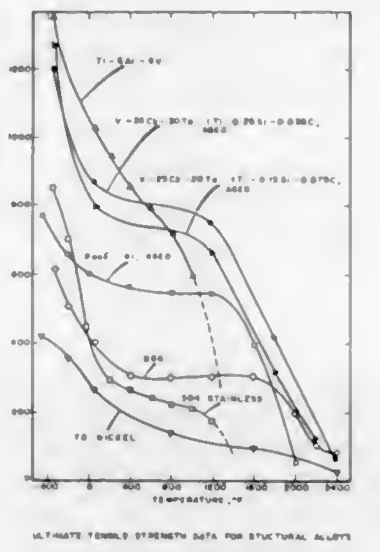
VANADIUM-COLUMBIUM-TANTALUM ALLOYS

Frederick C. Holtz, Jr., Evanston, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 15, 1966, Ser. No. 594,583

Int. Cl. C22c *1/02, 27/00;* **C21d** *1/78*

U.S. Cl. 75—134 10 Claims



A vanadium-columbium-tantalum alloy with addition of titanium, silicon and carbon, characterized by high tensile strength and ductility at a range of temperatures from —320° F. to 2000° F.

3,449,119

HIGH VANADIUM ALLOYS

Frederick C. Holtz, Jr., Evanston, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,627

Int. Cl. C22c *1/02, 27/00;* **C21d** *1/78*

U.S. Cl. 75—134 9 Claims

A vanadium-columbium-titanium alloy with small percentages of silicon and carbon characterized by high tensile strength between —320° F. and 2000° F.

3,449,120

METHOD OF PRODUCING TUNGSTEN POWDER BODIES INFILTRATED WITH ZIRCONIUM

Edward J. Zdanuk, Lexington, and Richard H. Krock, Peabody, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Original application Apr. 21, 1966, Ser. No. 550,077, now Patent No. 3,340,022, dated Sept. 5, 1967. Divided and this application May 29, 1967, Ser. No. 652,365

Int. Cl. B22f *7/04*

U.S. Cl. 75—208 12 Claims

A method for fabricating a composite consisting of essentially tungsten-copper-zirconium including the steps of providing a tungsten body contacted with copper and zirconium and heating the tungsten body and contacting metals in a vacuum environment below the melting point temperature of the tungsten and above the melting point temperature of the copper whereby the copper and zirconium substantially completely infiltrate the tungsten body thereby forming a composite material consisting essentially of tungsten-copper-zirconium.

3,449,121

INFRARED THERMOMETER

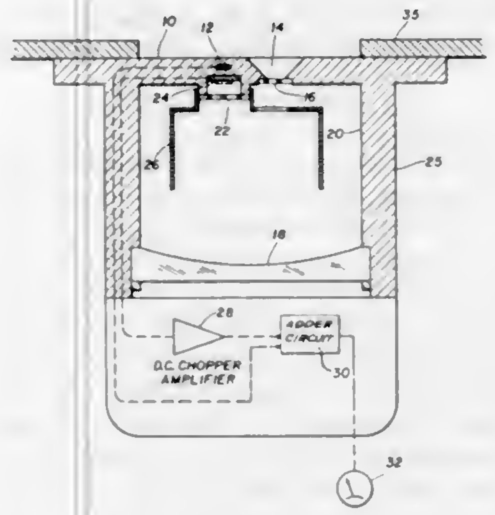
Robert W. Astheimer, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Jan. 13, 1967, Ser. No. 609,030

Int. Cl. G01k *13/00*

U.S. Cl. 73—355 3 Claims

A radiation pyrometer having a thermistor bead temperature sensor imbedded in a heat sink which is exposed to the ambient temperature, and a thermopile radiation detector and a window mounted close together on the heat sink, with the thermopile being imaged on the window by a mirror. Signals from the sensor and detector are combined to provide a temperature measurement.



3,449,122

PHOTOGRAPHIC ELEMENTS HAVING SILVER HALIDE EMULSION LAYERS COATED ADJACENT TO MORDANT-DYE LAYERS

Charles M. Kretchman and Fred W. Spangler, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 6, 1964, Ser. No. 409,445

Int. Cl. G03c *1/34*

U.S. Cl. 96—84 17 Claims

Improved photographic elements comprising a hydrophilic layer containing a dye and a mordant adjacent to a silver halide emulsion layer comprising certain cyclic ketone antifoggants are disclosed.

3,449,123

COLOR TURBIDITY AGENT IN COLOR PHOTOGRAPHIC MATERIALS

Hideo Kondo, Nobuo Tsuji, Fumihiko Nishio, and Eiichi Mizuki, Kanagawa-ken, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan

No Drawing. Filed Sept. 3, 1965, Ser. No. 485,083

Claims priority, application Japan, Sept. 8, 1964, 39/51,200; Nov. 2, 1964, 39/61,917

Int. Cl. G03c *1/84*

U.S. Cl. 96—100 32 Claims

By incorporating vinylmethylimidazol homopolymer or copolymer into a photographic layer, such as a silver halide emulsion layer, a protective layer, a filter layer or an antihalation layer, color turbidity of a coupler-containing color photographic silver halide material is prevented.

3,449,124

MEAT EMULSION AND METHOD OF PREPARING SAME

Stuart Lipner, Jersey City, N.J., assignor, by mesne assignments, to Isolated Beef Protein Supplements, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 13, 1964, Ser. No. 411,132

Int. Cl. A23j *1/06*

U.S. Cl. 99—108 5 Claims

Bovine protein concentrate comprising the dried plasma component of bovine blood having therein an amount of the order of 0.1%±0.02% based on the weight of the blood of the compound disodium ethylenediamine tetraacetic acid as the sole anticoagulant for said blood. A meat emulsion containing 1 to 4 ounces per 100 pounds of meat of the above protein concentrate is also described as is a method for its detection in the meat emulsion.

3,449,125

ACCESS TIME IN LIGHT-DEVELOPABLE DIRECT-WRITING SILVER HALIDE EMULSIONS THROUGH USE OF A REDUCTION SENSITIZER

John Howard Bigelow, Rochester, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,138

Int. Cl. G03c *1/28*

U.S. Cl. 96—108 5 Claims

Preparation of light-developable direct-writing silver halide emulsions by admixing silver and plumbous salts with an acid solution of an organic colloid, ripening the emulsion, redispersing the emulsion, adding a reduction sensitizer digesting the resulting emulsion, adjusting the pH to about 8 for 5–15 minutes, and adjusting to pH 7 or below and adding a halogen acceptor.

3,449,126

FOG STABILIZED PHOTOGRAPHIC EMULSION

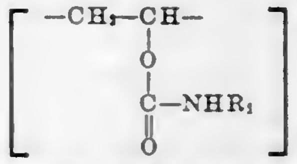
Louis M. Minsk, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,202

Int. Cl. G03c *1/34*

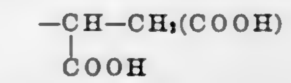
U.S. Cl. 96—109 6 Claims

1. A photographic silver halide emulsion having incorporated therein, a polymer containing repeating units having the following formula:



$$\left[\begin{array}{l}-CH_2-CH-\\ \qquad\quad\;\;|\\ \qquad\quad\;\;O\\ \qquad\quad\;\;|\\ \qquad\quad\;\;C-NHR_1\\ \qquad\quad\;\;\|\\ \qquad\quad\;\;O\end{array}\right]$$

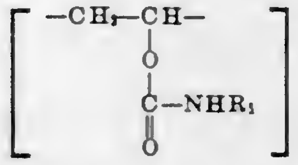
wherein R_1 is selected from the group consisting of $-CH_2COOH$, $-CH(COOH)$,



$$\begin{array}{l}-CH-CH_2(COOH)\\ \;\;|\\ \;\;COOH\end{array}$$

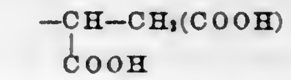
and $-CH_2-CH(COOH)_2$.

3. A photographic gelatin silver halide emulsion having incorporated therein, in an amount sufficient to effectively inhibit fog during prolonged incubation at high temperature and high relative humidity, a polymer consisting of from 25 to 50 percent by weight of repeating units having the following formula:



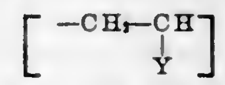
$$\left[\begin{array}{l}-CH_2-CH-\\ \qquad\quad\;\;|\\ \qquad\quad\;\;O\\ \qquad\quad\;\;|\\ \qquad\quad\;\;C-NHR_1\\ \qquad\quad\;\;\|\\ \qquad\quad\;\;O\end{array}\right]$$

wherein R_1 is selected from the group consisting of $-CH_2COOH$, $-CH(COOH)$,



$$\begin{array}{l}-CH-CH_2(COOH)\\ \;\;|\\ \;\;COOH\end{array}$$

and $-CH_2-CH(COOH)_2$ and from 75 to 50 percent by weight of repeating units having the following formula:



$$\left[\begin{array}{l}-CH_2-CH\\ \qquad\quad\;\;|\\ \qquad\quad\;\;Y\end{array}\right]$$

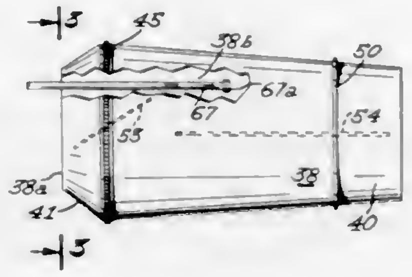
wherein Y is selected from the group consisting of hydroxyl, N-alkyl amide, N,N-dialkyl amide and $-OCONH-R_2-COOR_3$, and R_2 and R_3 each are selected from the group consisting of carbon chains of 1 to 5 carbon atoms.

ERRATUM

For Class 99—108 see:
Patent No. 3,449,124

3,449,127
APPARATUS AND METHODS FOR CONTINUOUSLY MANUFACTURING CHEESE

Burnell E. Budahn, Norwood, Minn., assignor to Industrial Plant Service & Mfg. Co., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 25, 1964, Ser. No. 399,232
The portion of the term of the patent subsequent to Oct. 26, 1981, has been disclaimed
Int. Cl. A23c *19/02;* **A01j** *25/10*
U.S. Cl. 99—115 **12 Claims**



Disclosed herein is apparatus and methods for continuously manufacturing cheese by milling curd slabs into small chunks, applying a proportionate amount of salt thereto, and tumbling the salted curd through an open ended drum into cheese hoops, all in a continuous operation. Steam is released within the interior of the mass of curd as it is tumbled to produce a higher grade cheese.

3,449,128
METHOD OF ENHANCING THE FLAVOR OF ALCOHOLIC BEVERAGES

Masakazu Yamada, Hayashi Komota, and Fumiyoshi Mano, all of Tokyo University of Agriculture, Tokyo, Japan
Filed Jan. 27, 1966, Ser. No. 523,444
Claims priority, application Japan, Feb. 5, 1965, 40/5,965; Apr. 15, 1965, 40/21,871
Int. Cl. C12c
U.S. Cl. 99—31 **5 Claims**

The gas mainly consisting of carbon dioxide produced by fermenting whiskey, beer, or sake mash is passed through ethanol to strip the gas of soluble constituents. The solution so formed is added in small amounts to the beverage conventionally produced from the mash to enhance the flavor of the beverage.

3,449,129
CONCENTRATION PROCESS

Richard G. Reimus and Anthony Saporito, Warren, Pa., assignor, by mesne assignments, to Struthers Patent Corporation, Houston, Tex., a corporation of Texas
Application Apr. 3, 1968, Ser. No. 718,510, which is a division of application Ser. No. 511,173, Dec. 2, 1965, now Patent No. 3,381,302, dated Apr. 30, 1968. Divided and this application Sept. 27, 1968, Ser. No. 763,276
The portion of the term of the patent subsequent to Apr. 30, 1985, has been disclaimed
Int. Cl. A23f *1/08;* **B01d** *1/00*
U.S. Cl. 99—71 **6 Claims**

A process is described for the concentration of coffee liquid by partially freezing ice therein and separating the ice from the concentrated liquid. Prior to freezing the ice, the liquid is chilled to a temperature range from about 45° to 80° F. to form a mixture of waxes and similar material and liquid coffee extract and the mixture is treated so that waxes and similar material are removed from the liquid before the ice is formed.

3,449,130
METHODS FOR TREATING CEREAL BRANS

Etienne Marie Joseph Blanchon, Paris, France, assignor to Biscuits Brun, Maisons-Alfort, Val-de-Marne, France, a corporation of France
No Drawing. Filed Mar. 16, 1966, Ser. No. 534,665
Claims priority, application France, Mar. 25, 1965, 10,654
Int. Cl. A23l *1/10*
U.S. Cl. 99—80 **3 Claims**

Treating cereal brans to extract therefrom nutritive and active components, by allowing the cereal brans to macerate in a suitable maceration liquid to extract therefrom a quantity of pectinolytic enzymes sufficient for performing the subsequent steps of the treatment, grinding the bran to a mesh size of less than 60, introducing said finely ground bran into a suitable liquid, such as water or skim milk, to form a paste, the pH of which is between 6–7, subjecting said paste to the action of the previously released pectinolytic enzymes, converting the thus treated paste into an aerosol, and drying the aerosol.

3,449,131
REFRIGERATED READY-TO-BAKE CAKE MIX

Edward L. Fritzberg, Minneapolis, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Original application June 26, 1962, Ser. No. 205,224, now Patent No. 3,275,449, dated Sept. 27, 1966. Divided and this application June 20, 1966, Ser. No. 558,590
The portion of the term of the patent subsequent to Sept. 27, 1983, has been disclaimed
Int. Cl. A23l *1/10*
U.S. Cl. 99—94 **1 Claim**

Refrigerated ready-to-bake cake mixes are prepared by freezing the liquid ingredients and preparing particles therefrom, cooling the solid ingredients to below the freezing temperature of the liquid ingredients, mixing the cooled solid ingredients and frozen liquid particles and maintaining the temperature of the mixture below the melting point of the liquid ingredients until ready for baking.

3,449,132
ONION RINGS

Anthony J. Luksas, Chicago, and Robert H. Bundus, Riverside, Ill., assignors to Beatrice Foods Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Feb. 24, 1965, Ser. No. 435,060
Int. Cl. A23l *1/00*
U.S. Cl. 99—100 **14 Claims**

Crisp, non-greasy onion rings are prepared by frying onion rings with a batter comprising (a) 2–32% of nonfat milk solids or lactose, (b) 10–75% flour, (c) 0.5–5% fat, (d) 30–70% water, (e) 1–30% soy protein or dextrin, (f) 0.03–0.1% of sorbitan higher fatty acid ester and 0.03–0.1% of mono and diglycerides higher fatty acid ester.

The preferred higher fatty acid esters are oleates since they give the least greasy onion rings.

3,449,133
GLYCERIDE FAT TABLETS CONTAINING FRYING FAT ADDITIVES

Robert D. Dobson, Greenhills, Louis H. Going, Deerfield Township, Warren County, and Eddy R. Hair, Colerain Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 16, 1966, Ser. No. 594,702
Int. Cl. A23d *5/04;* **C11b** *5/00*
U.S. Cl. 99—163 **6 Claims**

A predominately beta phase tending substantially completely hydrogenated triglyceride fat having an iodine value of about 8 with up to about 50% by weight methyl silicone and beta carotene is internally aerated and slowly crystallized directly into beta phase in the size and shape of tablets, having a density of less than about 0.80 g./cc.

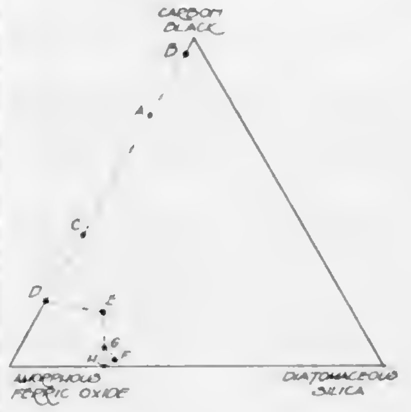
3,449,134
METHOD FOR PACKAGING IN DEOXYGENATED ENVIRONMENT

William C. Leasure and Jerry W. Crawford, Houston, Tex., assignors to Mira-Pak Inc., Houston, Tex., a corporation
Filed June 30, 1965, Ser. No. 468,503
Int. Cl. B65b *31/02*
U.S. Cl. 99—189 **3 Claims**

A method of packaging a granular product in a substantially oxygen free atmosphere wherein the product is fed through the feed tube into a chamber pressurized with an inert gas so that the inert gas passes upwardly through the feed tube to deoxygenate the product entering the pressurized chamber. The granular product is vibrated through the chamber on a vibrating conveyor and is cascaded off the end of the conveyor and passed through a closable opening into a package which may be at substantially atmospheric pressure.

3,449,135
RAIN REPELLENT COMPOSITION

Donald F. Stedman, Ottawa, Ontario, Canada, assignor to Canadian Patent and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed Oct. 22, 1965, Ser. No. 500,732
Int. Cl. C09k *3/18;* **C03c** *25/02*
U.S. Cl. 106—2 **16 Claims**



A water repellent composition consisting of a polysilane mixed with an adhesion promoting agent. The adhesion promoting agent is a mixture of carbon black and highly amorphous ferric oxide, that is, ferric oxide with essentially no characteristic crystalline diffraction pattern. For related purpose, such as cleaning repellent films already formed, diatomaceous silica may be substituted, in whole or in part, for carbon black.

3,449,136
PHOSPHATE GLASS FOR X-RAY, GAMMA RAY AND THERMAL NEUTRON DOSIMETERS

Serge Carpentier, Creteil, and Roger Delarue and Henri Francois, Paris, Anne-Marie Grand-Clement, Meudon la Foret, Guy Portal, Massy, and Georges Soudain, Antony, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 28, 1966, Ser. No. 530,593
Claims priority, application France, Mar. 5, 1965, 8,203
Int. Cl. C03c *3/16*
U.S. Cl. 106—47 **6 Claims**

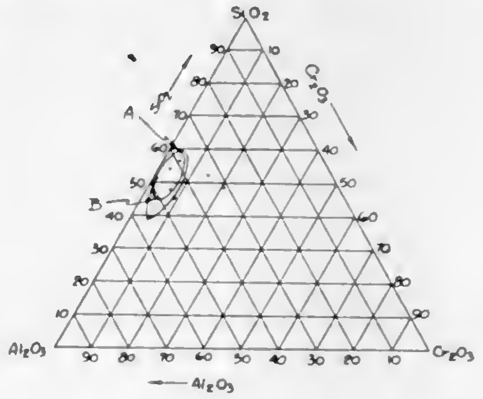
1. Glass for X-ray, γ-ray and thermal neutron dosimeters having a base of oxygenated compounds of phosphours including silver as activator, consisting essentially of the percentage composition by weight of metal oxide and of phosphorus pentoxide is comprised between the following limits:

	Percent
Li_2O	0–1.5
BeO	5–15
Na_2O	0.1–10
Al_2O_3	0.1–10
Ag_2O	1.5–10
P_2O_5	71.8–80.6

4. A dosimeter comprising the glass of claim 1.

3,449,137
REFRACTORY FIBERS FOR SERVICE TO 2700° F.

Wendell Graydon Ekdahl, Martinsville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Oct. 13, 1965, Ser. No. 495,469
Int. Cl. C03c *13/00*
U.S. Cl. 106—50 **12 Claims**



Refractory inorganic fibrous products of markedly increased thermal stability and resistance composed of specific and critical combinations of alumina-silica-chromia.

3,449,138
PHOSPHATE-IMPREGNATED MAGNESITE BRICK

Ben Davies and George F. Carini, Pittsburgh, Pa., assignors to Dresser Industries, Inc., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 607,993
Int. Cl. C04b *35/04*
U.S. Cl. 106—58 **5 Claims**

Burned magnesite brick impregnated with a soluble phosphate which brick develop calcium sodium silicophosphate or calcium silicophosphate bonds on heating and methods of making said brick.

3,449,139
SUBTERRANEAN CONSOLIDATION SILICATE CEMENT

David A. Kuhn, Wyckoff, N.J., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Sept. 12, 1966, Ser. No. 578,513
Int. Cl. C04b *19/00;* **C09d** *1/02*
U.S. Cl. 106—84 **10 Claims**

A halogenated alcohol or thiol is incorporated into a conventional alkali silicate permeable cement to improve the resistivity of such cement to water degradation.

3,449,140
SLAG CEMENT COMPOSITIONS

Julie Chi-Sun Yang, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Oct. 7, 1965, Ser. No. 493,828
Int. Cl. C04b *7/16*
U.S. Cl. 106—117 **24 Claims**

Method of increasing the strength of steam cured hydraulic setting slag cement compositions comprising the inclusion therein of finely divided hydrothermally reactive hydrated silicates comprising serpentine, talc, or pyrophyllite, and the strengthened products thereof.

3,449,141
EFFECT OF CRYOLITE ON CALCIUM SILICATE COMPOSITIONS

Mark E Binkley, Somerville, and Osborn Ayers, Westfield, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 503,173, Oct. 23, 1965. This application Aug. 8, 1968, Ser. No. 753,842
Int. Cl. C07b *7/34, 7/44*
U.S. Cl. 106—120 **10 Claims**

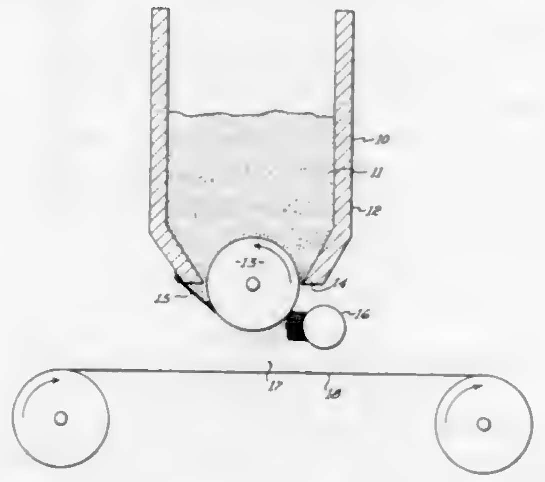
7. An improved high temperature resistant composition with an integrating structural matrix of hydrothermally reacted, hydrated calcium silicate products of lime and silica having increased resistance to shrinkage at high temperatures and reduced hygroscopic moisture regained, said insulating product comprising a self-supporting, integrating structural matrix of hydrated calcium silica consisting of the hydrothermal reaction product of autoclaving a wet admixture consisting essentially, in approximate percentages by weight, of:

Asbestos fiber	10 to 40
Lime	10 to 50
Silica	25 to 85
Cryolite	2 to 15
Clay	0 to 25

in steam at a temperature of at least approximately 212° F. up to approximately 450° F. for a period of at least about 5 hours.

3,449,142
POWDER COATED WITH AN ANTI-STATIC AGENT

Thomas McChesney Hearst and Robert Charles Yantz, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 20, 1966, Ser. No. 566,543
Int. Cl. C09j *3/06;* **C09d** *3/20;* **C08b** *25/02*
U.S. Cl. 106—210 **4 Claims**



A micro-starch carrier powder encapsulated with an anti-static agent selected from fatty acid amides, polyalkylene oxides and tertiary amines, the anti-static agent constituting about 3–5 percent by weight of the total anti-static composition.

3,449,143
METHOD OF INCREASING THE CORROSION RESISTANCE OF COBALT-BASED ALLOYS TO MERCURY

Edward J. Vargo, Beachwood, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 11, 1966, Ser. No. 520,305
Int. Cl. C23c *1/12;* **B44d** *1/34*
U.S. Cl. 117—2 **4 Claims**

A method of inhibiting the corrosion of an alloy containing cobalt, tungsten, chromium and nickel by hot mercury liquid comprising contacting the alloy with mercury for a time and at a temperature sufficient to leach chromium and nickel out of the alloy to a depth of several mils and annealing the alloy in hydrogen to convert the surface layer to the intermetallic compound Co_2W.

3,449,144
METHOD OF ALUMINUM PLATING WITH DIETHYLALUMINUM HYDRIDE

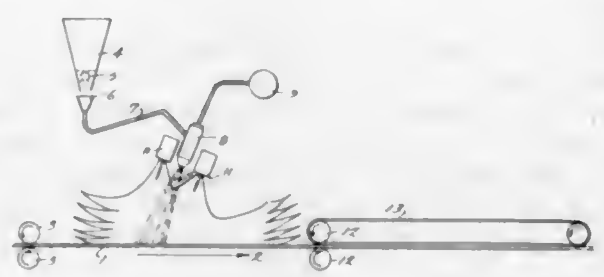
Billy J. Williams and Elbert L. Hatlelid, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,387
Int. Cl. C23b *7/08;* **B44d** *1/092, 1/34*
U.S. Cl. 117—6 **14 Claims**

1. A composition of matter comprising diethylaluminum hydride in a solvent therefor and a minor amount of titanium, titanium alloy or readily reducible compound of titanium.

8. A method of aluminum plating a substrate which comprises heating the substrate to a temperature above the decomposition temperature of diethylaluminum hydride and thereafter contacting the heated substrate with a solution comprising 10 to 90 weight percent diethylaluminum hydride, a solvent for said hydride comprising substantially the remainder of the composition and a minor amount of titanium, titanium alloy or a readily reducible titanium compound.

3,449,145
SPRAYING PLASTIC COATINGS ONTO BUILDING BOARDS OR THE LIKE

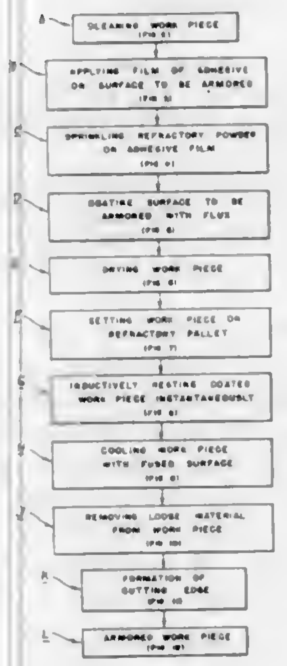
Martin S. Bloom and Albert Edward Riley, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Aug. 3, 1964, Ser. No. 387,160
Claims priority, application Great Britain, Aug. 6, 1963, 30,973/63
Int. Cl. B44d *1/095, 1/09;* **B05c** *5/02*
U.C. Cl. 117—21 **4 Claims**



A method for coating the surface of plasterboard or wood such as plywood by spraying the surface with powdered thermoplastic material selected from the group consisting of non-atactic polypropylene, polyethylene or nylon from a hot gas spray gun. Before the powder has had time to cool the sprayed surface is passed between resilient pressure rollers to cause fusion of the thermoplastic particles and adhesion to the surface and causing the resulting coating to set. A strippable molding surface is interposed between the pressure rollers and the sprayed surface and is stripped off after the thermoplastic coating has set. The spraying conditions, including particle size, gas temperature and residence time, are such that at no time in their flight from the sprayer to the base to be coated do the particles ever attain a temperature as high as their melting point.

3,449,146
INDUCTION METHOD OF ARMORING METAL ARTICLES

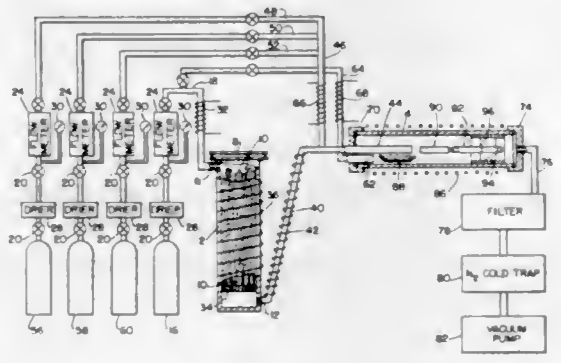
Chester H. Dawson, Danbury, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 177,558, Mar. 5, 1962. This application May 16, 1967, Ser. No. 638,998
The portion of the term of the patent subsequent to Mar. 6, 1979, has been disclaimed
Int. Cl. C23c *3/04, 13/02;* **B44d** *1/092*
U.S. Cl. 117—22 **8 Claims**


CLEANING WORK PIECE
APPLYING FILM OF ADHESIVE ON SURFACE TO BE ARMORED
SPRINKLING REFRACTORY POWDER ON ADHESIVE FILM
COATING SURFACE TO BE ARMORED WITH FLUX
DRYING WORK PIECE
SETTING WORK PIECE ON REFRACTORY PALLET
INDUCTIVELY HEATING COATED WORK PIECE INSTANTANEOUSLY
COOLING WORK PIECE WITH FUSED SURFACE
REMOVING LOOSE MATERIAL FROM WORK PIECE
FORMATION OF CUTTING EDGE
ARMORED WORK PIECE

The improved method comprises the operations of applying to a surface of a selected area of the metallic base of a metal article (steel or ferrous tool) an organic adhesive film of temporary character having the property of adhesion, of decomposing while undergoing pyrolysis as an incident to the method and of a consistency such that it spreads evenly and with a substantially uniform thickness on said surface upon contact therewith; producing with a vibrating feeder a curtain of falling powdered hard refractory metallic armoring material comprising powdered hard refractory metallic matrix alloy, borax and diamond substitute particles; passing said metal article with said adhesive film thereon through said curtain of falling powdered material until sufficient armoring material adheres to the organic adhesive on said selected area to form a relatively thin armor layer reproducing the entire selected area and contour of the surface beneath the adhesive including any square corner; initiating heating by means of alternating electric power of extremely high frequency to concentrate intense heat on the selected area of the surface of the steel article; and only momentarily continuing the intense heat concentrated on the surface of said selected surface area whereupon the organic adhesive is subject to pyrolysis causing constituents to evaporate, burn and produce reducing gases and products of combustion and a carbonaceous residue from any residual constituents to protect the metal article, the matrix alloy and the diamond substitute particles against oxidation and decarburization and the borax is fused to a plastic condition having holding properties and whereupon there is a fusion at the sweating temperature of the metallic matrix alloy of the hard refractory armor coating and the surface of said metal article at the interface thereby effecting a fusion of said hard refractory metallic matrix alloy of the armor coating and said metallic surface of said metal article and a merging together in a self-conforming, unitary armor layer of substantially uniform thickness with diamond substitute particles tightly fused therein and with a fused borax coating enveloping the unitary armor layer.

3,449,147
EPITAXIALLY COATING RUBY WITH DOPED ALUMINA

William B. Campbell, Belmont, and Philip S. Schaffer, Waltham, Mass., assignors to Lexington Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 22, 1965, Ser. No. 441,805
Int. Cl. C23c *13/04;* **B44d** *1/14*
U.S. Cl. 117—33.3 **11 Claims**



Method of cladding the surface of a ruby laser with a layer of single crystal alumina doped with a rare earth element, vanadium, titanium, cobalt or nickel. The cladding is grown by deposition from the vapor state.

3,449,148
FORMATION OF ELECTRON BARRIERS ON PHOSPHOR PARTICLES

Samuel Ray Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 459,582, May 28, 1965. This application June 30, 1966, Ser. No. 561,815
Int. Cl. C09k *1/36*
U.S. Cl. 117—33.5 **6 Claims**

This specification discloses a method of forming electron barriers on phosphor particles to make them responsive to electrons of a given energy level, characterized by reacting a material, such as oxygen, in gaseous phase with the phosphor particles to destroy the luminescent centers in the phosphor crystal structure adjacent the surface and create a barrier layer with large number of trapping centers such as electrons having an energy too low to penetrate the barrier do not excite the phosphor. In a specific aspect wherein zinc sulfide phosphor has a layer of oxidized zinc therearound the zinc oxide is reconverted to zinc sulfide for greater purity of color emission by reacting the zinc oxide with a sulfur-containing material. The zinc sulfide which is restored to the surface area is non-luminescent and contains a large number of trapping centers, just as the zinc oxide did.

3,449,149
TRANSFER SHEET AND PROTECTIVE COMPOSITION THEREFOR

Norbert F. Toussaint, 8516 Springfield Ave., Skokie, Ill. 60076
No Drawing. Filed May 25, 1965, Ser. No. 458,773
Int. Cl. B41m *5/10*
U.S. Cl. 117—36.4 **10 Claims**

Transfer sheets containing a pigment or dye for transfer by pressure, as in carbon paper and the like, have a protective film for high gloss appearance and elimination of smudging. The film is applied as a hot melt and contains paraffin wax with or without other wax, with or without selected resins and viscosity controlling ingredients, microcrystalline wax, and at least 1% of polymeric microcrystalline wax.

3,449,150

COATING SURFACES WITH ALUMINUM

Billy J. Williams, Ponca City, Okla., and George J. Kostas, Houston, Tex., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,431
Int. Cl. B44d *1/34*
U.S. Cl. 117—50 **9 Claims**

In liquid phase plating of substrates with solutions of organoaluminum compounds by contacting the hot substrate with the solution, superior plating is obtained if the solvent for the aluminum compound has a boiling point below the decomposition temperature of said aluminum compound.

3,449,151

DEPOSITION OF METAL CONTAINING COATING FROM VAPOR

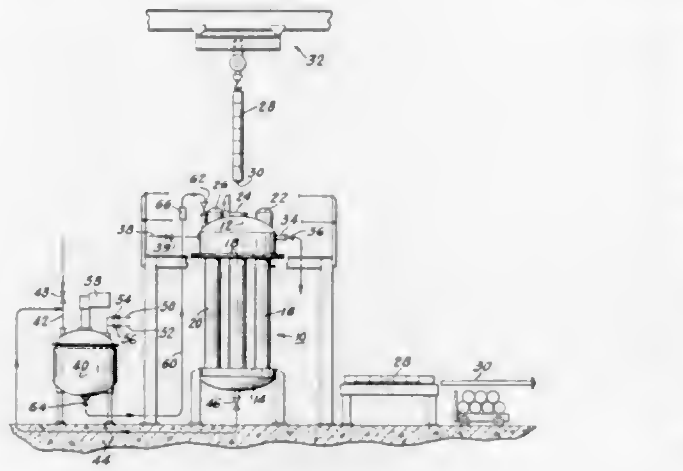
Howard D. Flicker, North Miami, Fla., assignor to Aircraft Plating Inc., Miami, Fla., a corporation of Florida
No Drawing. Filed July 19, 1965, Ser. No. 473,911
Int. Cl. B44d *1/34;* **C23c** *13/00, 1/08*
U.S. Cl. 117—50 **16 Claims**

Disclosed is a method for forming a non-spalling coating upon a metal part by generating vapors from a pack containing a metal, metal oxide and ammonium halide and allowing the vapors to plate upon the metal part which is separated from the pack.

3,449,152

METHOD OF RESIN IMPREGNATING A SPOOL OF FIBERGLASS ROVING

Robert S. Detrick, Bethel Park, and Gerald J. Gillespie, Jeannette, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,126
Int. Cl. B44d *1/07, 1/092, 1/48*
U.S. Cl. 117—54 **10 Claims**



A spool of filament reinforcing rovings is placed in a vessel and a vacuum is impressed on the spool to remove air from the interstices of the spool. Then, while the vessel is partially evacuated, liquid hardenable resin enters the vessel and covers the spool. Thereafter, an inert gas is introduced into the vessel to raise the pressure in the vessel in controlled incremental steps until atmospheric pressure is reached whereby the rovings are impregnated with the resin.

3,449,153

PROCESS FOR THE PREPARATION OF VAPOR-PERMEABLE POLYURETHANE FILMS

Claude Saligny and Jaques Lyonnet, Lyon, France, assignors to Societe Rhodiaceta, Paris, France, a French body corporate
No Drawing. Filed Dec. 2, 1964, Ser. No. 415,496
Claims priority, application France, Dec. 6, 1963, 956,327; June 26, 1964, 979,845
Int. Cl. 44d *1/44;* **C08d** *13/16;* **B29d** *27/00*
U.S. Cl. 117—63 **7 Claims**

Microporous polyurethane films are made by depositing on a support a layer of a solution of a polyurethane in a water-miscible solvent, and bathing the said layer with water at 80° to 100° C.

3,449,154

POLY-α-OLEFINS COATED WITH LACTAMS OR LACTONES AND METHODS FOR PRODUCING SAME

Leon Katz, Springfield, N.J., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,610
Int. Cl. B44d *1/22;* **C08d** *13/24;* **C09d** *3/48*
U.S. Cl. 117—93.1 **18 Claims**

A process for surface treating a poly-α-olefin which comprises exposing said surface to a gaseous polymerizable compound selected from the group consisting of lactams, lactones and N-vinyl lactams at a pressure below about 10 mm. of Hg, said gaseous polymerizable compound being in an activated state produced by an electrical glow discharge whereby polymerization on the said surface of poly-α-olefin of said gaseous compound occurs to form a polymerizate thereon.

3,449,155

METHOD OF INHIBITING THE LEAKAGE OF AIR FROM PNEUMATIC TIRE ASSEMBLIES AND SIMILAR STRUCTURES

John C. Fuller, P.O. Box 448, Wecoma Beach, Oreg. 97367
No Drawing. Continuation-in-part of application Ser. No. 286,457, June 10, 1963. This application Mar. 26, 1964, Ser. No. 355,102
Int. Cl. B32b *35/00;* **B60c** *21/00;* **B44d** *1/22*
U.S. Cl. 117—95 **1 Claim**

A method of inhibiting the leakage of air from pneumatic tire assemblies and similar structures, comprising introducing into the air space there of an aqueous solution consisting essentially of at least 4% by weight of at least one material form the class consisting of the water soluble salts of boric acid; the aliphatic acids, formic, acetic, propionic, butyric, glycolic, lactic, tartoric and citric; and the water soluble salts thereof; inflating said air space with air under pressure; and then rotating the tire assembly or similar structure, while inflated, to distribute the solution over the surface defining the air space.

3,449,156

APPARATUS FOR AND A METHOD OF SATURATING NON-WOVEN FABRICS

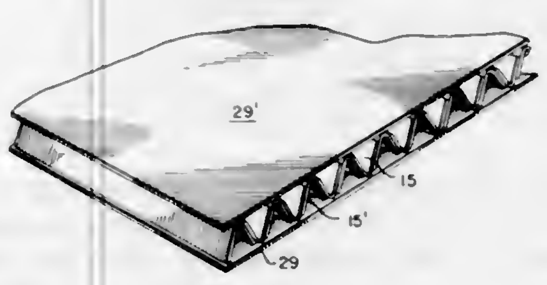
Peter Brown, Harlow, England, assignor to Revertex Ltd., London, England, a British company
Filed July 20, 1964, Ser. No. 383,676
Int. Cl. D21h *1/38;* **D04h** *1/64, 3/12*
U.S. Cl. 117—102 **6 Claims**

A method and apparatus for carrying out the method for impregnating non-woven fibrous stock which comprises conveying a preformed sheet of non-woven fibrous stock to a bath of a bonding agent, passing the sheet through said bath, moving the sheet between a nip of a pair of squeeze rollers, at least one of which has a resiliently deformable peripheral layer and projection means made of material harder than said layer, e.g., a plurality of metallic projections, said means being so arranged on the peripheral layer that improved expression of excess binder and improved release of the stock material are obtained, and subsequently drying the sheet.

3,449,157

METHOD OF PRODUCING A CORRUGATED MEMBER

Kurt Wandel, R.D. 1, Downingtown, Pa. 19335
Filed July 28, 1965, Ser. No. 475,402
Int. Cl. B31f *1/22*
U.S. Cl. 156—204 **6 Claims**

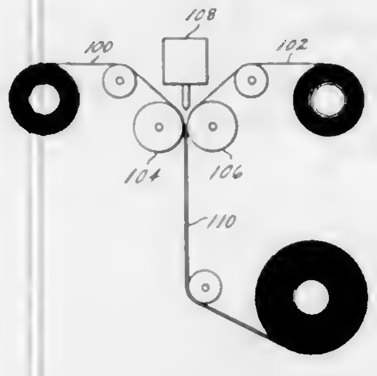


The method of producing a corrugated member including the steps of feeding a plurality of first strips and separate second strips of the elongated web material along predetermined paths, folding each of the first and second strips into trough-shaped configurations, positioning each of the first strips between adjacent second strips with the trough-shaped sides of the first strips facing in the opposite direction from the trough-shaped sides of the second strips, and securing the first strips to the second strips.

3,449,158

METHOD OF MAKING A PHASED LENTICULAR COMPOSITE STRIP FOR OPTICAL EFFECTS

William P. Rowland, Southington, Conn., assignor to Rowland Products Incorporated, Kensington, Conn., a corporation of Connecticut
Original application Feb. 27, 1963, Ser. No. 261,385, now Patent No. 3,357,772, dated Dec. 12, 1967. Divided and this application Oct. 23, 1967, Ser. No. 677,381
Int. Cl. B31f *7/00*
U.S. Cl. 156—209 **12 Claims**

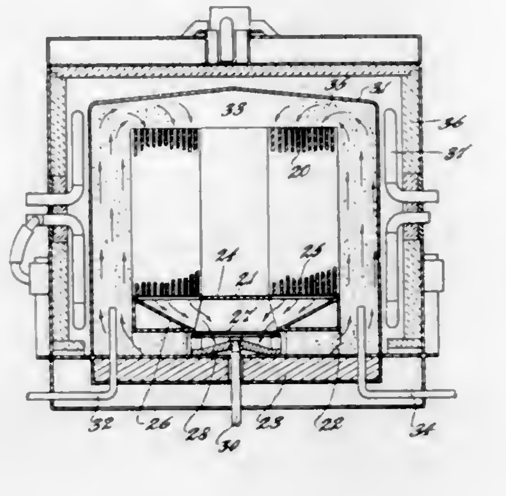


There is disclosed a method for making synthetic plastic sheet material for producing optical effects wherein a pair of strips of synthetic plastic material is formed with a multiplicity of closely spaced formations on one side thereof. The two strips are then laminated back-to-back to provide a composite strip having lens-like formations on one surface and reflective formations on the other surface with the reflective formations phasing into and out of axial registry with the lens-like formations in at least one direction of the surface to provide varying optical effects due to variation in the angle of incidence of light rays focused by the lens-like formations onto the tapering sidewalls of the reflective formations.

3,449,159

PROCESS FOR FORMING METAL COATINGS

Alfonso L. Baldi, Drexel Hill, Pa., assignor to Alloy Surfaces Company, Inc., Wilmington, Del., a corporation of Delaware
Filed Feb. 14, 1966, Ser. No. 527,148
Int. Cl. C23c *13/02*
U.S. Cl. 117—107.2 **17 Claims**



The present invention in summary relates to the creation of deposits on the surface of ferrous metal containing carbon. In the broadest aspect of the invention the ferrous metal is brought into contact with a granular oxide of a metal which forms a carbide having a substantial negative free energy of formation, in the presence of a reducing gas such as hydrogen at a temperature of 1,500 to 2,000° F. This creates a deposit of extreme thinness on the surface of the ferrous metal, the deposit predisposing the surface to form a chromized layer which will be smooth rather than rough. The ferrous metal may be steel which has been decarburized and has a carbon content between 0.001 and 0.010%. It may also be a steel having a carbon content between 0.001 and 0.20% which has been stabilized by introducing titanium, columbium, vanadium or tungsten in an appropriate ratio to the carbon content.

Further in summary, the surface of the stabilized steel having a carbon content between 0.001 and 0.20% can be predisposed to take a smooth chromized layer, without the previously mentioned annealing, in the presence of a granular oxide, by regulating the content of stabilizer within a narrow low range with respect to the carbon content.

3,449,160

PROCESS FOR THE PRODUCTION OF FINE POROUS COATINGS ON TEXTILES WITH PREPARATIONS CONTAINING A POLYMER AND MICROCAPSULES

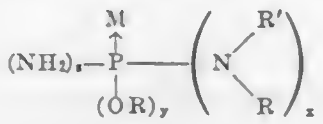
Peter Hofmann Uznach and Christian Guth, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,205
Claims priority, application Switzerland, Mar. 11, 1965, 3,417/65
Int. Cl. D06m *13/40;* **B44d** *1/20;* **C09d** *5/00*
U.S. Cl. 117—135.5 **12 Claims**

Process for producing fine, porous coatings on textile goods, which comprises coating the textiles with an aqueous preparation containing a cross-linkable polymer and microcapsules enclosing a water-insoluble organic liquid boiling above 100° C. The coatings are dried and then heat-treated to rupture the microcapsules, enabling the encapsulated liquid to bleed out and pores are formed.

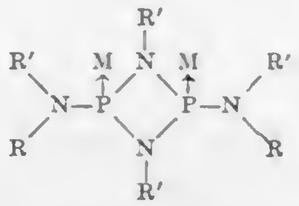
3,449,161
FIRE RETARDANT INTUMESCENT COATING COMPOSITIONS

Raymond R. Hindersinn, Lewiston, and Gilbert Witschard, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,404
Int. Cl. C09d *5/18*
U.S. Cl. 117—136 **20 Claims**

There is provided a fire retardant, intumescent coating composition comprising a halogen-containing coating vehicle and a water-insoluble organo-phosphorus amide of a formula selected from the group consisting of:



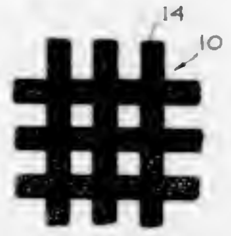
and



wherein M is selected from the group consisting of oxygen and sulfur, R is selected from the group consisting of aryl and alkyl, R′ is selected from the group consisting of hydrogen, aryl and alkyl, *x* is 1–3, *y* is 0–2 and *z* is 0–1, the sum of *x*, *y* and *z* being equal to 3.

3,449,162
METHOD OF MAKING OXYGEN MEASURING CELLS

Ramesh Chand, Los Angeles, Calif., assignor to Analytic Systems Company, Pasadena, Calif., a corporation of California
Filed Sept. 17, 1965, Ser. No. 487,972
Int. Cl. H01j *1/00;* **B44d** *1/18;* **B01k** *3/06*
U.S. Cl. 117—210 **10 Claims**

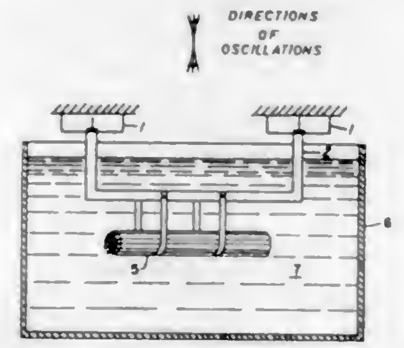


1. A method of treating a metal electrode of an electrolytic cell comprising forming a film of a salt of said metal on the surface of said metal electrode, said salt having the property that it can be decomposed to its metallic sate at a temperature lower than the melting point of the surface of said metal electrode, and heating said dipped metal electrode at a temperature above said decomposition temperature but below said melting temperature to form a beaded metal layer on said meal electrode surface.

3,449,163
PROCESS FOR PICKLING BUNDLED MATERIALS

Hans-Eberhard Möbius, Nordung 72, and Fritz H. Müller, Kreuzbergstrasse 4, both of Volklingen, Saar, Germany, and Theodor Busch, Strasse d. 13, Jan. 270, Luisenthal, Saar, Germany
Filed Feb. 10, 1966, Ser. No. 526,435
Claims priority, application Germany, Feb. 10, 1965, R 39,857
Int. Cl. B08b *3/04, 9/00*
U.S. Cl. 134—1 **20 Claims**

The lengthy pickling time of bundles of wire, band, rods and pipes results because pickling solution penetrating into the interstices of a bundle renews itself only by diffusion. Those parts of a bundle characterized by line or surface contact between its individual elements determine its pickling time. According to the invention, the pickling time of a bundle is considerably reduced by excitation of characteristic vibrations in the bundle by means of mechanical oscillators. Permanent contact between individual elements is eliminated. Pickling solution within the bundle is continually exchanged with that outside the bundle. Other wet processes, such as coppering, are improved.



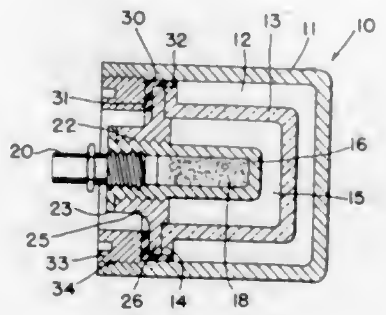
3,449,164
CHEMICAL COMPOSITION AND METHOD FOR THE REMOVAL OF BEER STONE

Attila Vinkler and Janos Cserhati, Budapest, Hungary, assignors to Nikex Nehezipari Kulkereskedelmi Vallalat, Budapest, Hungary
No Drawing. Filed Oct. 26, 1966, Ser. No. 589,519
Int. Cl. C23g *1/04;* **B08b** *3/08*
U.S. Cl. 134—3 **10 Claims**

Beer stone is a tenacious, hard to remove deposit which is formed on the surface of brewery equipment. This invention provides a relatively high pH acidic composition having as its principal ingredients at least 63% ammonium bisulfate and 0.5–4% of an alkyl-aryl- or alkyl sulfonic acid, such as toluene sulfonic acid. Depending on the nature of the beer stone deposit to be removed, optionally up to 50% of the ammonium bisulfate can be substituted with ammonium sulfate, or up to 10% of the ammonium bisulfate can be substituted with sulfuric acid. The composition can also optionally contain 0.5–2% of an alkali chromate, alkali dichromate, or both.

3,449,165
BATTERY

Albert M. Stott, Southampton, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 9, 1968, Ser. No. 704,464
Int. Cl. H01m *35/00*
U.S. Cl. 136—6 **3 Claims**



A rechargeable pyrotechnic thermal battery in which electrical potential is developed by a pyrotechnic heating device melting the sodium in a sodium sulphur cell. The sodium ions pass through a ceramic material to the sulphur in a porous medium.

3,449,166
PROCESS FOR THE PRODUCTION OF FILLING MATERIALS FOR GALVANIC ELEMENTS

Otto Jache, Budingen, Oberhessen, Germany, assignor to Accumulatorenfabrik Sonnenschein G.m.b.H., Budingen, Oberhessen, Germany, a limited-liability company of Germany
Filed Mar. 6, 1967, Ser. No. 620,955
Claims priority, application Germany, Mar. 8, 1966, A 51,787
Int. Cl. H01m *39/06, 35/04*
U.S. Cl. 136—27 **6 Claims**

A process for producing filling materials for grids of batteries or accumulators in which pulverized reaction material, such as ball-milled lead powder, is introduced into a reaction vessel to form a bed at the bottom of the vessel, sulfuric acid is sprayed onto this bed, and compressed air is simultaneously fed from the bottom of the vessel through the bed. The lead and sulfuric acid react to generate heat which changes the water in the reaction material and that in the sulfuric acid into steam. The compressed air drives off the steam through an outlet in the top of the vessel. Heat can be supplied from the outside to the vessel if necessary.

3,449,167
METHOD OF MAKING CADMIUM PLATES FOR ALKALINE BATTERIES AND PRODUCT THEREOF

David John Vincent Keel, Kings Norton, Birmingham, and Raymond John Kightley, Olton Solihull, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
No Drawing. Filed July 28, 1966, Ser. No. 568,383
Claims priority, application Great Britain, Aug. 6, 1965, 33,719/65
Int. Cl. H01m *35/30, 43/04*
U.S. Cl. 136—76 **14 Claims**

When forming a cadmium plate for an alkaline battery by depositing cadmium onto a grid electrolytically from a plating solution containing a soluble cadmium salt and then pressing the plate to the desired thickness, it is important that the deposit cadmium should be granular. To maintain the cadmium deposit granular, an amount of arsenic in solution is added to the electrolyte. Preferably, 0.5 gram per liter of arsenious oxide is added.

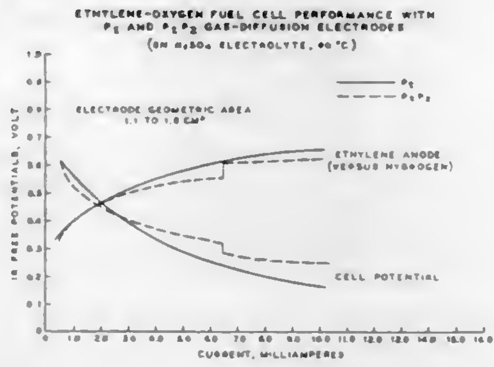
3,449,168
METHOD FOR CATALYTICALLY REFORMING CARBONACEOUS FEEDSTOCK TO PRODUCE HYDROGEN FOR USE IN FUEL CELLS

Richard A. Sederquist, Newington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,930
Int. Cl. H01m *27/06, 27/12, 27/30*
U.S. Cl. 136—86 **9 Claims**

A hydrogen-containing carbonaceous feedstock is admixed with water vapor and passed as a gaseous stream into contact with a bed of dehydrogenation catalyst at low temperatures and pressures to effect catalytic reforming of only a portion of the feedstock. The conditions of temperature, pressure and space velocity are selected with respect to the catalyst so as to produce an effluent stream of high quality in terms of hydrogen produced from the amount of feedstock reacted. The effluent stream is then passed through a condenser to condense the unreacted feedstock and water from the gaseous reaction products, and the condensed feedstock and water are revaporized and recycled into contact with the catalyst for further reaction.

3,449,169
PLATINUM PHOSPHIDE FUEL CELL AND METHOD OF PREPARATION

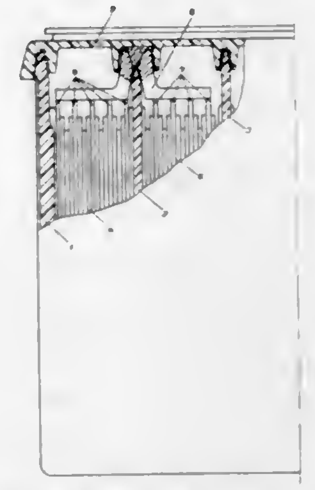
David R. Rhodes, Novato, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,917
Int. Cl. H01m *27/10*
U.S. Cl. 136—86 **3 Claims**



Fuel cells employing platinum phosphide as electrocatalyst and a novel method for preparing high surface area platinum phosphide for use as the electrocatalyst.

3,449,170
MULTICELL STORAGE BATTERY

Rolf Filip Gunnar Thornblad and Per Enar Lennart Frode, Oskarshamn, Sweden, assignors to Svenska Ackumulator Aktiebolaget Jungner, Oskarshamn, Sweden, a corporation of Sweden
Filed Nov. 21, 1966, Ser. No. 595,880
Claims priority, application Sweden, Dec. 21, 1965, 16,588/65
Int. Cl. H01m *35/32, 5/00*
U.S. Cl. 136—134 **1 Claim**

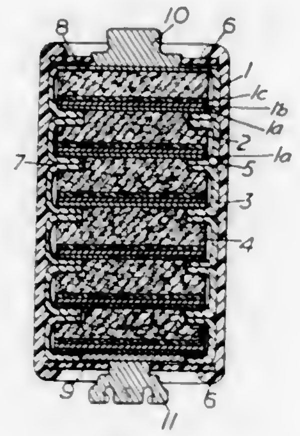


A multicell storage battery having a partitioned container dividing the container into a plurality of cell compartments, a single cover for the container having grooved ribs to fit the top of the partitions, and intercell connectors which straddle the partitions, each connector having a hold in its central portion straddling the partition for receiving an adhesive to effect a liquid-tight seal between the compartments, the connectors, and the cover.

3,449,171
METHOD OF MAKING AN ENCAPSULATED DRY BATTERY

Geoffrey Peter Knight, Loughton, England, assignor to The Ever Ready Company (Great Britain) Limited, London, England, a corporation of Great Britain
Continuation of application Ser. No. 465,318, June 21, 1965. This application Oct. 19, 1967, Ser. No. 676,656
Claims priority, application Great Britain, June 24, 1964, 26,213/64
Int. Cl. H01m *23/04*
U.S. Cl. 136—175 **2 Claims**

The invention relates to providing an encapsulating coating around a battery comprising a plurality of flat layer cells, each cell being of the type having the periphery of its bibulous elements enclosed by a deformable sheath of electrolyte impervious material. According to the invention, the cells are assembled in a mould, and plastics material which is mobile at low temperatures and pressures is injected into the mould at a pressure of less than 200 lb. per sq. in. and at a temperature which does not cause drying out of the bibulous elements.



3,449,172

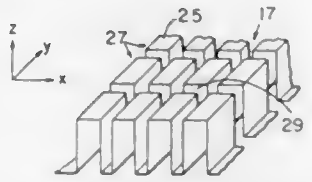
THERMOELECTRIC ASSEMBLY HAVING A PRE-PUNCHED METAL FOIL CONNECTOR

Andrew G. F. Dingwall, Somerville, N.J., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed June 9, 1967, Ser. No. 645,581

Int. Cl. G21h *1/10*

U.S. Cl. 136—202 **1 Claim**



A flexible, high thermal conductance connector for elements of a high temperature, radioisotope heated thermoelectric generator having folded metallic foil between the individual thermoelements and a heat sink therefor in a low volume, compact, multi-thermoelement assembly that is efficiently produced and that provides a unique spring action, reliable all metallurgical connections and high thermal transfer between the thermoelements and the heat sink.

3,449,173

THERMOELECTRIC COUPLE WITH SOFT SOLDER ELECTRICALLY CONNECTING SEMI-CONDUCTORS AND METHOD OF MAKING SAME

Joachim Rupprecht, Nuremberg, and Heinz Walz, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Continuation of application Ser. No. 487,454, Sept. 15, 1965. This application June 3, 1968, Ser. No. 740,773

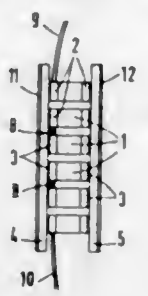
Claims priority, application Germany, Sept. 18, 1964, S 93,220

Int. Cl. H01v *1/14*

U.S. Cl. 136—205 **3 Claims**

A thermoelectric couple including a pair of semiconductor members, a pair of side element portions of electrically conductive plate material in contact engagement respectively with each of the semiconductor members, and a middle element portion of electrically conductive soft solder extending between and in contact engagement with the side element portions for electrically connecting the semiconductor members.

The method of producing the foregoing connector element includes mounting metallic end plates on semiconductor members of opposite conductivity type spaced from one another, placing soft solder material adjacent the end plates, and heating the end plates and the soft solder material to a temperature at which the soft solder material softens and flows into engaging contact with the end plates in the space therebetween.



3,449,174

COAXIAL JACKETTED THERMOCOUPLE

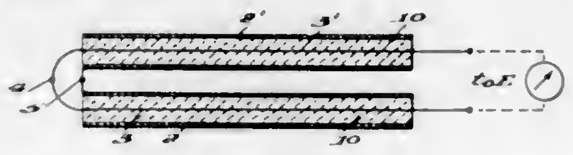
Alois Kleinle, Weinheim, Germany, assignor to Deutsche Gold- und Silber-Schiedeanstalt vormals Roessler, Frankfurt am Main, Germany

Filed Mar. 24, 1966, Ser. No. 537,073

Claims priority, application Germany, Mar. 25, 1965, D 46,891

Int. Cl. H01v *1/02*

U.S. Cl. 136—228 **3 Claims**



High temperature thermoelement of two coaxial conductors provided with ceramic insulation between the inner conductors and jacket.

3,449,175

ZIRCONIA-BASED THERMOELECTRIC COMPOSITIONS

Charles I. McVey, Shaker Heights, Newton McConnaughey, Lynchburg, Harlan D. Gibson, Cincinnati, and Jack V. Smith, Springboro, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 21, 1968, Ser. No. 707,203

Int. Cl. H01v *1/16*

U.S. Cl. 136—239 **1 Claim**

A thermoelectric element comprising a densified body having electrical leads at opposed portions of said body which comprises a matrix of zirconia and a metal selected from zirconium, titanium, vanadium, and yttrium, a dispersion of said selected metal in said matrix, and a metal oxide selected from yttria, calcia, and a 4*f* rare earth oxide, when added to said matrix serves to stabilize the zirconia in the crystalline habit.

3,449,176

COATING OF SOLID SUBSTRATES

Nicholas P. Klass, Reading, Pa., and Ralph W. Reed, White Bear Township, Ramsey County, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 163,885, Jan. 2, 1962. This application Jan. 14, 1966, Ser. No. 520,671

Int. Cl. B44d *1/34, 5/10*

U.S. Cl. 148—6.15 **6 Claims**

When metallic substrates are abraded with a low density abrasive product and thereafter promptly provided with any of a wide variety of protective decorative coats, results are superior to those achieved with other chemical or mechanical methods of surface preparation.

3,449,177

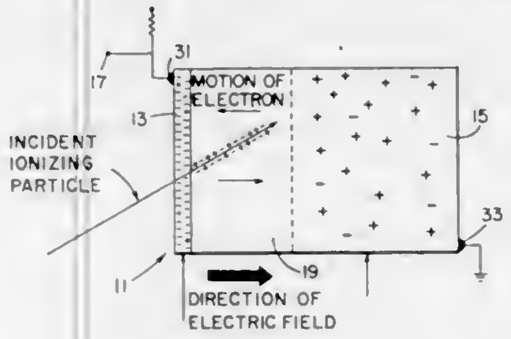
RADIATION DETECTOR

Gerald C. Huth, Rosemont, and Russell A. McKinney, Philadelphia, Pa., assignors to the United States of America as represented by the United States Atomic Energy Commission

Continuation-in-part of application Ser. No. 257,935, Feb. 12, 1963, now Patent No. 3,293,435. This application June 30, 1966, Ser. No. 562,954

Int. Cl. H01l *7/34, 15/00;* **H01g** *9/00*

U.S. Cl. 148—187 **4 Claims**



Method for making a semiconductor, low energy, X-ray detector, having first and second semiconductor conductivity types that are reverse biased on opposite sides of said detector to produce a depletion region therebetween in which said X-rays are absorbed to produce hole electron pairs that are swept out of the depletion layer for collection in said respective first and second semiconductor conductivity types, comprising the steps of making said first semiconductor conductivity type with a deeply diffused portion the outer portion of which getters lifetime affecting impurities from the deeper part, and removing the outer portion by lapping and etching as measured by micrometers to produce a shallow, dopant, concentration gradient of from 10^{12} atoms/cm.^{3} to 0 atoms/cm.^{3} and a thin "window" for the passage of said X-rays therethrough to said depletion region with provision for the connection of contacts to the first and second conductivity types on the opposite sides of said detector for the removal and detection of the charges collected therein from said depletion region.

3,449,178

THIXOTROPIC OXIDIZER PROPELLANT MIXTURES

William B. Tarpley, Jr., West Chester, Pa., assignor to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 8, 1960, Ser. No. 21,059

Int. Cl. C06b *1/00*

U.S. Cl. 149—17 **8 Claims**

1. A mixture having the property of being unpourable under storage or low shear conditions and of becoming fluid and flowing under increased shear consisting essentially of an intimate mixture of an inorganic liquid oxidizer and from two to ten weight percent of carbon black, said carbon black being prepared from acetylene gas by continuous thermal decomposition and comprising colloidal sized particles of carbon joined together in a chainlike fashion so that the mass of the carbon black is a persistent three-dimensional structure.

2. A mixture in accordance with claim **1** in which the liquid oxidizer propellant consists essentially of red fuming nitric acid.

3,449,179

FLEXIBLE EXPLOSIVE COMPOSITIONS CONTAINING BLOCK COPOLYMERS

Saburo Minekawa, Yokohama, Koretaka Yamaguchi, Kawasaki, and Kazuo Toyomoto and Einosuke Fujimoto, Yokohama, and Teruhiko Suzuki, Nobeoka, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Aug. 29, 1967, Ser. No. 663,954

Claims priority, application Japan, Sept. 7, 1966, 41/58,668

Int. Cl. C06b *3/00*

U.S. Cl. 149—19 **24 Claims**

This invention relates to an explosive composition consisting essentially of an explosive component comprising a cap-sensitive high-explosive compound such as nitric esters and nitramines which may be easily initiated under a released condition by the conventional detonator and if required, an oxidizing agent, and a non-explosive component comprising a thermoplastic elastomer which is a block copolymer consisting of conjugated diolefin segments and monovinyl aromatic hydrocarbon segments. The explosive composition may be formed into a sheet or strand. The shaped explosive has a good flexibility and a great utility as an explosive to be used in various fabrication of metals.

3,449,180

EXPLOSIVE FOR BLASTING AGENT CONTAINING MICROCRYSTALLINE LIPOPHILIC AMMONIUM NITRATE

Marcel Vercauteren, Lima, Peru, assignor to Hirtenberger Patronen-, Zundibutchen- und Metallwarenfabrik Aktiengesellschaft, Hirtenberg, Austria, a corporation of Austria

No Drawing. Filed Oct. 18, 1967, Ser. No. 676,018

Claims priority, application Austria, Nov. 21, 1966, A 10,746/66

Int. Cl. C06b *1/04*

U.S. Cl. 149—21 **9 Claims**

An explosive or blasting agent containing ammonium nitrate, the ammonium nitrate comprising at least in part microcrystalline lipophilic ammonium nitrate. The lipophilic ammonium nitrate is produced by crystallizing concentrated or saturated solutions of ammonium nitrate in the presence of salts of primary amino alkanes in the amount of from 0.1 to 5% by weight, having chain-lengths ranging from C_8 to C_{18}, and in the presence of salts of amino alkanoles in the amount of from 0.2 to 5% by weight, at a temperature between 20 and 90° C.

3,449,181

AQUEOUS SLURRY TYPE EXPLOSIVE CONTAINING THE COMBINATION OF NITRITE AND SULFAMATE AND/OR SULFAMIC ACID AS AERATION AGENT

Robert J. Armantrout, Lake Hopatcong, N.J., and Burton C. Person, Virginia, Minn., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 29, 1967, Ser. No. 694,387

Int. Cl. C06b *1/04*

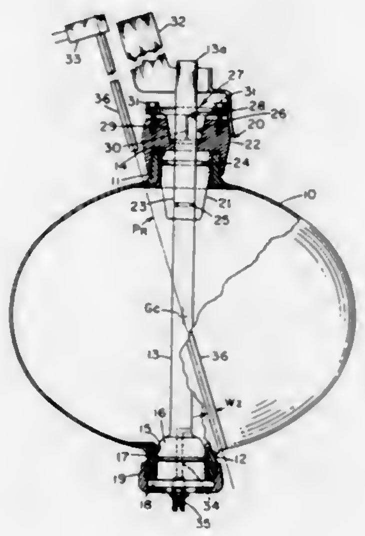
U.S. Cl. 149—60 **11 Claims**

The invention provides (1) inorganic oxidizer salt explosives of the aqueous slurry type containing at least one of a specific group of inorganic nitrates, for aeration of slurry to decrease the slurry density, in combination with sulfamic acid and/or at least one of a specific group of sulfamates, as an additive component for regulation of the aeration rate, and (2) the above described combination of nitrite(s) and additive component as an aeration agent per se.

3,449,182

METHOD OF MAKING A HOLLOW, FIBER-REINFORCED PLASTIC PRESSURE VESSEL

Arthur J. Wiltshire, Cleveland, Ohio, assignor to Structural Fibers, Inc., Chardon, Ohio, a corporation of Ohio
Filed May 16, 1966, Ser. No. 550,280
Int. Cl. B29c *27/22, 25/00*
U.S. Cl. 156—69 9 Claims

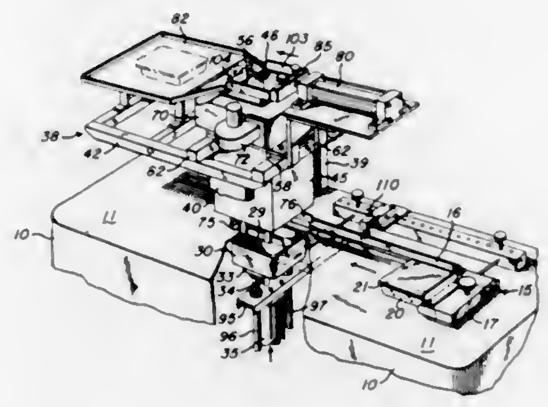


A filament winding technique for fabricating a hollow-filament-wound oblate, spheroidal pressure vessel. A flexible, hollow thermoplastic liner having an oblate spheroidal external configuration is subjected to an internal pressure while the flattened poles of the liner are restrained. A rigid winding mandrel is thus provided and the restraint on the flattened poles prevents the liner from assuming a spherical shape. Resin-impregnated continuous filaments are wound about the surface of the liner in a geodesic pattern. The restraint on the flattened poles of the liner is removed to permit the vessel to assume a neutral shape and the resin is then cured.

3,449,183

THERMOPLASTIC SEALING APPARATUS AND METHOD

David R. Zelnick, Dayton, Ohio, assignor to Koehler-Dayton, Inc., Dayton, Ohio, a corporation of Ohio
Filed Aug. 11, 1966, Ser. No. 571,781
Int. Cl. B29d *9/10;* **B32b** *31/04*
U.S. Cl. 156—69 11 Claims



10. The method of forming a seal between the peripheral lip of a food tray formed of thermoplastic oriented sheet material and a lid formed of similar material comprising the steps of supporting said tray at the lip, superimposing said lid with a portion of the lid overlying said lip, forcing said superimposed lid at said lip into engagement with a heated surface while sliding relative to said surface confining contact of said lid with said surface substantially at said lip and inducing direct and frictional heating into said lip for joining said tray and said top at said lip, and continuing the sliding movement of said tray onto a relatively cooler surface while maintaining the relative position of said tray and said surface to set the thermoplastic material in the sealed condition.

3,449,184

METHOD OF MAKING LAMINATED GLASS PRODUCTS

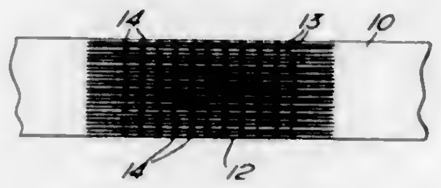
Albert C. Balk, 16861 Avon Road, Detroit, Mich. 48219
Filed Oct. 22, 1965, Ser. No. 500,930
Int. Cl. C03c *27/04;* **B32b** *31/04, 7/12*
U.S. Cl. 156—105 20 Claims

A laminated glass product is made by immersing two sheets of glass and an interlayer of another material in a bath of liquid resin. The glass sheets are sandwiched against opposite faces of the interlayer, thereby trapping a small quantity of the resin therebetween. The resin is of a type which will cause the formation of a bond between the glass sheets and interlayer at room temperature or slightly elevated temperatures and without producing any substantial volatile products. The sandwich is removed from inundation in the bath and the trapped resin is allowed to cure at room temperature or a slightly elevated temperature.

3,449,185

METHOD OF FUSING A THERMOPLASTIC FILM IN THE GAP OF THE WEFT BETWEEN ALTERNATE WARP THREADS OF A WOVEN FIBROUS BAND

John S. Plenderleath, 4, Home Terrace, Broughty Ferry, Angus, Scotland
Filed Jan. 14, 1966, Ser. No. 520,790
Claims priority, application Great Britain, Jan. 13, 1965, 1,450/65
Int. Cl. D03d *13/00;* **B32b** *3/00*
U.S. Cl. 156—148 2 Claims



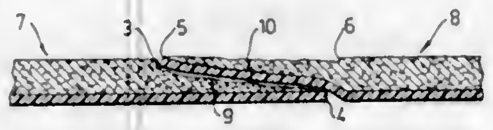
The method of making a band including weaving a band with a continuous warp and with a weft which is complete, except for a gap, inserting a film of suitable thermoplastic material into the gap and fusing the film in position in the gap. Alternate warp threads are woven on either side of the film and weft threads are embedded into the film prior to its being located in the gap.

3,449,186

METHOD OF SPLICING TWO SECTIONS OF PLASTIC COATED WEB MATERIAL

Sture Georg Ranö, Lund, Sweden, assignor to AB Tetra Pak, Lund, Sweden, a company of Sweden
Filed Oct. 22, 1965, Ser. No. 501,694
Claims priority, application Sweden, Jan. 13, 1965, 371/65
Int. Cl. B29b *27/02;* **B32b** *31/18*
U.S. Cl. 156—159 5 Claims

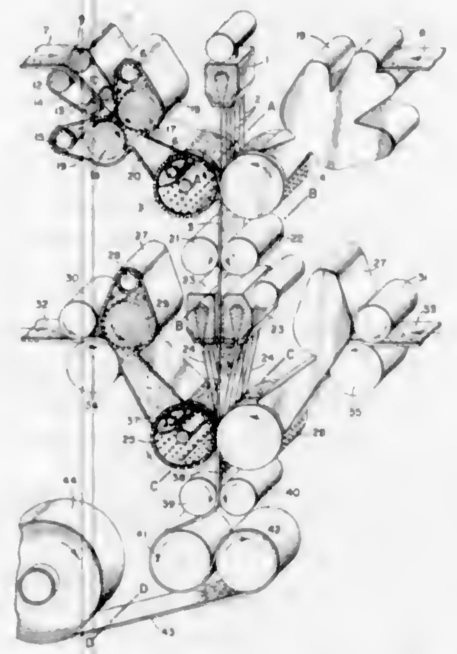
Method of splicing two sections of web material together. Each section has at least one layer of heat sealable material coated thereon. A wedge shaped section is torn from each section and the heat sealable portion of one section is placed on the torn portion of the other and the two sections are heat sealed together.



3,449,187

METHOD AND APPARATUS FOR MAKING NONWOVEN FABRICS

Emilian Bobkowicz, 1435 St. Alexander St., Room 310, Montreal, Quebec, Canada
Filed Dec. 9, 1964, Ser. No. 416,984
Claims priority, application Canada, Dec. 8, 1964, 918,263
Int. Cl. B32b *23/18;* **B29f** *3/10*
U.S. Cl. 156—161 13 Claims



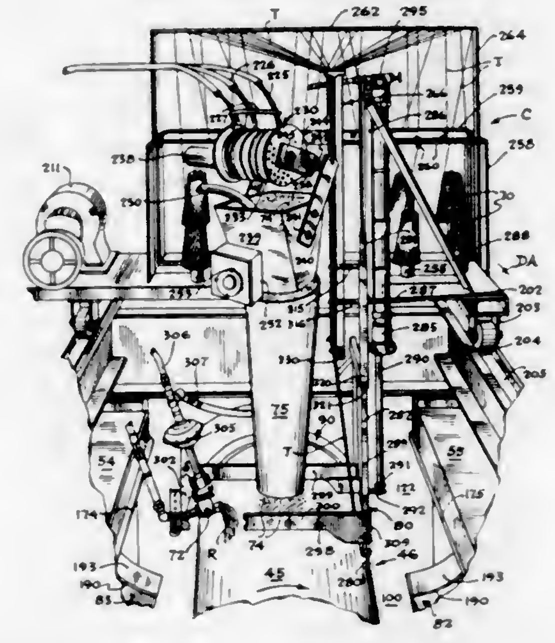
Nonwoven fabrics are produced according to the invention in a continuous sequence of operations by extruding from a suitable extruding device a curtain of thermoplastic resin filaments which are then stretched to cause orientation of the resin molecules; the curtain, still in tacky condition, is then contacted on at least one side thereof with a layer of evenly dispersed staple fibers and the filaments and staple fibers are pressed together and cooled to form an intermediate composite web; the latter is then warmed-up and contacted with additional extruded curtains of thermoplastic resin filaments which are oriented by stretching and superimposed with further layers of evenly dispersed fibers and the obtained combination is compressed and cooled to form the nonwoven fabric which can then be simply wound on a collecting roll at speeds exceeding 1000 feet per minute.

3,449,188

METHOD AND APPARATUS FOR PRODUCING MOLDED HOLLOW ARTICLES

Donald R. Huff, Springfield, Mo., assignor to Ozark Reconditioning Company, Springfield, Mo., a corporation of Missouri
Filed Aug. 18, 1965, Ser. No. 480,709
Int. Cl. B31c *13/00;* **B65h** *81/00*
U.S. Cl. 156—173 12 Claims

Tubular bodies such as drums or the like are molded from strands and chopped rovings in a matrix such as a thermosetting resin binder. The rovings, strands and binder are deposited on a mandrel-type die, the strands being wound thereon under tension. Afterwards, a pair of normally open matched dies, on opposite sides of the mandrel, are closed to confine the materials on the mandrel for molding. Closure of the matched dies breaks the strands at the unused length; this releases the tension in the wound strands so that all the materials are molded entirely under compression.



ERRATA

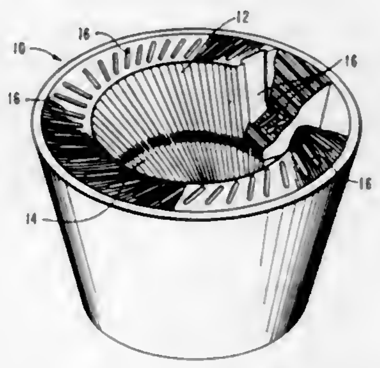
For Class 156—204 see:
Patent No. 3,449,157

For Class 156—209 see:
Patent No. 3,449,158

3,449,189

METHOD FOR FABRICATING ABLATIVE AND INSULATIVE STRUCTURES

Donald M. Hatch, Harbor City, Calif., assignor to Hitco, a corporation of California
Filed Apr. 22, 1965, Ser. No. 450,076
Int. Cl. B29c *1/14*
U.S. Cl. 156—222 6 Claims



An ablative structure in the form of a relatively thick-walled body of revolution is prepared by laying up, substantially side by side successive panels of high temperature resistant materials impregnated with a thermally curable resin within a female mold, disposing between certain panels removable aperture-defining plugs out of communication with the interior and exterior surface of the body, curing the resin and densifying the structure under radially outwardly exerted pressure and removing the plugs from the structure.

3,449,190

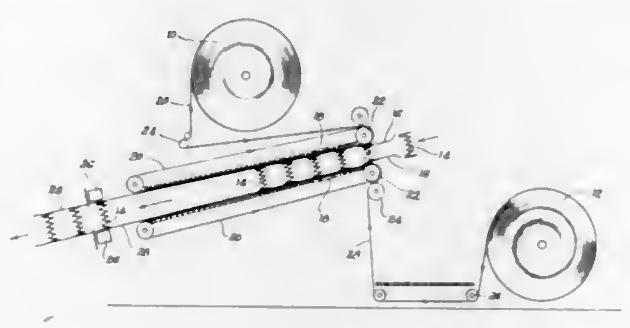
SYSTEM FOR THE PRODUCTION OF MATTRESS AND CUSHION CONSTRUCTIONS

Edward L Bronstien, Jr., St. Paul, Richard A. Fisher, Minneapolis, and George Gold, Prior Lake, Minn., assignors of fifty percent to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota, and fifty percent to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware

Filed Mar. 14, 1966, Ser. No. 534,110

Int. Cl. B32b *31/10, 15/02*

U.S. Cl. 156—250 **20 Claims**



A system for producing articles such as cushions and mattresses wherein panels of material are continuously moved adjacent coil holding jaws. The jaws hold a row of coils, and the jaws are adapted to periodically index for exposing the coil ends to contact with the opposed panels of material, and for releasing the coils for attachment of the coils to the panels. An adhesive is located on the panel surfaces to provide gripping relationship between the coils and panels.

3,449,191

POLYMER BONDING PROCESS AND PRODUCT

Murray E. Taylor, Warren, Mich., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

No Drawing. Filed Feb. 3, 1964, Ser. No. 342,232

Int. Cl. C09j *3/12, 7/00;* **C09d** *3/38*

U.S. Cl. 156—306 **12 Claims**

A polyethylene base material comprises the cured product of a linear polyethylene base and a peroxide selected from the group consisting of 2,5 - bis(tert-butylperoxy-2,5-dimethylhexane and 2,5 - dimethyl - 2,5 - di(t-butylperoxy) hexyne-3. Additional components of fillers and antioxidants are incorporated for selective properties. A method of making an ablative material comprises the steps of fluxing a polyethylene composition, incorporating into the fluxing polyethylene a peroxide of 2,5-bis(tert-butylperoxy)-2,5-dimethylhexane or 2,5 - dimethyl - 2,5 - di(t-butylperoxy)hexyne-3 with or without selected fillers and antioxidants and curing the aggregate at 320+/−40° F. up to an hour in time.

3,449,192

POLYETHYLENE ALUMINUM LAMINATES

George C. Hook, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,160

Int. Cl. C23g *1/02;* **C23f** *1/00;* **C09j** *5/02*

U.S. Cl. 156—316 **10 Claims**

The adhesion of polyethylene to aluminum substrates is improved by first treating the aluminum surface with hot formic acid followed by treatment with a polynuclear hydrocarbon or a long chain acyl 1,3-diketone chelating agent before application of the polyethylene layer.

3,449,193

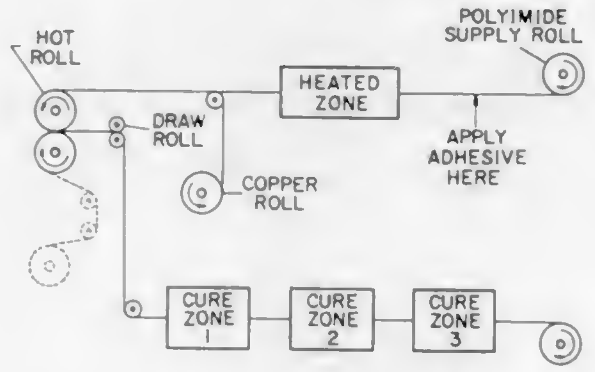
METHOD OF BONDING POLYIMIDE FILMS

Francis H. Bratton, Herbert J. Fick, and Kenneth W. Klimisch, Northfield, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

Filed Mar. 7, 1966, Ser. No. 532,146

Int. Cl. B32b *15/08, 31/26*

U.S. Cl. 156—322 **7 Claims**



7. The method of curing a raw adhesive film consisting essentially of a polyamic acid confined between two barrier layers at least one of which has porosity for water vapor and for residual solvent in said raw adhesives, said method comprising:

(a) subjecting a film of exposed raw adhesive to a temperature in the range of between about 250° F.–350° F. for a period of several minutes and thereafter slowly decreasing the temperature to a range of between about 200° F. to 250° F.;
(b) exposing said film to a second temperature in the range of about 300° F.–500° F. for a period of about ¼ to about 3 minutes, and tacking said film to a surface of a member to be bonded thereto while at said elevated temperature;
(c) post-curing said adhesive film by exposure to a treating zone wherein the temperature increases at a slow rate from about 250° F. to about 450° F., said exposure being continued for a period of between about 3 to 8 hours.

3,449,194

PROCESS OF LAMINATING WOOD USING VINYLIDENE CHLORIDE-ACRYLONITRILE COPOLYMER LATEX BASED ADHESIVES

Norman E. Scheffler and Frederick Le Roy Brown, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,664

Int. Cl. C09j *3/06*

U.S. Cl. 156—331 **2 Claims**

This invention is directed to an improved process for laminating wood and wood products utilizing as an adhesive composition an aqueous latex of an interpolymer consisting essentially of (a) from about 90 to 94 weight percent of vinylidene chloride and from about 6 to 10 weight percent of acrylonitrile interpolymerized with (b) from about 1 to 4 weight percent of a specified water-soluble salt of an amino alcohol ester of an unsaturated carboxylic acid. The prescribed adhesive compositions provide unexpectedly enhanced hot-press cure rates, adhesive strength and resistance to delamination.

3,449,195

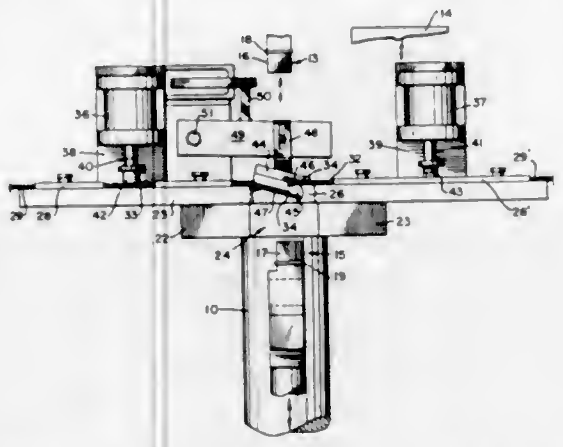
HEAT SEALING APPARATUS

Laurent H. Girard, Bedford, N.H., assignor to American Velcro, Inc., a corporation of New Hampshire

Continuation-in-part of application Ser. No. 433,341, Feb. 17, 1965. This application Apr. 12, 1966, Ser. No. 542,018

Int. Cl. B65h *69/08;* **B29c** *27/06*

U.S. Cl. 156—443 **9 Claims**



1. Apparatus for overlapping portions of sheet material and heat sealing them together comprising:

(a) a pair of heat sealing elements mounted for reciprocal movement to and from a heat sealing station,
(b) means for reciprocating the heat sealing elements to and from the heat sealing station,
(c) sheet material guide means for receiving portions of sheet material and positioning them in overlapping relationship at the heat sealing station, and
(d) means for moving the guide means away from the heat sealing station before moving the heat sealing elements into contact with the sheet material at the heat sealing station.

3,449,196

APPARATUS FOR MAKING BAGLIKE BODIES OF THERMOPLASTIC SYNTHETIC RESIN FILMS

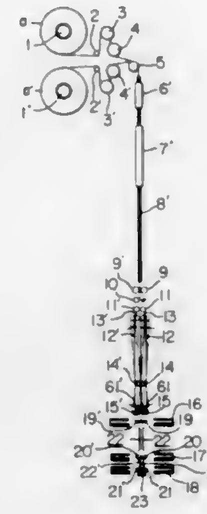
Hirosuke Yumoto, Takeshi Hashimoto, and Yutaka Morita, Mishima-shi, Shizuoka-ken, and Yoshinobu Shibata, Sunto-gun, Shizuoka-ken, and Shunichiro Kirimura and Mototsugu Kono, Mishima-shi, Shizuoka-ken, and Yasuhiro Kojima, Bunkyo-ku, Tokyo, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan

Filed Apr. 20, 1964, Ser. No. 361,164

Claims priority, application Japan, Aug. 8, 1963, 38/41,889; Sept. 25, 1963, 38/70,493; Sept. 28, 1963, 38/51,623

Int. Cl. B32b *31/20;* **B29d** *23/00*

U.S. Cl. 156—498 **3 Claims**



An apparatus for making baglike bodies of thermoplastic synthetic resin films by heat-sealing two or more sheets of said films, the apparatus including a tube-making means consisting of at least one guide roll, take-up rolls spaced from the guide roll, a pair of cooling means disposed between the guide roll and the take-up rolls along the advancing direction of the films and just slightly inwardly of the location of the side edges of the films to be sealed, said cooling means having a gap through which the films are slidable, heating means disposed on both sides of the path of the films adjacent the film edges and along which the film edges protrude externally of said cooling means are adapted to slide, a further cooling means disposed next following each said heating means in the direction in which the films move and against which the film edges are adapted to slide; the combination further comprising a severing means for cutting the thermoplastic synthetic resin film tube whose edges have been completely fused together by said tube-making means, in predetermined lengths at right angles to the advancing direction of the film tube; and a bag bottom sealing means having heating means for fusing together the severed edge of the film tube.

3,449,197

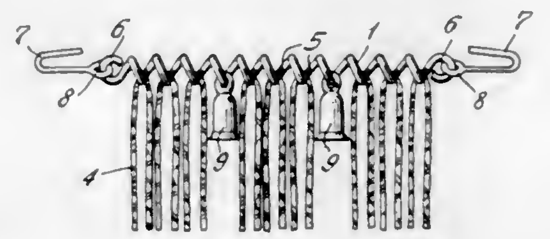
TINSEL HANGING DECORATION

Angelo A. Molinaro, 239 Trumbull Ave., Bridgeport, Conn. 06606

Filed Dec. 3, 1965, Ser. No. 511,370

Int. Cl. A47g *33/08*

U.S. Cl. 161—12 **6 Claims**



This invention describes a tinsel hanging decoration which permits an operator to decorate a Christmas tree branch longitudinally with tinsel, by merely attaching the decoration to the branch. It consists of an expandable elongated body, draped with tinsel and has fastening means for quickly attaching the decoration longitudinally along the Christmas tree branch. It also describes various forms of the invention including, the adding of auxiliary ornamentation to the decoration to increase the usefulness thereof.

3,449,198

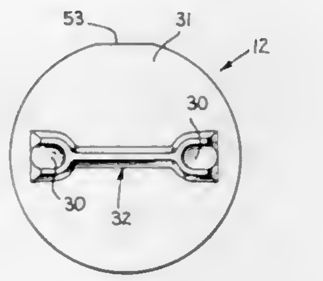
LENS BLANK

John D Spragg, Indianapolis, Ind., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island

Filed Sept. 29, 1966, Ser. No. 582,931

Int. Cl. B32b *17/00;* **B24b** *13/02*

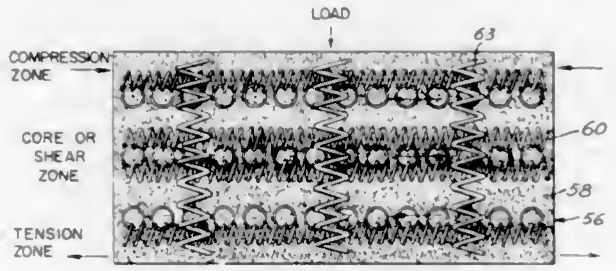
U.S. Cl. 161—42 **4 Claims**



A slab of material with an integrally formed nubbin adapter for engagement by oscillating pins of a workpiece mounting device on a grinding machine for forming a lens from the slab. After the side of the slab opposite the integral nubbin adapter is ground to size, the slab is reversed and the adapter is removed by grinding.

3,449,199
HELICAL REINFORCED MATERIALS AND METHOD OF MAKING SAME

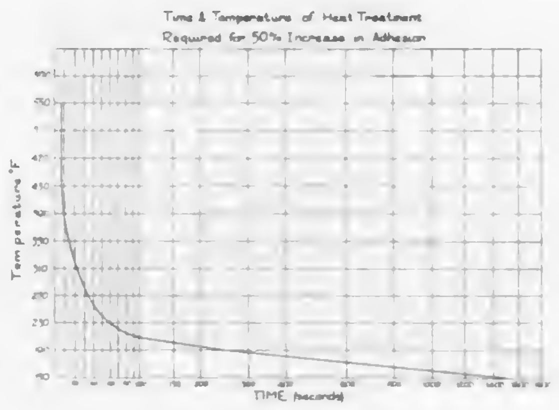
George N. J. Mead, 5 Robin Lane, Exeter, N.H. 03833
Filed Feb. 13, 1964, Ser. No. 344,637
Int. Cl. B32b *7/04, 5/12, 3/00*
U.S. Cl. 161—47 **4 Claims**



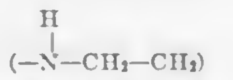
Laminated plastic structures are reinforced by means of helical elements disposed internally of the structure in parallel groups to provide mechanical interlocking with a matrix and increase the bonding surface area between the matrix and the elements. The helical reinforcing fibers cooperate with the matrix to form a tough composite structure capable of absorbing large amounts of energy both plastically and elastically during tensile or compression loading.

3,449,200
PRODUCT AND METHOD OF PRODUCING COMPOSITE POLYESTER TEXTILE RUBBER PRODUCTS

Edward F. Kalafus, Akron, and Richard M. Wise, Uniontown, Ohio, assignors to The General Tire & Rubber Company, a corporation of Ohio
Filed Oct. 5, 1965, Ser. No. 493,118
Int. Cl. B32b *25/08;* **C09j** *3/14, 5/02*
U.S. Cl. 161—92 **13 Claims**



Polyester textiles give improved adhesion to vulcanized rubber compounds using conventional elastomer/aldehyde resin adhesives when the textile is first coated with a polymer such as polyethylenimine containing a preponderance of

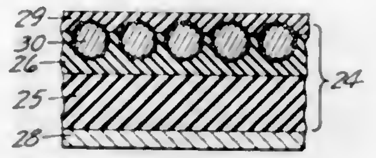


$$(-\overset{H}{\overset{|}{N}}-CH_2-CH_2)$$

groups and is then conditioned in an inert gas environment containing elemental oxygen at a temperature of 180° F. or more for a period of time sufficient to increase the adhesion at least 50% compared to the adhesion obtained when the coated textile has not been so heat conditioned.

3,449,201
TIRE SIDEWALL FACINGS

Philip V. Palmquist, Maplewood Village, and Nelson Jonnes, Stillwater, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 506,530, Nov. 5, 1965. This application Oct. 10, 1966, Ser. No. 585,450
Int. Cl. D06n *7/04;* **B32b** *17/10, 27/38*
U.S. Cl. 161—164 **12 Claims**



Sheet material comprising an elastomeric support sheet capable of elastic elongation of at least 200 percent and reflex-reflective elements partially embedded in the support sheet, at least the back outer stratum of the sheet including a vulcanizable elastomer. In a preferred embodiment the elements are embedded in a material comprising an organic compound having oxirane functionality and a poly (tetramethyleneoxide) diamine that is a curing agent for the oxirane compound.

3,449,202
UNUSUAL STRUCTURAL MATERIAL

John D. Bowen, Jr., Seminole County, Fla., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
No Drawing. Filed June 29, 1964, Ser. No. 378,985
Int. Cl. B32b *19/04, 19/08*
U.S. Cl. 161—170 **4 Claims**

This invention relates to a structural ablative material comprising an ablative material resistant to a nuclear detonation environment comprising a fibrous mat comprising about 45 to 55 weight percent asbestos fiber and about 5 to 10 weight percent polyolefin fiber, impregnated with a homogeneous mixture comprising about 30 to 40 weight percent nuclear radiation resistant thermosetting resin and about 13 to 18 weight percent magnesium oxide powder.

3,449,203
HIGH EXPANSION SEALING GLASS AND COMPOSITE ARTICLE

Hellmuth G. Fischer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Aug. 24, 1966, Ser. No. 574,543
Int. Cl. B32b *17/06, 15/20;* **C03c** *3/04*
U.S. Cl. 161—196 **11 Claims**

10. A composite article comprising preformed parts, at least one of which parts is a metal and a layer of a vitreous sealing glass between said parts and integrally bonded thereto and wherein said solder glass consist essentially of 40 to 45 weight percent SiO_2, 4 to 6 weight percent MgO, 2 to 3 weight percent BaO, 1 to 2 weight percent ZrO_2, 4 to 5 weight percent Al_2O_3, 2 to 4 weight percent ZnO, 0.1 to 0.5 weight percent CaO, 25 to 28 weight percent Na_2O, 7 to 8 weight percent K_2O, 2 to 3 weight percent F_2 and 1 to 2 weight percent B_2O_3.

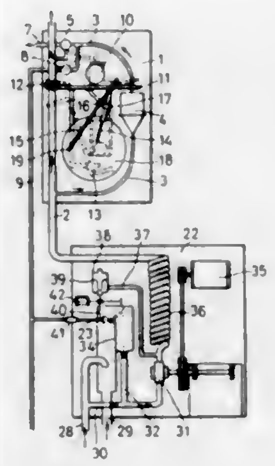
3,449,204
OLEFIN ADHESIVES, ARTICLES AND COMPOSITIONS THEREOF

Robert David Souffie, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 17, 1964, Ser. No. 345,074
Int. Cl. B32b *25/02, 25/08;* **C08d** *9/04*
U.S. Cl. 161—243 **4 Claims**

1. An adhered, uncured composite assembly displaying exceptional cohesive tack comprising a pair of elastomeric articles, at least one of which articles being prepared from a copolymer of ethylene, propylene and an open-chain non-conjugated C_6–C_{22} hydrocarbon diene having a Mooney viscosity (ML–4/212° F.) of more than about 40, said articles having contacting surfaces joined together by a dried layer of a sulfur-curable composition comprising a dispersion of (1) 100 parts of a copolymer of ethylene, propylene and a non-conjugated C_6–C_{22} hydrocarbon diene having a Mooney viscosity (ML–4/212° F.) of from about 10 to 20, (2) from about 20 to 300 parts of carbon black, (3) from about 0.2 to 2 parts of sulfur, and (4) from about 3 to 10 parts of a metal oxide, in an inert organic solvent for said copolymer.

3,449,205
DEVICE FOR AUTOMATICALLY RECORDING AND REGULATING THE DEGREE OF BEATING OF SUSPENSION OF FIBROUS MATERIAL

Milos Krofta, 58 Jokun Ave., Lenox, Mass. 01240
Filed May 5, 1965, Ser. No. 453,271
Int. Cl. D21d *1/00*
U.S. Cl. 162—252 **8 Claims**

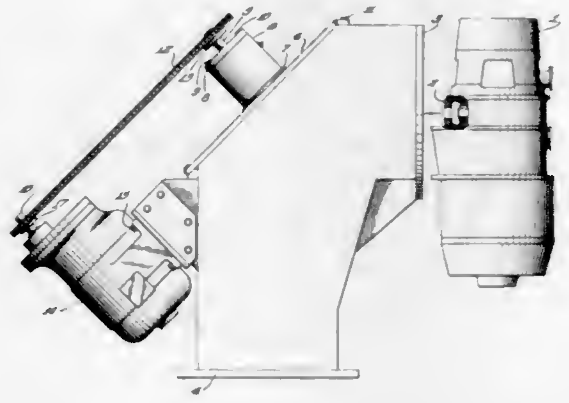


A device for automatically recording and regulating the degree of beating of suspensions of fibrous material, particularly paper pulp, wherein the weight of water, passing through a screen in a hollow container, is a measure of the degree of beating, comprising a weight balance beam, a shaft for said beam, a hollow measuring container provided with a screen, mounted on one arm of said weight balance beam, a pair of counterweights adjustably mounted on the other end of said weight balance beam, a main conduit for the suspension of fibrous material, a first auxiliary flexible conduit connecting the bottom of the container with said main conduit, a second auxiliary flexible conduit connecting the top of the container with said main conduit, first valve means for selectively connecting said second conduit to said main conduit or to a compressed air source, second valve means for connecting said second conduit to a source of water under pressure, indicating means attached to said beam, setting means for presetting the position of the desired drainage range of the stock and indicating means secured to said beam.

3,449,206
CIRCULAR TARGET FOR HIGH VOLUME ENTRAINED REFINER DISCHARGE

Alexander D. Cormack, Pittsfield, Mass., assignor to Jones Division, Beloit Corporation, Pittsfield, Mass., a corporation of Wisconsin
Filed June 8, 1965, Ser. No. 462,367
Int. Cl. D21c *7/08;* **B02c** *23/00*
U.S. Cl. 162—261 **9 Claims**

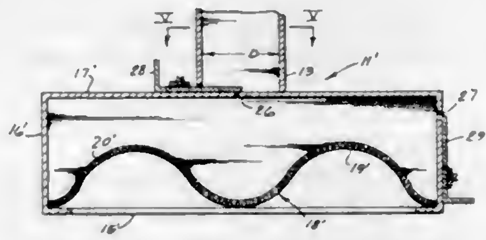
1. In a paper processing system adapted for use with a refiner, a conduit for guiding the flow of pulp therethrough,
said conduit having an inlet and an outlet thereof and having a target wall formed intermediate said inlet and said outlet, an agitation member mounted for rotation at said target wall and extending within said conduit for improving the flow of pulp therethrough to a secondary paper processing means,



means for actuating said agitation member into a rotary motion.

3,449,207
DUAL ORIFICE VACUUM FORMING MOLD

Charles W. Modersohn, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 3, 1965, Ser. No. 484,919
Int. Cl. D21j *7/00*
U.S. Cl. 162—411 **6 Claims**

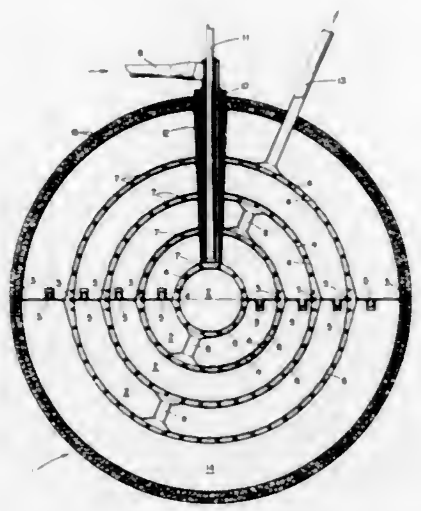


A pulp molding machine having a plurality of molds successively submerged in a pan of stock. A vacuum pump is connected by means of conduits to vacuum chambers formed in the molds and a first orifice is formed between the vacuum pump and each of the vacuum chambers to maintain a vacuum condition in the conduits and a second orifice providing a bleed opening is formed in the wall of each of the molds to communicate the vacuum chambers with atmospheric air surrounding the molds. The orifices control the level of vacuum within the vacuum chambers.

3,449,208
SMALL NUCLEAR REACTOR HEAT SOURCE

Ralph Balent, Tarzana, Joseph R. Wetch, Woodland Hills, and Emanuel Richard Cohen, Encino, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 17, 1956, Ser. No. 628,897
Int. Cl. G21c *1/26, 15/00*
U.S. Cl. 176—50 **20 Claims**

1. A small nuclear reactor comprising a core including an assembly of a plurality of members, each member consisting essentially of a solid metal hydride moderator matrix and a fissionable material, each of said members being enclosed with a relatively hydrogen-impermeable lining, a liquid metal coolant, a plurality of coolant channels passing through said core for passage of said coolant, said coolant channels being defined by said members, and reflector means substantially surrounding said core.



3,449,209

METHOD OF PREPARING *BRUCELLA ABORTUS* VACCINES

John Cameron, London, England, assignor to Burroughs Wellcome & Co. (U.S.A.) Inc., a corporation of New York

No Drawing. Filed May 25, 1965, Ser. No. 458,768
Claims priority, application Great Britain, May 26, 1964, 21,685/64
Int. Cl. C12k *5/00, 3/00;* **A61k** *23/00*
U.S. Cl. 195—96 2 Claims

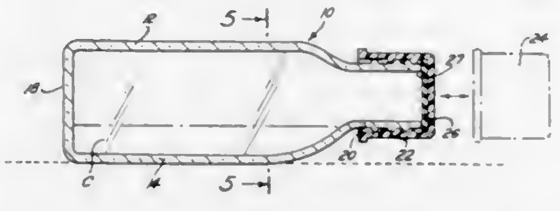
A method of preparing vaccines containing living *Brucella abortus* organisms, which comprises the first step of culturing the *Brucella abortus* organism in a nutrient medium containing fructose and the second step of freeze drying the culture prepared in the first step.

3,449,210

MICROORGANISM CULTURING ASSEMBLY

Paul A. Rohde, Baltimore, Md., assignor to Baltimore Biological Laboratory, Cockeysville, Md., a corporation of Maryland

Filed Aug. 22, 1967, Ser. No. 662,346
Int. Cl. C12b *1/00, 1/04*
U.S. Cl. 195—139 1 Claim



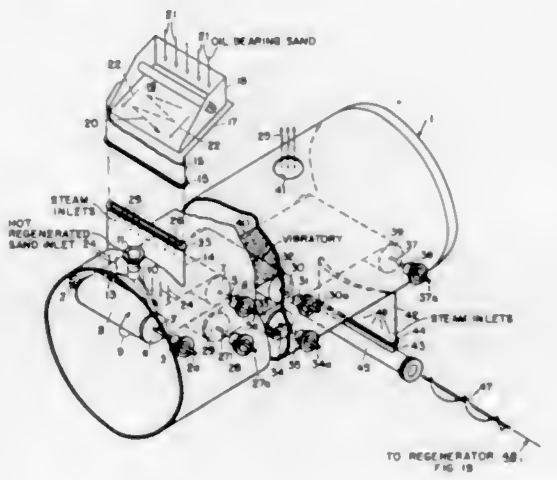
A sterile, disposable culturing assembly having a prepared, ready to inoculate culture medium within a culture flask; the flask having a wall laterally offset with respect to the opening or mouth of the flask to provide a recess for positioning the culture medium therein, the laterally offset wall having a relatively flat panel permitting culturing of the microorganisms in a horizontal plane and eliminating the need for angle adjusting shelves for accommodation of culture tubes having solidified slants; the configuration of the walls of the flask permitting access to all portions of the culture medium surface through the opening; and a threaded cap having a resilient member for sealing the opening to prevent loss of moisture from the culture medium over prolonged periods of storage.

3,449,211

APPARATUS FOR PYROLYSIS OF SOLIDS

Alfred J. Gorand, Ridley Park, Del., and Angelo A. Di Giacomo, Glendora, N.J., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Apr. 28, 1967, Ser. No. 634,658
Int. Cl. C10b *53/06;* **C10g**
U.S. Cl. 196—120 5 Claims



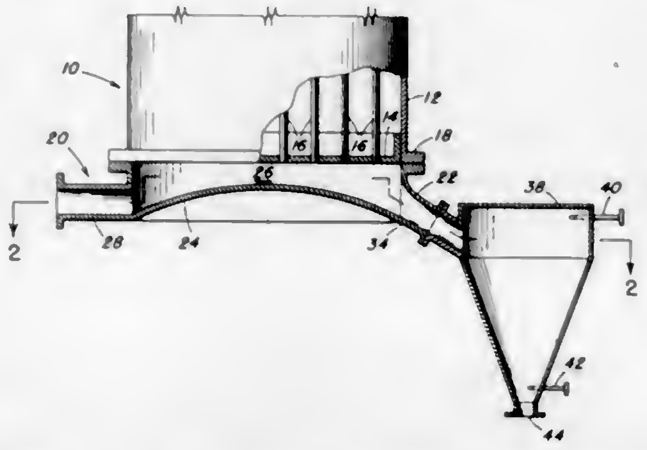
Fresh particulate solid material containing volatilizable constituents is physically mixed with hot particulate solid material at one end of a closed elongate vessel, the mixture then being moved to the opposite end of the vessel on a flat belt. During the travel through the vessel, the relatively cool fresh material is heated by the hot material and is pyrolyzed to drive off its volatilizable constituents. As a result of the pyrolysis, a combustible deposit is left on the pyrolyzed material. The solid material is abstracted from the far end of the vessel and the combustible deposit is burned off in a separate regenerator, this burning heating the material to a high temperature. A portion of this latter material is recycled to the vessel to serve as the hot material for the pyrolysis of the fresh incoming material.

3,449,212

CYCLONIC CRACKING VAPOR HEAT EXCHANGER INLET FOR SOLIDS REMOVAL

Rolf K. Dorn, Berkeley Heights, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Jan. 9, 1967, Ser. No. 608,159
Int. Cl. B01d *45/12;* **F28f** *19/00;* **C10g** *9/18*
U.S. Cl. 196—136 3 Claims



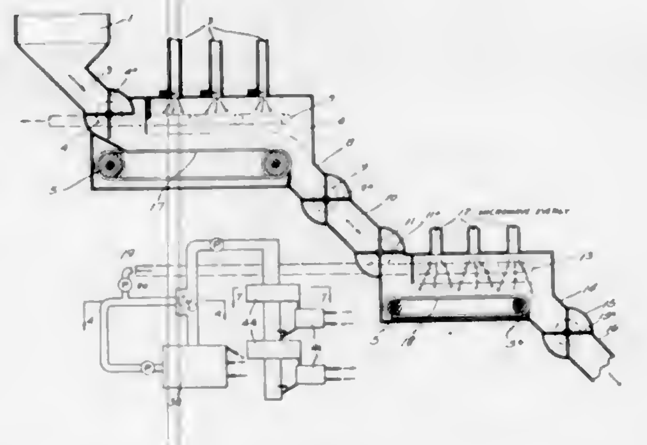
Particles of coke entrained in the effluent gases from petroleum cracking heaters tend to clog the transfer line heat exchangers where the gases are quenched. Exchanger inlet designs are herein proposed which impart a cyclonic motion to the gases, creating centrifugal forces which throw the coke particles outwardly, where they are collected before they can enter the heat exchanger.

3,449,213

PYROLYSIS OF COAL WITH MICROWAVE ENERGY

Edward M. Knapp, 951 N. Livingston St., Arlington, Va. 22205, and Weldon T. Ellis, Jr., 1215 Chickering Road, Nashville, Tenn. 37215

Filed Aug. 4, 1964, Ser. No. 387,453
Int. Cl. C10b *57/02, 39/00, 19/00*
U.S. Cl. 201—19 1 Claim



A method of obtaining pure marketable chemicals of commerce by an integrated system of four steps, as follows: (1) The heating of carbonaceous material to a temperature of approximately 600° F., using hot gas as the heating medium in a traveling belt pebble stove; (2) The pyrolysis of coal, as an example of carbonaceous material, by the use of an industrial heating microwave unit, to a temperature of approximately 800° F. in a partial vacuum; (3) The total absorption of the effluent from the pyrolysis in an oil bath, followed by partial desorption of the chemicals of commerce at a temperature which separates the chemical of commerce from the residual material which characteristically has a boiling point higher than the temperature of the oil used as the absorbent; and (4) The vapor phase fractionation of the resulting gas stream prior to any of the commingled chemicals of commerce returning to ambient temperatures.

3,449,214

FLUORSPAR-FLUX ADDITIVE IN A COKING OPERATION

Ernest R. Ground, Melchor Muzquiz, Coahuila, Mexico, assignor to Continental Ore Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,708
Int. Cl. C10b *57/06, 53/08*
U.S. Cl. 201—20 7 Claims

Self-fluxing coke is produced by a process of mixed crushed coal with fluorspar and then pyrolyzing the mixture by destructive distillation. The resulting coke is stronger and has the fluorspar intimately associated with the ash content of the coke. The fluorspar acts as a flux for the ash during combustion of the coke.

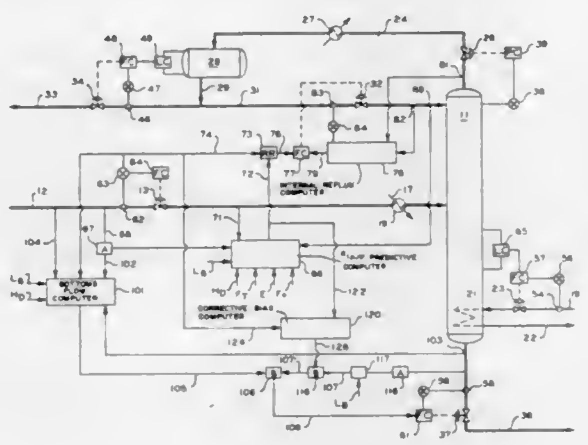
3,449,215

DISTILLATION COLUMN CONTROL WITH BIASING SIGNAL AS FEEDBACK CORRECTION FOR COMPUTED PRODUCT FLOW RATE

Merion L. Johnson and Dale E. Lupfer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 8, 1966, Ser. No. 577,948
Int. Cl. B01d *3/42*
U.S. Cl. 203—3 12 Claims

In a fractionation process in which a product flow rate is predicted from feed analysis and other factors, a signal representative of the computed product flow rate is used to control the product flow rate, and an analyzer determines the concentration of a key component in a product stream and accordingly provides a biasing signal for the computed product flow rate signal as a feedback correction thereto, an additional correction to the feedback signal is made to increase the stability of the system and to prevent conditions such as oscillation in the system which can be caused by an uncorrected feedback signal when operating or feed conditions vary.

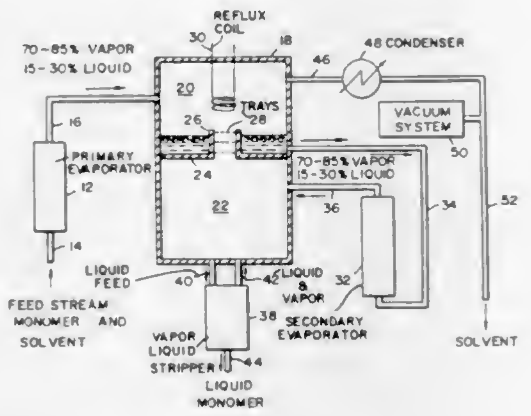


3,449,216

MULTISTAGE EVAPORATOR SYSTEM FOR THE SEPARATION OF MONOMER-SOLVENT MIXTURES

James L. Baird, Winchester, Mass., assignor to Artisan Industries Inc., Waltham, Mass., a corporation of Massachusetts

Filed Aug. 11, 1966, Ser. No. 571,919
Int. Cl. B01d *3/10, 1/26*
U.S. Cl. 202—173 10 Claims



A multistage evaporator system wherein a feed stream comprising a relatively high boiling point compound and a relatively low boiling point compound is introduced into a single pass primary evaporator. The feed stream is discharged into the first zone of a separator. The vaporous portion is recovered and the liquid portion is introduced into a single pass secondary evaporator. The liquid vapor stream from the secondary evaporator is discharged into the second zone of the separator which is disposed below the first zone and separated therefrom, in part, by fractionating trays. The vapor in the second zone passes through the fractionating trays into the first zone and the liquid in the second zone is introduced into a vapor-liquid stripper.

ERRATUM

For Class 203—3 see:
Patent No. 3,449,215

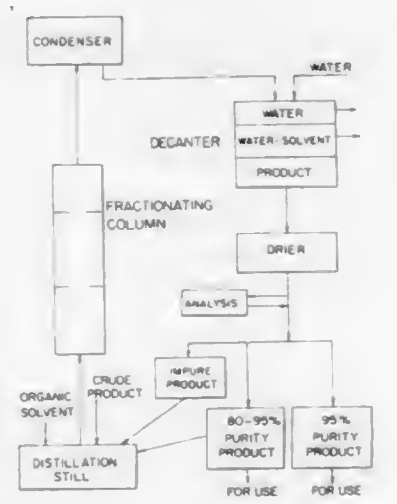
3,449,217
PROCESS OF BUFFERING A NEUTRALIZED t-BUTYL HYDROPEROXIDE DURING DISTILLATION

Robert J. Harvey, Teaneck, N.J., assignor to Halcon International Inc., a corporation of Delaware
No Drawing. Filed Jan. 5, 1968, Ser. No. 695,876
Int. Cl. B01d *3/34;* **C07c** *45/24, 73/00*
U.S. Cl. 203—6 **7 Claims**

The present invention is concerned with the recovery of tertiary butyl hydroperoxide from mixtures comprising the tertiary butyl hydroperoxide, tertiary butyl alcohol and organic acids and esters such as result from the liquid phase oxidation of isobutane with minimum hydroperoxide decomposition by distillation procedures during which the effective pH of the liquid is maintained below about 9.

3,449,218
PROCESS FOR THE SEPARATION OF MIXTURES OF ALIPHATIC FLUORINE COMPOUNDS BY AZEOTROPIC DISTILLATION WITH AN OXYGENATED HYDROCARBON

Horst Jaeger, Bettingen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
Filed Feb. 15, 1967, Ser. No. 616,193
Claims priority, application Switzerland, Feb. 23, 1966, 2,635/66
Int. Cl. C07c *17/38;* **B01d** *3/36*
U.S. Cl. 203—44 **8 Claims**



The separation of mixtures of fluorinated n-alkanes and n-alkenes is very difficult. Mixtures of aliphatic fluorine compounds whose chains contain 7 to 18 carbon atoms can be separated by subjecting them in admixture with an inert solvent, e.g. acetone, to azeotropic distillation. The solvent should have a solubility of at least 5 g./100 ml. of water. The fluorine compounds are isolated from the individual distillates advantageously by the addition of water to the distillates.

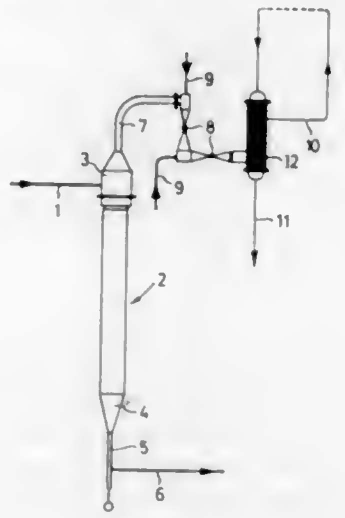
3,449,219
PROCESS FOR FRACTIONATING PROPYLENE FROM PROPYLENE OXIDE IN THE PRESENCE OF HYDROCARBON FLUX

John P. Schmidt, New York, N.Y., assignor to Halcon International, Inc., a corporation of Delaware
No Drawing. Filed Oct. 3, 1966, Ser. No. 583,977
Int. Cl. B01d *3/34*
U.S. Cl. 203—68 **7 Claims**

This invention relates to a process for separating propylene oxide and t-butyl alcohol, obtained from the reaction of propylene and t-butyl hydroperoxide, by fractionating the reaction mixture at pressures of from about 100 p.s.i.a. to about 470 p.s.i.a. while maintaining a bottoms temperature below about 140° C. and while maintaining in the bottoms a hydrocarbon flux material.

3,449,220
METHOD OF SEPARATING LOW-MOLECULAR WEIGHT COMPONENTS FROM HIGH-POLYMERIC COMPOUNDS BY THIN FILM VACUUM DISTILLATION

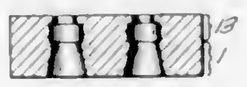
Hans-Ferdinand Geisler, Kronberg, Taunus, and Helmut F. Langanke, Offenbach am Main, Germany, assignors to Vickers-Zimmer Aktiengesellschaft, Planung und Bau von Industrienanlagen, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 13, 1965, Ser. No. 513,402
Claims priority, application Germany, Dec. 23, 1964, Z 11,247
Int. Cl. B01d *3/28, 3/10*
U.S. Cl. 203—89 **13 Claims**



The specification discloses a method of separating a substantial part of the monomeric and oligomeric vaporizable components (low-molecular weight components) from a high-polymer compound, such as "Nylon-6" (a polycaprolactam) or "Dacron" (a polyethylene terephthalate) by vacuum distillation which comprises feeding the high-polymer compound into a vaporizing vessel as a thin film, maintaining the film at a temperature sufficient to vaporize the low-molecular weight components, withdrawing the vaporized components from the vessel by means of a jet ejector maintained at a temperature selected to prevent condensation of the vapors, and subsequently simultaneously condensing the components and propulsion medium, e.g. steam, of said ejector. No carrier gas to sweep the vaporizer is used.

3,449,221
METHOD OF MAKING A MONOMETALLIC MASK

Lowell E. Thomas, Lowell, Mass., assignor to Dynamics Research Corporation, Stoneham, Mass., a corporation of Massachusetts
Filed Dec. 8, 1966, Ser. No. 600,249
Int. Cl. C23b *5/66, 7/00;* **C23g** *1/00*
U.S. Cl. 204—15 **13 Claims**



1. A process for manufacturing a monometallic mask providing an effective pattern of surface area and aperture area comprising the steps of

(1) forming a laminated structure comprising a top layer of photoresist material carried on a layer of a first metal, said first metal layer being supported by a structure of a second metal, the periphery of said first metal layer being greater than the periphery of said top photoresist layer and smaller than the periphery of said second metal structure; and

(2) depositing an aperture-defining layer of additional second metal on the exposed faces of said first and second metal to a thickness reaching at least to the top face of said top photoresist layer, and removing said first metal, said photoresist material and any of said second metal aligned with and under the faces of said photoresist material.

3,449,222
METAL COATING PROCESS

Dennis B. Freeman, Harrow, and Peter Burden, Burnham Beeches, Slough, England, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,313
Claims priority, application Great Britain, Aug. 13, 1964, 33,074/64
Int. Cl. C23f *17/00*
U.S. Cl. 204—38 **7 Claims**

A process for forming a paint-base coating on a ferrous surface by contacting the surface with an aqueous zinc phosphate phosphatizing solution to chemically deposit a phosphate coating on the surface and thereafter passing a direct current through the phosphating solution to electrolytically deposit zinc on the phosphate coating in an amount at least sufficient to fill any pores in the phosphate coating with metallic zinc. The thus-formed coating provides an excellent base for an electrophoretically applied paint.

3,449,223
METHOD FOR COVERING OBJECTS WITH A DECORATIVE BRIGHT NICKEL/CHROMIUM COATING, AS WELL AS OBJECTS COVERED BY APPLYING THIS METHOD

Jules Marie Odekerken, Baslaan 21B, Vught, Netherlands
No Drawing. Continuation in-part of application Ser. No. 283,997, May 29, 1963. This application July 6, 1967, Ser. No. 651,381
Claims priority, application Netherlands, May 30, 1962, 279,109
Int. Cl. C23b *5/06, 5/04, 5/50*
U.S. Cl. 204—41 **14 Claims**

This invention is directed to coating objects with a bright nickel/chromium coating having excellent corrosion resistance by first plating the object from a bright nickel plating bath having particles therein and then plaing chromium over the nickel plating. In the nickel plating bath the concentration of the particles does not exceed, in grams per liter liquid bath, 20 times the average diameter of the particles in microns times the specific gravity of the particles.

3,449,224
NICKEL ELECTRODEPOSITION PROCESS AND AUXILIARY NICKEL ANODE ALLOY

George A. Di Bari, Haverstraw, and Clarence H. Sample, St. James, N.Y., and Burton B. Knapp, Allendale, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 17, 1966, Ser. No. 586,979
Int. Cl. C23b *5/08;* **B01k** *3/06*
U.S. Cl. 204—49 **8 Claims**

1. In the electrodeposition of nickel wherein soluble primary nickel anodes are immersed in the bath to supply the principal nickel requirements for plating and soluble nickel auxiliary anodes are employed to improve the current distribution to work being plated so as to secure a more uniform distribution of electrodeposited nickel upon the work being plated than is the case when such auxiliary anodes are not employed, the improvement which comprises employing as said auxiliary anode a wrought nickel material containing about 1% to about 3% silicon, about 0.1% to about 0.35% carbon, with the silicon content being at least about 3.4 times the carbon content, not more than about 0.015% sulfur, up to about 0.1% magnesium, with the magnesium content being at least about 2.5 times the sulfur content, up to about 0.1% copper and the balance essentially nickel, said auxiliary anode being characterized by substantial freedom from sludge production when used without a bag.

5. An improved nickel anode capable of being supplied in wrought form and particularly useful as an unbagged auxiliary anode in nickel plating and containing about 1% to about 3% silicon, about 0.1% to about 0.35% carbon, with the silicon content being at least about 3.4 times the carbon content, not more than about 0.015% sulfur, up to about 0.1% magnesium, with the magnesium content being at least about 2.5 times the sulfur content, up to about 0.1% copper and the balance essentially nickel.

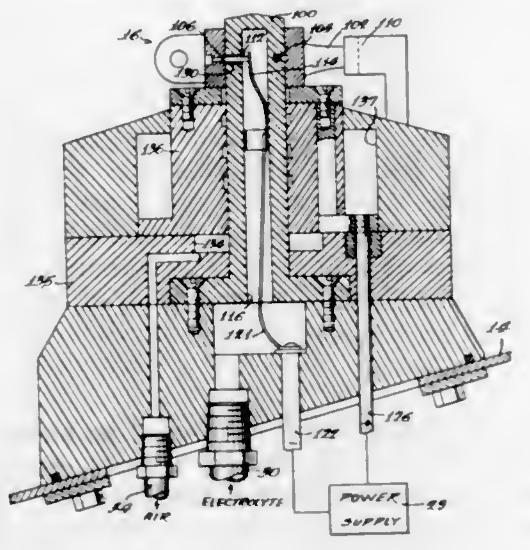
3,449,225
ELECTROLYTIC PROCESSES FOR PREPARING HALOGENATED ORGANIC COMPOUNDS

Edwin A. Matzner, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 389,767, Aug. 14, 1964. This application Feb. 1, 1966, Ser. No. 523,946
Int. Cl. B01k *1/00*
U.S. Cl. 204—81 **19 Claims**

An electrolytic process for preparing halogenated organic compounds from inorganic halides and organic compounds having preferentially-electro-positive-halogen-replaceable-hydrogen bonded to an atom selected from the group consisting of nitrogen and oxygen atoms in an aqueous medium.

3,449,226
ELECTROLYTIC DEBURRING APPARATUS AND METHOD

Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Elk Grove Village, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 158,042, Dec. 8, 1961. This application Oct. 3, 1966, Ser. No. 583,648
Int. Cl. C23b *3/06, 3/12;* **B01k** *1/00*
U.S. Cl. 204—143 **10 Claims**



The electrolytic deburring apparatus and method is shown in three basic apparatuses, all of which function in essentially the same fashion.

In the first apparatus an electrode is spring pressed into stationary deburring position at a distance of not appreciably greater than .012" from the burr to be removed, and the workpiece is supported on the end of a piston about a mandrel. The mandrel has a bore therethrough in which the electrode is located and through which the electrolyte is supplied at a pressure of at elast 25 p.s.i. to the entry to the narrow work gap between the electrode and burr. The piston is activated at the conclusion of the deburring operation which is carried on by a low voltage (not more than 15 volts), high density (at least about 100 amperes per square inch) current. The electrolytic action is of very short duration and at the end thereof air pressure is supplied to the head of the piston to drive the workpiece from the mandrel and to permit it to slide down a discharge plate through a wash bath and into a parts basket.

The electrolyte is supplied under pressure which is carefully regulated by valves and gauges to the inlet work gap at a pressure in the range between 25 p.s.i. and 200 p.s.i.

An advantage of this system is the fact that the area of the electrode as contrasted with the area of the burr is substantially great.

Two arrangements for deburring springs are shown wherein an electrode is brought stationarily into electrolytic position with respect to the burr on the end of a spring which is held in the fixture. The electrodes are mounted in hinged holders and the springs are held in cavities in the fixture. The electrolyte is supplied through the body of the spring at a pressure of at least 25 p.s.i. at the entrance to the cavity and the power supply makes the spring anodic and the electrode cathodic in each instance. An improvement in the arrangement provides the electrode with a cylinder piston combination which is moved under air so that the greater area working face of the electrode is brought into close proximity to the spring burr before the current is turned on.

An illustration is presented for the purpose of dramatizing the greater area of the electrode with respect to the workpiece for ECM polishing and burr removing.

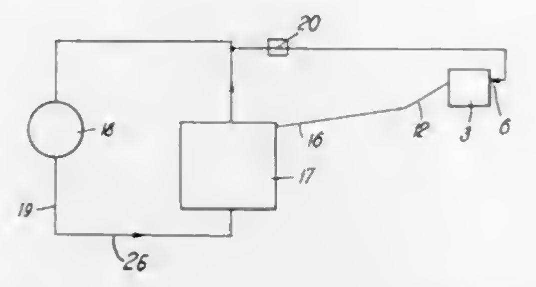
3,449,227
MANUFACTURE OF ASBESTOS

Gordon F. Heron and John O. Halstead, Rochdale, and Robert B. Gettins, Swinton, England, assignors to Turner Brothers Asbestos Company Limited, Manchester, England, a British company

Filed Nov. 8, 1966, Ser. No. 592,810

Int. Cl. B01k *5/02;* **C23b** *13/00;* **C04b** *43/04*

U.S. Cl. 204—180 9 Claims



1. A process for the production of an asbestos product comprising the steps of drawing from a reservoir an anionic aqueous disperson of asbestos fibres that is responsive to electrophoresis, passing the withdrawn dispersion between a cathode and an anode, applying an electric potential difference across said cathode and anode, whereby solid constituents are caused to migrate towards the anode, collecting the migrating constituents as a deposit, removing the deposit from the remainder of the dispersion, returning the remainder of the dispersion to the reservoir, and replenishing the dispersion.

3,449,228
AQUEOUS COMPOSITIONS ADAPTED FOR ELECTRODEPOSITION

Michael Yurcheshen, Parma Heights, Morris Levine, Cleveland Heights, and Ralph M. Brane, Avon Lake, Ohio, assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 1, 1965, Ser. No. 444,852

Int. Cl. C23b *13/00*

U.S. Cl. 204—181 4 Claims

Ungelled thermosetting reaction products of an amine-aldehyde condensation product and a phenol or polyol produced in the presence of an acid provide vehicles for water-dispersed compositions that are applied by electrodeposition. Preferably, the reaction product is employed in combination with the polycarboxylic acid resin. Adherent films are obtained which cure to provide hard, durable coatings on metals and other conductive surfaces.

3,449,229
ELECTROPHORETIC DEPOSITION ON ZINC ENRICHED METAL SURFACE

Dennis B. Freeman, Harrow, and Peter Burden, Slough, England, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 479,313, Aug. 12, 1965. This application Aug. 8, 1966, Ser. No. 570,739

Int. Cl. C23b *11/00, 13/00, 17/00*

U.S. Cl. 204—181 5 Claims

A process for treating metal surfaces wherein a zinc enriched zinc phosphate coating is formed on the metal and, thereafter, the thus-coated surface is electrophoretically painted. The zinc enriched phosphate coating may be formed by plating zinc from a conventional zinc plating bath onto a zinc phosphate coating or by electrolyzing a zinc phosphate bath with the metal as cathode, to simultaneously deposit zinc and zinc phosphate.

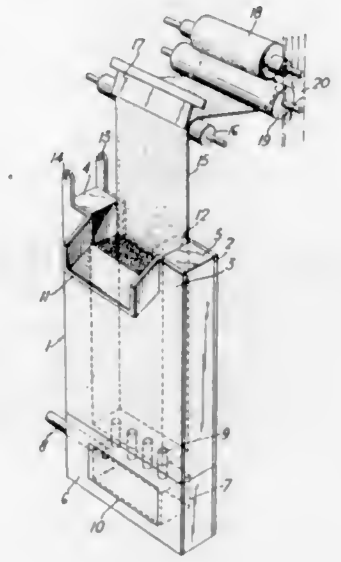
3,449,230
MANUFACTURE OF ASBESTOS PRODUCTS

Gordon F. Heron and John Outram Halstead, Rochdale, England, assignors to Turner Brothers Asbestos Company Limited, Manchester, England, a British company

Filed Nov. 8, 1966, Ser. No. 592,941

Int. Cl. B01d *13/02*

U.S. Cl. 204—180 10 Claims



1. A process for the production of an asbestos product comprising the steps of passing an anionic aqueous dispersion of asbestos fibre, that is responsive to electrophoresis between a cathode and an anode, applying an electric potential difference across said cathode and anode, whereby solid constituents are caused to migrate towards the anode, collecting the migrating constituents as a deposit, and continuously removing the deposit from the remainder of the dispersion.

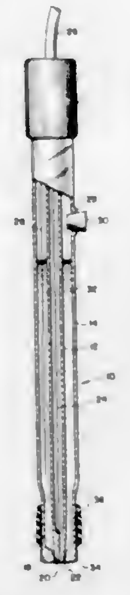
3,449,231
OXYGEN SENSOR WITH RHODIUM CATHODE

Clarence W. Adams, Orange, and George Matsuyama, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed June 22, 1966, Ser. No. 559,431

Int. Cl. B01k *3/12, 3/04, 3/06*

U.S. Cl. 204—195 5 Claims



A steam sterilizable polarographic cell for determining oxygen in a sample without appreciable interference resulting from any carbon dioxide in the sample. The cell includes an anode and cathode joined by an electrolyte and separated from the sample by a selectively permeable membrane. The cathode contains rhodium and is fusion sealed within a glass body of the cell.

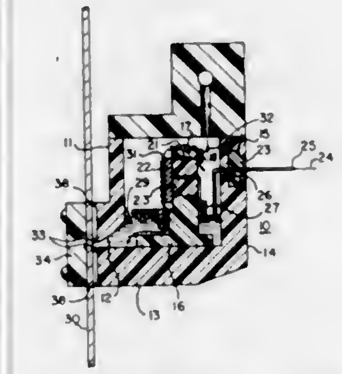
3,449,232
STRESS CORROSION CELL

Shady O. Bailey, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 29, 1966, Ser. No. 583,507

Int. Cl. B01k *3/00*

U.S. Cl. 204—195 6 Claims



1. A corrosion test device which comprises:

a housing, said housing being adapted to contain an electrolyte in the lower part thereof;

an inlet and an outlet in the upper portion of said housing for feeding air into and out of the interior of said housing;

said housing including an orifice in one side wall near the bottom of said housing;

means associated with said housing for securing said test device to a test eletcrode with the test electrode extending along said orifice in said side wall in a fluid tight contact relationship;

a reference electrode secured within said housing and spaced from the walls of said housing, said reference electrode being positioned in such a manner that it does not dip into the electrolyte; and

a porous material secured over the outer surface of said reference electrode and adapted to extend into the electrolyte, said porous material being capable of conducting electrolyte by capillary action;

whereby an electrolyte placed in said housing of said test device contacts the test electrode and provides ionic conduction to said reference electrode by way of said porous material secured over said reference electrode.

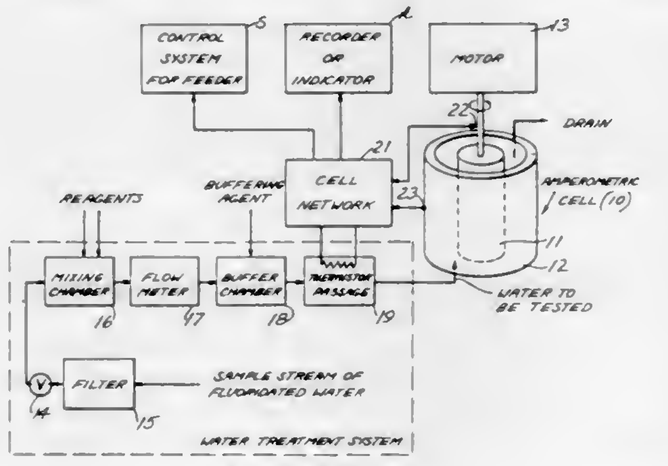
3,449,233
FLUORIDE ANALYZER

James J. Morrow, Norristown, Pa., assignor to Fischer & Porter Co., Warminster, Pa., a corporation of Pennsylvania

Filed Nov. 10, 1966, Ser. No. 593,340

Int. Cl. B01k *3/00*

U.S. Cl. 204—195 12 Claims



1. A fluoride analyzer for measuring the fluoride level in a fluoridated water supply, said analyzer comprising:
- (a) an amperometric cell constituted by an anode disposed concentrically within a tubular cathode to define an annular space therebetween, said anode being formed of aluminum of high purity, said cathode being formed of a material resulting in a spontaneously acting cell,
- (b) means to rotate said anode at a constant relatively high rate,
- (c) circuit means coupled between said anode and cathode to derive a signal therefrom as a function of current flow in said cell, and
- (d) water treatment means to remove interferents from a sample stream of water to be analyzed and to conduct it into said annular space in said cell at a predetermined flow rate whereby said aluminum anode is polarized in the absence of fluoride to produce substantially no current flow in said cell and is depolarized in the presence of fluoride to produce a current flow therein which depends on the concentration of fluoride.

3,449,234
VERTICAL MERCURY CATHODE CELL

Gotthard Csizi, Bad Durkheim, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Sept. 16, 1966, Ser. No. 579,944

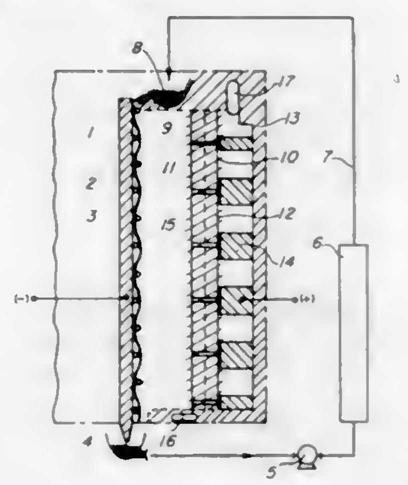
Claims priority, application Germany, Sept. 25, 1965, B 83,887

Int. Cl. C22d *1/04*

U.S. Cl. 204—220 5 Claims

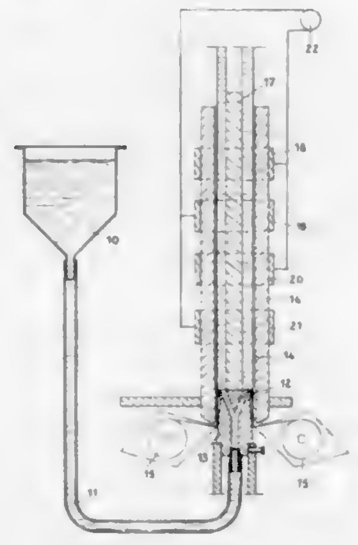
1. An electrolytic cell without diaphragms having a vertical mercury cathode for the decomposition of alkali

metal chlorides by the amalgam method, and having an anode of metal resistant to chlorine and corrosion which comprises a fine-mesh wire cloth arranged between the cathode and the wall of the cell and running parallel to the cathode, baffles on both sides of the wire cloth extending over the whole width of the wire cloth, the baffles being parallel to each other and having horizontal longitudinal axes arranged one above another so that the baffles contact the wire cloth with their longitudinal edges and each two opposite baffles form a surface which is interrupted by the wire cloth and which rises toward the cell wall from the side facing the cathode.



3,449,235
APPARATUS FOR ELECTRODEPOSITION ON A TUBULAR FABRIC

Philippe Burnel, 1 bis Richard Wallace, Neuilly-sur-Seine, France
Filed June 22, 1964, Ser. No. 376,794
Claims priority, application Netherlands, July 1, 1963, 294,769
Int. Cl. B01k *5/02*
U.S. Cl. 204—299 **2 Claims**



A non-ionic colloid and a sensitizer are added to a rubber latex for the purpose of improving an electrophoretic deposition process. The electrodeposition may be effected onto a moving textile sheathing which may be in tubular form.

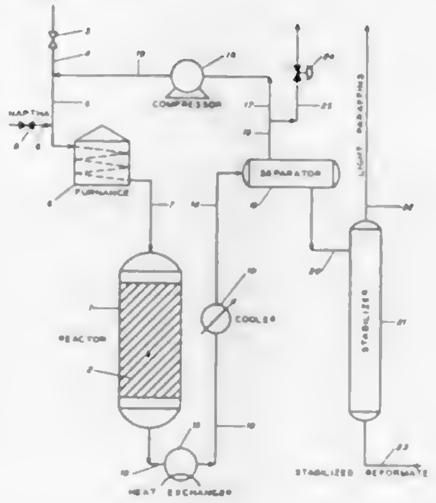
3,449,236
DEWAXING AID COMPOSITION

John E. Engelhart, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 27, 1966, Ser. No. 545,550
Int. Cl. C10m *3/16;* **C10g** *43/08*
U.S. Cl. 208—28 **9 Claims**

This invention relates to a novel wax crystal modifier composition and to the utilization thereof. More particularly, it pertains to a dewaxing aid comprising an esterified, amidated or imidated polymer of maleic anhydride or derivatives thereof with nonconjugated diolefins.

3,449,237
STARTUP PROCEDURE FOR A PLATINUM-RHENIUM CATALYST REFORMING PROCESS

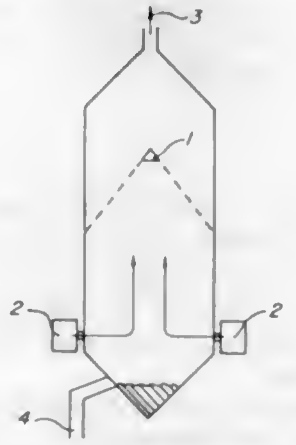
Robert L. Jacobson, Pinole, and Burwell Spurlock, Lafayette, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,329
Int. Cl. C10g *35/08*
U.S. Cl. 208—138 **3 Claims**



A reforming process using a catalyst containing platinum and rhenium on a porous solid carrier is started up by contacting the naphtha with the catalyst in the presence of an inert gas, for example, nitrogen The pressure in the reforming zone should be about 200 p.s.i.g. and the catalyst temperature about 650° F., when the naphtha is first contacted with the catalyst at a space velocity of about 1 v./v./hr. Thereafter, the catalyst temperature is increased to about 900° F. over a 2–3 hour period while building up autogenous pressure of produced hydrogen.

3,449,238
PROCESSING HYDROCARBONS CONTAINING CARBON BLACK

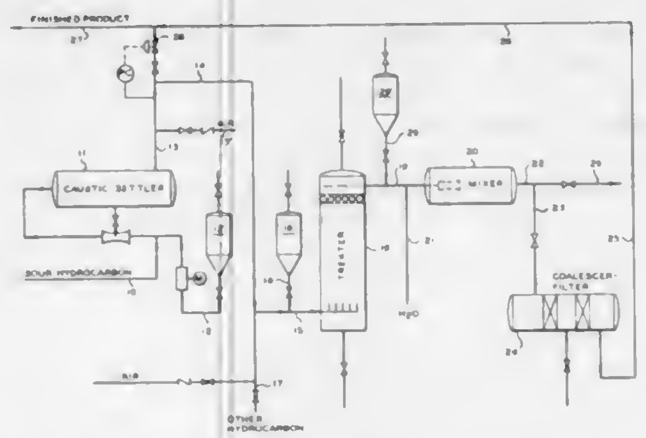
Dieter Stockburger and Richard Sinn, Ludwigshafen (Rhine), Ludwig Raichle, Limburgerhof, Pfalz, Karl Buschmann, Neustadt, and Wolf-Dieter Stege, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Aug. 26, 1966, Ser. No. 575,294
Claims priority, application Germany, Sept. 1, 1965, **B 83,533**
Int. Cl. C10g *17/04;* **B01d** *1/16*
U.S. Cl. 208—186 **10 Claims**



A method of separating carbon black from a mixture of carbon black and a high-boiling hydrocarbon oil, as obtained when cooling or quenching hot gases containing finely-divided carbon black by means of said hydrocarbon oil, wherein the mixture in the form of a suspension of said carbon black in the hydrocarbon oil is atomized and the atomized droplets are contacted with a hot gas stream during free fall of said droplets to vaporize and separate hydrocarbon oil therefrom while forming the carbon black into solid globular particles of approximately the same size as said droplets, the solid particles being recovered as a carbon black product.

3,449,239
DIAZINE IN A HYDROCARBON SWEETENING PROCESS

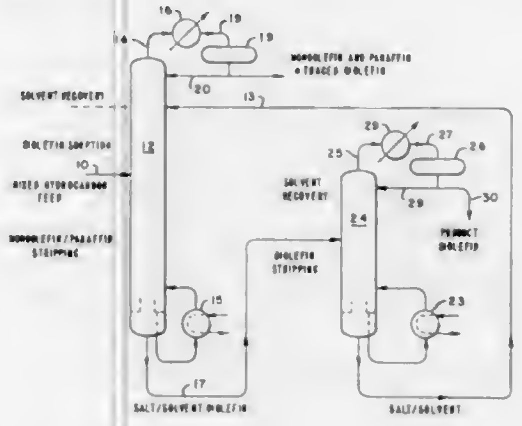
Gerald E. Moore, Okmulgee, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,937
Int. Cl. C10g *29/20, 19/02*
U.S. Cl. 208—198 **7 Claims**



Sweetening of sour hydrocarbon streams is carried out by contacting said streams with a sweetening reagent, air and a diazine, such as piperazine. The sweetening reagent may be a caustic solution of phthalocyanine or lead sulfide on an inert carrier. The diazine is added to the reaction to minimize plugging of the product filters and also to improve the water separometer index of the sweetened hydrocarbon.

3,449,240
OLEFIN SEPARATION BY COPPER SULPHATE COMPLEXING

George C. Blytas, Kensington, Edward R. Bell, Lafayette, and Arthur K. Dunlop, Berkeley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 530,476, Feb. 28, 1966. This application May 23, 1968, Ser. No. 731,565
Int. Cl. B01d *11/04;* **C07c** *7/16*
U.S. Cl. 208—308 **3 Claims**



Separation of olefinically unsaturated hydrocarbons from hydrocarbons of lesser degrees of unsaturation is effected with an anhydrous solution of cuprous sulfate in propionitrile.

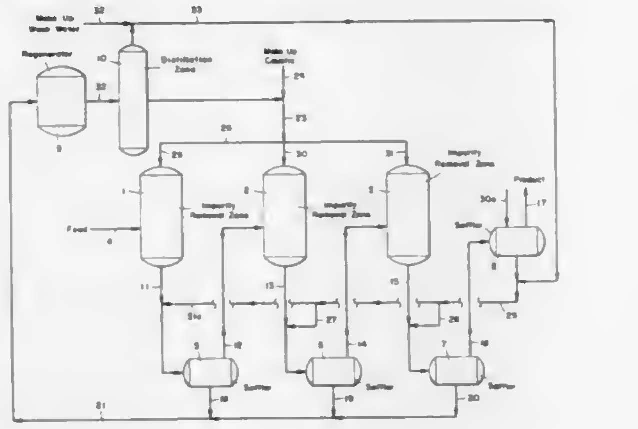
3,449,241
SEPARATING ACYCLIC HYDROCARBONS BY HYDRATE FORMATION

Herbert J. Gebhart, Jr., Ferguson, and Earle C. Makin, Jr., St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 606,532, Jan. 3, 1967. This application May 29, 1968, Ser. No. 732,903
Int. Cl. C10g *21/16;* **C07c** *7/10*
U.S. Cl. 208—308 **10 Claims**

Mixtures of acyclic hydrocarbons containing from 1 to 6 carbon atoms per molecule are separated by contacting said mixtures with water and a cyclic ether or cyclic ketone hydrate-forming agent capable of causing the formation of a Type II hydrate. By carrying out the contacting at a temperature below the hydrate formation temperature and at a pressure at least equal to the saturation pressure of the system, the hydrocarbon component having the smallest molecular bulk is preferentially encapsulated in the hydrate.

3,449,242
DESULFURIZATION PROCESS FOR HEAVY PETROLEUM FRACTIONS

William Judson Mattox and Glen Porter Hamner, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 290,522, June 25, 1963. This application Mar. 15, 1966, Ser. No. 547,102
Int. Cl. C10g *19/02*
U.S. Cl. 208—227 **5 Claims**

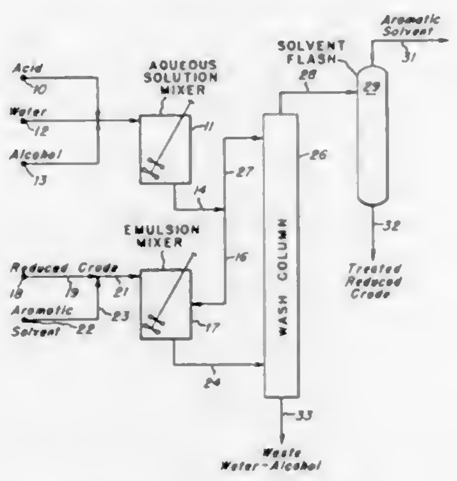


This disclosure relates to the desulfurization of heavy petroleum fractions by means of an integrated process which includes at least two stages of contacting with a molten alkali metal hydroxide desulfurization agent.

3,449,243
TREATING OF HEAVY OILS TO REMOVE METALS, SALTS AND COKE FORMING MATERIALS EMPLOYING A COMBINATION OF AN ALCOHOL, ORGANIC ACID AND AROMATIC HYDROCARBON

Erwin R. Strong, Jr., and Walker F. Johnston, Jr., Flossmoor, Ill., and Robert C. Goodman, Beaumont, Tex., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Sept. 30, 1966, Ser. No. 583,264
Int. Cl. C10g *31/14, 29/20*
U.S. Cl. 208—251 **8 Claims**

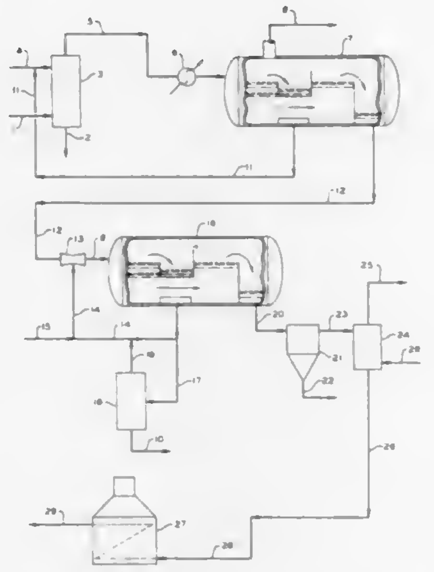
A heavy oil is treated to remove therefrom metals, salts, and coke forming materials. The treating method comprises: dissolving a solvent comprising aromatic hydrocarbons having 6 to 9 carbon atoms per molecule in the oil; mixing therewith an aqueous liquid treating solution containing about 1 to about 30 volume percent of a water soluble alcohol and having a pH in the range of about 4 to about 9 to form a treated oil; separating the treating solution from the treated oil; and recovering the treated oil which contains substantially reduced amounts of metals, salts, and coke forming materials.



3,449,244
RECOVERY OF STEAM CONDENSATE

Harris A. Clay and Gene K. Reinmuth, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,882
Int. Cl. B01d *11/04*
U.S. Cl. 210—21 **6 Claims**



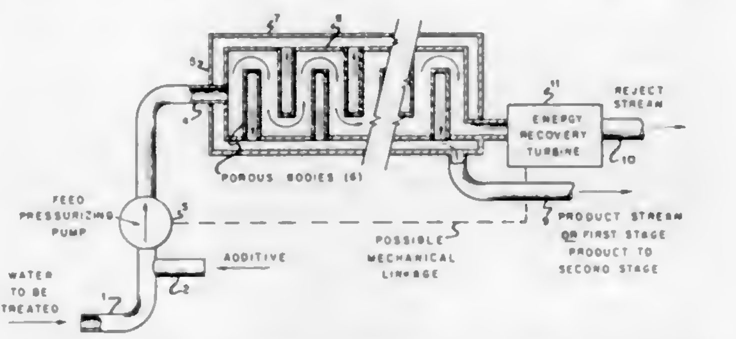
The purification of steam condensate by contacting said condensate with a C_3–C_8 hydrocarbon to selectively dissolve hydrocarbon impurities, forming a water phase and a hydrocarbon phase, separating the water phase from the hydrocarbon phase and, as may be desired, recycling the hydrocarbon phase. The separated water phase is further purified by steam stripping any residual hydrocarbon therefrom.

3,449,245
METHOD OF SEPARATING SALTS FROM AQUEOUS SOLUTIONS

James S. Johnson, Kurt A. Kraus, Arthur E. Marcinkowsky, Harold O. Phillips, and Arthur J. Shor, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 23, 1965, Ser. No. 504,277
Int. Cl. B01d *13/00*
U.S. Cl. 210—23 **17 Claims**

A method of reducing the concentration of metal salts in an aqueous solution comprising contacting a permeable substrate having pores with diameters in the range of 30 A. to 5 microns with a water-soluble material and forcing said aqueous solution past the resulting treated substrate under conditions whereby a portion of said solution passes through said substrate thereby becoming depleted in said metal salts.



3,449,246
LIQUID ION EXCHANGE SEPARATION OF IRON FROM COPPER-IRON ORE MIXTURES

John R. Pelka, Glen Ellyn, and Lincoln Douglas Metcalfe, La Grange, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

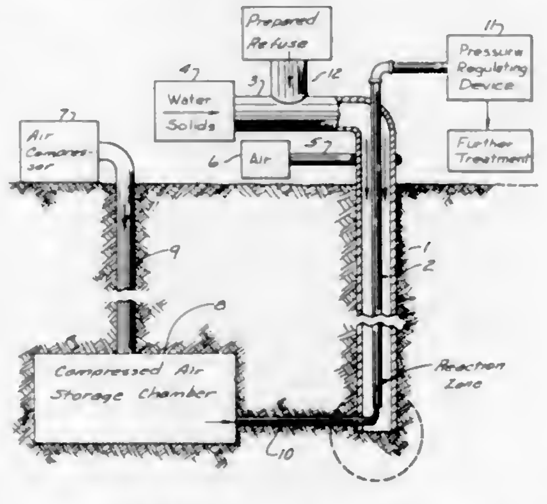
No Drawing. Filed Aug. 16, 1967, Ser. No. 660,927
Int. Cl. C02d *1/40;* **C22b** *15/00*
U.S. Cl. 210—38 **11 Claims**

A selective liquid-liquid ion exchange extraction process for the separation of iron from aqueous solutions of iron and copper or other metals, employing certain secondary-alkyl primary amines, their methylene diamine derivatives or certain aliphatic tertiary amines is disclosed. The process comprises contacting the aqueous solution with a water immiscible organic phase containing the amine or diamine extractant, the ratio of organic to aqueous being about 4:1 to 1:4, and separating the resultant iron-loaded organic phase from the aqueous phase. The useful extractants include secondary-alkl primary amines and the trimethylene diamines prepared therefrom wherein the alkyl radical contains from about 11 to 20 carbon atoms.

3,449,247
PROCESS FOR WET OXIDATION OF COMBUSTIBLE WASTE MATERIALS

William J. Bauer, 422 S. Park Road,
La Grange, Ill. 60525

Continuation-in-part of application Ser. No. 474,419, July 23, 1965. This application Oct. 23, 1965, Ser. No. 503,973
Int. Cl. C02c *1/00*
U.S. Cl. 210—63 **7 Claims**



Wet oxidation of a mixture of combustible refuse and fluid sewage is carried out in the lower portion of a shaft extending into the earth a sufficient distance to provide the desired pressure by the head of fluid material in the shaft.

3,449,248
GREASE COMPOSITIONS CONTAINING MIXTURES OF AMMONIUM DIMETHYLDIBENZYL BENTONITE AND AMMONIUM DIMETHYLDIOCTADECYL BENTONITE CLAYS AS THICKENING AGENTS

Richard A. Butcosk, Westmont, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 1, 1967, Ser. No. 642,687
Int. Cl. C10m *5/04*
U.S. Cl. 252—21 **11 Claims**

Grease compositions are provided which contain grease-forming quantities of a thickening agent comprising a mixture of an ammonium dimethyldibenzyl bentonite clay and an ammonium dimethyldioctadecyl bentonite clay.

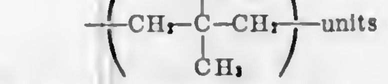
3,449,249
LUBRICANT COMPOSITIONS

William S. Anderson, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 8, 1964, Ser. No. 366,189
Int. Cl. C10m *1/18, 1/32*
U.S. Cl. 252—51.5 **6 Claims**

5. A lubricant composition comprising a major proportion of a mineral lubricating oil and from about 0.2 to about 10% by weight of a dispersant consisting essentially of the addition product of

(1) poly(3-methylbutene-1) in which a maor proportion of the polymer consists of



$$\left(-CH_2-\overset{CH_3}{\underset{CH_3}{C}}-CH_2-\right) \text{units}$$

having a molecular weight of from 500 to 3000,

(2) maleic anhydride, and

(3) tetraethylene pentamine.

3,449,250
DISPERSENCY OIL ADDITIVES

Joseph E. Fields, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application May 14, 1962, Ser. No. 194,669, now Patent No. 3,329,658 dated July 4, 1967. Divided and this application Apr. 25, 1967, Ser. No. 647,272
Int. Cl. C10m *1/36, 3/30;* **C10l** *1/22*
U.S. Cl. 252—51.5 **15 Claims**

A hydrocarbon oil composition which comprises a major amount of a mineral oil and a minor amount of a copolymer which imparts stability and detergency to the mineral oil. The copolymer has a molecular weight in the range of about 500 to 150,000 and is formed of substantially equimolar portions of maleic anhydride and alpha-olefins such as ethylene, propylene, isobutylene, or styrene. The carboxyl groups of the copolymers are esterified with an aliphatic alcohol to make the copolymer oil soluble and substantially all of the remainder of the carboxyl groups are imidized.

3,449,251
WAX CRYSTAL MODIFIERS FOR HYDROCARBON OILS

Norman Tunkel, Perth Amboy, and William C. Hollyday, Jr., Watchung, N.J., Jeffrey H. Bartlett, Arlington, Va., and Anthony H. Gleason, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 659,817, Aug. 10, 1967, which is a continuation of application Ser. No. 423,860, Jan. 6, 1965. This application May 28, 1968, Ser. No. 732,519
Int. Cl. C10m *1/28*
U.S. Cl. 252—52 **16 Claims**

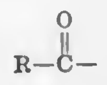
The present invention is concerned with wax crystal modifiers, e.g. pour depressant additives, for hydrocarbon oil and with methods for their manufacture. The additives of the present invention in essence are copolymers or polyketones derived from the free radical catalysis of the polymerization of an olefin and carbon monoxide, and the invention includes the use of such products as wax crystal modifiers, such as pour depressants, fluidity of flow improvers, dewaxing aids, etc. for lubricating oil, residual oil, crude oil, middle distillate oil, etc.

3,449,252
MINERAL CUTTING OIL COMPOSITIONS CONTAINING ACYLATED, ALLYLIC, HYDROXYL-TERMINATED DIENE POLYMERS AND PROCESS OF CUTTING METAL THEREWITH

Donald D. Carlos, Crown Point, Ind., and Robert R. Chambers, Chicago, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,791
Int. Cl. B21c *9/02;* **C10m** *1/28*
U.S. Cl. 252—56 **8 Claims**

Cutting oil compositions are provided comprising a mineral oil base as the major component, and a small, effective amount sufficient to reduce feed force when machining metal of an oil-soluble, acylated diene polymer of a diene of 4 to 12 carbon atoms, the diene polymer having at least about 1 predominantly primary, terminal acyl group per polymer molecule, attached to an oxygen atom of said polymer and a Staudinger molecular weight of about 240 to 25,500. The acylated group has the structure



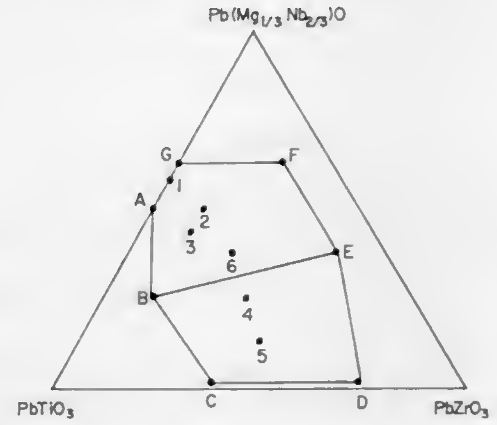
$$R-\overset{O}{\overset{\|}{C}}-$$

wherein R is hydrocarbon of up to about 20 carbon atoms. This cutting oil composition is particularly effective in machining aluminum and copper, especially in reducing torque and improving surface finish.

3,449,253
PIEZOELECTRIC COMPOSITION AND METHOD OF PREPARING THE SAME

Shigeru Hayakawa, Hirakata-shi, Hiromu Ouchi, Toyonaka-shi, and Kaneomi Nagase, Sakai-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Dec. 14, 1965, Ser. No. 513,799
Int. Cl. C04b *35/00*
U.S. Cl. 252—62.9 **7 Claims**



A process for preparing a solid solution piezoelectric ceramic material in a single phase of perovskite type structure. Undesirable pyrochlore-type structure is eliminated by using a high heating rate of 10° to 50° C./minute in a temperature range of 500° to 650° C. during the firing step. In addition the step of adding an excess of magnesium oxide also reduces pyrochlore-type structure.

3,449,254
BORAX-SODIUM SILICATE STABILIZERS FOR PEROXIDE BLEACHING

Roger N. Suiter, Camillus, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed June 14, 1966, Ser. No. 557,461
Int. Cl. C11d *7/18, 7/14, 7/06*
U.S. Cl. 252—99 **6 Claims**

Invention relates to a bleaching composition and method for bleaching cotton knit goods employing a bleaching composition comprising 2.5 to 3.5 grams per liter of hydrogen peroxide, from about 1 to 6 grams per liter of sodium hydroxide, 6 to 9 grams per liter of borax and a sufficient amount of sodium silicate solution to provide in the bleaching composition from about 0.75 to 1.60 grams per liter SiO_2 and not more than an equal amount of Na_2O derived from said silicate solution.

3,449,255
METHOD FOR DECREASING FRICTION IN MOPPING

Nelson G. Johnston, Flora, Ill., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 18, 1966, Ser. No. 528,369
Int. Cl. C11d *3/32, 9/30*
U.S. Cl. 252—117 **5 Claims**

Water-soluble acrylamide polymers and copolymers may be added to cleaning solutions to substantially decrease the amount of work expended in mopping without deleterious effects on cleaning ability.

3,449,256
METHYLENEBIS(PHENYL ISOCYANATE) COMPOSITIONS AND PREPARATION THEREOF

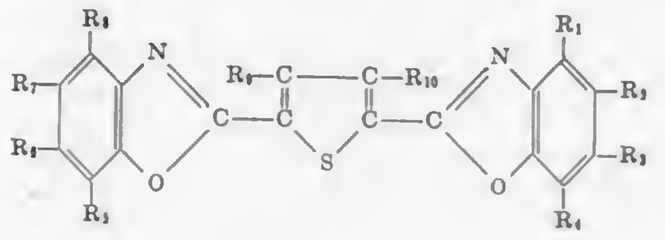
William J. Farrissey, Jr., North Branford, and Alec Odinak, New Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,491
Int. Cl. C07c *119/04;* **B01j** *1/18*
U.S. Cl. 252—182 **13 Claims**

Methylenebis(phenyl isocyanate), which is a solid of melting point ca. 40° C., and polymethylene polyphenyl polyisocyanates containing more than about 65% methylenebis(phenyl isocyanate), which normally deposit solids on standing, are transformed to storage stable liquids by (a) heating the starting isocyanate at 160° to 250° C. with 0.1% to 3% by weight of a trihydrocarbyl phosphate (trialkyl phosphate, e.g. triethyl phosphate, is preferred) until the isocyanate equivalent of the mixture is within the range of 138 to 200 and (b) blending the product so obtained with sufficient untreated starting isocyanate to give an isocyanate equivalent of 127 to 140 in the final product.

3,449,257
BRIGHTENER COMPOSITIONS

Robert J. Tuite and Donald N. Miller, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 3, 1966, Ser. No. 591,705
Int. Cl. C09k *1/10, 1/02*
U.S. Cl. 252—301.2 **18 Claims**

1. A composition comprising a hydrophobic polymer and a nonmigrating optical brightener having the formula:



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 each represent a member selected from the class consisting of hydrogen and an alkyl group such that at least 2 of R_1, R_2, R_3, and R_4 are alkyl groups with at least 1 of these 2 alkyl groups having more than 1 carbon atom, and such that at least 2 of R_5, R_6, R_7 and R_8 are alkyl groups with at least 1 of these 2 alkyl groups having more than 1 carbon atom; and R_9 and R_{10} are each selected from the class consisting of hydrogen, an alkyl group and an aryl group.

3,449,258
METHOD FOR PREPARING EUROPIUM ACTIVATED YTTRIUM OXIDE AND GADOLINIUM OXIDE PHOSPHORS

Richard C. Ropp, N. Caldwell, and Edward E. Gritz, East Rutherford, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 22, 1965, Ser. No. 474,102
Int. Cl. C09k *1/04*
U.S. Cl. 252—301.4 **11 Claims**

For preparing yttrium oxide or gadolinium oxide phosphors activated by europium, the rare-earth metals are placed in solution to which is added hydrogen peroxide. The rare-earth metals are then precipitated from the solution as oxalates, the precipitate is separated, and then fired in an oxygen-containing atmosphere to form the phosphors. The resulting phosphors have improved brightness both as a cathodoluminescent or photoluminescent material.

3,449,259
METHOD OF MAKING PHOSPHOR RAW-MIX MATERIALS AND PHOSPHORS

Richard C. Ropp, North Caldwell, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1965, Ser. No. 508,222
Int. Cl. C09k *1/04*
U.S. Cl. 252—301.4 **10 Claims**

The particle size of phosphor having oxide of one or more of yttrium, lanthanum or gadolinium as matrix and activated by oxide of one or more of samarium, europium, terbium, dysprosium, neodymium, holmium, erbium, praseodymium or thulium, can be carefully controlled by controlling the particle size of the raw mix used to prepare the phosphor. To control the particle size of the raw mix during preparation of same, an aqueous solution of compound of the phosphor matrix metal is mixed with an aqueous solution of compound of the phosphor activator metal. To this mixed solution is added a normally insoluble oxalate, which when heated slowly decomposes in the presence of water to form soluble oxalate. This in turn precipitates the phosphor raw-mix constituents as oxalates. The temperature of the mixed solution, during precipitation, controls the particle size of the resulting raw-mix precipitated oxalates, which precipitate is fired to form the phosphor.

3,449,260
ELECTROLUMINESCENT SCREEN COMPOSITION

Henri Hubert Janssens, Willem Westerveld, and Louis Marius Nijland, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 10, 1965, Ser. No. 478,711
Claims priority, application Netherlands, Aug. 12, 1964, 6409255
Int. Cl. C09k *1/12;* **H01j** *1/63*
U.S. Cl. 252—301.6 **5 Claims**

An electroluminescent element containing as the electroluminescent layer electroluminescent phosphor grains dispersed in antimony oxide. An example of the phosphor is copper activated zinc sulfide. The electroluminescent elements of the invention show a marked decrease in the decay of the luminescence.

3,449,261
NON-FOAMING WETTING AGENTS

John M. Ross, Jr., North Brunswick, and Paul E. Levesque, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,855
Int. Cl. B01f *17/14, 17/00, 17/12*
U.S. Cl. 252—351 **1 Claim**

This specification discloses non-foaming wetting agents comprising 50–99 parts of tris(butoxyethyl) phosphate and 1–50 parts of anionic or non-ionic detergent.

3,449,262
CORROSION INHIBITION

Wesley L. Archer and Miriam Harter, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,561
Int. Cl. C23f *11/14, 11/12*
U.S. Cl. 252—396 **4 Claims**

Methyl chloroform is stabilized to prevent corrosion of iron in the presence of water by the inclusion of an inorganic benzoate or naphthoate wherein the inorganic cation is any of various multivalent metals and the ammonium group.

3,449,263
OLEFIN POLYMERIZATION PROCESS

William Russell Watt, Princeton Junction, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Feb. 16, 1966, Ser. No. 527,735
Int. Cl. B01j *11/40;* **C08f** *1/34*
U.S. Cl. 252—429 **14 Claims**

Alpha olefins are polymerized either singly or in admixture under appropriate conditions in the presence of a catalyst mixture containing (a) an aluminum dihalide having the formula $RAlX_2$ where R is a hydrocarbon radical containing 1 to 12 carbon atoms and selected from the group consisting of alkyl, aryl and aralkyl hydrocarbon radicals, and X is a halogen selected from the group consisting of chlorine, bromine and iodine; (b) TiX_3 where X is defined above, and (c) an organotin compound having the formula R_3SnAB where R is an alkyl hydrocarbon radical having from 1 to 12 carbon atoms, A can be O or S and B can be R or SnR_3.

3,449,264
ISOMERIZATION CATALYSTS AND THEIR USE

John W. Myers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of applications Ser. No. 38,487, June 24 1960, and Ser. No. 119,277, June 26, 1961. This application Nov. 27, 1961, Ser. No. 157,298
Int. Cl. B01j *11/16, 11/64;* **C07c** *5/24*
U.S. Cl. 252—441 **13 Claims**

1. A process for activating a catalyst which comprises heating active alumina, substantially free of platinum and other metals, at a temperature in the range of 400 to 1500° F. in a dry ambient for a period in the range of 0.5 to 100 hours, at least 0.5 hour being in the range of 900 to 1500° F. in an ambient including a substantial and activating concentration of at least one gas selected from the group consisting of anhydrous HCl, Cl_2, HBr, Br_2, and the Cl and Br derivatives of methane.

10. A process for activating a catalyst comprising principally active alumina having deposited therein a minor but effective amount of platinum metal which comprises (a) heating said catalyst in a dry ambient for a period in the range of 0.5 to 100 hours at a temperature in the range of 900 to 1500° F. and (b) contacting said catalyst with at least one member of the group consisting of anhydrous HCl, Cl_2, HBr, and Br_2, and the Cl and Br derivatives of methane as the essential activating gas at a temperature in the range of 900° to 1500° F. for at least 0.5 hour.

3,449,265
CRACKING CATALYST COMPOSITIONS

Elroy Merle Gladrow and Charles Newton Kimberlin, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 490,116, Sept. 24, 1965. This application Aug. 14, 1968, Ser. No. 752,501
Int. Cl. B01j *11/40;* **C10g** *11/04*
U.S. Cl. 252—455 **17 Claims**

The present disclosure relates to improved catalyst compositions useful in hydrocarbon conversion reactions. Broadly, the catalyst comprises from 3 to 15 wt. percent of a cation exchanged crystalline alumino-silicate zeolite embedded in a matrix consisting of from about 1 to 50 wt. percent of a clay, and from 96 to 35 wt. percent of a silica-alumina hydrogel. In a preferred embodiment, the clay concentration will range between about 25 and 50 wt. percent, and in a most preferred embodiment, the clay concentration will range between 32 and 40 wt. percent. The crystalline zeolite component of the catalyst may be ion exchanged to form the hydrogen, magnesium or calcium forms of the catalyst. The catalyst compositions disclosed herein exhibit improved stability and selectivity when compared to prior art catalyst compositions in a cracking operation.

3,449,266
STABILIZED SOLID GRANULAR PERFUME COMPOSITION

Donald Edward Cashman and Harry Earl Remler, Cincinnati, Ohio, assignors, by mesne assignments, to The Drackett Company, Cincinnati, Ohio, a corporation of Delaware
No Drawing. Filed May 25, 1964, Ser. No. 370,077
Int. Cl. C11d *7/10;* **C11b** *9/00;* **A61k** *7/00*
U.S. Cl. 252—522 **9 Claims**

A method is disclosed for packaging a product scented with perfume in a polyethylene container to prolong the odor life of the perfume which otherwise is completely exhausted in a few days due to its migration through the walls of the polyethylene container. To accomplish this the perfume is adsorbed on metallic particles having a high internal pore volume and a large surface area which are contained in the package.

3,449,267
PROCESS OF PREPARING TETRAHYDROFURAN-3,3 - BIS(CHLOROMETHYL)OXACYCLOBUTANE COPOLYMERS

Herbert May, Brian John Kendall-Smith, and Robert Hardy Spensley, Birmingham, England, assignors to British Industrial Plastics Limited, London, England, a corporation of the United Kingdom
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,933
Int. Cl. C08g *23/04, 23/14*
U.S. Cl. 260—2 **19 Claims**

Tetrahydrofuran and 3,3 - bis(chloromethyl)oxacyclobutane are copolymerized in the presence of a catalytic amount of antimony or arsenic pentafluoride or a complex thereof.

3,449,268

PROCESS FOR MAKING FOAMABLE ISOTACTIC POLYSTYRENE

Norman E. Scheffler, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 31, 1966, Ser. No. 553,641

Int. Cl. C08f *47/10, 33/02*

U.S. Cl. 260—2.5 **10 Claims**

The invention concerns a process of integrating a volatile organic fluid into a isotactic amorphous aromatic polymer in aqueous suspension to obtain a foamable isotactic amorphous vinyl aromatic polymer.

3,449,269

FORMATE AND FORMAMIDE BLOWING AGENTS FOR POLYLACTAMS

Thomas J. Hyde, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 29, 1966, Ser. No. 561,414

Int. Cl. C08g *53/10*

U.S. Cl. 260—2.5 **18 Claims**

The promoted anionic polymerization of lactams to foamed polylactams by utilizing certain formate and formamide blowing agents.

3,449,270

METHOD OF MAKING FOAMED CRYSTALLINE VINYL AROMATIC POLYMER

Frank L. Saunders, Midland, and James H. Oswald, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 285,916, June 6, 1963. This application May 28, 1968, Ser. No. 732,638

Int. Cl. C08f *47/10, 7/02*

U.S. Cl. 260—2.5 **3 Claims**

The invention concerns crystalline foam of isotactic vinyl aromatic polymer and pertains to a method of making the same which comprises impregnating the amorphous form of the isotactic polymer with a blowing agent and foaming it at a temperature below its crystalline melting point.

3,449,271

LATEX PAINT COMPOSITIONS

Thomas L. O'Connor, Dedham, and Jean Paul Bourgault, Maynard, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed June 27, 1966, Ser. No. 560,801

Int. Cl. C09c *1/36, 3/02;* **C09d** *5/02*

U.S. Cl. 260—17 **5 Claims**

A latex paint composition of improved stability comprising pigmentary pyrogenic titanium dioxide having a first coating of insoluble hydrous alumina and a second coating of insoluble hydrous silica. In addition the titanium dioxide pigment may have an insoluble hydrous titania coating deposited prior to the silica coating.

3,449,272

THERMOSETTING COMPOSITION CONTAINING AN ACETALIZED POLYMER AND A POLYOL

Marco Wismer, Gibsonia, and John R. Peffer, Pittsburgh, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 237,999, Nov. 15, 1962. This application Jan. 6, 1967, Ser. No. 607,657

Int. Cl. C08g *39/10;* **C08f** *27/10, 3/40*

U.S. Cl. 260—17.4 **21 Claims**

Thermosetting coating and molding compositions in which a polyol is used to cross-link an acetalized polymer of acrolein or similar unsaturated aldehyde. The aldehyde polymer is made by vinyl polymerization and is acetalized after polymerization by reaction with a monohydric alcohol such as methanol or butanol. The polyol used has a hydroxyl value of from 40 to 1400 in the case of a coating composition and 100 to 1800 in the case of a molding composition. An acid catalyst is necessary with molding compositions and is desirable with coating compositions.

3,449,273

HOT MELT ADHESIVE

Otto Kettenring, Lunen, and Wolfgang Gotze, Bergkamen, Germany, assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Oct. 17, 1966, Ser. No. 586,996

Claims priority, application Germany, Nov. 23, 1965, Sch 38,073, Sch 38,074

Int. Cl. C09j *3/16;* **C08g** *41/07*

U.S. Cl. 260—18 **3 Claims**

There is disclosed hot melt adhesive composition comprising a polymeric fat acid polyamide and certain aromatic compounds useful for bonding sheets or films of thermoplastic materials. The aromatic compounds are certain ones containing nuclear hydroxyl groups as well as aromatic sulfonic acids, amides, chlorides and imides. The aromatic hydroxyl containing compounds are selected from the group consisting of α and β-naphthol, phenol, resorcinol, hydroquinone, pyrogallol, p-hydroxyethyl benzoate, 4,4'-dihydroxy diphenyl, and mixtures thereof.

3,449,274

CURABLE, THIXOTROPIC COMPOSITIONS BASED ON CYCLOALIPHATIC DIEPOXIDES AND DIMERS OF UNSATURATED FATTY ACIDS

George A. Salensky, Metuchen, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,262

Int. Cl. C08g *30/12, 45/00, 51/04*

U.S. Cl. 260—18 **12 Claims**

Curable, thixotropic compositions are suitable for use as automotive body solders on oil contaminated surfaces. Said composition comprises (1) an admixture of two cycloaliphatic diepoxides (2) dimerized fat acids (3) polycarboxylic anhydride (4) alkaline earth silicate (5) stannous acylate and (6) onium cation exchanged bentonite.

3,449,275

KETONE PEROXIDES DERIVED FROM 3,3,5-TRIMETHYLCYCLOHEXANONE

Hans Giovanni Gerritsen, Deventer, and Hendrik Hansma, Schalkhaar, Netherlands, assignors to Koninklijke Industrieele Maatschappij Noury & van der Lande N.V., Netherlands, a corporation of Netherlands

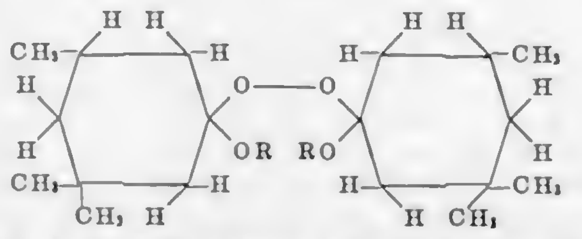
No Drawing. Filed Sept. 17, 1965, Ser. No. 488,232

Claims priority, application Netherlands, Sept. 24, 1964, 6411123

Int. Cl. C08f *1/60;* **C07c** *73/00*

U.S. Cl. 260—22 **11 Claims**

New ketone peroxides represented by the general formula:



in which each R represents a hydrogen atom or an OH group are derived from 3,3,5-trimethyl-cyclohexanone by reacting same with a 35%–85% aqueous solution of hydrogen peroxide at a temperature in the range of 0° to 50° C. in the presence of an acid-reacting catalyst. The new ketone peroxides may be used in the polymerization of unsaturated polyester resins.

3,449,276

TRIPLE ACCELERATOR SYSTEM FOR PROMOTING THE CURE OF FREE-RADICAL CATALYZED UNSATURATED POLYESTER RESINS

Ronald R. Rabenold and Earl E. Parker, Allison Park, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 473,491, July 20, 1965. This application Mar. 26, 1968, Ser. No. 715,957

Int. Cl. C08g *17/02, 17/04*

U.S. Cl. 260—22 **16 Claims**

A novel triple accelerator system for promoting the cure of free-radical catalyzed unsaturated polyester resins comprises an accelerator system containing in synergistic amount, (1) a cobalt salt, (2) a salt of an alkaline earth metal of period *2a* of the Periodic Table, and (3) a copper salt.

3,449,277

COATING COMPOSITIONS COMPRISING DRYING OIL ACID ESTERS OF STYRENE-ACROLEIN COPOLYMER-POLYMER REACTION PRODUCTS

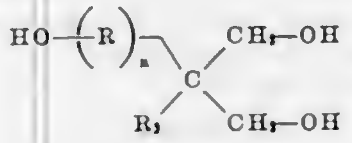
Wayne E. Smith, Shawnee, Kans., Gerald J. Mantell, Kansas City, Mo., and Earl C. Chapin, Springfield, Mass., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,813

Int. Cl. C08f *27/12, 3/74*

U.S. Cl. 260—23 **9 Claims**

Air drying compounds can be prepared by the reaction of (A) a vinylidene aromatic copolymer, (B) polyhydric alcohols having a 1,3-glycol structure represented by the formula



wherein *n* may be zero or one and when *n* is one R is a divalent hydrocarbon radical containing from 1 to 6 carbon atoms, and wherein R_1 is selected from the group of hydrogen, hydrocarbon radicals having from 1 to 6 crabon atoms, a hydroxy radical and a hydroxyalkyl radical having from 1 to 6 carbon atoms, and (C) a vegetable drying oil acid containing 18 carbon atoms.

3,449,278

EPOXIDE RESIN COMPOSITIONS

Alan Gordon McKay, Sawston, and Peter Thomas Brown, Melbourn, near Royston, England, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,267

Claims priority, application Great Britain, Apr. 15, 1966, 16,690/66

Int. Cl. C08g *45/12*

U.S. Cl. 260—23 **19 Claims**

A hardenable aqueous dispersion comprising

(a) An 1,2-epoxide resin containing more than one terminal 1,2-epoxide group per average molecule,

(b) As hardener therefor, an adduct, liquid at room temperature and containing hydrogen directly bonded to nitrogen, of (i) a member selected from the group consisting of aliphatic compounds containing only one terminal 1,2-epoxide group per molecule, araliphatic compounds containing only one terminal 1,2-epoxide group per molecule, aromatic compounds containing only one terminal 1,2-epoxide group per molecule and aliphatic compounds containing at least two terminal 1,2-epoxide groups per average molecule, with (ii) a stoichiometric excess of a poly(aminoamide) condensation product of (I) an alkylenepolyamine and (II) a polymeric araliphatic acid obtained by the copolymerisation of a member selected from the group consisting of a conjugated unsaturated fatty acid and an amide-forming derivative of a conjugated unsaturated fatty acid, with an aromatic vinyl compound.

3,449,279

FIRE RESISTANT COMPOSITIONS COMPRISING AN ELASTOMER AND A FATTY ESTER-HALOGENATED CYCLOPENTADIENE ADDUCT

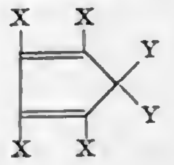
Raymond R. Hindersinn, Lewiston, and Charles S. Ilardo, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,728

Int. Cl. C08f *11/02;* **C08d** *9/10*

U.S. Cl. 260—23.7 **20 Claims**

This invention relates to a fire retardant elastomeric composition comprising (a) an elastomeric material and (b) the Diels-Alder adduct of a fatty ester and a polyhalogenated cyclopentadiene material, said fatty ester being the reaction product of a polyhydric alcohol and a fatty acid, which fatty acid comprises more than 65 percent by weight of linoleic acid and said polyhalogenated cyclopentadiene material having the formula



wherein X is selected from the group consisting of fluorine, chlorine and bromine and Y is selected from the group consisting of fluorine, chlorine, bromine and an alkoxy radical of 1 to 10 carbon atoms, said Diels-Alder adduct containing about 10 to 50 weight percent halogen.

3,449,280

ADHESIVE COMPOSITION CONTAINING HIGH MOLECULAR WEIGHT POLYAMIDES, EPOXY RESINS AND CURING AGENTS

Robert A. Frigstad, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,882

Int. Cl. C08g *45/12*

U.S. Cl. 260—29.2 **12 Claims**

Adhesives and coating compositions are prepared from 13–98 parts of high molecular weight methanol-soluble polyamides and 2–87 parts of epoxy resin. In an example 85 parts of a terpolymer of caprolactam, hexamethylene diammonium adipate and hexamethylene diammonium sebacate were solvated in methanol and blended with 15 parts of a diglycidyl ether of bisphenol A and 3.6 parts of 2,-dihydrazino-6-methylamino-s-triazine.

3,449,281

WATER DISPERSIBLE EPOXY COMPOSITIONS

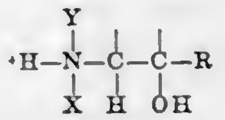
Philip W. Sullivan, Heusy-Verviers, Belgium, and Robert Wong, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 360,417, Apr. 16, 1964. This application June 20, 1966, Ser. No. 558,609

Int. Cl. C08g *53/18, 45/00;* **D06m** *15/14*

U.S. Cl. 260—292 **16 Claims**

A method of dispersing a resinous material in water, wherein a resinous material is mixed with at least 1% by weight of an aqueous soluble compound having the following formula:



$$\cdot H-\underset{X}{\overset{Y}{\underset{|}{\overset{|}{N}}}}-\underset{H}{\underset{|}{\overset{|}{C}}}-\underset{OH}{\underset{|}{\overset{|}{C}}}-R$$

wherein Y is a member of the class consisting of hydrogen, an alkyl radical of a chain length of from 1 to 7 carbon atoms, and an X radical; and X is a member of the group consisting of: (1) an aliphatic hydrocarbon having a chain length of from 1 to 7 carbon atoms and including at least one hydroxy group, (2) —OH, and (3) $—(OR'')_nOH$, wherein R'' is an aliphatic hydrocarbon radical having a chain length of from 1 to 6 carbon atoms and *n* is an integer of from 1 to 25, and R is a long chain organo molecule having a molecular weight up to approximately 10,000 and devoid of the terminal group given above at its other end; and wherein the mixture is blended with water.

3,449,282

METHOD OF PREPARING POLYMER EMULSION USING NONIONIC PHOSPHATE TRIESTER SURFACTANT

Nathan Lasher and Richard W. Lasher, Los Angeles, Calif., assignors to Jennat Corporation, Gardena, Calif., a corporation of California

No Drawing. Filed Jan. 3, 1966, Ser. No. 518,034

Int. Cl. C08f *1/13;* **C09d** *5/02, 3/74*

U.S. Cl. 260—29.6 10 Claims

A polymerizable composition and a method of polymerization is disclosed for the production of a pigment-binder emulsion. The composition comprises an aqueous emulsion of a vinyl monomer such as vinyl acetate and a non-ionic phosphate triester surfactant completely esterified with at least one polyethylene oxide moiety containing 2 to 100 oxide units and one or two alkyl groups containing 2 to 25 carbon atoms. Preferably, the emulsion contains the phosphate triester surfactant as at least 10% of the total surfactants present. A polymeric pigment-binder emulsion is prepared by polymerizing a vinyl monomer in an aqueous emulsion containing said phosphate triester surfactant.

3,449,283

PROCESS FOR THE PREPARATION OF OIL-EXTENDED RUBBERY POLYMERS

Jozef J. T. M. Geerards, Beek, and Bert H. L. M. Wijler, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,233

Claims priority, application Netherlands, Feb. 23, 1965, 6502224

Int. Cl. C08f *45/28, 29/02*

U.S. Cl. 260—29.6 14 Claims

The present disclosure relates to the blending of rubbery olefin polymers with oil extenders. The rubber, in solid state, and containing at least 0.5% water and most preferably between 7 and 20% by weight water is mixed with the oil extenders in a suitable mixer, preferably an extruder. While in the absence of water the solid rubbery polymer will not absorb the oil, with the water present such absorption may be carried out. The mixing temperature is preferably maintained below 150° C. and during such mixing the water is driven off.

3,449,284

MASTERBATCHING ELASTOMER SOLUTION POLYMERS

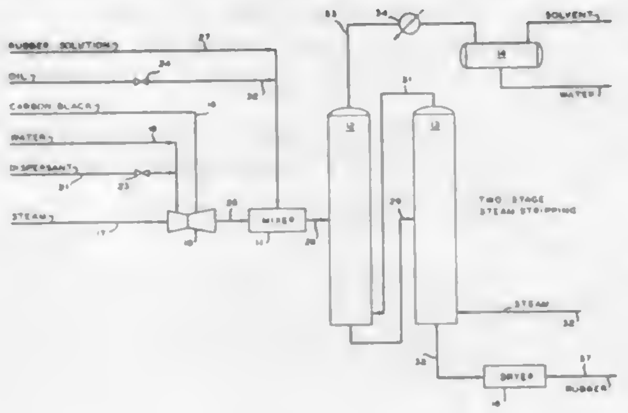
Lyle W. Pollock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 151,830, Nov. 12, 1961. This application May 20, 1963, Ser. No. 281,733

Int. Cl. C08d *7/00*

U.S. Cl. 260—29.7 13 Claims

13. Process for incorporating carbon black in a rubber which comprises simple mixing of a low viscosity slurry of carbon black in water with a solution of the rubber in an organic solvent, maintaining two separate liquid phases to ensure the substantially complete migration of the carbon black from the aqueous slurry to the solution of rubber in organic solvent and thereafter removing the organic solvent and the water from the mixture to produce coagulum comprising the rubber having substantially all of the carbon black of the aqueous slurry dispersed therein.



3,449,285

WATER-SETTABLE POLYESTER/FILLER COMPOSITIONS

Stanley Harold Jones, Penarth, Glamorgan, and Parry Williams, Rhondda, Glamorgan, Wales, assignors to British Resin Products Limited, London, England, a British company

No Drawing. Filed July 18, 1967, Ser. No. 654,074

Int. Cl. C08g *51/04*

U.S. Cl. 260—40 5 Claims

Water-settable polyester/inorganic filler compositions which comprise an unsaturated polyester, a monomer copolymerisable therewith, an inorganic filler, a water soluble polymerisation initiator and a solid anhydrous polybasic aliphatic acid or anhydride have improved flow characteristics and shelf-life.

3,449,286

PROCESS FOR THE PRODUCTION OF ACRYLONITRILE POLYMERS

Jeno Szita, Herbert Marzolph, and Otto Unger, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 15, 1966, Ser. No. 557,640

Claims priority, application Germany, June 23, 1965, F 46,408

Int. Cl. C08f *1/08, 1/62, 3/76*

U.S. Cl. 260—30.4 4 Claims

Process for producing polymers of acrylonitrile in the form of a spinning solution by polymerizing a composition containing 80–100% by weight of acrylonitrile and 0–20% by weight of an ethylenically unsaturated comonomer in an organic solvent in the presence of a redox catalyst system consisting of an organic peroxide, a sulphinic acid salt of an organic base, and a strong mineral acid. This process produces improved spinning solutions which are gel-free, are highly concentrated with polymer, and are anhydrous.

3,449,287

POLYAMIDE PLASTICIZED WITH UREA FOR USE IN FUSIBLE COMPOSITIONS

Andrew Ewan Spowart Fairfull, North Petherton, Somerset, and Michael Owen Welch, Bridgwater, Somerset, England, assignors to Bonded Fibre Fabric Limited, Bridgwater, Somerset, England, a British company

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,289

Claims priority, application Great Britain, Apr. 7, 1965, 14,785/65

Int. Cl. C08g *53/14, 51/44, 41/02*

U.S. Cl. 260—30.8 13 Claims

A fusible fabric is disclosed which comprises a fibrous web base having a solid fusible composition incorporated on at least one surface thereof. The fusible composition has a fusing point below 145° C. and comprises a polyamide and a plasticizing material containing urea, thiourea or ethyl urea.

3,449,288

HIGH TEMPERATURE PHOSPHORUS CONTAINING MOLDING COMPOSITIONS AND CERAMICS

James M. Maselli, Baltimore, and Rip G. Rice, Ashton, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Jan 7, 1966, Ser. No. 519,198

Int. Cl. C08g *49/00;* **C04b** *35/00*

U.S. Cl. 260—37 2 Claims

A process for preparing a ceramic molding composition comprising mixing a siliceous compound with a binding composition comprising phosphonitrilic chloride-polyhydric alcohol condensates.

3,449,289

HEAT-CURABLE AMINO-ORGANOSILICON COMPOSITIONS AND THE CURED ELASTOMERS DERIVED THEREFROM

Richard L. Schank, Tonawanda, and Thomas C. Williams, Lancaster, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 17, 1966, Ser. No. 558,257

Int. Cl. C08g *31/24, 47/06*

U.S. Cl. 260—37 11 Claims

Heat-curable amino-organosiloxane compositions comprising (1) an amino-organopolysiloxane gum; (2) a blocked isocyanate curing agent; (3) a filler; and (4) a hydroxy end-blocked organopolysiloxane fluid; as well as the cured siloxane elastomers derived from said compositions and a composite article comprising a substrate having said cured siloxane elastomers directly bonded to the surface thereof.

3,449,290

SILICONE ELASTOMER COMPOSITIONS CONTAINING POWDERED POLYTETRAFLUOROETHYLENE

William W. Foster, Grand Island, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 12, 1966, Ser. No. 564,542

Int. Cl. C08g *47/10*

U.S. Cl. 260—37 9 Claims

A composition of matter comprising: (a) a dihydrocarbon substituted polysiloxane gum, said hydrocarbon groups being methyl and vinyl radicals; (b) an alkoxy or hydroxy end-blocked polysiloxane fluid; (c) polytetrafluoroethylene; (d) a reinforcing silica filler; and (e) an extending silica filler, as well as the process of improving the physical properties of said composition by subjecting it to a shearing action of at least thirty minutes; the cured products of said composition being excellent siloxane elastomers.

3,449,291

COLORED POLYMER POWDERS

Frank Lerman and Raymond C. Bartsch, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 15, 1966, Ser. No. 557,641

Int. Cl. C08f *47/04, 47/06;* **B44d** *1/095*

U.S. Cl. 260—41 19 Claims

A process for preparing colored spherical thermoplastic powders. The process comprises subjecting a mixture of a blend of colorant in a synthetic thermoplastic polymer and water to vigorous agitation in the presence of a block co-polymer of ethylene oxide and propylene oxide at a temperature above the melting point of the polymer and at elevated pressure in order to produce a fine dispersion. The dispersion is thereafter cooled to a temperature below the melting point of the polymer to thereby produce dispersed particles of the powder less than 1000 microns in diameter whereby the particles have colorant uniformly dispersed therein.

3,449,292

POLYHYDROXYETHERS STABILIZED WITH ORGANIC PHOSPHITES

Robert H. Snedeker, New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 386,393, July 30, 1964. This application Sept. 22, 1967, Ser. No. 669,702

Int. Cl. C08g *43/00, 51/58*

U.S. Cl. 260—45.7 13 Claims

Thermoplastic polyhydroxyethers have the general formula:

$$\left[D—O—E—O \right]_n$$

wherein D is the radial residuum of a rihydric phenol, E is a hydroxyl containing radical residuum of an epoxide and *n* represents the degree of polymerization and is at least 30 have been rendered color stable at temperatures up to about 550° F. by incorporating up to 0.8 parts of triorgano phosphites in them.

3,449,293

ORGANOSILANE POLYMERS AND METHODS OF PREPARATION THEREOF

Alfred J. Burzynski and Robert E. Martin, Toledo, Ohio, assignors to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

No Drawing. Original application Sept. 5, 1963, Ser. No. 306,711. Divided and this application Oct. 28, 1966, Ser. No. 604,498

Int. Cl. C08g *31/09, 31/34*

U.S. Cl. 260—46.5 11 Claims

Method for making solid polymeric products by polymerizing an alkoxysilane with ethyl or methyl acrylates or methacrylates in an aqueous emulsion-redox system containing a water soluble peroxide initiator.

3,449,294

METHOD FOR THE PREPARATION OF POLYMERS THAT CAN BE PHOTOCHEMICALLY CROSS-LINKED

Justus Danhäuser and Willibald Pelz, Leverkusen, Germany, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed June 14, 1965, Ser. No. 463,918

Claims priority, application Germany, Mar. 3, 1965, A 48,540

Int. Cl. C08g *17/14;* **C08f** *27/10;* **C08b** *15/06*

U.S. Cl. 260—47 17 Claims

Improved light-sensitive polymers are described. The polymers are obtained by reacting a phenyl compound containing an isocyanate group and an azidosulphonyl or chlorosulphonyl group with an organic polymer containing hydrogen atoms reactive with an isocyanate. In the event the phenyl compound contains a chlorosulphonyl group, the polymer obtained is subsequently reacted with sodium azide to obtain a polymer having azidosulphonyl groups. The polymers described are initially soluble in organic solvents but are rendered insoluble under the influence of light due to cross-linking.

3,449,295

HIGH MOLECULAR WEIGHT LINEAR COPOLYESTERS OF BISPHENOLS AND MIXTURES OF ORTHO-PHTHALIC AND ISO- AND/OR TEREPHTHALIC ACIDS

Andre Jan Conix, Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Continuation-in-part of application Ser. No. 103,227, Apr. 17, 1961. This application Sept. 30, 1966, Ser. No. 583,423

Claims priority, application Great Britain, Apr. 21, 1960, 14,097/60

Int. Cl. C08g *17/08*

U.S. Cl. 260—47 **2 Claims**

High molecular weight linear copolyesters of bisphenols and mixtures of orthophthalic and iso- and/or terephthalic acids having an intrinsic viscosity of at least 0.4 and good mechanical properties.

3,449,296

POLYBENZOXAZOLE FILM

Rudolph J. Angelo and Charles E. Berr, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application June 17, 1963, Ser. No. 288,534. Divided and this application May 29, 1967, Ser. No. 642,202

Int. Cl. C08g *15/02, 5/00*

U.S. Cl. 260—47 **1 Claim**

Film of polybenzoxazole which is creasable.

3,449,297

FIBER, FILAMENT AND FOIL FORMING POLYETHER ESTERS AND A PROCESS FOR THEIR PRODUCTION

Robert Schnegg, Dormagen, Herbert Pelousek, Dormagen-Horrem, Robert Dippelhofer, Dormagen, Herbert Nordt, Leverkusen, and Heinz-Adolf Dortmann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

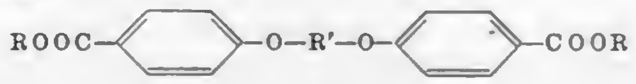
No Drawing. Filed Feb. 9, 1965, Ser. No. 431,436

Claims priority, application Germany, Feb. 13, 1964, F 41,991

Int. Cl. C08g *17/08, 17/003*

U.S. Cl. 260—47 **5 Claims**

Polyether esters and a method for preparing them by first condensing an alkyl ester of p-(beta-hydroxyethoxy) benzoic acid or mixtures thereof to prepare a precondensate having a maximum molecular weight of about 3,000 and then reacting the precondensate with a compound having the formula



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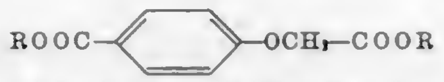
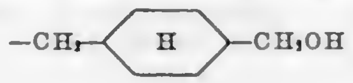


wherein R is a lower alkyl radical containing from about 1 to about 4 carbon atoms. $-CH_2-CH_2OH$,



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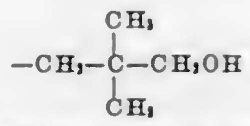
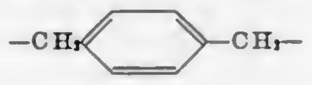


$$-CH_2-\overset{\displaystyle CH_3}{\underset{\displaystyle CH_3}{C}}-CH_2OH$$

and R′ is a lower alkylene radical containing from about 1 to about 4 carbon atoms, $-(CH_2)_4-O-(CH_2)_4-$,



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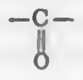


$$-\underset{\displaystyle \overset{\|}{O}}{C}-$$

3,449,298

NORBORNANEDIOL CONDENSATION POLYMERS

Markus Matzner, Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,239

Int. Cl. C08g *17/13, 21/00*

U.S. Cl. 260—47 **7 Claims**

Useful polycarbonates have been prepared by the phosgenation of either 2,5- or 2,6-bis(hydroxymethyl)norbornane in the presence of an organic compound containing a sterically unhindered heterocyclic, tertiary nitrogen atom, said compound being liquid at the reaction temperature, and a reaction temperature of from about 10° C. to about 150° C. Mixed polycarbonates can be made by copolymerizing either/or both of these bis(hydroxymethyl)norbornanes with aliphatic, alicyclic, or aromatic diols.

3,449,299

MANUFACTURE OF HIGHLY TRANSPARENT SHEETS FROM AMORPHOUS POLYAMIDES

Johannes Schneider and Wolfgang Pungs, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany

No Drawing Filed June 29, 1966, Ser. No. 561,412

Claims priority, application Germany, July 1, 1965, D 47,628

Int. Cl. C08g *53/16, 20/20*

U.S. Cl. 260—78 **10 Claims**

Sheets and foils on the basis of amorphous polyamides having increased strengths, low water absorptions, reduced permeability to water vapor, improved electrical properties and transparency by extrusion of polyamides having viscosity values ranging from 94 to 160 prepared from mixtures of terephthalic acid methyl esters, isophthalic acid methyl esters and hexanemethylenediamines from suitable extrusion units at temperatures which increase in the direction moving toward the nozzle from at least 200 to at the most 315° C.

3,449,300

STYRENE/DIALKYL FUMARATE PROCESS

Robert J. Slocombe, Kirkwood, Mo., and Ronald H. Dahms, Springfield, and Charles R. Williams, Longmeadow, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,103

Int. Cl. C08f *1/34, 19/10*

U.S. Cl. 260—78.5 **6 Claims**

Disclosed herein is a process for copolymerization of styrene and dialkyl fumarates containing from 20 to 24 carbon atoms which comprises subjecting a mixture of said monomer to polymerization conditions in aqueous emulsion in the presence of a water-soluble polymerization catalyst, introducing an emulsified mixture of said monomers to the reaction mixture at about the time copolymerization begins, the composition of said added monomers being substantially the same as the composition of monomers chemically combined in the forming copolymers, and continuing the addition of emulsified monomer mixture during a substantial part of the copolymerization period at about the same rate the copolymer is formed.

3,449,301

THIOETHER-BRANCHED, MERCAPTAN-TERMINATED POLYMERS

Raymond F. Noll, North Olmsted, and William J. McCarthy, Avon Lake, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed June 30, 1966, Ser. No. 561,763

Int. Cl. C08d *3/02, 3/06*

U.S. Cl. 260—79 **1 Claim**

A trioether-branched, mercaptan-terminated polymer prepared by the pyrolysis of a polymeric bis-xanthate ester. The thioether-branched, mercaptan-terminated polymer is useful as potting and caulking compounds and propellant binders.

3,449,302

COPOLYMERS OF VINYLIDENECHLORIDE

Hermann Nachbur, Riehen, Robert Werner, Binningen, and Arthur Maeder, Therwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed May 3, 1966, Ser. No. 547,168

Claims priority, application Switzerland, May 18, 1965, 6,897/65

Int. Cl. C08f *15/40*

U.S. Cl. 260—79.3 **5 Claims**

New copolymers are provided which are obtained by copolymerizing

80–99.7% vinylidenechloride,
0.1–3% butadienesulphone,
0.1–19.8% of an ethylenically unsaturated film-forming monomer, and
0.1–5% of an ethylenically unsaturated hydrophilic monomer.

The new polymers of this invention are especially useful for coating sheet materials such as paper, cardboard, foils from regenerated cellulose or from plastic to make the materials impermeable to water, gas, steam and fats and heat sealable.

3,449,303

POLYMERS OF PHOSPHATE ESTERS

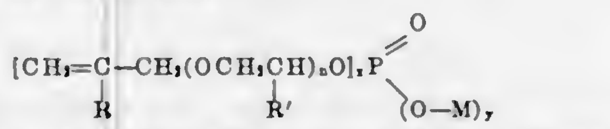
John R. Caldwell and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 23, 1966, Ser. No. 559,711

Int. Cl. C08f *15/16, 15/40;* **D01f** *7/02*

U.S. Cl. 260—80.71 **5 Claims**

Linear addition interpolymers derived from a compound having the formula:



and at least one ethylenically unsaturated interpolymerizable compound selected from vinylidene halides, vinyl esters or the esters, amides or nitriles of acrylic or methacrylic acid, have been found to have improved dyeability and are useful for textiles.

3,449,304

POLYMERS OF HEXAFLUOROCYCLOPENTADIENE AND PERFLUORODICYCLOPENTADIENE

John Ferguson Harris, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington Del., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 284,844, June 3, 1963, and Ser. No. 413,636, Nov. 24, 1964. This application Oct. 19, 1965, Ser. No. 498,126

Int. Cl. C08d *3/14;* **C08f** *3/00, 31/00*

U.S. Cl. 260—80.76 **17 Claims**

Polymers of hexafluorocyclopentadiene or perfluorodicyclopentadiene including their copolymers with other ethylenically unsaturated monomers such as tetrafluoroethylene, methyl methacrylate, acrylonitrile, hexafluoropropene, vinylidene fluoride, perfluoromethyl perfluorovinyl ether and the like. The polymers may range from liquids to solids and are capable of being crosslinked.

3,449,305

INTERPOLYMERS OF VINYLIDENE FLUORIDE

Frederic B. Stilmar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del.

No Drawing. Filed Mar. 1, 1966, Ser. No. 530,769

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.76 **21 Claims**

An interpolymer comprising
(A) vinylidene fluoride,
(B) from about 0.1 to about 0.4 mole of tetrafluoroethylene per mole of vinylidene fluoride, and
(C) from about 0.05 to about 0.3 mole, per mole of vinylidene fluoride, of a vinyl ester of a C_2 to C_{18} alkane carboxylic acid;

said interpolymer having an inherent viscosity of at least 0.30 as a 0.5% solution by weight in dimethylformamide at 30° C., and which can also contain from about 0.05 mole to about 0.4 mole, per mole of vinylidene fluoride, of at least one polymerizable mono-unsaturated monomer chosen from (a) C_3 fluorocarbon olefins, (b) C_2 to C_3 chlorofluorocarbon olefins, (c) C_2 to C_8 hydrocarbon monoolefins containing the group $CH_2{=}C{<}$, and (d) alkyl vinyl ether wherein the alkyl group is 1 to 16 carbon atoms.

3,449,306

MODIFIED BLOCK COPOLYMERS AND PRODUCTION THEREOF

Robert P. Zelinski, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 23, 1964, Ser. No. 362,174

Int. Cl. C08d *3/02, 1/20*

U.S. Cl. 260—83.7 **3 Claims**

Block copolymers of conjugated alkadienes and vinyl aromatic hydrocarbons are made with an organolithium initiator by initially copolymerizing a mixture of the monomers and thereafter copolymerizing the vinyl aromatic hydrocarbon with a minor proportion of the conjugated alkadiene.

3,449,307

THERMOPLASTIC RESINS FROM ARYL OLEFINS

Gene Nowlin, Glen Burnie, Md., and Harold D. Lyons, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 5, 1956, Ser. No. 589,376

Int. Cl. C07f *1/42, 7/04, 19/04*

U.S. Cl. 260—84.1 **12 Claims**

Copolymers of styrene with at least one monoolefin and multiolefin and homopolymers of styrene are prepared by contacting the monomers with a catalyst formed by admixing a trialkyl aluminum and titanium tetrachloride in a mole ratio of from 2 to 5:1 respectively, at temperatures of from 75 to 100° C. in a hydrocarbon diluent present in an amount of from 0.5 to 20 volumes of diluent per volume of monomer.

3,449,308

FLAME-RESISTANT HYDROCARBON POLYMERS

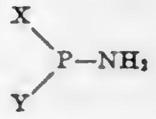
Philip Strubing Blatz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 439,961, Mar. 15, 1965. This application Jan. 18, 1966, Ser. No. 521,428

Int. Cl. C08f *27/08;* **C09k** *3/28*

U.S. Cl. 260—88.1 **6 Claims**

Olefinic hydrocarbon polymers are made flame resistant by reacting selected phosphorous compounds e.g., those having the general formula



with the aforesaid olefin polymers to produce the linkage —C—N—P with the carbon atom of the linkage attached to the olefin polymer by an uninterrupted carbon to carbon linkage.

3,449,309

PROCESS FOR THE POLYMERIZATION OF OLEFINS

Tsutomu Tanaka and Tadaichi Tokuzumi, Ohtake-shi, and Hiroshi Fujimura, Wagi-mura, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 5, 1964, Ser. No. 342,775
Claims priority, application Japan, Feb. 15, 1963, 38/6,159, 38/6,160, 38/6,161; Feb. 26, 1963, 38/8,544, 38/8,545
Int. Cl. C08f *1/42*
U.S. Cl. 260—88.2 **8 Claims**

1. A process for the polymerization of olefins wherein at least one ethylenically unsaturated hydrocarbon is contacted with at least a catalytic amount of a catalyst composition comprising (1) a hydrocarbon-insoluble reaction product formed by the reaction of titanium tetrachloride with an alkylaluminium compound, (2) an alkylcadmium compound and (3) a substance selected from the group consisting of dimethyl polysiloxane, diphenyl polysiloxane, dioctyl phthalate, rapeseed oil and glyceryl tristearate.

3,449,310

PROCESS FOR THE POLYMERIZATION OF CYCLOOLEFINS

Gino Dall'Asta and Giovanna Carella, Milan, Italy, assignors to Montecatini Edison S.p.A., a corporation of Italy
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,377
Claims priority, application Italy, Feb. 11, 1965, 2,889/65
Int. Cl. C08f *5/00, 1/56;* **C08g** *33/00*
U.S. Cl. 260—93.1 **12 Claims**

Cycloolefins are polymerized to linear unsaturated polymers having the structure of polyalkenamers in contact with catalysts prepared from a salt of tungsten or molybdenum, organometallic compounds or hydrides of Group II or III metals, and oxygenated compounds containing oxygen-oxygen bonds or an oxygen-hydrogen bond.

3,449,311

PROCESS FOR THE SUSPENSION POLYMERIZATION OF VINYL AROMATIC MONOMERS

Arthur I. Lowell, Metuchen, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,308
Int. Cl. C08f *1/11*
U.S. Cl. 260—93.5 **4 Claims**

This invention is directed to the use of a novel extender in the suspension polymerization of vinyl monomers in which a difficultly soluble phosphate is utilized as the suspension stabilizer.

3,449,312

POLYMERIZATION WITH ALUMINUM-IODINE TYPE CATALYSTS

Robert J. Minchak, Parma Heights, Ohio, assignor to Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 152,076, Nov. 13, 1961. This application July 6, 1965, Ser. No. 469,932
Int. Cl. C08d *3/08, 1/26*
U.S. Cl. 260—94.3 **9 Claims**

1. A process for polymerizing monomeric butadiene-1,3 to form a polymer having a relatively high cis-1,4 structure comprising conducting the polymerization in the presence of a catalyst comprised of aluminum iodide compounds of the formula R_xAlI_{3-x} where R is a hydrocarbon group and x is a number 1 through 2; titanium tetrachloride and an alkyl aluminum compound having the general formula R_2AlR' where R' is a hydrocarbon radical and R is selected from the group consisting of R' and hydrogen, the catalyst components being present in quantities such that the number of moles of alkyl aluminum compound in the catalyst is at least about three times the moles of titanium tetrachloride present, as well as at least slightly in excess of the moles of aluminum iodide, and the moles of aluminum iodide are at least about double the moles of titanium tetrachloride in said catalyst.

3,449,313

RECOVERY OF TALL OIL SOAPS FROM SULFATE PROCESS BLACK LIQUOR

Justin C. Bolger, Needham, and Alan S. Michaels, Lexington, Mass., assignors to Pulp Chemicals Association, New York, N.Y., an unincorporated trade association in New York
Filed Nov. 18, 1965, Ser. No. 508,427
Int. Cl. C09f *1/00;* **C08h** *11/00;* **C11b** *13/00*
U.S. Cl. 260—97.5 **5 Claims**

Recovery of tall oil from black liquor is increased by adding to the liquor from 0.1 to 5% by weight of a liquid hydrocarbon solvent containing at least 10% by volume of unsaturated cyclic compounds, the solvent being substantially immiscible in the black liquor, having a flash point within the range from 85°–185° F., a specific gravity less than 1.0 and being capable of dissolving less than 20% by weight of tall oil soap at room temperature.

3,449,314

PREPARATION OF ANTI-Rh GLOBULIN FROM HUMAN PLASMA

William Pollack, Belle Mead, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
Filed June 3, 1966, Ser. No. 555,175
Int. Cl. A23j *1/06;* **C07g** *7/00;* **A61k** *23/00*
U.S. Cl. 260—112 **2 Claims**

1. A method of preparing an anti-Rh gamma globulin from human plasma which comprises the steps of:

(a) cooling human plasma to about 1° C. and separating from said plasma a first supernatant and a first precipitate;

(b) adding methanol to said first supernatant and adjusting the temperature to about −2° C., the amount of said methanol being between 10.5% and 10.9%, the pH being between 7 and 7.4 and the ionic strength being 0.136 gi./liter and separating from the resulting liquid system a second precipitate and a second supernatant;

(c) adding methanol to said second supernatant and adjusting the temperature to about −5° C., the amount of said methanol being between 33.25% and 33.35%, the pH being between 6.7 and 7.1 and the ionic strength being between 0.081 and 0.091 gi./liter and separating from the resulting liquid system a third precipitate and a third supernatant;

(d) adding methanol to said third precipitate and adjusting the temperature to about −5° C., the amount of said methanol being between 26.5% and 26.9%, the pH being between 7.0 and 7.4 and the ionic strength being between 0.0047 and 0.0057 gi./liter and separating from the resulting liquid system a fourth precipitate and a fourth supernatant;

(e) adding methanol to said fourth precipitate and adjusting the temperature to about −6° C., the amount of said methanol being between 22.5% and 22.9%, the pH being between 5.0 and 5.4 and the ionic strength being between 0.008 and 0.018 gi./liter and separating from the resulting liquid system a fifth precipitate and a fifth supernatant;

(f) adding methanol to said fifth supernatant and adjusting the temperature to about −6.5° C., the amount of said methanol being between 33.0% and 33.4%, the pH being between 7.0 and 7.4 and the ionic strength being between 0.055 and 0.065 gi./liter and separating said resulting liquid system into a sixth precipitate and a sixth supernatant.

3,449,315

LOW TEMPERATURE RENDERING OF ANIMAL FATTY TISSUE TO RECOVER PROTEIN

Glenn A. Alkins, Chicago, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 249,485, Jan. 4, 1963. This application Oct. 12, 1966, Ser. No. 601,249
Int. Cl. A23b *5/02;* **A23j** *1/00*
U.S. Cl. 260—112 **6 Claims**

1. In a low temperature rendering process for recovering a fat fraction and a protein fraction from animal fatty tissue from mammals, the steps of grinding said tissue, heating and mechanically disintegrating said tissue to bring the temperature thereof between 90 and 120° F. and to form a fluid mixture of protein and liquid fat, and mechanically separating said protein from the liquid fat at a temperature below 120° F. by introducing said fluid mixture at one end of a centrifugal bowl while being subjected to centrifugal pressure under relatively quiescent conditions, said quiescent conditions being provided by a recess in said bowl defined by an inwardly turned rim spaced forwardly of a closed rear side of said bowl.

3,449,316

PROCESS FOR THE PURIFICATION OF GAMMA GLOBULIN EMPLOYING BENTONITE

Merle Vernon Querry, Westwood, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,238
Int. Cl. C07g *7/00;* **A61k** *17/00*
U.S. Cl. 260—112 **9 Claims**

The process herein disclosed relates to a process of purifying gamma globulin employing an alumina and silica containing adsorbent material. In particular, the process entails dissolving gamma globulin in a physiological saline solution, having a molar concentration of about 0.1 to 0.2 M, adjusting the pH to about 6 to 8.5, adding from about 1 to 5% by weight of bentonite, based on the total volume of the solution, agitating and filtering the mixture, and recovering gamma globulin from the filtrate.

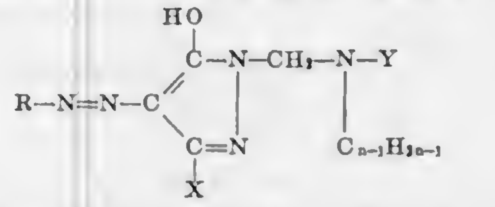
3,449,317

FIBRE-REACTIVE AZO DYESTUFFS

René de Montmollin, Riehen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss confederation
No Drawing. Filed Nov. 16, 1965, Ser. No. 508,139
Claims priority, application Switzerland, Dec. 1, 1964, 15,505/64
Int. Cl. C09b *62/40, 62/50, 62/70*
U.S. Cl. 260—161 **7 Claims**

Fibre-reactive azo dyestuffs of the formula

(1)



in which R represents the residue of a diazo component that may contain an azo group, which diazo component contains a carboxylic acid group or sulphonic acid group, X represents a low-molecular weight alkyl group, a carboxyl or aryl group or a functionally modified carboxyl group, especially a carboxylic acid ester grouping bound through its —CO group, Y represents an aliphatic fibre-reactive acyl residue and n represents a positive integer not greater than 7 are suitable for dyeing nitrogen-containing fibrous material, having a very high affinity for said materials, providing level dyeings of desirable fastness to washing, milling and light.

3,449,318

HYDROXYALKYLATION OF (A) POLYHYDRIC ALCOHOLS USING HYDROGEN FLUORIDE CATALYST AND (B) DEXTROSE

Claris D. Roth, Robert G. Short, and Charles S. Nevin, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,566
Int. Cl. C08b *19/04;* **C07c** *43/00*
U.S. Cl. 260—209 **13 Claims**

Hydroxyalkylation of (A) polyhydric alcohols using a hydrogen fluoride catalyst and (B) of dextrose melts, prepared by dissolving dextrose monohydrate in its water of hydration.

3,449,319

WATER SOLUBLE POLYMERIC SURFACTANT AZO FUGITIVE TINTS

Hans H. Kuhn, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,464
Int. Cl. C09b *29/00;* **C08g** *51/66;* **D06p** *1/10*
U.S. Cl. 260—207.5 **10 Claims**

As a water-soluble fugitive tint, the molecular complex resultant from associating in an aqueous solution as anionic polymer characterized by the formula

$$R—[—(CH_2CH_2O)_nH]_x$$

wherein R is an organic dyestuff radical, n is at least 15, x is from 1 to 6 and the product of n times x is at least 30, with a water soluble organic polymeric acid compound capable of forming a molecular association with the ether groups of said anionic polymer. The tint has a pH of not less than 6 and the polymeric acid compound comprises from about 10% by weight to about 60% by weight of the tint on a dry basis. These fugitive tints have improved crock resistance, undiminished fugitivity and improved fugitivity from cotton fibers.

3,449,320

HEXACHLOROBUTADIENE POLYOL COMPOUNDS

Robert J. Knopf, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Apr. 21, 1966, Ser. No. 544,116
Int. Cl. C07c *47/18, 31/18;* **C08g** *23/24*
U.S. Cl. 260—209 **11 Claims**

Polyols are prepared by reacting hexachlorobutadiene with the reaction product of a base and a polyhydroxy composition such as a polyhydroxyalkane or an alkylene oxide adduct thereof. The polyols can be reacted with organic polyisocyanates to form urethane polymers of enhanced utility owing to the flame retardance properties imparted by the polyols.

3,449,321

ESTROGEN WATER-SOLUBLE 16α-YL-GLUCOPYRANOSIDURONIC COMPOUNDS AND PREPARATION THEREOF

Joseph Peter Joseph, Cliffside Park, N.J., and John Paul Dusza, Nanuet, and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Mar. 28, 1967, Ser. No. 626,419
Int. Cl. C08b *19/00*
U.S. Cl. 260—210.5 **4 Claims**

A chemical method for preparing novel crystalline estrogen water-soluble mixed conjugates starting either from

3-benzyloxy - 16α-hydroxyestra-1,3,5(10)-trien-17-one or 3,16,17β - trihydroxyestra - 1,3,5(10)-triene and reacting with a protected halo glucuronic acid followed by preferential de-blocking and subsequent sulfation at the 3-position to produce the metallic or ammonium salts of the mixed conjugate, 17β-hydroxy-3-sulfooxy-estra-1,3,5(10)-trien-16α-yl - glucopyranosiduronic acid. The compounds are useful as hypocholesterolemic agents.

3,449,322

ALKALINE EARTH METAL SALTS OF STARCH-SULTONE REACTION PRODUCTS AND PROCESSES FOR PREPARATION THEREOF

Lee H. Elizer, Keokuk, Iowa, assignor to The Hubinger Company, Keokuk, Iowa, a corporation of Iowa

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,930

Int. Cl. C08b *25/02*

U.S. Cl. 260—233.3 **11 Claims**

Reaction of starch or starch fractions with alkyl or aryl sultones at 35–120° F. and alkaline pH in presence of 0.8–3 mol equivalent of alkaline earth metal base per mol of reacted sultone to increase reaction efficiency and produce alkaline earth metal salts of ether sulfonic acids of starch or fraction thereof.

3,449,323

PROCESS FOR THE PRODUCTION OF SULFENAMIDES

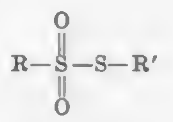
Joseph E. Dunbar, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,935

Int. Cl. C07d *87/46, 23/06;* **C07c** *149/24*

U.S. Cl. 260—239 **4 Claims**

A new process is claimed for preparing sulfenamides and sulfinic acid amine salts wherein a thiosulfonate corresponding to the formula



$$R-\overset{O}{\underset{O}{\overset{\|}{\underset{\|}{S}}}}-S-R'$$

is reacted with an amine. Novel sulfenamides prepared by the new process are also claimed. In the formula, R represents alkyl or aryl, and R′ represents R, allyl, or lower-alkylthio-lower-alkyl. The new compounds are useful as pesticides.

3,449,324

PROCESS FOR THE PRODUCTION OF 5H-DIBENZ[b,f]AZEPINES

Henri Schramek, Basel, and Jean Riethmann and Jorg Kallen, Allschwil, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 402,936, Oct. 9, 1964. This application Oct. 10, 1967, Ser. No. 677,496

Claims priority, application Switzerland, Sept. 23, 1964, 12,372/64

Int. Cl. C07d *41/08*

U.S. Cl. 260—239 **6 Claims**

Iminostilbenes are prepared in high yield and with minimum side-product formation through the reaction of iminodibenzyls and a ferric oxide dehydrogenation reagent.

3,449,325

PENICILLINS AND PROCESS FOR PREPARING THEM

Helmut Nahm, Kelkheim, Taunus, Walter Siedel, Bad Soden, Taunus, and Edgar Luding, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany

No Drawing. Filed Oct. 13, 1964, Ser. No. 403,646

Claims priority, application Germany, Oct. 18, 1963, F 41,025

Int. Cl. C07d *99/16;* **A61k** *21/00*

U.S. Cl. 260—239.1 **12 Claims**

The claimed invention resides in synthetic-α-phenoxyalkyl pencillins which have biological activity.

3,449,326

PROCESS FOR PREPARING LACTAMS

Anthony N. Naglieri, Bronx, N.Y., and Charles N. Winnick, Teaneck, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Nov. 4, 1966, Ser. No. 591,981

Int. Cl. C07d *41/04, 41/00*

U.S. Cl. 260—239.3 **9 Claims**

This invention is directed to the preparation of lactams by reacting a nitrosyl halide or a precursor thereof with a cycloaliphatic hydrocarbon in vapor phase in the presence of a solid acidic catalyst.

3,449,327

2-CYANO-3-AMINO-ESTRATRIENES AND A METHOD OF THEIR PREPARATION

Pietro de Ruggieri, Carmelo Gondolfi, and Umberto Guzzi, Milan, Italy, assignors to Ormonoterapia Richter, S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,812

Claims priority, application Italy, Aug. 23, 1965, 18,857/65

Int. Cl. C07c *173/10, 173/00, 169/08*

U.S. Cl. 260—239.5 **4 Claims**

There are provided 2-cyano-3-amino and substituted amino steroids which are aromatic in ring A. The compounds of the invention are useful as therapeutic agents, having estrogenic, hypocholesterolemic, hypotensive and anti-hormonal activity, and act as fertility-controlling substances.

ERRATUM

For Class 260—239.55 see:
Patent No. 3,449,760

3,449,328

EXTRACTION OF SAPOGENINS FROM VEGETABLE MATERIALS

Roland Hardman, Beeston, England, assignor to National Research Development Corporation, London, England, a British corporation

No Drawing. Continuation-in-part of application Ser. No. 587,432, Oct. 18, 1966. This application Aug. 3, 1967, Ser. No. 658,052

Claims priority, application Great Britain, Aug. 16, 1966, 36,711/66

Int. Cl. C07c *167/40, 173/06*

U.S. Cl. 260—239.55 **20 Claims**

Saturated hydrocarbons containing at least 6 carbon atoms in the molecule are used in the working up of sapogenin-affording plants e.g. Dioscorea, Balanites and Trigonella, to increase the recoverable yield of sapogenin. The hydrocarbon, particularly 2,6,10,15,19,23-hexamethyltetracosane, is preferably added before or after incubation of the plant material with added water and the sapogenin then recovered by the usual methods.

3,449,329

POLYAZLACTONES

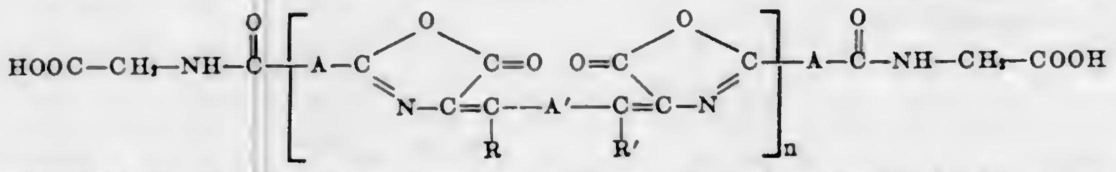
Bernard S. Wildi, St. Louis, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 8, 1963, Ser. No. 293,287

Int. Cl. C07d *85/42;* **C08g** *33/02*

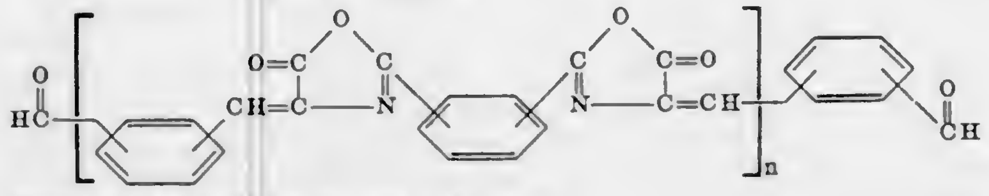
U.S. Cl. 260—240 **8 Claims**

1. A compound of the general formula



where A and A′ are bivalent aromatic or olefinic radicals containing from two to twenty carbon atoms which provide conjugated unsaturation through the polymer chain; where R and R′ are selected from the group consisting of hydrogen radicals and alkyl radicals containing up to four carbon atoms; and where n is an integer from one to about fifty.

7. A compound of the formula



where n is an integer from one to about 50.

3,449,330

AZOLE DERIVATIVES

Leonardo Guglielmetti, Basel, Erwin Maeder, Aesch, Basel-Land, Peter Liechti, Binningen, and Adolf Emil Siegrist, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

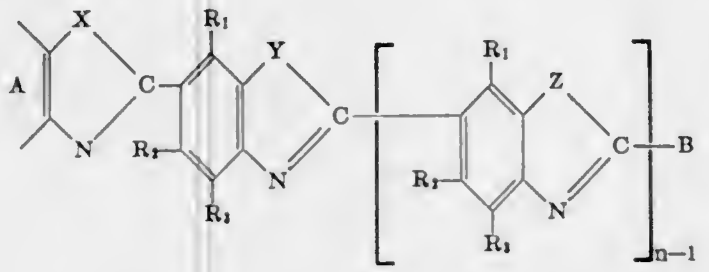
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,174

Claims priority, application Switzerland, Sept. 1, 1964, 11,400/64, 11,403/64

Int. Cl. C07d *85/48;* **D06l** *3/12*

U.S. Cl. 260—240 **17 Claims**

New azole derivatives are provided which are represented by the formula



wherein A is a naphthalene, tetrahydronaphthalene or especially benzene residue condensed with the azole ring; B is an aryl or aralkenyl, or a heterocyclic residue which contains at least two conjugated double bonds in conjunction with the $>C=N$ double bond of the azole ring; n is 1 or 2; R_1, R_2 and R_3 each represent hydrogen or a nonchromophoric substituent, and X, Y and Z each represents —O— or —NQ— where Q stands for a hydrogen atom or an alkyl, hydroxyalkyl, cyanoalkyl or alkenyl group or an aralkyl or aryl radical.

The compounds of this invention are useful as optical brighteners for organic materials.

3,449,331

NOVEL 2,6-METHANOBENZAZOCINES AND PROCESSES

Frank H. Clarke, Jr., Armonk, and Fred B. Block, Hartsdale, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 453,472, May 5, 1965. This application Feb. 27, 1967, Ser. No. 619,002

Int. Cl. C07d *29/02;* **A61k** *27/00*

U.S. Cl. 260—240 **6 Claims**

Analgesic 3-(thienyl- and furanylalkyl and -alkenyl)-6-phenyl-1,2,3,4,5,6-hexahydro-2,6-methano-3 - benzazocine derivatives are prepared via the reaction of an N-unsubstituted 6 - phenyl - 1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocine derivative and thienylalkyl or furanalkyl or alkenyl bromide or the corresponding chloride. A typical embodiment is 3-[2-(α-thienyl)ethyl]-6-phenyl-1,2,3,4,5,6-hexahydro-2, 6-methano-3-benzazocine-8-ol.

3,449,332

NOVEL METHANOBENZAZOCINES AND PROCESSES

Frank H. Clarke, Jr., Armonk, and Fred B. Block, Hartsdale, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 453,472, May 5, 1965. This application Feb. 27, 1967, Ser. No. 619,016

Int. Cl. C09b *23/04;* **A61k** *27/00;* **C07d** *33/34*

U.S. Cl. 260—240 **10 Claims**

Analgesic 3-cinnamyl-6-phenyl-1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocine derivatives are prepared via the reaction of an N-unsubstituted 6-phenyl-1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocine derivative and a cinnamyl chloride or cinnamyl bromide. A typical embodiment is 3-cinnamyl-6-phenyl-1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocine-8-ol.

3,449,333

ARYLPYRAZOLYL-(1)-STILBENE COMPOUNDS

Alfons Dorlars and Otto Neuner, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

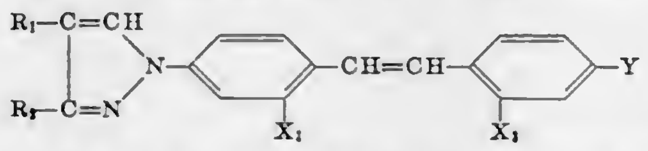
No Drawing. Filed Aug. 3, 1967, Ser. No. 658,048

Claims priority, application Germany, Aug. 10, 1966, F 49,916; Jan. 7, 1967, F 51,197

Int. Cl. C07d *49/10;* **C09k** *1/02*

U.S. Cl. 260—240 **8 Claims**

Brightening agents useful in brightening such materials as cellulose materials or synthetic materials comprising arylpyrazolyl-(1)-stilbene compounds of the formula



in which R_1 and R_2 independently of one another stand for hydrogen, a lower alkyl radical or an optionally substituted aryl radical, with the proviso that at least one of the symbols R_1 or R_2 stands for an optionally substituted aryl radical, while X_1 and X_2, independently of one another, denote hydrogen, the sulphonic acid group or a salt thereof, a sulphonic acid ester group, an optionally substituted sulphonic acid amide group, an alkylsulphone or arylsulphone group, the carboxylic acid group or a salt thereof, a carboxylic acid ester group, an optionally substituted carboxylic acid amide group or cyanogen, and Y stands for hydrogen, an acylated amino group, an optionally substituted pyrazolyl, triazolyl-(1), benzotriazolyl or naphthotriazolyl group.

3,449,334
9-[2-(2-PIPERIDINYL)ETHYL] AND 9-[2-(2-PYRROLIDINYL)ETHYL]ACRIDANES

Charles L. Zirkle, Berwyn, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 602,184, Dec. 16, 1966. This application Oct. 26, 1967, Ser. No. 678,209

Int. Cl. C07d *37/24;* **A61k** *27/00*

U.S. Cl. 260—240 **12 Claims**

9-[2-(2-piperidinyl)ethyl] and 9-[2-(2-pyrrolidinyl) ethyl]acridanes, which may be further substituted at the 2, 3, or 10-positions, prepared by Grignard reaction at the 9-position of an acridine or 9-acridanone, in the latter case, the resutling olefin intermediate being hydrogenated to the acridane product. The compounds are sedatives.

3,449,335
MEROCYANINE DYES CONTAINING THE CARBOSTYRIL NUCLEUS

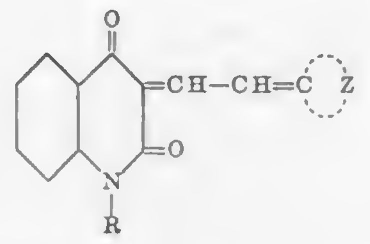
Ralph A. Copeland, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 3, 1966, Ser. No. 517,942

Int. Cl. C09b *23/10;* **C07d** *99/06*

U.S. Cl. 260—240.4 **5 Claims**

A merocyanine dye corresponding to the following general formula:



wherein R is selected from the class consisting of H and CH_3, and Z represents the atoms necessary to complete a heterocyclic radical selected from the class consisting of 5,6-dimethyl-3-ethyl-benzoxazolyl-2, 3-(2′-carboxyethyl)-5-chloro-benzothiazolyl-2- and 1-benzylquinolyl-4.

3,449,336
PROCESS FOR PREPARING NOVEL INTERMEDIATES USEFUL FOR PREPARING 7-AMINO-CEPHALOSPORANIC ACID AND DERIVATIVES THEREOF

**Robert Burns Woodward, 12 Oxford St.,
Cambridge, Mass. 02138**

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,876

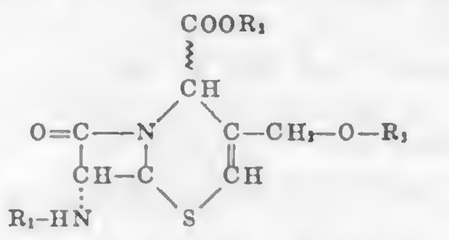
Claims priority, application Switzerland, Dec. 9, 1965, 16,980/65, 16,981/65; Jan. 13, 1966, 452/66, 453/66

Int. Cl. C07d *99/24, 93/10, 99/00*

U.S. Cl. 260—243 **11 Claims**

The invention which is being claimed includes the procedure of: (1) reducing the formyl group to a hydroxymethyl group in 7-amino-3-desacetyloxymethyl-3-formyl-isocephalosporanic acid (or a derivative thereof) by treatment with a boron hyride, and (2) isomerizing said 7-amino-desacetyl-isocephalosporanic acid (or a derivative thereof) by treatment with a weakly basic reagent in an anhydrous medium. The products obtained are useful in the synthesis of 7-amino-cephalosporanic acid.

Also included in the invention which is being claimed are compounds specifically or generically included in the formula and useful as intermediates for the synthesis of 7-amino-cephalosporanic acids and their derivatives:



in which R_1 and R_2 are selected from the group consisting of hydrogen and acyl, and R_a is selected from the group consisting of 2,2,2-trichloroethyl and phenyl-lower alkyl.

3,449,337
5-AROYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDES

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 12, 1968, Ser. No. 721,098

Int. Cl. C07d *93/32;* **C07c** *143/80;* **A61k** *27/00*

U.S. Cl. 260—243 **2 Claims**

7-chloro-1,2,4-benzothiadiazine-1,1-dioxides, substituted in the 5-position with aroyl groups, especially the 2,4-dichlorobenzoyl group (I), are prepared by condensing the corresponding 2-amino-5-chloro-3-(substituted-aroyl) benzenesulfonamide (II) with formic acid. Compounds (II) are prepared by reacting the corresponding 2-amino-5-chloro-3-(substituted-aroyl)benzophenone with chlorosulfonic acid-thionyl chloride and then with ammonia. Compounds (I) and (II) are pharmacologically active, especially as central nervous system depressants.

3,449,338
CEPHALOSPORIN C_A DERIVATIVES

Edwin H. Flynn, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Application Sept. 21, 1964, Ser. No. 398,028, which is a continuation-in-part of application Ser. No. 220,855, Aug. 31, 1962. Divided and this application Nov. 4, 1968, Ser. No. 773,287

Int. Cl. C07d *99/24*

U.S. Cl. 260—243 **15 Claims**

Thienyl and furyl cephalosporin C_A derivatives useful as antibiotics, e.g., 7-(α-thienylacetamido)-3-pyridinomethyl-3-cephem-4-carboxylic acid (now known generically as cephaloridine).

3,449,339
POLYMERIC COMPLEXES OF SACCHARIN AND CYCLOHEXANESULFAMIC ACID

Wilhelm E. Walles, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 12,254, Mar. 2, 1960. This application Aug. 19, 1966, Ser. No. 573,488

Int. Cl. C07d *85/44, 87/00;* **A23l** *1/26*

U.S. Cl. 260—244 **1 Claim**

Saccharin or cyclamate or a mixture of them, in the acid or salt form, is combined with a cyclic carbamate such as a polyvinyl oxazolidinone to obtain a stable resonance complex of improved properties as a sweetening agent.

3,449,340
TRIAZINES CONTAINING OXETANE GROUPS

Hans Orth, Binningen, and Ulrich Niklaus, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,326

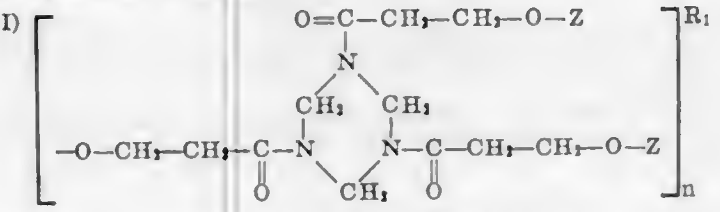
Claims priority, application Switzerland, Nov. 22, 1965, 16,070/65

Int. Cl. C07d *55/50;* **C08g** *43/00*

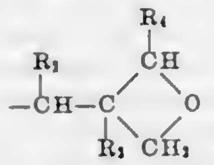
U.S. Cl. 260—248 **4 Claims**

Compounds containing at least two oxetane groups of the general formula

(I)



in which Z represents a residue of the formula



where R_2 represents a lower alkyl radical containing 1 to 4 carbon atoms, R_3 and R_4 each represents a hydrogen atom or the methyl group, $n=1$, 2 or 3, and R_1, when $n=1$ represents the residue of a monohydric alcohol or ether alcohol obtained on elimination of the alcoholic hydroxyl group, or has the same meaning as the residue Z or, when $n=2$ or 3, represents the residue of a dihydric or trihydric alcohol or ether alcohol obtained by elimination of the alcoholic hydroxyl groups, can be cured with compounds that polymerize the oxetane groups as such as form with them crosslinked polyadducts, to form insoluble and infusible products and can be used with special advantage as textile auxiliaries, as bonding agents for pigment dyeings and pigment prints on textile materials, as dyeing assistants and as coating agents for textiles, leather and paper.

3,449,341
PROCESS FOR THE PREPARATION OF PYRAZINOYLGUANIDINES

Peter I. Pollak, Scotch Plains, and Roger J. Tull, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 30, 1968, Ser. No. 725,504

Int. Cl. C07d *51/76;* **A61k** *27/00*

U.S. Cl. 260—250 **4 Claims**

A process is described for the preparation of pyrazinoylguanidines which comprises the treatment of the corresponding pyrazinimidoylguanidines with acid. The products have utility as diuretic and/or saluretic agents with potassium sparing properties.

3,449,342
HALOGENATED ALLYLTHIO-s-TRIAZINES

Yoshiaki Sakurai and Teruo Ishizawa, Tokyo, Shuichi Ishida, Omiya, and Bunzo Sekine, Tokyo, Japan, assignors to Nippon Kayaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 14, 1967, Ser. No. 660,200

Int. Cl. C07d *55/20;* **A01n** *9/22*

U.S. Cl. 260—249.8 **10 Claims**

Allylthio - bis - (alkylamino) - s - triazines which are substituted in the β - position of the allyl group by a halogen, especially chlorine or bromine, and are of excellent antifungal activity while being well tolerated by cultivated plants; a method of controlling phytopathogenic fungi, especially on such cultivated plants as rice and the like with the aid of such triazines; and antifungal compositions containing such triazines as active ingredients.

3,449,343
PHTHALAZINIUM COMPOUNDS

Hans Ulrich Daeniker, Reinach, Basel-Land, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

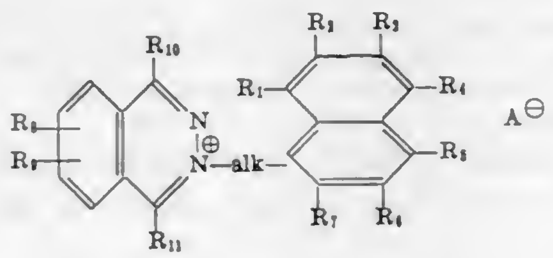
No Drawing. Filed Apr. 6, 1964, Ser. No. 357,824

Claims priority, application Switzerland, Apr. 10, 1963, 4,660/63; Oct. 25, 1963, 13,135/63; Feb. 7, 1964, 1,502/64

Int. Cl. C07d *51/06;* **A61k** *27/00*

U.S. Cl. 260—250 **20 Claims**

1. A member selected from the group consisting of compounds of the formula



in which R_1 to R_9 each stands for a member selected from the group consisting of hydrogen, lower alkyl, hydroxy, lower alkoxy, halogen, trifluoromethyl and nitro, R_{10} and R_{11} each stands for a member selected from the group consisting of hydrogen and lower alkyl, alk stands for lower alkylene and $A^\ominus$ for a physiologically tolerable anion, their pseudo bases, anhydro-compounds and ethers of the pseudo bases derived from alcohols selected from the group consisting of alkanols having 1 to 20 carbon atoms, lower cycloalkanols, phenyl-lower alkanols, lower alkyl - phenyl - lower alkanols, hydroxyphenyl - lower alkanols, lower alkoxy-phenyl-lower alkanols, halogenophenyl-lower alkanols, trifluoromethyl-phenyl-lower alkanols, hydroxy-alkanols having 1 to 20 carbon atoms and alkoxyalkanols having 1 to 20 carbon atoms.

3,449,344
4 - AMINO - 2 - ARYL - 6 - CARBAMOYL - 7,8 - DIHYDRO - 7 - OXO - 8 - PTERIDINEACETAMIDES AND 4 - AMINO - 2 - ARYL - 6 - CARBAMOYL-7,8 - DIHYDRO - 7 - OXO - 8 - PTERIDINEACETIC ACID ESTERS

Arthur A. Santilli, Havertown, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 25, 1966, Ser. No. 574,915

Int. Cl. C07d *57/28;* **A61k** *27/00*

U.S. Cl. 260—251.5 **10 Claims**

4 - amino - 2 - aryl - 6 - carbamoyl - 7,8 - dihydro - 7-oxo-8-pteridinecarboxamides (II) and 4-amino-2-aryl-6-carbamoyl-7,8-dihydro-7-oxo-8-pteridineacetic acid esters (I), optionally substituted on the aryl group with trifluoromethyl, halogen, alkyl or alkoxy, are provided, respectively, by alkylating the corresponding pteridinecarboxamides with a haloamide or a haloester. Compounds I and II are pharmacologically active as anti-inflammatory agents.

3,449,345
4 - HYDROXY - 1,3 - BENZENE - DICARBOXYLATES OF 3 - (4 - AMINO - 2 - METHYL - 5 - PYRIMIDINYLMETHYL - 5 - (2 - HYDROXYETHYL) - 4-METHYLTHIAZOLINE

Alberto Reiner, Como, Italy, assignor of one-half to Ignazio Fischetti, Rome, Italy

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,200

Int. Cl. C07d *99/12, 91/32, 51/42*

U.S. Cl. 260—256.6 **2 Claims**

Injectable therapeutically useful compounds which inter alia combine in a unitary entity the anti-inflammatory action of salicylate type compounds with the pain-relieving action of vitamin B_1, and which have good water-solubility, high stability in aqueous solution and very low toxicity and are useful in the treatment of rheumatic and joint diseases, are obtained by reacting equimolecular amounts of vitamin B_1 and of silver salt of 4-hydroxy-1,3-benzene-dicarboxylic acid.

3,449,346

BENZENESULFONYL UREAS

Walter Aumüller, Kelkheim, Taunus, Rudi Weyer and Helmut Weber, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, and Wilhelm Peschke, Mannheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 26, 1965, Ser. No. 505,232

Claims priority, application Germany, Oct. 30, 1964, F 44,343

Int. Cl. C07d *27/52;* **C07c** *143/84;* **A61k** *27/00*

U.S. Cl. 260—281 **14 Claims**

Benzenesulfonyl-urea compounds having hypoglycemic activity and the formula

X—Y—Ph—SO_2—NH—CO—NH—R

wherein X is phthalimido, tetrahydro-phthalimido or hexahydrophthalimido that is unsubstituted or is mono- or disubstituted by lower alkyl, lower alkoxy or chlorine, or is tetrahydroendomethylene-phthalimido, hexahydro-endomethylene - phthalimido, tetrahydro - endoethylene - phthalimido, hexahydro-endoethylene-phthalimido or naphthalimido; Y is an alkylene of 1 to 4 carbon atoms; Ph is unsubstituted phenylene or phenylene substituted by chlorine, lower alkyl or lower alkoxy; and R is:

(a) alkyl of 2 to 8 carbon atoms,
(b) phenyl-lower alkyl,
(c) lower cyclohexyl-alkyl, cycloheptylmethyl, cycloheptylethyl or cyclooctyl-methyl,
(d) endoalkylene-cyclohexyl, endoalklene-cyclohexenyl, endoalkylene-cyclohexylmethyl or endoalkylene-cyclohexenylmethyl with 1-2 endoalkylene carbon atoms,
(e) lower alkyl-cyclohexyl,
(f) cycloalkyl of 5 to 8 carbon atoms, or
(g) cyclohexenyl or cyclohexenyl-methyl; and

physiologically tolerable salts thereof.

3,449,347

4-(2'-TETRAHYDROFURFURYLOXY CARBONYL)-PHENYLAMINO-CHLORO-QUINOLINES

André Allais, Les Lilas, and Pierre Girault, Paris, France, assignors to Roussel-Uclaf, Paris, France, a corporation of France

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,242

Claims priority, application France, Mar. 31, 1966, 55,879

Int. Cl. C07d *33/36, 33/52, 33/48*

U.S. Cl. 260—287 **3 Claims**

Novel 4-[(2'-tetrahydrofurfuryl-oxycarbonyl)-phenylamino]-7-or 8-chloro-quinolines and their non-toxic, pharmaceutically acceptable acid addition salts thereof, their preparation and use as analgesic and anti-inflammatory agents.

3,449,348

α-HALOMETHYL-1-PYRIDINE OR QUINOLINE CARBONYL-3-INDOLYLACETIC ACIDS

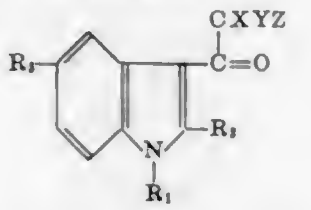
Tsung-Ying Shen, Westfield, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Apr. 29, 1965, Ser. No. 452,014. Divided and this application Jan. 8, 1968, Ser. No. 721,898

Int. Cl. C07d *27/56, 57/00*

U.S. Cl. 260—294.8 **6 Claims**

1. A compound of the formula:



in which

R_1 is selected from the group consisting of pyridine carbonyl, quinoline carbonyl and substituted pyridine carbonyl and quinoline carbonyl radicals in which said substituent is selected from the group consisting of halogen, lower alkyl, lower alkylthio, lower alkoxy, trifluoromethyl, phenoxy, lower alky phenoxy, lower alkanoyl, cyano, carb-lower alkoxy, carbamyl, lower alkylsulfonyl, benzylthio, phenylthio, lower alkylphenylthio, mercapto, nitro, amino, di-(lower alkyl)amino, lower alkanoylamino, hydroxy and benzyloxy;

R_2 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl, tolyl, and benzyl;

R_5 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, nitro, cyano, dimethylamino, benzylmercapto, lower alkylthio, benzyloxy and allyloxy, and

XYZ are selected from the group consisting of hydrogen and halogen, no more than two being hydrogen at any one time.

3,449,349

CERTAIN 4-[2,3, OR 4-PYRIDYL]-PHENYLACETIC ACID AND DERIVATIVES THEREOF

Tsung-Ying Shen, Westfield, and Alexander Matzuk, Colonia, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 414,428, Nov. 27, 1964. This application Feb. 28, 1968, Ser. No. 708,781

Int. Cl. C07d *31/34;* **A61k** *27/00*

U.S. Cl. 260—295 **4 Claims**

This invention relates to para-pyridyl and substituted-pyridyl phenylacetic acids, alcohols, aldehydes, and derivatives thereof. These compounds have anti-inflammatory activity. The invention also relates to intermediates used in the preparation of the pyridyl phenylacetic acids, alcohols, aldehydes, and derivatives thereof.

3,449,350

CERTAIN PYRAZOLE-3-CARBOXYLIC ACID HYDRAZIDE DERIVATIVES

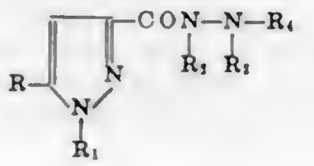
Gordon Northrop Walker, Morristown, N.J., assignor to Ciba Corporation, a Corporation of Delaware

No Drawing. Continuation-in-part of applicaton Ser. No. 581,465, Sept. 23, 1966. This application June 24, 1968, Ser. No. 739,135

Int. Cl. C07d *57/00, 49/18;* **A61k** *25/00*

U.S. Cl. 260—295.5 **4 Claims**

Pyrazole-3-carboxylic acid hydrazides of the formula



R=cycloalkenyl or azacyclic aryl
$R_{1,2}$=H or alkyl
$R_{3,4}$=H, or alkyl or alkyl(id)ene

quaternaries and salts thereof exhibit antitumor effects.

3,449,351

CYCLO-ADDITION REACTIONS OF AMINOACETYLENES

Heinz G. Viehe, Linkebeek, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 376,253, June 18, 1964. This application June 15, 1965, Ser. No. 464,232

Int. Cl. C07d *55/02, 29/00*

U.S. Cl. 260—308 **5 Claims**

Aminoacetylenes are reacted with compounds containing non-aromatic unsaturated sites to produce cyclic organic compounds. Examples include the reaction of azides with aminoacetylenes to produce aminotriazoles, the reaction of nitrile oxides with aminoacetylenes to produce amino-oxazoles, and the reaction of imines (Schiff bases) with aminoacetylenes to produce amidines (through a cyclic intermediate). The compounds produced by the process of the invention are useful as hydrogen halide acceptors.

3,449,352

SYNTHESIS OF 2-TRIFLUOROMETHYLBENZIMIDAZOLES AND 2-TRIFLUOROMETHYLIMIDAZOPYRIDINES

John Frederick Harris, Meldreth, near Royston, England, assignor to Fisons Pest Control Limited, Harston, England

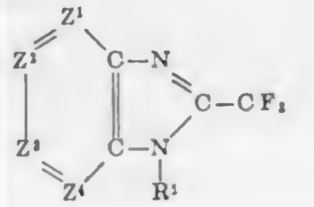
No Drawing. Filed Apr. 27, 1967, Ser. No. 634,113

Claims priority, application Great Britain, May 4, 1966, 19,664/66

Int. Cl. C07d *49/38, 57/04*

U.S. Cl. 260—309.2 **8 Claims**

A process for the manufacture of a compound of the formula:



wherein R^1 is selected from the group consisting of H, a lower alkyl group and —$COOR^6$, where R^6 is selected from the group consisting of alkyl, substituted alkyl, aryl and substituted aryl; wherein one of Z^1, Z^2, Z^3 and Z^4 is selected from the group consisting of a nitrogen atom and the group CR^2 and the remainder of Z^1, Z^2, Z^3 and Z^4 are the groups CR^3, CR^4 and CR^5; wherein R^2, R^3, R^4 and R^5 are selected from the group consisting of H, alkyl, hydroxy, alkoxy, nitro, halogen, pseudo-halogen, substituted alkyl, carboxy, amino, mono-substituted amino, di-substituted amino, thiolo and sulpho, which comprises reacting the corresponding 1,2-phenylene diamine, 2,3-pyridine diamine and 3,4-pyridine diamine with trifluoroacetic acid, distilling off the formed water in the presence of a water immiscible solvent, condensing the aqueous distillate, recovering the trifluoroacetic acid from the aqueous distillate, and returning this to the process.

3,449,353

N,N'-DIGLYCIDYL HYDANTOINS

Daniel Porret, Binningen, and Rudolf Aenishaenslin, Reinach, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

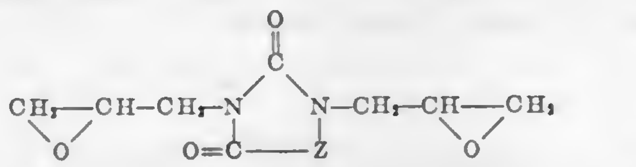
No Drawing. Filed June 2, 1967, Ser. No. 643,046

Claims priority, application Switzerland, June 23, 1966, 9,119/66; Nov. 7, 1966, 16,001/66; Apr. 10, 1967, 5,083/67

Int. Cl. C07d *49/32;* **D06p** *1/02*

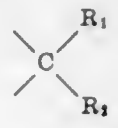
U.S. Cl. 260—309.5 **9 Claims**

N,N'-diglycidyl compounds of the general formula



(I)

wherein Z represents a member selected from the group consisting of the group >C=O and a group



in which R_1 and R_2 each are members selected from the group consisting of hydrogen atom and alkyl group, and R_1 and R_2 together form a bivalent radical selected from the group consisting of tetramethylene radical and pentamethylene radical. The compounds are useful for fixing of dyestuffs, at adhesives and as intermediates.

3,449,354

2-[(2-TRIFLUOROMETHYLPHENOXY)METHYL]-2-IMIDAZOLINE

Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,265

Int. Cl. C07d *49/34;* **A61k** *27/00*

U.S. Cl. 260—309.6 **4 Claims**

The new compound 2-[(2-trifluoromethylphenoxy)-methyl]-2-imidazoline, and its pharmaceutically-acceptable salts such as the hydrochloride. The compound and its salts are active as antidepressants.

3,449,355

2-[(3,4-DIHALOPHENOXY)METHYL]-2-IMIDAZOLINE

Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,301

Int. Cl. C07d *49/34;* **A61k** *27/00*

U.S. Cl. 260—309.6 **5 Claims**

New 2-[(3,4 - dihalophenoxy)methyl] - 2 - imidazoline compounds, and their pharmaceutically-acceptable salts such as the hydrochlorides. The compounds are active as analgesics and antidepressants.

3,449,356

2-[(HALOPHENOXY)METHYL]-2-IMIDAZOLINES

Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,302

Int. Cl. C07d *49/34;* **A61k** *27/00*

U.S. Cl. 260—309.6 **7 Claims**

New 2[(halophenoxy)methyl] - 2 - imidazoline compounds such as 2-[(4-amino-3-chlorophenoxy)methyl]-2-imidazoline, and their pharmaceutically-acceptable salts such as the mono- and dihydrochloride which are antidepressants.

3,449,357
2-[(2,6-SUBSTITUTED)PHENOXYMETHYL]-2-IMIDAZOLINES

Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 4, 1967, Ser. No. 628,303
Int. Cl. C07d *49/34;* **A61k** *27/00*
U.S. Cl. 260—309.6 9 Claims

The new compounds, 2-[(2,6-substituted)phenoxymethyl]-2-imidazolines, which alternately can have additional substituents in the 3 or 4 position, and their physiologically-acceptable salts such as the hydrochlorides, which are active as analgesics.

3,449,358
4-DIFLUORAMINO-5-ALKOXY-2-NITRIMINOIMIDAZOLIDINES

Andrew Harper Dinwoodie, Dalry, and James McAllan Cormack Thompson, Seamill, Scotland, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Jan. 10, 1967, Ser. No. 613,065
Claims priority, application Great Britain, Feb. 28, 1966, 8,764/66
Int. Cl. C07d *49/34;* **C06b** *15/02*
U.S. Cl. 260—309.7 9 Claims

New compounds which are 4-difluoramino-5-methoxy- and 5-ethoxy-2-nitriminoimidazolidines. The new compounds are explosive and energetic constituents of propellant compositions. They are prepared by a process in which the corresponding 4,5-dialkoxy-2-nitriminoimidazolidine is reacted with fluoroamine in an inert atmosphere in the presence of strong sulphuric acid. When the sulphuric acid is 96% strength, aqueous formaldehyde is also used.

3,449,359
1,5-DIAZABICYCLO-[3.3.0]-OCTANES

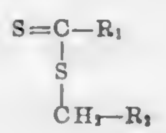
Emilio Testa, Tessin, Switzerland, Elvio Bellasio, Como, and Giulio Maffii, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,364
Claims priority, application Great Britain, Feb. 9, 1965, 5,610/65
Int. Cl. C07d *49/44, 53/00;* **A61k** *27/00*
U.S. Cl. 260—310 7 Claims

New 1,5 - diazabicyclo-[3,3,0]-octane-2,6-diodes, prepared from a beta-bromo-propionyl chloride and hydrazine or a 3-pyrazolidinone, and the hydrogenation products of such diones. The compounds possess anti-inflammatory activity.

3,449,360
DITHIOACID ESTERS

Renat Herbert Mizzoni, Long Valley, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 17, 1965, Ser. No. 433,500
Int. Cl. C07d *27/02, 31/48;* **A01n** *9/22*
U.S. Cl. 260—313.1 3 Claims

Dithiocarbamates of the formula



$$\mathrm{S{=}C-R_1},\ \ \mathrm{C{-}S{-}CH_2-R_2}$$

one of $R_{1,2}$=mono- or bicyclic alk(en)yleneimino, aza-, oxa- or thiaalkyleneimino, the other=di-lower alkylamino salts and lower alkylammonium derivatives thereof are active against bacteria, fungi and coccidia.

3,449,361
PHOSPHINOTHIOYLOXY-1,3-ISOINDOLE DIONES

Johannes Th. Hackmann, Enschede, Netherlands, and Jack Wood, Sittingbourne, Kent, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 4, 1964, Ser. No. 416,102
Claims priority, application Great Britain, Dec. 10, 1963, 48,705/63
Int. Cl. C07f *9/02, 9/16;* **A01n** *9/36*
U.S. Cl. 260—326 2 Claims

1. 5-(dimethoxyphosphinothioyloxy)-2-benzyl-1,3 - isoindoledione.

2. 5 - (dimethoxyphosphinothioyloxy) - 2 - phenylisoindoledione.

3,449,362
ALKENYL HYDROCARBON SUBSTITUTED SUCCINIMIDES OF POLYAMINO UREAS AND THEIR BORON-CONTAINING DERIVATIVES

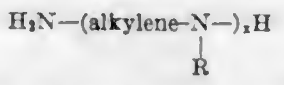
Richard J. Lee, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,103
Int. Cl. C07d *27/00;* **C07c** *127/00;* **C07f** *5/02*
U.S. Cl. 260—326.3 5 Claims

3. The borated product obtained by reacting at a temperature in the range of 120 to 400° F. boric acid with the alkenyl succinimide derivative of claim **5** to provide a boron to nitrogen weight ratio in the range of from 0.05 to 1.0.

5. An alkenylsuccinimide derivative obtained from the reaction of:

(a) an alkenyl hydrocarbon substituted succinic anhydride having in its alkenyl substituent from 30 to 200 carbon atoms and

(b) a polyamino urea derived from reacting at a temperature in the range of 200° to 500° F. urea and a polyalkylene polyamine of the formula



$$H_2N-(\text{alkylene}-\underset{\substack{|\\ R}}{N}-)_xH$$

in which the alkylene is a hydrocarbon group of from 1 to 8 carbon atoms, R is hydrogen or a lower alkyl group of from 1 to 4 carbon atoms and x is an integer of from 2 to about 10, at a mole ratio of two moles polyalkylene polyamine per mole of urea with the evolution of two moles ammonia per mole urea, conducted at a temperature in the range of 200° to 450° F. with 0.4 to 0.7 mole of polyamino urea per mole alkenyl hydrocarbon substituted succinic anhydride and with the removal of by-product water.

3,449,363
3-SUBSTITUTED 4-TRIFLUOROMETHYL INDOLES

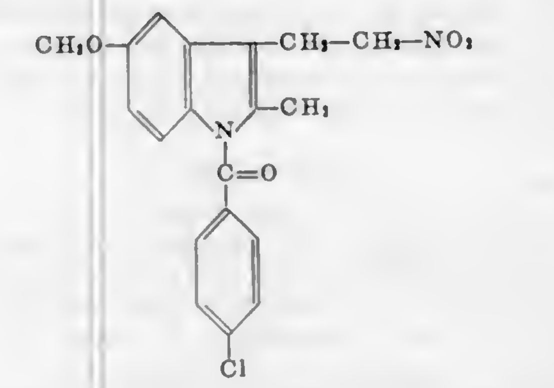
Ruddy Littell, Rivervale, and George Rodger Allen, Jr., Old Tappan, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,771
Int. Cl. C07d *27/56, 27/62;* **A61k** *27/00*
U.S. Cl. 260—326.13 8 Claims

Novel trifluoromethylindoles having a variety of substituents in the 3-position; lower alkyl in the 2-position; hydrogen or lower alkyl in the 1-position, and hydroxyl or lower alkoxy in the 5-position are described. The novel compounds are prepared starting with, for example, 2-trifluoromethyl-1,4-benzoquinone which on treatment with an alkyl 3-amino-crotonate produces the corresponding indole-3-carboxylic acid esters. Other derivatives can be prepared from the latter compounds. The compounds have analgesic activity and are useful as intermediates in the preparation of other biologically active indoles.

3,449,364
1-p-CHLOROBENZOYL-2-METHYL-5-METHOXY-3-(2′-NITROETHANE)-INDOLE

John Martin Chemerda, Watchung, and Meyer Sletzinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed July 26, 1967, Ser. No. 656,004
Int. Cl. C07d *27/56*
U.S. Cl. 260—326.16 1 Claim

This invention relates to a compound of the formula

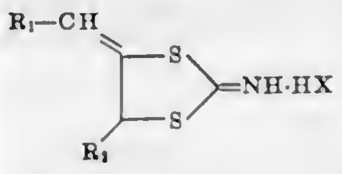


which is useful as an intermediate in the preparation of 1 - p - chlorobenzoyl-2-methyl-5-methoxy-3-indolylacetic acid.

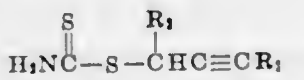
3,449,365
2-IMINO-4-ALKALIDENE-1,3-DITHIOLANES AND THEIR PREPARATION

Thomas Andrew Lies, Montgomery Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed June 5, 1967, Ser. No. 643,351
Int. Cl. C07d *71/00;* **C07c** *153/07;* **A01n** *9/12*
U.S. Cl. 260—327 9 Claims

The present invention relates to novel ring-substituted iminodithiolanes, methods for preparing the same and to novel insecticidal phosphinyl imides. More particularly, the invention relates to a novel ring-substituted iminodithiolane which can be represented by the formula:

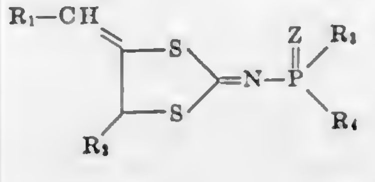


wherein R_1 stands for hydrogen or (lower)alkyl, R_2 is hydrogen, (lower)alkyl or phenyl, and X stands for the anion of an inorganic non-oxidizing strong acid, prepared by reacting approximately equimolar quantities of a non-oxidizing strong acid with a substituted 2-propyl dithiocarbamate having the structure:



$$H_2N\overset{\overset{S}{\|}}{C}-S-\overset{\overset{R_1}{|}}{C}HC\equiv CR_2$$

wherein R_1 and R_2 are as identified above. Still more particularly, the invention is concerned with phosphinyl imides of the structure:



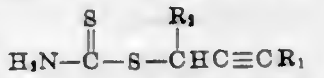
wherein R_1 and R_2 are the same as identified above, R_3 and R_4 are each (lower) alkyl, phenyl, (lower)alkoxy, alkylthio or (lower)alkylamino, and Z represents a sulfur or oxygen atom, prepared by phosphorylating ring-substituted iminodithiolanes.

3,449,366
PROCESS FOR THE PREPARATION OF 2-AMINO-4,5-SUBSTITUTED - 1,3 - DITHIOLES AND THE ACID ADDITION SALTS THEREOF

Thomas Andrew Lies, Montgomery Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed June 5, 1967, Ser. No. 643,408
Int. Cl. C07c *153/07;* **C07d** *71/00;* **A01n** *9/12*
U.S. Cl. 260—327 8 Claims

The present invention relates to a method for effecting the cyclization of substituted 2-propynyl dithiocarbamates to obtain ring-substituted iminodithioles, as well as their acid addition salts. More particularly, the invention relates to the cyclization of a substituted 2-propynyl dithiocarbamate represented by the structure:

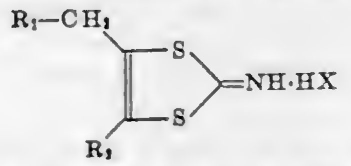
(I)



$$H_2N-\overset{\overset{S}{\|}}{C}-S-\overset{\overset{R_1}{|}}{C}HC\equiv CR_2$$

wherein R_1 is hydrogen or lower alkyl, and R_2 stands for hydrogen, lower alkyl, phenyl or aryl utilizing a non-oxidizing strong acid to recover a ring-substituted iminodithiole or its salt represented by the structure:

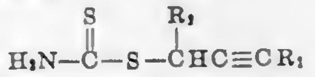
(II)



wherein R_1 and R_2 are the same as defined hereinabove and HX is a non-oxidizing strong acid, such as hydrochloric acid or sulfuric acid.

Still more particularly, the invention is concerned with the cyclization of a substituted 2-propynyl dithiocarbamate of the structure:

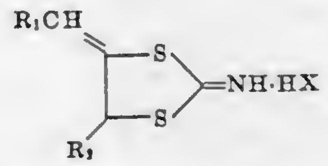
(I)



$$H_2N-\overset{\overset{S}{\|}}{C}-S-\overset{\overset{R_1}{|}}{C}HC\equiv CR_2$$

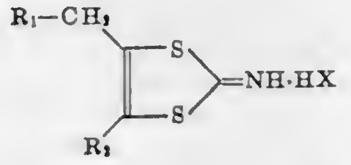
wherein R_1 is hydrogen or lower alkyl and R_2 is hydrogen, lower alkyl, phenyl or aryl with at least equimolar amounts of a non-oxidizing strong acid at a temperature from about 20° C. to about 50° C. to form an iminodithiolane of the structure:

(Ia)



wherein R_1 and R_2 are as defined above and HX is a strong acid, such as hydrochloric acid or sulfuric acid, and further isomerizing the latter iminodithiolane salt by treating said salt with at least an equimolar amount of a non-oxidizing strong acid at a temperature of from about 80° C. to 100° C. to obtain a ring-substituted iminodithiole salt represented by the structure:

(II)



wherein R_1, and R_2 and HX are as defined above.

3,449,367
CHROMIUM PHOSPHINATE COMPLEXES

James Ping King, Lansdale, and Burton Peter Block, Wayne, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 13, 1965, Ser. No. 479,621
Int. Cl. C07f *11/00*
U.S. Cl. 260—329 14 Claims

Compounds of the general formula $Cr(OPR_1R_2O)_2\cdot X$ where R_1 and R_2 are inert organic groups and X is a neutral organic molecule coordinated with the chromium atom.

3,449,368

HETEROCYCLIC ALIPHATIC ACIDS

Tsung-Ying Shen and Clifford H. Shunk, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,407
Int. Cl. C07d *5/16, 63/12;* **A61k** *27/00*
U.S. Cl. 260—332.2 11 Claims

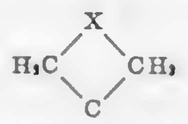
The invention relates to new cyclohexyl, furan and thiophene acetic acids and to derivatives thereof. These compounds are useful in that they possess anti-inflammatory activity and can be used to control arthritic conditions.

3,449,369

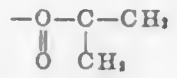
OXETANE DERIVATIVES

Gilbert H. Berezin, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,186
Int. Cl. C07d *3/00;* **C08f** *7/12*
U.S. Cl. 260—333 6 Claims

Oxetane derivatives of the formula



wherein X is $-OH$, $-NH_2$, $-O-CH{=}CH_2$, $=NOH$ and



$$-\underset{\underset{O}{\|}}{O}-\underset{\underset{CH_3}{|}}{C}-CH_3$$

bonded to the ring carbon and provided that when X contains other than $=NOH$ said ring carbon is also bonded to hydrogen.

3,449,370

PREPARATION OF 3,3-BIS(CHLOROMETHYL) OXETANE

Ernst Klesper, Bergisch Gladbach, and Hans Zoebelein, Monheim, Rhineland, Germany, assignors to Henkel & Cie., G.m.b.H., Dusseldorf, Germany, a corporation of Germany
No Drawing. Filed Oct. 18, 1966, Ser. No. 587,431
Int. Cl. C07d *3/00*
U.S. Cl. 260—333 7 Claims

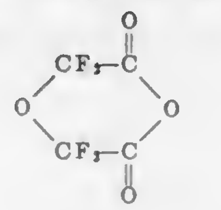
Process for the preparation of 3,3-bis(chloromethyl) oxetane from the easily accessible cyclic sulfurous acid ester of pentaerythritol dichlorohydrin.

3,449,371

PERFLUOROOXYDIACETIC ANHYDRIDE

James R. Throckmorton, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Apr. 8, 1968, Ser. No. 719,729
Int. Cl. C07d *15/14, 15/16*
U.S. Cl. 260—340.2 1 Claim

Cyclic perfluorinated anhydride having an ether linkage in the ring, useful as a chemical intermediate (e.g., in the preparation of nitroso-containing monomers), a heat exchange medium, or solvent. Structural formula is:



3,449,372

PROCESS FOR THE PRODUCTION OF COUMARINS

Erich Marcus, Charleston, and John K. Chan, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 9, 1967, Ser. No. 614,812
Int. Cl. C07d *7/28*
U.S. Cl. 260—343.2 7 Claims

Coumarins are produced by reacting diketene in the presence of a high concentration of certain tertiary amines. Among the novel coumarins produced by this process are 3,6-diacetyl-4,7-dimethyl-5-hydroxycoumarin and 3,8-diacetyl-4,7-dimethyl-5-hydroxycoumarin. The novel compounds are useful as indicators in acid-base titrations.

3,449,373

1-(TETRAHYDRO-2-PYRANYLOXY)METHYL-2-METHYL-3-ETHYL-4-PHENYL-4-CYCLOHEXENE

Alexander Mebane, New York, N.Y., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
No Drawing. Original application Mar. 8, 1966, Ser. No. 532,581, now Patent No. 3,344,147, dated Sept. 26, 1967. Divided and this application Jan. 31, 1967, Ser. No. 612,777
Int. Cl. C07d *7/04;* **C07c** *69/76;* **A61k** *27/00*
U.S. Cl. 260—345.9 1 Claim

1-(tetrahydro-2-pyranyloxy)methyl-2-methyl-3-ethyl-4-phenyl-4-cyclohexene is an agent for the reduction of fertility in female animals.

3,449,374

FURYL KETOXIME AND FURALDOXIME-PHOSPHORUS PENTAFLUORIDE COMPLEXES

Mervin E. Brokke, Richmond, Calif., and George E. Lukes, deceased, late of El Cerrito, Calif., by John Hazzard, administrator, Kentfield, Calif., and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Apr. 20, 1965, Ser. No. 450,265, now Patent No. 3,375,277, dated Mar. 26, 1968. Divided and this application Jan. 19, 1968, Ser. No. 729,830
Int. Cl. C07f *9/06;* **A01n** *9/36*
U.S. Cl. 260—347.7 2 Claims

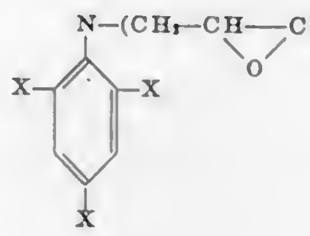
Furyl ketoxime and furaldoxime-phosphorus pentafluoride complexes which are herbicides are disclosed.

3,449,375

N,N-BIS(2,3-EPOXYPROPYL)TRIHALOANILINES AND COMPOSITIONS CONTAINING THE SAME

Herbert A. Newey, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 27, 1966, Ser. No. 553,302
Int. Cl. C07d *1/00;* **C08g** *30/02*
U.S. Cl. 260—348 1 Claim

Novel flame-retardant resins having the general formula



wherein X is chloride or bromide, are prepared by reacting a trihalo-substituted aniline with epichlorohydrin and dehydrochlorinating the resulting product.

3,449,376

3β,5β-EPOXY-A-NORANDROSTANE-2-ONES

Seymour D. Levine, North Brunswick, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Mar. 8, 1965, Ser. No. 438,042, now Patent No. 3,361,824, dated Jan. 2, 1968. Divided and this application June 15, 1967, Ser. No. 646,200
Int. Cl. C07c *171/06, 173/00;* **A61k** *27/00*
U.S. Cl. 260—348 7 Claims

This invention relates to new 17-oxygenated-3β,5β-epoxy-A-norandrostane-2-ones, which are useful as intermediates in the preparation of the corresponding 3-halo-17-oxygenated-A-nor-Δ^3-androstene-2-ones, to which they are converted by treatment with a hydrogen halide. The 3β,5β-epoxides are formed by treating the corresponding 17-oxygenated-A-nor-Δ^3-androstene-2-ones with hydrogen peroxide.

3,449,377

SYNTHESIS OF STEROIDS

Seymour D. Levine, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Sept. 28, 1964, Ser. No. 399,838, now Patent No. 3,381,029, dated Apr. 30, 1968. Divided and this application Nov. 13, 1967, Ser. No. 708,734
Int. Cl. C07c *171/06, 173/00*
U.S. Cl. 260—348 3 Claims

Disclosed herein are 6α,7α-oxido-A-norpregnene steroids and 17-esters thereof which are useful as intermediates in the preparation of 6-halo derivatives.

3,449,378

SYNTHESIS OF STEROIDS

Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 370,114, May 25, 1964. This application June 11, 1968, Ser. No. 736,028
Int. Cl. C07d *1/00;* **C07c** *171/06, 49/00*
U.S. Cl. 260—348 1 Claim

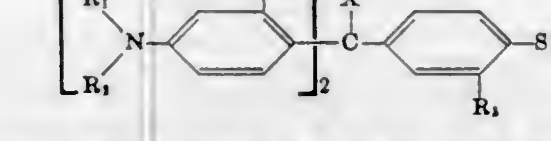
This invention relates to and has as its object the provision of new physiologically active steroids, processes for their production and novel intermediates useful in the preparation thereof.

3,449,379

TRIPHENYLMETHANE DERIVATIVES

Lawrence Anthony Cescon, Rolf Dessauer, and Catharine Elizabeth Looney, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, a corporation of Delaware
No Drawing. Filed June 26, 1963, Ser. No. 290,583
Int. Cl. C09b *11/10, 11/14*
U.S. Cl. 260—393 4 Claims

1. A leuco dye having the formula



wherein R_1 and R_2 are selected from the group consisting of C_1 to C_{12} alkyl, 2-cyanoethyl, 2-hydroxyethyl, 3-hydroxypropyl, C_1 to C_4 alkoxy (C_1 to C_4)alkyl, phenyl alkyl, naphthalkyl, phenyl and naphthyl; R_3 is selected from the group consisting of methyl, ethyl and fluorine; X is selected from the group consisting of hydrogen, hydroxy and cyano; R_4 is selected from the group consisting of C_1 to C_8 alkyl, aralkyl, aryl and mono- and disubstituted aralkyl, the substituents of said substituted aralkyl being selected from the group consisting of fluoro, chloro, alkyl and alkoxy substituents; R_5 is selected from the group consisting of hydrogen and C_1 to C_4 alkyl.

3,449,380

3 HYDROXY-13-LOWER ALKYL-GONA-1,3,5(10)8,14-PENTAENE-15-CARBALKOXY-17-ONE COMPOUNDS AND PROCESS FOR THE PRODUCTION THEREOF

Chan Hwa Kuo, South Plainfield, David Taub, Metuchen, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed May 14, 1965, Ser. No. 455,992
Int. Cl. C07c *171/00, 171/07;* **A61k** *17/00*
U.S. Cl. 260—397.1 6 Claims

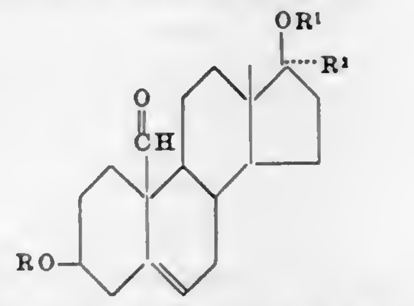
The invention disclosed herein is concerned generally with novel intermediate compounds useful in preparing novel steroid compounds, the novel steroid compounds prepared from the novel intermediate compounds, and novel processes for preparing intermediate and steroid compounds.

3,449,381

19-OXO- AND 19-LOWER ALKYL-19-OXOANDROSTANE DERIVATIVES

Albert Bowers, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed June 12, 1962, Ser. No. 201,768
Int. Cl. C07c *169/24;* **A61k** *17/00*
U.S. Cl. 260—397.4 23 Claims

1. A compound of the following formula



wherein R and R^1 are selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and R^2 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkinyl.

3,449,382

TOTAL SYNTHESIS BY STEROIDS AND NOVEL STEROID INTERMEDIATES

Gaston Amiard and Gerard Nomine, Noisy-le-Sec, and Vesperto Torelli, Maisons Alfort, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France
No Drawing. Filed July 27, 1966, Ser. No. 569,792
Claims priority, application France, Nov. 29, 1963, 955,529
Int. Cl. C07c *167/02, 169/08, 61/36*
U.S. Cl. 260—397.5 16 Claims

Total synthesis for 13β-alkyl-3,17-oxygenated-$\Delta^{1,3,5(10)}$-gonatrienes and steroid intermediates therefor.

3,449,383

17-OXYGENATED ESTRA-1,3,5(10)-TRIENE-3,11β,16-TRIOLS, ETHERS AND ESTERS THEREOF

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Feb. 16, 1967, Ser. No. 616,452
Int. Cl. C07c *169/00, 171/00*
U.S. Cl. 260—397.5 6 Claims

17-oxygenated estra-1,3,5(10)-triene-3,11β,16-triols, ethers and esters thereof useful as anti-inflammatory, estrogenic and hypocholesterolemic agents and manufactured by oxidation with lead tetraacetate of the corresponding Δ^{16}-enol esters optionally followed by reduction and/or hydrolysis and/or etherification.

3,449,384

ISOMERIZATION OF CERTAIN POLYENES EMPLOYING A METAL CATALYST AND A HYDROSILICON COMPOUND

Hans H. Ender, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 22, 1964, Ser. No. 377,134
Int. Cl. C11c *3/14;* **C09f** *7/00;* **C07f** *7/02*
U.S. Cl. 260—405.6 8 Claims

Non-conjugated carbon-to-carbon double bonds in polyenes are isomerized to conjugated double bonds by mixing the non-conjugated polyene with a hydrosilicon compound, such as siloxanes, and a metal catalyst, and heating the mixture until the desired degree of conjugation is obtained.

3,449,385

PROCESS FOR THE MANUFACTURE OF ALIPHATIC α-HYDROXYCARBOXYLIC ACIDS

Walter Müller, Leonding, near Linz (Danube), and Johann Schweighofer and Ferdinand Weinrotter, Linz (Danube), Austria, assignors to Osterreichische Stickstoffwerke Aktiengesellschaft, Linz (Danube), Austria
No Drawing. Filed Oct. 3, 1966, Ser. No. 583,933
Claims priority, application Austria, Oct. 12, 1965, A 9,192/65
Int. Cl. C07c *51/00*
U.S. Cl. 260—413 4 Claims

Saturated aliphatic α-hydroxycarboxylic acids with up to 18 carbon atoms which are unbranched in α-position are produced by reacting the corresponding α-nitratocarboxylic acids or their water soluble salts with at least one mole of a water soluble salt of sulfurous acid at a temperature between 20° C. and the boiling point of the reaction mixture.

3,449,386

STABLE ALKYLENE-BIS-DITHIOCARBAMATES

Pierre Chiffert and Gilbert Rols, Marseilles, France, assignors to Procida, Marseilles, France, a corporation of France
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,567
Claims priority, application France, Dec. 1, 1965, 40,461
Int. Cl. C07f *13/00;* **A01n** *9/12*
U.S. Cl. 260—429 7 Claims

The invention relates to manganous alkylene-bis-dithiocarbamate compositions stabilized with 1,8-3,6-diendomethylene-1,3,6,8-tetraazacyclodecane and to a method of stabilizing manganous alkylene-bis-dithiocarbamate compositions.

3,449,387

COMPLEXES OF RUTHENIUM HALIDES AND ORGANIC NITRILES

Pierre Chabardes and Pierre Gandilhon, Lyon, and Michel Thiers, Brignais, and Charles Grard, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Nov. 29, 1966, Ser. No. 597,535
Claims priority, application France, Dec. 2, 1965, 40,724
Int. Cl. C07f *15/00;* **B01k** *11/64*
U.S. Cl. 260—429 7 Claims

Novel complexes are made by reacting ruthenium halides with organic nitriles. The complexes may be used as catalysts, especially for the dimerisation of acrylonitrile.

3,449,388

TRANSITION METAL COMPLEXES OF SUBSTITUTED DIMERCAPTOMETHYLENES

Sheldon N. Lewis, Willow Grove, and George A. Miller, Glenside, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed June 9, 1966, Ser. No. 556,280
Int. Cl. C07f *15/00;* **A01n** *9/12*
U.S. Cl. 260—429.9 7 Claims

This invention relates to novel transition metal complexes of substituted 1,1-dimercaptomethylenes having the following general formula

$$M'_n[M(S_2C{=}X)_y]$$

wherein:

X is the group nitromethylene ($CHNO_2$), dicyanomethylene ($C(CN)_2$), cyanocarboethoxymethylene

$$(C(CN)CO_2C_2H_5)$$

cyanocarboxamidomethylene ($C(CN)CONH_2$), dicarboethoxymethylene ($C(CO_2C_2H_5)_2$), dicarboxamidomethylene ($C(CONH_2)_2$), or iminocyano (N—CN);
M is zinc, copper, nickel, cobalt, iron, or chromium;
M' is hydrogen, cobalt, copper, manganese, nickel, potassium, zinc, or tetralkylammonium wherein the alkyl contains 1 to 8 carbon atoms;
Y is the integer 2 or 3; and
n is an integer from 1 to 3,

and to the use of these compounds in fungicidal compositions.

3,449,389

PRIMARY FLUOROCARBON ALKOXIDES

Joseph Leo Warnell, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,973
Int. Cl. C07f *3/10, 1/10*
U.S. Cl. 260—431 8 Claims

Primary fluorocarbon mono- and di-alkoxides are formed by reacting the fluoride of Cs^+, Rb^+, K^+, Ag^+, H^{++}, or quaternary ammonium with fluorocarbon acid fluoride, e.g., alkanoic or alkandioic acid fluorides, respectively, at a temperature in the range between —80° C. and 150° C.

3,449,390

BENZYL, ALKYL ARSENIC ACIDS AND THE PREPARATION THEREOF

Ronald E. Wietelmann and Lawrence S. Wittenbrook, Marysville, Ohio, assignors to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 9, 1965, Ser. No. 512,790
Int. Cl. C07f *9/72;* **A01n** *9/24*
U.S. Cl. 260—442 8 Claims

Benzyl, alkyl arsenic acids and their salts, processes for preparing the foregoing and their use for controlling plant growth.

3,449,391

ALUMINUM PROPIONATE DOUBLE SALTS AND THEIR PREPARATION

Alfred Halpern, Great Neck, N.Y., assignor to Synergistics, Inc., New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 287,170, May 24, 1963, which is a continuation-in-part of application Ser. No. 108,809, May 9, 1961. This application June 27, 1967, Ser. No. 683,415
Int. Cl. C07f *5/06*
U.S. Cl. 260—448 20 Claims

Double acid salts of aluminum propionate and aluminum dipropionate prepared with acetic acid, lactic acid, citric acid and tartaric acid, which are suitable for use in treating dermatologic disease.

3,449,392

PRODUCTION OF POLYSILOXANES

Thomas Alexander Robinson, Kilwinning, Scotland, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed July 26, 1965, Ser. No. 474,938
Claims priority, application Great Britain, Aug. 13, 1964, 33,040/64
Int. Cl. C07f *7/18;* **C07d** *103/02*
U.S. Cl. 260—448.2 18 Claims

A process for the production of 1,5-dihydroxytrisiloxanes is disclosed, wherein a cyclicorganotrisiloxane and water are reacted together in a one phase system, there also being present a neutral water miscible solvent and an acid.

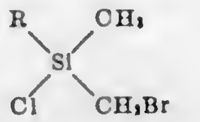
3,449,393

PREPARATION OF METHYL-(BROMOMETHYL)-CHLOROSILANES

Hans Sattlegger, Cologne-Buchheim, Walter Simmler, Odenthal-Schlinghofen, Walter Noll, Opladen, and Hans Niederprum, Monheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 26, 1966, Ser. No. 589,496
Claims priority, application Germany, Nov. 20, 1965, F 47,723
Int. Cl. C07f *7/02, 7/10*
U.S. Cl. 260—448.2 5 Claims

What we claim is:

1. A process for the preparation of a methyl-(bromomethyl)-chlorosilane of the formula



wherein R represents a methyl radical or a chlorine atom, which comprises reacting a methyl-chlorosilane of the formula $RSi(CH_3)_2Cl$ with sulphuryl chloride and bromine at a temperature between 20 and 80° C.

2. A process as claimed in claim 1 wherein the reaction is effected in the presence of a catalytic amount of an organic free radical initiator.

3,449,394

PROCESS FOR MAKING SALTS OF PERFLUOROVINYL FLUOROSILICIC ACIDS

Richard Müller and Christian Dathe, Radebeul, and Manfred Dressler, Dresden, Germany, assignors to Institute fur Silikon- und Fluorkarbon-Chemie, Radebeul, Germany
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,844
Int. Cl. C07f *7/12*
U.S. Cl. 260—448.2 13 Claims

Perfluorovinyl fluorosilicates are prepared by reacting anhydrous alkali metal fluorides with perfluorovinyl trifluoro silane in anyhydrous organic proton-inactive solvents. The organo-fluorosilicates are suitable starting materials for the organylization as well as for the reduction of heavy metal salts; they may also be used for the purification of trifunctional organosilanes or for the separation from mono-and difunctional organosilanes, respectively.

3,449,395

PREPARATION OF OXYDI(p-PHENYLENE ISOCYANATE)

Theodore E. Majewski and Daniel W. Tarkowski, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 4, 1964, Ser. No. 387,482
Int. Cl. C07c *119/04, 93/14;* **C08g** *22/26*
U.S. Cl. 260—453 4 Claims

The use of tetrachloroethylene as the reaction solvent in the preparation of oxydi(p-phenylene isocyanate) by the reaction of p-oxydianiline with phosgene results in the product having much less color than when other solvents are used.

3,449,396

PREPARATION OF N-(2-CHLOROALKYL) SULFINYLAMINES

Donald A. Tomalia, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 3, 1966, Ser. No. 524,834
Int. Cl. C07c *119/16;* **C07d** *23/00*
U.S. Cl. 260—453 8 Claims

N-(2-chloroalkyl)sulfinylamines are made by a process comprising contacting an aziridine with thionyl chloride at a temperature between —20 and 35° C. These sulfinylamines are polymer intermediates and possess anthelmintic properties.

3,449,397

PREPARATION OF DICHLOROPHENYL ISOCYANATE

Robert Ralph Twelves, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,742
Int. Cl. C07c *119/04;* **C07d** *87/22*
U.S. Cl. 260—453 3 Claims

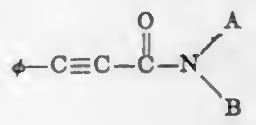
In a process of manufacturing 3,4-dichlorophenyl isocyanate by reacting 3,4-dichloroaniline and phosgene, morpholine or morpholine carbamyl in an amount equivalent to 0.2 to 5% morpholine based on the weight of the 3,4-dichloroaniline is added to inhibit the formation of undesirable solids and to stabilize the tar that forms.

3,449,398

CYANOALKYL PHENYLPROPIOLAMIDES

Frank Passal, Detroit, Mich., assignor to M&T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application July 17, 1963, Ser. No. 295,818, now Patent No. 3,349,015, dated Oct. 24, 1967. Divided and this application July 7, 1966, Ser. No. 574,859
Int. Cl. C07c *121/66, 121/54, 103/20*
U.S. Cl. 260—465 9 Claims

Compounds having the structure



wherein A is selected from the group consisting of —CN and $(CH_2)_a$—CN wherein *a* is 1–10; and B is selected from the group consisting of hydrogen, $(CH_2)_a$—CN, and aliphatic hydrocarbon radicals having less than 6 carbon atoms are useful as primary brighteners in a process for electrodepositing nickel from nickel containing baths containing a secondary brightener.

3,449,399

PRODUCTION OF ACRYLONITRILE

Robert J. Evans, Jacksonville, Ill., and Keith M. Taylor, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,540
Int. Cl. C07c *121/02, 121/32*
U.S. Cl. 260—465.9 12 Claims

Acrylonitrile is produced by a non-catalytic process by contacting acetonitrile and an aliphatic hydrocarbon in the presence of iodine, chlorine or combinations thereof.

3,449,400
PRODUCTION OF ACRYLONITRILE

Robert J. Evans, Jacksonville, Ill., and Keith M. Taylor, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,605
Int. Cl. C07c *121/02, 121/32*
U.S. Cl. 260—465.9 **9 Claims**

Acrylonitrile is produced by a noncatalytic process from acetonitrile and a ketone or an aldehyde.

3,449,401
PRODUCTION OF ACRYLONITRILE

Robert J. Evans, Jacksonville, Ill., and Keith M. Taylor, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,627
Int. Cl. C07c *121/02, 121/32, 121/06*
U.S. Cl. 260—465.9 **10 Claims**

Acrylonitrile is produced in a noncatalytic process by contacting acetonitrile and an alkyl halide containing less than 20 carbon atoms per molecule.

3,449,402
PRODUCTION OF ACRYLONITRILE

Robert J. Evans, Jacksonville, Ill., and Keith M. Taylor, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 9, 1967, Ser. No. 607,892
Int. Cl. C07c *121/32*
U.S. Cl. 260—465.9 **10 Claims**

Acrylonitrile is produced by a non-catalytic process from acetonitrile and an aliphatic sulfur-containing compound.

3,449,403
NOVEL ACRYLATES

Arthur A. Patchett, Cranford, Edward F. Rogers, Middletown, and Robert L. Clark, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,495
Int. Cl. C07c *101/44*
U.S. Cl. 260—471 **4 Claims**

Novel loweralkyl-α-carboalkoxy-β-3,4-disubstituted anilino acrylates obtained by the reaction of a 3,4-disubstituted aniline with diloweralkyl loweralkoxymethylenemalonate. These acrylates are intermediates in the synthesis of 4 - hydroxy - 6,7 - disubstituted quinoline - 3 - carboxylates which latter substances have anticoccidial activity.

3,449,404
PROCESS FOR THE PREPARATION OF ESTERS OF ALKYL BENZENE MONOCARBOXYLIC ACIDS CHLORINATED IN THE NUCLEUS

Gustav Renckhoff, Witten (Ruhr), Germany, assignor to Chemische Werke Witten GmbH., Witten (Ruhr), Germany

No Drawing. Filed Nov. 8, 1963, Ser. No. 322,534
Claims priority, application Germany, Feb. 20, 1963, C 29,207
Int. Cl. C07c *63/04*
U.S. Cl. 260—476 **13 Claims**

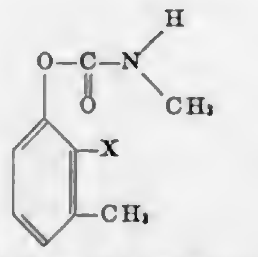
1. A process for the preparation of an alkyl benzene monocarboxylic acid ester which is chlorinated in the aromatic nucleus only, said ester being of an alkyl benzene monocarboxylic acid having at least one alkyl group of 1 to 4 carbon atoms with an alkanol having 1 to 4 carbon atoms, which comprises treating said alkyl benzene monocarboxylic acid ester with chlorine in the presence of a nuclear chlorination catalyst selected from the group consisting of iron-III-chloride, aluminum chloride and titanium-IV-chloride, and while excluding light from the reaction mixture, at a temperature below 50° C.

3,449,405
2-HALO-3-METHYLPHENYL N-METHYLCARBAMATES

Ichiro Seto, Humikazu Tanaka, Yoshio Ishii, Yuji Nagae, and Setsuo Kitakata, Kanagawa-ken, Japan, assignors to Toa Noyaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 4, 1966, Ser. No. 525,123
Int. Cl. C07c *69/02;* **A01n** *9/20*
U.S. Cl. 260—479 **3 Claims**

2-halo-3-methylphenyl N-methylcarbamates of the following formula



wherein X is selected from the group consisting of chlorine and bromine atoms, and the process of combating green rice leaf hoppers comprising contacting said hoppers with an effective amount of one of the above compounds.

3,449,406
PROCESS FOR PREPARING OF ALIPHATIC MONOCARBAMATES

Henry G. Goodman, Jr., White Plains, and Carol A. Dupraz, Corona, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 10, 1966, Ser. No. 519,464
Int. Cl. C07c *125/04*
U.S. Cl. 260—482 **14 Claims**

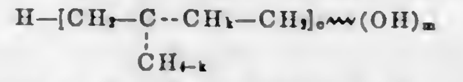
An improved process for preparing a carbamate comprising reacting urea with an alcohol in contact with an aliphatic tertiary polyamine, such as, for example, triethylene diamine or N,N,N′,N′-tetramethyl-1,3-butanediamine. As compared with prior art procedures involving reaction of urea with an alcohol in the absence of a catalyst or in the presence of metallic salt catalysts, this process provides decreased reaction time, improved yield and reduced formation of unwanted non-volatile by-products.

3,449,407
LACTIC ACID ESTERS OF POLYISOPRENOID ALCOHOLS

Ernst T. Theimer, Rumson, John James Westbrook III, New Shrewsbury, John Wolt, East Orange, and Alton Dewitt Quinn, Cranford, N.J., assignors to International Flavors & Fragrances, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 11, 1966, Ser. No. 519,952
Int. Cl. C07c *69/68*
U.S. Cl. 260—484 **6 Claims**

1. A lactic acid ester of a polyisoprenoid alcohol wherein the polyisoprenoid alcohol is represented by the formula



$$\mathrm{H{-}[CH_2{-}\underset{\overset{\vdots}{CH_{4-k}}}{C}\cdots CH_k{-}CH_2]_n{\sim\sim}(OH)_m}$$

where *m* is one or two, *n* is an integer of from about 4 to about 15, each dotted line is a bond selected from the group consisting of a single bond and a double bond, one double bond being present in a non-tertiary hydroxyl-containing isoprenoid unit, and *k* is an integer of from 1 to 2, the value of *k* being determined by the presence of said double bond.

3,449,408
PREPARATION OF ESTERS BY CARBONYLATION OF ALCOHOLS

Herman S. Schultz, Easton, Pa., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 136,157, Sept. 6, 1961. This application Nov. 22, 1966, Ser. No. 596,343
Int. Cl. C07c *69/00, 67/04, 67/00*
U.S. Cl. 260—488 **9 Claims**

A process for the synthesis of esters of carboxylic acids which comprises reacting a material selected from aliphatic alcohols and alicyclic alcohols, in the liquid phase, with carbon monoxide in the presence of concentrated sulfuric acid, thereafter reacting the resulting reaction mixture in the absence of any substantial amount of free carbon monoxide with an aliphatic alcohol, and separating the resulting carboxylic acid ester from the reaction mixture.

3,449,409
PROCESS FOR PREPARING PROSPHONIC ACIDS

Riyad R. Irani and Robert S. Mitchell, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 547,759, May 5, 1966. This application Sept. 13, 1966, Ser. No. 578,967
Int. Cl. C07f *9/38;* **C07c** *53/14*
U.S. Cl. 260—502.4 **16 Claims**

The present invention relates to processes for preparing phosphonic acids such as 1-hydroxy, ethylidene diphosphonic acid. More specifically this process comprises the contacting of a phosphorus trihalide such as phosphorus trichloride with a lower aliphatic monocarboxylic acid such as glacial acetic acid in a reaction zone maintained at a temperature of 10° C. to 80° C. to continuously form a liquid reaction product. After the formation of said liquid reaction product, said reaction product is heated to and maintained at a temperature of 90° C. to 180° C. and concurrently with said heating there is distilled off substantially all of the organo-chloride by-product as a gas from said reaction zone. Subsequent to the sequential steps of the formation of the liquid reaction product and the distillation of the organo-chloride by-product, a portion of said by-product is added at certain rates to the liquid reaction product which is maintained at a temperature of 90° C. to 180° C. to form a normally anhydrous, solid reaction material. Thereafter, the desired diphosphonic acid is recovered from said anhydrous reaction product by means of, for example, steam treatment.

3,449,410
PROCESS FOR PREPARING PHOSPHONIC ACIDS

Richard P. Carter, Jr., Chesterfield, and Riyad R. Irani and Robert S. Mitchell, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 547,770, May 5, 1966. This application Sept. 13, 1966, Ser. No. 578,968
Int. Cl. C07f *9/38;* **C07c** *53/14*
U.S. Cl. 260—502.4 **16 Claims**

The present invention relates to processes for preparing phosphonic acids such as 1-hydroxy, ethylidene diphosphonic acid. More specifically this process comprises the contacting of a phosphorus trihalide such as phosphorus trichloride with a lower aliphatic monocarboxylic acid such as glacial acetic acid in a reaction zone maintained at a temperature of 10° C. to 80° C. to form a liquid reaction product. The liquid product is then allowed to stand for a sufficient period of time in order to separate into a liquid phosphorous acid phase and a liquid by-product organo-halide phase; thereafter the two phases are physically separated, for example, by means of decantation. The phosphorous acid phase is then heated to and maintained at a temperature of 90° C. to 180° C. Subsequent to the sequential steps of the formation of the liquid reaction product the formation of two liquid phases and the separation of one liquid phase from the other, a portion of said by-product is added at certain rates to the phosphorous acid phase which is maintained at a temperature of 90° C. to 180° C. to form a normally anhydrous, solid reaction material. Thereafter, the desired diphosphonic acid is recovered from said anhydrous reaction material by means of, for example, steam treatment.

3,449,411
PROCESS FOR THE PRODUCTION OF TRANS-4-AMINOMETHYLCYCLOHEXANE - 1-CARBOXYLIC ACID

Takeo Naito, Ichikawa-shi, and Atsuji Okano and Tosaku Miki, Tokyo, Japan, assignors to Daiichi Seiyaku Company Limited, Tokyo, and Mitsubishi Chemical Industries Limited, Tokyo, Japan, both corporations of Japan

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,045
Claims priority, application Japan, May 15, 1964, 39/27,137; July 9, 1964, 39/39,319
Int. Cl. C07c *99/00*
U.S. Cl. 260—514 **16 Claims**

An alkali or alkaline earth metal salt of 4-N-acetamidomethylbenzoic acid is reduced with heating under pressure in the presence of Raney-nickel catalyst in an atmosphere of hydrogen to produce an alkali or alkaline earth metal salt of 4-N-acetamidomethylcyclohexane-1-carboxylic acid, and then subjecting the product to a hydrolysis-conversion reaction by heating it at 160–250° C. with an alkali agent, thereby accomplishing both the deacetylation and the transformation of the stereo conformation simultaneously to produce trans-4-aminomethylcyclohexane-1-carboxylic acid.

3,449,412
CONTINUOUS PRODUCTION OF 1,4,5,6,7,7-HEXACHLOROBICYCLO - [2,2,1] - 5 - HEPTENE - 2,3-DICARBOXYLIC ACID

Horst Goelz, Schwetzingen, and Hubert Suter, Friedrich Brunnmueller, and Albert Palm, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed May 11, 1966, Ser. No. 549,352
Claims priority, application Germany, May 14, 1965, B 81,929
Int. Cl. C07c *61/26*
U.S. Cl. 260—514 **9 Claims**

1. A process for the production of pure 1,4,5,6,7,7-hexachlorobicyclo-[2,2,1]-5-heptene-2,3-dicarboxylic acid from hexachlorocyclopentadiene and maleic anhydride by heating, wherein the reactants are supplied together and continuously to a reactor kept at a temperature of 120° to 200° C., are passed through the same with a mean residence time of two to seven hours, the effluent reaction product is allowed to flow into water at a temperature of at least 70° C., the solution thus obtained is treated by injection of superheated steam to remove chlorohydrocarbons, a lower saturated fatty acid or a lower saturated chlorinated fatty acid, is added to the solution which is then cooled and the crystalline 1,4,5,6,7,7 - hexachlorobicyclo - [2,2,1] - 5 - heptene - 2,3 - dicarboxylic acid is separated.

3,449,413

PROCESS FOR THE MANUFACTURE OF ALKALI SALTS OF CARBOXYLIC ACIDS

Heinz Hartel, Oberlar, and Gerhard Bier, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,611
Claims priority, application Germany, Apr. 10, 1964, D 44,125
Int. Cl. C07c *51/26*
U.S. Cl. 260—523 **10 Claims**

A process is disclosed for the oxidation of primary alcohols comprising reacting such alcohol in an alkaline aqueous medium with a mixture of a copper (II) oxide or hydroxide and a noble metal or its oxide or hydroxide.

3,449,414

PRODUCTION OF ALKALI METAL SALTS OF ETHYLENEDIAMINE TETRAACETIC ACID

Guenther Boettger, Ludwigshafen (Rhine), Paul Guenthert, Iggelheim Pfalz, and Hubert Kindler and Hans Stanger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 19, 1966, Ser. No. 543,546
Claims priority, application Germany, Apr. 30, 1965, B 81,685
Int. Cl. C07c *101/26*
U.S. Cl. 260—534 **4 Claims**

Continuous production of alkali metal salts of ethylenediamine tetraacetic acid by reaction of ethylenediamine(I) with formaldehyde(II) and an alkali metal cyanide(III) in aqueous solution in at least three stages, wherein in the first stage II is reacted with a molar excess of I and III, in the second stage the remainder of II is supplied and in the third stage traces of III are eliminated by reaction with a slight excess of II. The process involves lower operating costs than conventional methods and produces a product of high and consistent quality which can be used without purification or aftertreatment for industrial purposes.

3,449,415

PURIFICATION OF FORMIC ACID AND PROPIONIC ACID

Ben W. Kiff, Ona, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,751
Int. Cl. C07c *51/42, 53/22, 53/02*
U.S. Cl. 260—540 **5 Claims**

The invention relates to a process for the purification of certain low molecular weight acids, namely formic acid and propionic acid, to remove minute amounts of color forming impurities. Purification is achieved by treating the organic acid with minor amounts of urea at elevated temperatures as set forth in the following specification. Formic acid and propionic acid are known compounds of known utility.

3,449,416

PROCESS FOR THE PREPARATION OF ACID HALIDES

Thomas K. Brotherton, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 380,074, July 2, 1964. This application Apr. 20, 1965, Ser. No. 449,645
Int. Cl. C07c *51/58, 63/24*
U.S. Cl. 260—544 **8 Claims**

1. A process for the preparation of acid chlorides which comprises contacting carbon tetrachloride and an aromatic carboxylic acid of 7 to about 24 carbon atoms containing 1 to 3 carboxyl groups in the presence of a catalytic amount of ferric chloride said carbon tetrachloride and said aromatic carboxylic acid being present in a respective mole ratio of at least about 2 to 1.

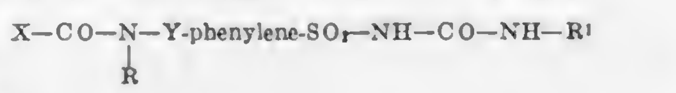
3,449,417

BENZENESULPHONYL-UREAS AND PROCESS FOR PREPARING THEM

Helmut Weber, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, Rudi Weyer, Frankfurt am Main, Walter Aumüller, Kelkheim, Taunus, and Felix Helmut Schmidt, Mannheim-Neuostheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 22, 1965, Ser. No. 515,755
Claims priority, application Germany, Dec. 28, 1964, F 44,822
Int. Cl. C07c *147/06*
U.S. Cl. 260—553 **3 Claims**

Benzenesulfonyl-ureas with hypoglycemic activity having the general formula



$$X-CO-\underset{\displaystyle R}{\underset{|}{N}}-Y\text{-phenylene-}SO_2-NH-CO-NH-R^1$$

in which:

R is hydrogen, lower alkyl or phenyl lower alkyl;
R^1 is (a) alkyl or alkenyl of 2–8 carbon atoms, (b) phenyl lower alkyl, (c) cyclohexyl lower alkyl, (d) endoalkylene cyclohexyl, endoalkylene-cyclohexenyl, endoalkylene-cyclohexyl-methyl or endoalkylene-cyclohexenylmethyl with 1–2 carbon atoms in the endoalkylene part, (e) lower alkylcyclohexyl, lower alkoxycyclohexyl, (f) cycloalkyl of 5 to 8 carbon atoms, (g) cyclohexenyl or cyclohexenylmethyl;
X is an alkylene or alkenylene of one to three carbon atoms substituted by one or two chlroine or bromine atoms or by a cyano group, no carbon atom being substituted by more than one such substitutent;
Y is an alkyl chain of 1–4 carbon atoms; and physiologically tolerance salts thereof.

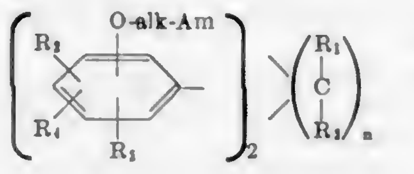
3,449,418

ETHERIFIED BISARYL COMPOUNDS

Lincoln Harvey Werner, Summit, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 448,265, Apr. 15, 1965. This application Dec. 22, 1965, Ser. No. 515,752
Int. Cl. C07c *103/28, 93/00*
U.S. Cl. 260—559 **14 Claims**

Etherified bisaryl compounds of the formula



wherein:

n=0 or 1
R_1=H, OH or alkyl
R_2=H, alkyl, carboxyalkyl, cycloalk(en)yl, cycloalk(en)ylalkyl, aralkyl or aryl
R_3=alkyl, halogen or nitro
R_4, R_5=H, alkyl or halogen

and salts thereof exhibit predominantly antiparasitic (taeniacidal) effects.

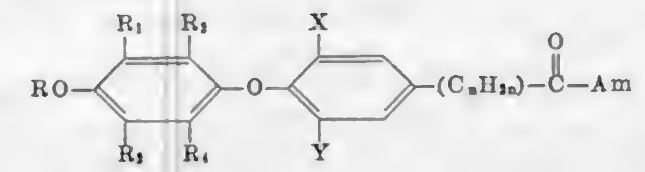
3,449,419

(4-PHENOXY-3,5-DIHALOPHENYL)ALKANOAMIDES

William J. Wechter, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,580
Int. Cl. C07c *103/04, 87/32, 103/22*
U.S. Cl. 260—559 **3 Claims**

(4-phenoxy-3,5-dihalophenyl)alkanoamides having the formula:



where R, R_3 and R_4 are hydrogen and lower-alkyl; R_1 and R_2 are hydrogen, lower-alkyl, and halogen; X and Y are halogen; n is an integer from zero to 3, inclusive; and Am is di-lower-alkylamino. The compounds are cholesterol lowering agents.

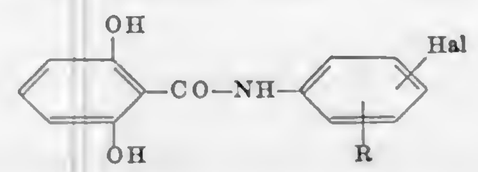
3,449,420

γ-RESORCYLIC ACID ANILIDES AND PROCESS FOR PREPARING THEM

Heinrich Ruschig, Bad Soden, Taunus, Johann König, Niederhofheim, Taunus, and Dieter Düwel, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,111
Claims priority, application Germany, Jan. 15, 1966, F 48,175
Int. Cl. A61k *27/00;* **C07c** *103/26, 103/30*
U.S. Cl. 260—559 **8 Claims**

γ-Resorcylic acid anilides, having anthelmintic activity, which correspond to the general formula



wherein Hal represents a halogen atom and R represents hydrogen, a halogen atom or a low molecular weight alkyl group.

3,449,421

CHLORINATION PROCESS

David L. Pearson, Aurora, Colo., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,568
Int. Cl. C07c *103/02*
U.S. Cl. 260—561 **7 Claims**

1. A process for preparing an alpha-chloro-N,N-di (lower alkyl) amide of acetoacetic acid, which comprises reacting in liquid phase an N,N-di (lower alkyl) amide of acetoacetic acid with not more than a stoichiometric amount of a chlorinating agent selected from the group consisting of:

(a) hypochlorous acid,
(b) alkyl esters of hypochlorous acid wherein the alkyl has from 1–20 carbon atoms, and
(c) a mixture of hypochlorous acid and N-chlorourea, at a temperature between about 0° C. to 80° C., said chlorinating agent providing the sole source of active chlorine.

3,449,422

PENTACYCLOUNDECANE AMINES

Libby S. Miller, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 9, 1966, Ser. No. 526,080
Int. Cl. C07c *85/00, 103/02;* **A61k** *27/00*
U.S. Cl. 260—563 **8 Claims**

Pentacyclo[$6.2.1.0^{2,7}.0^{4,10}.0^{5,9}$]undecanes with an amino, aminomethyl, or substituted aminomethyl group at the 2 or 3-position are prepared from simple mono and bicyclic materials. The products have antiviral activity.

This invention relates to pentacycloundecane amines having antiviral activity. In particular, the invention relates to 2-amino and 2-aminomethyl, and 3-amino and 3 - aminomethylpentacyclo[$6.2.1.0^{2,7}.0^{4,10}.0^{5,9}$]undecanes, having activity against influenza viruses.

3,449,423

CYCLOALIPHATIC HYDROCARBON DIAMINES

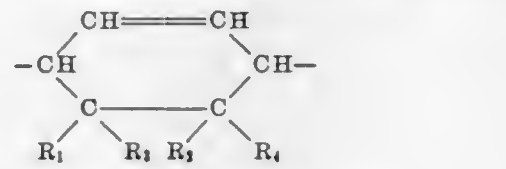
John R. Nazy and Donald H. Wheeler, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed June 24, 1966, Ser. No. 560,057
Int. Cl. C07c *87/38*
U.S. Cl. 260—563 **9 Claims**

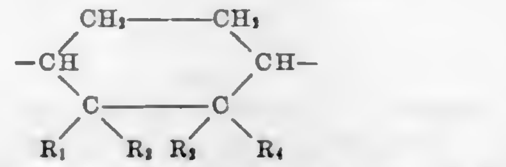
1. A damine of the formula

$$R'—Z—R''—CH_2NH_2$$

where R′ is a monovalent straight chain aliphatic hydrocarbon radical containing 2 to 6 carbon atoms, R″ is a divalent straight chain aliphatic hydrocarbon radical containing 7 to 11 carbon atoms, the sum of the carbon atoms in R′ and R″ is 13, and Z is a divalent radical of the structure



or



where R_1 and R_2 are H or CH_3 with the proviso that one of such radicals must be H and R_3 and R_4 are H or CH_2NH_2 with the proviso that one of such radicals must be H and the other must be CH_2NH_2.

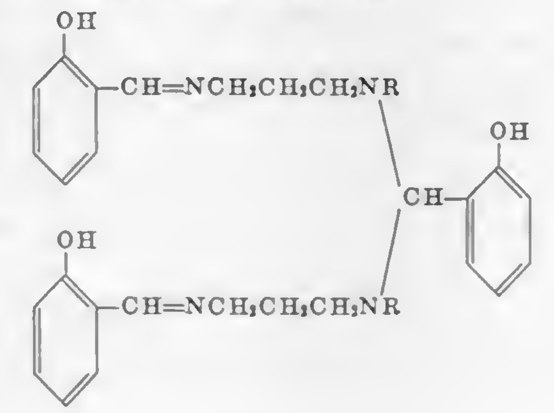
3,449,424

SALICYLALDIMINES

Harry J. Andress, Jr., Pitman, and Paul Y. C. Gee, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 508,563, Nov. 18, 1965. This application Jan. 13, 1967, Ser. No. 609,014
Int. Cl. C07c *91/34, 91/28, 91/30*
U.S. Cl. 260—566 **2 Claims**

Salicylaldimines having the formula:

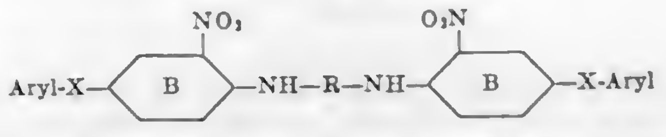


in which R is an alkyl group having from about 8 to about 18 carbon atoms, are employed as antioxidants and anticorrosion agents in organic compositions. A method for the preparation of these compounds is also described.

3,449,425
N,N'-BIS(β-BENZOPHENONE)-ARYLENEDIAMINES

Ernst Reich, Bettingen, and Werner Dettwiler, Neu-Allschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Dec. 9, 1963, Ser. No. 329,297
Claims priority, application Switzerland, Dec. 11, 1962, 14,493/62; Nov. 14, 1963, 13,979/63
Int. Cl. C07c *97/10*
U.S. Cl. 260—570 **5 Claims**

Nitro dyestuff pigments of the formula



the aryl radical of which may represent, for example, naphthalene or advantageously benzene radicals, R represents an aromatic radical, X stands for a —CO— or SO_2— group and the benzene radical B may contain further substituents not imparting solubility in water.

3,449,426
PHENOTHIAPHOSPHINES

Emile H. Braye, Brussels, Belgium, assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 17, 1966, Ser. No. 528,093
Int. Cl. C07d *105/02*
U.S. Cl. 260—570.5 **5 Claims**

Phenothiaphosphines are prepared by reacting a dihalo phosphine or a dihalo phosphine oxide with a diphenyl sulfide or sulfone, said phenyl containing Li, MgBr, or MgCl substituents in the ortho position. The phenothiaphosphines are useful as intermediates in the preparation of metal chelating compounds, and as fungicidal agents.

3,449,427
AMINOCYCLOPROPANE DERIVATIVES OF 5H-DIBENZO[a,d]CYCLOHEPTENES

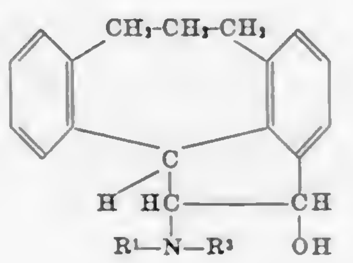
Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwin, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed June 3, 1965, Ser. No. 461,176
Int. Cl. C07c *87/28, 91/16, 149/42*
U.S. Cl. 260—570.8 **8 Claims**

5[2-(N-N di substituted amino) cyclopropyl]-10,11-dihydro 5H dibenzo[a,d]cycloheptanes are prepared via the amides and acids. The compounds are antidepressants, transquillizers and anorectics.

3,449,428
AMINOHYDROXYHEXAHYDROCYCLOPENTA-DIBENZOCYCLOOCTENES

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz Inc., Hanover, N.J.
No Drawing. Filed May 14, 1965, Ser. No. 455,989
Int. Cl. C07c *91/16*
U.S. Cl. 260—571 **2 Claims**

1. A compound selected from the group consisting of those of the formula



wherein each of R^1 and R^2 is, independently, a member selected from the group consisting of a hydrogen atom and lower alkyl; and pharmaceutically acceptable acid addition salts thereof.

3,449,429
COUPLING OF AMINO ARENES

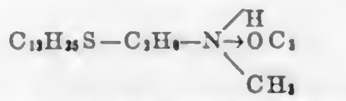
Wayne L. Carrick, East Brunswick, and George L. Karapinka, Irvington, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Original application Sept. 30, 1963, Ser. No. 312,346, now Patent No. 3,322,838, dated May 30, 1967. Divided and this application Nov. 7, 1966, Ser. No. 592,337
Int. Cl. C07c *87/28, 87/50, 87/48*
U.S. Cl. 260—576 **9 Claims**

1. A method for preparing bis (amino arenes) which comprises contacting as the sole reactant, an aryl alkylamine having from 6 to 14 aromatic ring carbon atoms and at least one unsubstituted ortho-para carbon atom, with an oxidizing amount of a chlorine containing transition metal oxidizer selected from the class consisting of chlorides of Group IV*b* metals, chlorides of Group V*b* metals, and oxychlorides of Group V*b* metals, in order to effect aromatic ring coupling of said aryl amine.

3,449,430
AMINO OXIDES

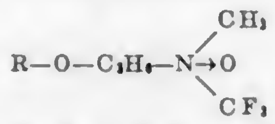
Roman Dohr, Dusseldorf, and Wilhelm Jakob Kaiser, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed June 20, 1961, Ser. No. 118,258
Claims priority, application Germany, July 14, 1960, 39,944
Int. Cl. C07c *149/14, 93/02, 93/00*
U.S. Cl. 260—583 **10 Claims**

1. A compound of the structural formula



$$C_{12}H_{25}S-C_2H_4-\underset{CH_3}{\overset{H}{N}}\to O\,C_1$$

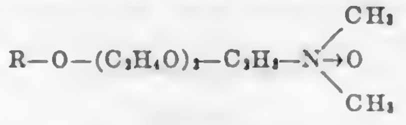
2. A compound of the structural formula



$$R-O-C_3H_6-\underset{CF_3}{\overset{CH_3}{N}}\to O$$

wherein R is an aliphatic hydrocarbon radical of 8–18 carbon atoms.

5. A compound of the structural formula

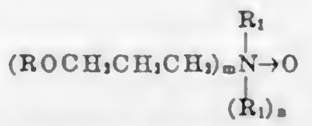


$$R-O-(C_2H_4O)_3-C_3H_6-\underset{CH_3}{\overset{CH_3}{N}}\to O$$

3,449,431
TERTIARY γ-ALKOXYPROPYLAMINE OXIDES

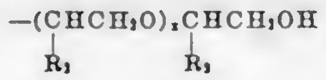
Robert A. Swenson, St. Louis Park, Minn., assignor to Cargill, Incorporated, a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,349
Int. Cl. C07c *93/02, 93/00*
U.S. Cl. 260—584 **4 Claims**

Tertiary γ-alkoxypropylamine oxides having the formula:



$$(ROCH_2CH_2CH_2)_m\underset{(R_1)_n}{\overset{R_1}{N}}\to O$$

where R is an alkyl radical of between about 6 and about 20 carbon atoms, R_1 is a methyl radical or an oxyolefin radical of the formula



$$-(\underset{R_2}{CH}CH_2O)_x\underset{R_2}{CH}CH_2OH$$

where R_2 is hydrogen or a methyl radical and x is between 0 and about 9, and where m is 1 or 2, n is 0 or 1 and the sum of m and n is 2. A method of manufacturing such compounds includes heating a tertiary γ-alkoxypropylamine to a reaction temperature between about 50° C. and about 65° C., slowly adding an oxidizing agent, adding a solvent for the amine oxide product, and raising the reaction temperature to between about 75° C. and about 80° C. to complete the reaction. These oxides are useful as wetting agents and emulsifiers, and are particularly useful as suds builders in anionic detergents and as hair conditioners in shampoos.

3,449,432
HYDROXYALKYL ETHER SUBSTITUTED TERTIARY AMINES

Cornelis Borstlap and Pieter M. Bakker, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 9, 1966, Ser. No. 548,385
Claims priority, application Netherlands, May 31, 1965, 6506842
Int. Cl. C07c *93/02*
U.S. Cl. 260—584 **4 Claims**

The hydroxyalkyl ether substituted tertiary amines obtained by (1) reacting an olefin with an aliphatic polyol in the presence of a halogenating agent and (2) reacting the resulting hydroxy alkyl ether of a vic-halohydrin with a tertiary alkyl amine, thereby forming a hydroxy alkyl ether substituted tertiary amine by replacement of the halogen atom of said vic-halohydrin ether. The tertiary amino-substituted hydroxyalkyl ethers so produced can be oxidized to the corresponding amine oxides. These compounds are useful as detergents.

3,449,433
PROCESS FOR PREPARING 2-[TRIS(DIFLUOROAMINO)METHOXY]ETHYLAMINE PERCHLORATE

Claude E. Merrill, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 2, 1965, Ser. No. 512,040
Int. Cl. C07c *93/02*
U.S. Cl. 260—584 **4 Claims**

1. A process for preparing 2-[tris(difluoroamino) methoxy]ethylamine perchlorate which comprises;

(a) reacting ethylamine perchlorate and perfluoroguanidine in nitromethane in the presence of urea catalyst thereby to prepare a nitromethane solution of ethylamine perchlorate-perfluoroguanidine adduct,
(b) fluorinating said adduct in said solution, and
(c) adding to the resulting product solution a substantially non-polar organic liquid which is miscible with nitromethane but substantially a non-solvent for 2-[tris(difluoroamino)methoxy]ethylamine perchlorate, the quantity of said organic liquid being sufficient to precipitate said 2-[tris(difluoroamino) methoxy]ethylamine perchlorate in the reaction mass, and
(d) separating said precipiated 2-[tris(difluoroamino) methoxy]ethylamine perchlorate from the residual liquid reaction mass.

3,449,434
1,2-METHYLENE-B-NORSTEROIDS

Kenneth G. Holden, Stratford, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 21, 1966, Ser. No. 580,901
Int. Cl. C07c *49/44;* **C12b** *1/00*
U.S. Cl. 260—586 **4 Claims**

1α,2α-methylene-B-norandrostenes, unsubstituted at the 6-position, or substituted with a 6,6-ethylene or 6-methyl group, are prepared by reaction of the corresponding 1,4-androstadienes with dimethyl sulfoxonium methylide. The products possess antiandrogenic activity.

3,449,435
PROCESS FOR THE CATALYTIC VAPOR PHASE HYDROGENATION OF AN β-UNSATURATED CARBONYL COMPOUND WITH A GASEOUS MIXTURE OF HYDROGEN AND A LOWER ALKANE

Shiro Kudo, Sakai-shi, Yoshihisa Mihara, Yokkaichi-shi, and Seiichi Yada, Sakai-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Apr. 8, 1964, Ser. No. 358,368
Claims priority, application Japan, May 31, 1963, 38/27,755
Int. Cl. C07c *27/06*
U.S. Cl. 260—593 **9 Claims**

An improvement in a process for the catalytic vapor phase hydrogenation of an α,β-unsaturated carbonyl compound by means of hydrogen gas as the hydrogenating agent. According to the present disclosure, the hydrogenation is carried out with a mixture of an alkane of 1 to 3 carbon atoms and the hydrogen gas, whereby the corresponding saturated carbonyl compound and corresponding saturated alcohol are simultaneously produced.

3,449,436
PURIFICATION OF KETONES

Patrick J. O'Connor and Edward P. Maglaughlin, Pampa, Tex., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 17, 1966, Ser. No. 528,106
Int. Cl. C07c *49/10;* **B01j** *11/82*
U.S. Cl. 260—593 **5 Claims**

A ketone, for example methyl ethyl ketone, is recovered from a mixture in which it is admixed with a tertiary alcohol, especially tertiary butanol, by a process which comprises subjecting the mixture to reaction conditions whereby the alcohol is dehydrated to the corresponding olefin, after which the ketone is readily separated from the olefin by distillation. The dehydration is advantageously accomplished by bringing the mixture, in the vapor phase and at elevated temperature, into contact with a solid dehydration catalyst comprising, for example, activated alumina either alone or impregnated with phosphoric acid.

3,449,437
SYNTHESIS OF NITRO-KETONES

Richard J. Lee, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Original application June 30, 1964, Ser. No. 379,339, now Patent No. 3,328,463, dated June 27, 1967. Divided and this application Mar. 20, 1967, Ser. No. 635,938
Int. Cl. C07c *49/04, 49/20*
U.S. Cl. 260—593 **3 Claims**

Nitroketones are prepared by treating homopolymers of propene and butene with nitrogen tetroxide. The resultant nitrated product is hydrolyzed to the nitroketone by heating in aqueous alkaline solution.

3,449,438
PROCESS FOR THE PRODUCTION OF YLENALS

Herwig Freyschlag, Werner Reif, Axel Nuerrenbach, and Wilhelm Sarnecki, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Nov. 19, 1964, Ser. No. 412,326
Claims priority, application Germany, Nov. 30, 1963, B 74,473
Int. Cl. C07f *9/28*
U.S. Cl. 260—599 **4 Claims**

Production of a ylenal such as triphenylphosphine-2-formylpropen-(1)-yl-1-methylene by reacting the corresponding quaternary phosphonium salt with a proton acceptor in liquid phase. The new compound is useful in producing a carotenoid having known application as a food coloring agent.

3,449,439

PROCESS FOR THE PRODUCTION OF SULFONES FROM SULFIDES AND SULFOXIDES

Ludwig Kuhnen, Ferdinand List, and Erwin Vangermain, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,728
Claims priority, application Germany, Apr. 7, 1965, C 35,532

Int. Cl. C07c *147/06, 147/02, 147/04*

U.S. Cl. 260—607 **5 Claims**

A sulfone is produced from an organic sulfide, or organic sulfoxide, by reacting same with an organic hydroperoxide in the presence of an appropriate catalyst selected from compounds of titanium, molybdenum and vanadium.

3,449,440

POLYALKYLENE SULFIDES, SULFOXIDES AND SULFONES

Donald J. Anderson, San Anselmo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 3, 1965, Ser. No. 461,163

Int. Cl. C07c *147/02, 149/10;* **C10m** *1/38*

U.S. Cl. 260—607 **13 Claims**

Long hydrocarbon chain-containing sulfur derivatives (sulfides, sulfoxides and sulfones and polysubstituents thereof) find use as detergents in lubricating oils.

3,449,441

PROCESS FOR THE MANUFACTURE OF THIOBISPHENOLS

Brian B. Dewhurst, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Sept. 16, 1966, Ser. No. 579,834

Int. Cl. C07c *149/36*

U.S. Cl. 260—609 **8 Claims**

Sterically hindered halophenols such as 2,6-di-tert-butyl-4-chlorophenol are converted to sterically hindered thiobisphenols by reaction with a metal sulfide such as sodium sulfide in a mutual solvent system. The mutual solvents are mixtures of water with a co-solvent such as a lower alcohol, a water soluble ketone or a water soluble ether alcohol.

3,449,442

2,4-DIPHENOXYBROMOBENZENE AND 2,4-DIPHENOXYCHLOROBENZENE AS NEW COMPOUNDS AND SYNTHETIC LUBRICANTS

Albert L. Williams, Hopewell Township, Mercer County, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 517,838, Dec. 30, 1965. This application Nov. 13, 1967, Ser. No. 682,516

Int. Cl. C07c *43/20, 43/22*

U.S. Cl. 260—613 **1 Claim**

2,4-diphenoxybromobenzene and 2,4-diphenoxychlorobenzene are new compounds. They are useful as synthetic lubricants. They are also useful in preparing nonlinear polyphenyl ether synthetic lubricants, as is disclosed in copending application Ser. No. 682,520, filed concurrently herewith, by Albert L. Williams and Robert E. Kinney and entitled "Nonlinear Polyphenyl Ether Synthetic Lubricants," which is a continuation-in-part of copending application Ser. No. 517,812, filed Dec. 30, 1965 and now abandoned.

3,449,443

METHOD FOR SELECTIVELY BROMINATING PHENOLS

Andrew J. Dietzler and Kenneth B. Bradley, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 134,865, Aug. 30, 1961. This application May 31, 1966, Ser. No. 553,645

Int. Cl. C07c *37/00, 39/24*

U.S. Cl. 260—623 **14 Claims**

The present invention concerns the selective ortho bromination of an ortho, para H phenol by reaction at —20° to about 70° C. of the phenol with bromine chloride in the presence of an inert organic solvent for about 0.25 to 5 hours.

3,449,444

SYNTHESIS OF DIALKYL PHENOLS

Mohammad Ali Habibi, Kansas City, Kans., assignor to Thompson-Hayward Chemical Company, Kansas City, Kans., a corporation of Delaware

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,349

Int. Cl. C07c *37/14*

U.S. Cl. 260—624 **4 Claims**

A method of preparing dialkylphenols which comprises, incorporating a catalyst agent in the phenol starting material and elevating the temperature of the resultant mixture in the absence of oxygen; adding an excess amount of an olefin thereto at an elevated temperature in the absence of oxygen; removing the catalyst and excess reactants from said mixture; and cooling the resultant product to below about 50° C. prior to the exposure thereof to oxygen to yield the desired dialkyl phenol product.

3,449,445

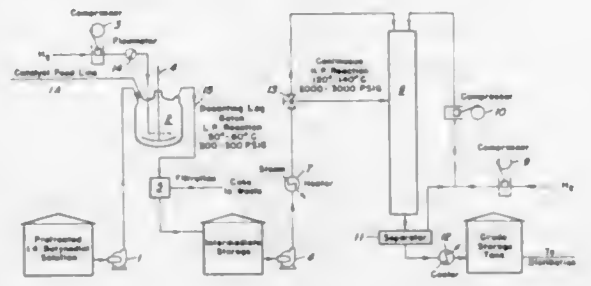
PROCESS OF PREPARING 1,4-BUTANEDIOL

Frank E. Wetherill, New York, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 17, 1967, Ser. No. 623,957

Int. Cl. C07c *31/18*

U.S. Cl. 260—635 **1 Claim**



1,4-butynediol is reduced to 1,4-butanediol in increased yield and of improved quality by first partially hydrogenating 1,4-butynediol with hydrogen in the presence of Raney-type nickel catalyst at 50°–60° C. and a hydrogen pressure of 200–300 p.s.i.g. until absorption of hydrogen ceases, separating the catalyst from the partially hydrogenated product and continuing the hydrogenation of said product in a separate, continuous high-pressure reactor at a temperature of 120°–140° C. and a hydrogen pressure of 2000–3000 p.s.i.g. in the presence of a silica gel catalyst containing from 14–16 parts by weight of nickel, 4 to 6 percent by weight of copper and from 0.5 to 1 percent by weight of manganese.

3,449,446

PURIFICATION OF ALCOHOLS

Francis J. Higgins, Greenville, S.C., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 523,031, Jan. 26, 1966, which is a continuation-in-part of application Ser. No. 398,074, Sept. 21, 1964. This application July 8, 1968, Ser. No. 743,013

Int. Cl. C07c *29/24*

U.S. Cl. 260—643 **16 Claims**

Alcohols derived from aluminum alkoxides containing objectionable amounts of odor precursors or impurties are improved by dissolving the alcohol in a suitable solvent and crystallizing the alcohol out and recovering same.

3,449,447

METHOD OF PREPARING 1,1-BIS(p-CHLOROPHENYL)-2,2-DICHLORO-1-FLUOROETHANE

Douglas J. Hennessey, 47 Grayson Place, Teaneck, N.J. 07666, and Rudolfo Villarica, 24 S. H, Scout Ybardolaza, Quezon City, Rizal, Philippines

No Drawing. Filed May 16, 1967, Ser. No. 643,786

Int. Cl. C07c *25/00*

U.S. Cl. 260—649 **1 Claim**

1,1-bis(p-chlorophenyl)-2,2-dichloro-1-fluoroethane is obtained in high yield in the reaction of 1,1-bis(p-chlorophenyl)-1-bromo-2,2-dichloroethane and chlorine trifluoride.

3,449,448

PROCESS FOR STABILIZING HALOBENZENES AND METHYLBENZENES

Karl E. Kunkel, Grand Island, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,399

Int. Cl. C07c *17/40*

U.S. Cl. 260—650 **5 Claims**

1. A method of stabilizing aromatic compounds selected from the group consisting of ring halogenated benzene, ring halogenated toluene, and ring halogenated polymethyl substituted benzene, comprising refluxing said compound with a catalytic amount of a metal halide selected from the group consisting of zinc halide and ferric halide allowing the volatilized hydrogen halide to escape from the reaction mixture, said refluxing being carried out until the hydrogen halide evolution ceases, said halide an dthe ring halogenated substituents being selected from the group consisting of chlorine and bromine and recovering the stabilized compound by distillation.

3,449,449

MANUFACTURE OF TRIFLUOROSTYRENE

Larry D. Nichols, Boston, and Arthur S. Obermayer, Cambridge, Mass., and Manuel Panar, Wilmington, Del., assignors to Moleculon Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 25, 1965, Ser. No. 442,584

Int. Cl. C07c *17/32*

U.S. Cl. 260—651 **2 Claims**

Disclosed is a process for making trifluorostyrene (or phenyl trifluoroethylene) by the reaction of solid phenyl sodium with tetrafluoroethylene in a heterogeneous liquid-solid system containing a solvent for the tetrafluoroethylene. This process is applicable to the preparation of related fluorine-containing unsaturated compounds from other aryl sodium and gem-difluoroethylene compounds.

3,449,450

PRODUCTION OF PERCHLOROETHYLENE FROM 1,2-DICHLOROETHANE BY A FIRST STEP CHLORINATION FOLLOWED BY AN OXYCHLORINATION STEP

Lester E. Bohl and Raymond M. Vancamp, New Martinsville, W. Va., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 28,520, May 12, 1960. This application Feb. 13, 1963, Ser. No. 258,147

Int. Cl. C07c *21/04, 17/10*

U.S. Cl. 260—654 **5 Claims**

Perchloroethylene is produced by the vapor phase chlorination of 1,2-dichloroethane in a first step while feeding to the reaction 0.025 to 0.1 mole of oxygen per mole of 1,2-dichloroethane and then subjecting the product of the first step to vapor phase catalytic oxychlorination, the oxygen feed to the first step being such that the quantity of carbon deposited in the oxychlorination step is reduced.

3,449,451

CATALYTIC PRODUCTION OF GRIGNARD REAGENTS

Peter J. Senatore, Baldwin, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,894

Int. Cl. C07c *17/00, 7/22;* **C07f** *3/02*

U.S. Cl. 260—665 **6 Claims**

Preparation of Grignard reagents by the reaction of certain organic halides and magnesium in a normally liquid hydrocarbon or excess organic halide as reaction medium in the presence of a catalytic amount of certain phosphites, phosphines, formamides or sulfones; conversion of the aforesaid Grignard reagent to an organic tin compound by reaction with tin halides or certain organotin halides and simultaneous reaction of the aforesaid organo halide and magnesium in the aforesaid reaction medium and in the presence of the aforesaid catalysts with tin halide to produce organotin compounds.

3,449,452

HYDROGENATION OF CONDENSED NUCLEAR HYDROCARBONACEOUS COMPOUNDS

John G. Gatsis, Des Plaines, and William K. T. Gleim, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 19, 1967, Ser. No. 647,231

Int. Cl. C07c *5/10*

U.S. Cl. 260—667 **6 Claims**

The use of a halogen hydride, particularly selected from hydrogen chloride and hydrogen bromide, for effecting the hydrogenation of condensed ring aromatic hydrocarbons—i.e. the hydrogenation of naphthalene to tetralin and/or alkylbenzenes. Does not affect mononuclear aromatics, such as benzene and alkylbenzenes, which may be in the charge stream.

3,449,453

PROCESS FOR HYDROGENATING NAPHTHALENE TO 1,4-DIHYDRONAPHTHALENE

George L. Seibel, Cincinnati, Ohio, and Leo H. Broering, Fort Wright, Ky., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 31, 1967, Ser. No. 664,637

Int. Cl. C07c *5/10*

U.S. Cl. 260—667 **7 Claims**

A process is provided for greatly increasing the efficiency of the hydrogenation of naphthalene to 1,4-dihydronaphthalene, by carrying out the hydrogenation of the naphthalene in a solvent for naphthalene in a weight ratio to the naphthalene within the range from about 4:1 to about 6:1, thereby to facilitate the separation of 1,4-dihydronaphthalene from the other reaction products.

3,449,454
HYDROGENATION OF CONDENSED RING HETEROCYCLIC COMPOUNDS

John G. Gatsis, Des Plaines, and William K. T. Gleim, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed June 19, 1967, Ser. No. 647,230
Int. Cl. C07c *1/00*
U.S. Cl. 260—668 6 Claims

The use of a halogen hydride, selected from hydrogen chloride and hydrogen bromide, for effecting the removal of hetero atoms from, and the hydrogenation of condensed ring heterocyclic hydrocarbons—i.e., acridine is converted primarily to alkylbenzenes. Does not exert a detrimental effect with respect to mononuclear aromatics such as benzene and various alkylbenzenes which may be included in the charge stream.

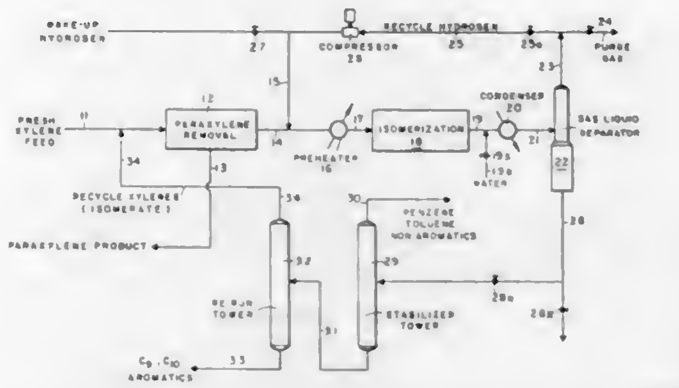
3,449,455
SIDE CHAIN ALKYLATION

John P. Napolitano, Royal Oak, Mich., and Rex D. Closson, Mattoon, Ill., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 10, 1967, Ser. No. 674,109
Int. Cl. C07c *3/52*
U.S. Cl. 260—668 12 Claims

When dispersed on diatomaceous earth, sodium and potassium catalyze alkylation of carbon atoms alpha to a benzene nucleus. For example, these catalysts are useful when preparing isobutylbenzene from toluene and propylene, and n-propylbenzene from toluene and ethylene. No catalyst promoter is required. Pretreatment of the diatomaceous earth (20° C.–120° C., 1–10 mm. Hg for 2–24 hours) markedly improves the yield.

3,449,456
STARTUP PROCEDURE OF ISOMERIZING POLYMETHYLBENZENE

Emanuel M. Amir, Edward F. Wadley, and Robert D. Wesselhoft, Baytown, Tex., assignors to Esso Research and Engineering Company
Continuation-in-part of application Ser. No. 604,853, Dec. 27, 1966. This application June 3, 1968, Ser. No. 734,043
Int. Cl. C07c *5/24, 5/30*
U.S. Cl. 260—668 21 Claims

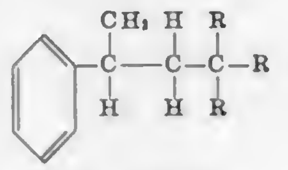


Prior to isomerizing polymethylbenzene with a molybdenum-containing silica-alumina catalyst, the silica-alumina is impregnated with an aqueous solution of a soluble ammonia-molybdenum compound (such as ammonium molybdate) to provide a finished catalyst containing an effective amount of MoO_3 on a dry basis, dried and then treated with free hydrogen under conditions that the molybdenum compound is decomposed to form ammonia which is then removed, such as by venting the hydrogen on a once-through basis, contacting the product with water, solution in the isomerized product, or by feeding H_2 and hydrocarbons simultaneously and discarding at least a part of the vapors.

3,449,457
HYDROCARBON CONVERSION

Ronald O. Downs, St. Louis, and Raymond A. Franz, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,175
Int. Cl. C07c *3/32, 15/02*
U.S. Cl. 260—669 10 Claims

1. A thermal non-catalytic process for producing α-methylstyrene which comprises subjecting mono-alkyl benzenes having the general formula



wherein R is selected from the group consisting of hydrogen and hydrocarbonyl radicals, in a reaction zone to a temperature of from about 500 to 800° C. in the presence of a modifying agent selected from the group consisting of (1) H_2S, HBr, HCl, HI, and combination thereof, and (2) compounds and elements which under the conditions of the reaction zone will form H_2S, HBr, HCl, HI, or combinations thereof.

3,449,458
OXIDATIVE DEHYDROGENATION AND CRACKING IN MOLTEN BEDS

John Louis Tiedje, Israel Szabsaj Pasternak, and Noel John Gaspar, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 1, 1967, Ser. No. 679,647
Int. Cl. C07c *5/20*
U.S. Cl. 260—669 31 Claims

Organic compounds are dehydrogenated, or dehydrogenated and cracked, by reaction with oxygen and hydrogen sulfide in a molten salt medium; the yield of light olefins from dehydrogenation and cracking can be increased by the addition of a hydrogen halide to the reaction mixture, olefins being useful in the synthesis of a wide variety of chemicals and polymers.

3,449,459
LUBRICATING COMPOSITIONS FOR COMPRESSION REFRIGERATORS

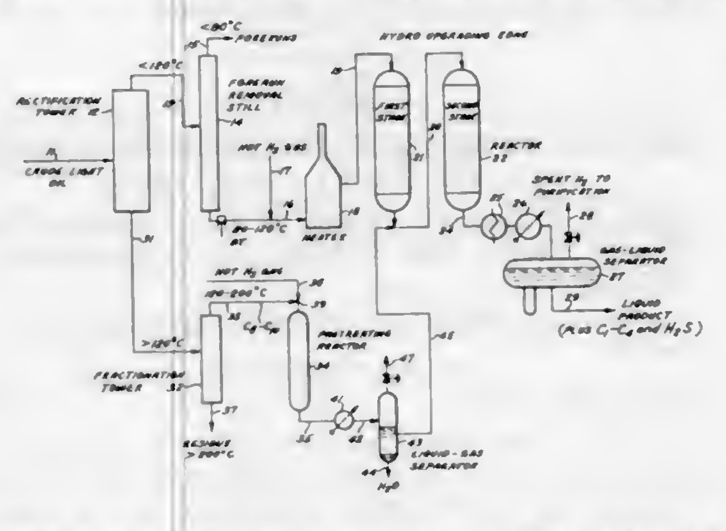
Michel Asfazadourian, Robert Muths, and Marcel Prillieux, Mont-Saint-Aignan, France, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 2, 1966, Ser. No. 591,407
Int. Cl. C07c *15/02;* **C09k** *3/02*
U.S. Cl. 260—671 7 Claims

A hydrocarbon lubricating oil that is miscible with a fluorochlorinated hydrocarbon refrigerant at low temperatures is prepared by alkylating, with an olefin polymer such as the trimer, tetramer, or pentamer of propylene, an alkyl benzene having a plurality of short alkyl chains such as methyl ethyl benzene or trimethyl benzene. Preferably, mixtures of such alkyl benzenes are used, as for example a mixture of methyl ethyl benzene and tetramethyl benzene.

3,449,460
UPGRADING OF COKE OVEN LIGHT OILS

Mehmet Orhan Tarhan, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed June 6, 1968, Ser. No. 735,131
Int. Cl. C07c *3/42, 3/58*
U.S. Cl. 260—672 11 Claims

In a process for upgrading an aromatic feedstock containing polymerizable impurities and oxygen compounds, the feedstock is fractionated into a benzene-toluene (BT) fraction boiling between 80° and 120° C., a fraction containing compounds having from 8 to 10 carbon atoms and boiling between 120° and 200° C., and, if present, into fractions boiling below 80° C. and above 200° C. The BT fraction is vaporized with hot hydrogen without polymer formation, further heated and hydrodealkylated in a hydro-upgrading zone in the presence of a chromia-alumina catalyst. The C_8 to C_{10} fraction including the xylenes is vaporized and hydrotreated in the presence of a hydrotreating catalyst such as cobalt- or nickel-molybdate on alumina to a polymer-free and oxygen-free aromatic stream, and the thus treated fraction, free of water is further heated and refined by hydrodealkylating in the later stages of the hydro-upgrading zone. From both treated fractions a product is obtained comprising benzene, toluene and xylenes, and any non-converted C_9 and C_{10} aromatics may be recycled.



3,449,461
DEHYDROCYCLIZATION OF PARAFFINS

John W. Jenkins, Seabrook, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 23, 1966, Ser. No. 596,456
Int. Cl. C07c *15/08, 5/20, 5/30*
U.S. Cl. 260—673.5 8 Claims

A process for the dehydrocyclization of paraffin hydrocarbons having 6 to 20 carbon atoms using supported presulfided Group VIII noble metal catalyst. The reaction is preferably carried with a minor amount of a sulfur compound in the feed.

3,449,462
SEPARATION PROCESS

Lucas Alders and Werner Ridderikhoff, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Nov. 2, 1966, Ser. No. 591,624
Claims priority, application Netherlands, Nov. 2, 1965, 6514174
Int. Cl. C07c *15/00, 11/02, 15/12*
U.S. Cl. 260—674 17 Claims

Aromatic hydrocarbons, oxygen-, sulfur-, and nitrogen-containing compounds are separated from fractions containing same by extraction with a solvent consisting essentially of furfural and one or more ketones.

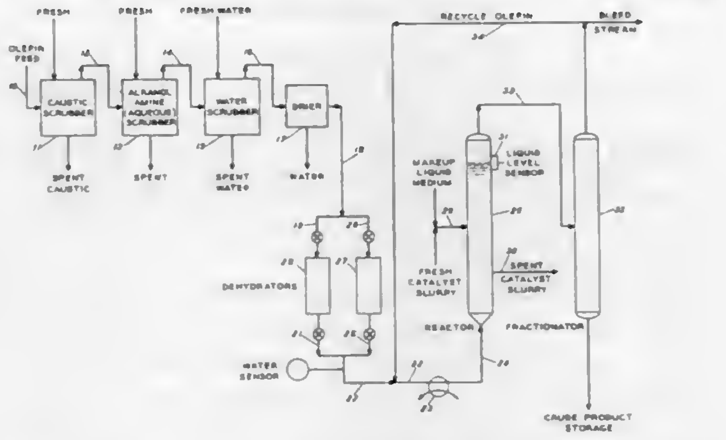
3,449,463
ISOMERIZATION OF ACYCLIC TRIENE COMPOUNDS

Joseph R. Kenton, Donald L. Crain, and Ernest A. Zuech, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,475
Int. Cl. C07c *5/24, 5/30*
U.S. Cl. 260—677 2 Claims

Nonconjugated acyclic triene hydrocarbons containing 8 to 12 carbon atoms per molecule are isomerized to a conjugated form having the same number of atoms per molecule as before isomerization by contacting said compound with an activated magnesium oxide, wherein the weight range of magnesium oxide catalyst to the acyclic triene compound is generally within the range of .001:1 to 1:1.

3,449,464
LIQUID PHASE HYDROCARBON OLIGOMERIZATION PROCESS

Heinz P. Weber, Berkeley, and John B. Wilkes, Albany, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Oct. 7, 1963, Ser. No. 314,381
Int. Cl. C07c *3/10*
U.S. Cl. 260—683.15 6 Claims



This invention relates to an improved continuous lower alkene hydrocarbon oligomerization process carried out in a liquid phase in which a finely divided alkali metal-containing catalyst is suspended in an inert liquid medium, the alkene feed contains less than 1 part by weight of water per million parts of feed, a cone-bottomed reactor is used, and the product removal from the reaction zone is via vaporization from the liquid reaction medium and vapor removal.

3,449,465
POLYESTER-POYLSILOXANE RESINS GIVING COATINGS OF INCREASED GLOSS RETENTION AND COLOR STABILITY

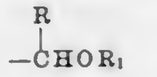
Dietrich Gölitz, Cologne-Stammheim, Walter Noll, Opladen, Klaus Damm, Cologne-Flittard, and Walter Krauss, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,203
Claims priority, application Germany, Mar. 17, 1965, F 45,545
Int. Cl. C08g *31/06;* **C09d** *3/82*
U.S. Cl. 260—824 3 Claims

A baking enamel lacquer comprising a polyester-polysiloxane co-condensate, wherein the polyester is a copolymer of 25 to 35 mol percent terephthalic or isophthalic acid, 10 to 20 mol percent trimethylol propane, and 45 to 60 mol percent ethylene glycol, and 3 to 5 times the weight of said polyester of a polysiloxane which is a co-polymer of the hydrolysis product of a solution of 55 to 65 mol percent phenyl trichlorosilane, 35 to 45 dimethyl dichlorosilane, and 5 to 10 mol percent trimethyl chlorosilane.

3,449,466
COMPOSITIONS COMPRISING INTERPOLYMERS OF ALDEHYDE MODIFIED AMIDES AND POLYVINYLIDENE FLUORIDE

Gene Gerek, Cheswick, Pa., and Louis K. Buell, Delaware, Ohio, assignors to PPG Industries, Inc., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 515,477, Dec. 21, 1965. This application May 26, 1967, Ser. No. 641,480
Int. Cl. C08f *29/32;* **B32b** *27/30*
U.S. Cl. 260—826 13 Claims

Resinous compositions useful as coating compositions comprise an aldehyde-modified unsaturated carboxylic acid amide interpolymer and a polymer of vinylidene fluoride. Vinylidene fluoride homopolymers and copolymers containing at least 95 percent vinylidene fluoride are preferred, as are alcohol-etherified amide interpolymers having amido hydrogens substituted by the group


$$-\overset{\overset{R}{|}}{C}HOR_1$$

Preferred amide interpolymers contain acrylonitrile or methacrylonitrile. The compositions may optionally contain other resins, such as epoxide resins, organopolysiloxane resins, etc. Coatings from these compositions have outstanding durability, flow, adhesion and flexibility.

3,449,467
HYDROXYL TERMINATED POLYESTER OLIGOMERS

John Wynstra, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 3, 1965, Ser. No. 461,175
Int. Cl. C08g *37/34, 17/13, 17/02*
U.S. Cl. 260—850 **9 Claims**

Curable, hydroxyl terminated polyester oligomers have been prepared by the interaction of an ester diol, a polyol selected from the group consisting of 1,1,1-trimethylol propane and pentaerythritol and an ester-forming compound such as a diaryl carbonate, phosgene or a cyclic dibasic acid or acid anhydride.

3,449,468
METHOD OF REDUCING POROSITY AND PINHOLES IN UNSATURATED POLYESTER RESIN COATINGS

Stephen R. Vrotney, Natrona Heights, and John R. Kutchko, Cheswick, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
No Drawing. Filed Jan. 20, 1967, Ser. No. 610,492
Int. Cl. C08f *43/08;* **C09d** *3/66*
U.S. Cl. 260—862 **13 Claims**

A method of reducing the porosity of a thermosetting unsaturated polyester resin composition, such that films prepared therefrom in a thickness in excess of 0.005 inch are substantially free of entrapped air bubbles, which consists of adding to the composition small amounts of an alkyl acrylate polymer wherein the alkyl radical contains from about 1 to 18 carbon atoms; and thermosetting unsaturated polyester resin compositions containing such additive. Typical alkyl acrylates for use in preparing the polymeric material include 2-ethylhexyl acrylate and butyl acrylate.

3,449,469
HIGH-IMPACT BLENDS OF POLYSTYRENE, ALFIN-CATALYZED RESINOUS COPOLYMER AND ALFIN-CATALYZED BUTADIENE RUBBER

Melvin F. Maringer, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed May 7, 1964, Ser. No. 365,779
Int. Cl. C08f *33/08, 19/08*
U.S. Cl. 260—876 **8 Claims**

A high-impact polystyrene molding composition containing (1) a resinous polymer of at least 70% by weight of a monovinyl aromatic hydrocarbon of the benzene series and up to 30% by weight of a monoalkenyl aromatic hydrocarbon comonomer, (2) an alfin elastomer selected from the group consisting of butadiene homopolymers and interpolymers of butadiene with either conjugated aliphatic dienes or monovinyl aromatic hydrocarbons, and (3) a tapered, alfin produced polymer produced by a process comprising alfin polymerizing in a first stage a composition comprising 50–100% conjugated hydrocarbon diene and 0–50% monovinyl aromatic hydrocarbon of the benzene series and thereafter, in at least one incremental polymerization step, introducing at least one of the conjugated hydrocarbon diene or the monovinyl aromatic compound polymerized in the first step and continuing polymerization under alfin conditions to produce a product having 4–30% conjugated hydrocarbon diene and 96–70% monovinyl aromatic hydrocarbon, the product being present in an amount of from 1–60% by weight in the molding composition.

3,449,470
PEROXIDE-CURED BLENDS OF DIENE RUBBERS AND ABS GRAFT COPOLYMER

Thomas S. Grabowski, Vienna, W. Va., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 11, 1965, Ser. No. 439,064
Int. Cl. C08f *37/18*
U.S. Cl. 260—876 **3 Claims**

Low light reflection rubber-resin blends prepared from rubbery materials comprised of conjugated diene-monovinyl aromatic hydrocarbon copolymers and conjugated diene-acrylic acid nitrile copolymers combined with a resinous material comprised of emulsion polymerized graft copolymers prepared from polymerized conjugated diene and a mixture of monovinyl aromatic hydrocarbon and an acrylic acid nitrile polymerized in the presence of the polymerized conjugated diene and a copolymer prepared from monovinyl aromatic hydrocarbon copolymerized with an acrylic acid nitrile and from about .2 to 2 percent by weight of a peroxidic catalyst.

3,449,471
PROCESS FOR THE PRODUCTION OF THERMOPLASTIC MOULDING COMPOSITIONS

Hans Weitzel, Leverkusen, and Karl Dinges and Harry Rohr, Cologne, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Aug. 3, 1965, Ser. No. 477,021
Claims priority, application Germany, Sept. 30, 1964, F 44,096
Int. Cl. C08f *15/40, 1/92*
U.S. Cl. 260—880 **15 Claims**

Graft polymers of styrene, acrylonitrile and/or methyl methacrylate on a 1,3-diene prepared by utilization of a reaction medium solvent for the 1,3-diene polymer and monomer reactants which precipitates resulting polymerization products.

3,449,472
CONTINUOUS EQUILIBRIUM PROCESS FOR PREPARING BIPHASE PLASTICS

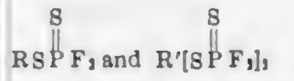
Harry W. Coover, Jr., and Donald J. Shields, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 328,063, Dec. 4, 1963. This application Oct. 21, 1966, Ser. No. 588,626
Int. Cl. C08f *15/40*
U.S. Cl. 260—880 **5 Claims**

A continuous process for preparing biphase product in an aqueous system comprising continuously feeding a reaction system comprising a suspension of polybutadiene, a polymerization catalyst, and an addition polymerizable monomer combination comprising acrylonitrile and at least one compound chosen from the group consisting of styrene and α-methyl styrene into reactor means, reacting the components until a condition is attained wherein the monomer concentration is between about 0.5 and about 2.0% by weight of the total reaction system and the biphase product concentration is between about 12.5 and about 19.0% by weight of the total reaction system, and continuously withdrawing said product from said reactor means.

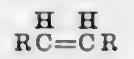
3,449,473
HYDROCARBYL AND HYDROCARBYLENE MONO- AND BIS(PHOSPHORODIFLUORIDO)DITHIOATE ESTERS

Herbert W. Roesky, Gottingen, Germany, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 3, 1966, Ser. No. 569,839
Int. Cl. C07f *9/20;* **C08f** *45/50;* **C08g** *51/50*
U.S. Cl. 260—928 **5 Claims**

Compounds of the formulae


$$RS\overset{\overset{S}{\|}}{P}F_2 \text{ and } R'[S\overset{\overset{S}{\|}}{P}F_2]_2$$

where R is monovalent hydrocarbyl and R′ divalent hydrocarbylene of 1–8 carbons, useful as plasticizers and heat transfer liquids, and their preparation from the salts of phosphorodifluoridodithionic acid and RX or $R'X_2$ compounds, where R and R′ are as above and X is an alkylating ester group, or, in the case of the second formula, from dithiobis(phosphonodithioic)difluoride and an


$$R\overset{H}{C}=\overset{H}{C}R$$

compound, R being as above.

3,449,474
O,O-DIETHYL-S-(METHYLTHIOPROPYL) DITHIOPHOSPHATE

Karl Griesbaum, Elizabeth, Alexis A. Oswald, Mountainside, and Daniel Noyes Hall, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed May 18, 1964, Ser. No. 368,351
Int. Cl. C07f *9/16;* **C07c** *149/10;* **A01n** *9/36*
U.S. Cl. 260—948 **1 Claim**

Unsymmetrical 1,3-bis-(substituted mercapto)-propanes are prepared by a free radical reaction involving a critical sequential addition of two different thiols to allene. Diadducts formed with a dialkyl dithiophosphoric acid as one thiol reactant and an alkyl or aryl thiol as the other thiol reactants have been found to be effective agricultural chemicals. The order of addition of the thiols to the allene is dictated by their respective hydrogen donor abilities with the thiol of lower ability being added in the first stage.

3,449,475
PROCESS FOR MAKING FLAME-PROTECTION COMPONENTS FOR PLASTIC MATERIALS AND CONTAINING PHOSPHORUS AND HALOGEN

Herbert Jenkner, Cologne-Deutz, Germany, assignor to Anstalt fur Montage-Technik, Vaduz, Principality of Liechtenstein
No Drawing. Filed Dec. 13, 1965, Ser. No. 513,530
Claims priority, application Germany, Dec. 15, 1964, C 34,644
Int. Cl. C07f *9/08;* **C08k** *1/60;* **C09k** *3/28*
U.S. Cl. 260—967 **7 Claims**

Flame-protection components for plastic materials produced by reacting halogen-containing tri-esters of phosphorous acid with phosphorus pentoxide in a mol ratio of 1:0.2 to 1:10 at a temperature between 30 and 180° C.

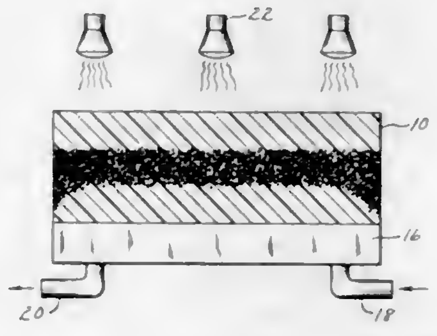
3,449,476
PROCESS OF STRETCHING POLYACRYLONITRILE FILAMENTS

Vera I. Furness and Boleslaw Krzesinski, Coventry, England, assignor to Courtaulds Limited, London, England, a British company
No Drawing. Filed Aug. 24, 1965, Ser. No. 482,266
Claims priority, application Great Britain, Aug. 28, 1964, 35,280/64
Int. Cl. D01d *5/12;* **D01f** *7/06;* **D02j** *1/22*
U.S. Cl. 264—28 **1 Claim**

The process for treating fibres produced from acrylonitrile polymers which contain from 85 to 97 percent by weight of acrylonitrile which comprises stretching the fibres to at least 5 times their initial length and quenching them immediately thereafter by bringing them to a temperature between about 30° C. and about 0° C. preferably in water. It is particularly preferred that the fibres are brought to a temperature of less than 10° C.

3,449,477
METHOD OF FORMING PLASTIC ARTICLES HAVING FOAMED CORES

James C. Logomasini, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 695,415
Int. Cl. B29d *9/00*
U.S. Cl. 264—45 **2 Claims**



The present invention relates to plastic articles having internally foamed cores produced by partially steeping a plastic article in an expanding agent and the cooling surface portions of the plastic article which were in contact with the expanding agent while heating other portions of the plastic article.

3,449,478
METHOD OF SLIP CASTING BASIC REFRACTORY MATERIALS

George R. Henry, Bethel Park, and Robert K. Scott, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,596
Int. Cl. B28b *1/26*
U.S. Cl. 264—86 **7 Claims**

A method of slip casting basic refractory shapes from size graded batches tempered with an aqueous tempering agent including from about 0.2 to 5% finely divided flowers of sulfur and a small but effective amount of hydrated lime which extends the working time of the batch.

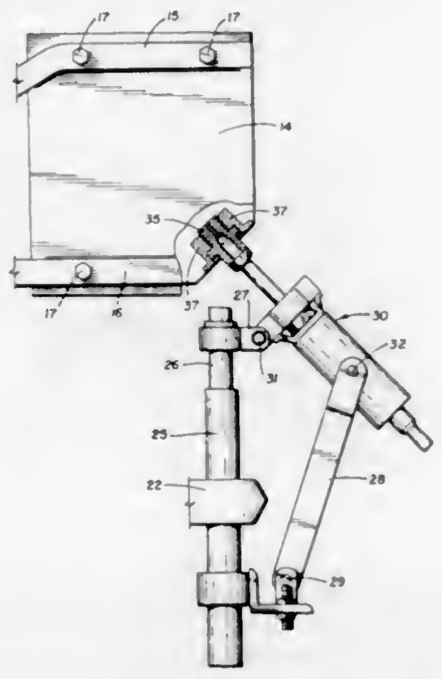
3,449,479
METHOD FOR COATING THE INTERIOR SURFACE OF A POLYOLEFIN ARTICLE WITH AN IMPERMEABLE POLYMER

Martin R. Cines, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 17, 1966, Ser. No. 558,259
Int. Cl. B29c *5/08*
U.S. Cl. 264—92 **9 Claims**

Biaxially oriented polyolefin containers are produced by forming a parison, for instance, by injection molding or by extrusion of tubular material. The resulting parisons are thereafter coated with a thin layer of a vinyl halide polymer or copolymer and the coated parison reheated to a temperature within to 30 degrees below the crystalline melt point of the substrate so as to place the polyolefin parison in condition for being oriented on stretching. The coated parison is then stretched at orientation temperature and caused to conform to the shape of a mold by means of differential pressures so as to produce a biaxially oriented polyolefin container having a strongly adherent thin coating of a polymeric material which is relatively impermeable to oxygen and essential oils.

3,449,480
METHOD OF BLOW MOLDING A CONTAINER HAVING AN OFFSET SPOUT

William D. Hough, Arvada, Colo., assignor to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
Filed Sept. 1, 1966, Ser. No. 576,605
Int. Cl. B29c *17/04*
U.S. Cl. 264—98 **2 Claims**

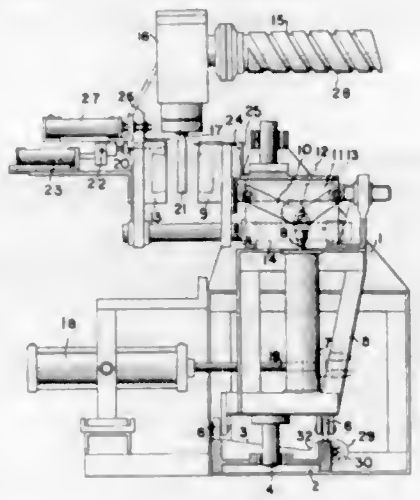


A method of blow-molding hollow articles having offset pouring spouts by extruding the parison, tilting a blow stick from a more horizontal position into a less horizontal position whereby the blow stick enters the bottom of the parison and moves to a position corresponding to the offset spout in the mold halves, closing the mold halves around the positioned blow stick, and blowing a desired article.

3,449,481
METHOD FOR MOLDING THERMOPLASTIC PLASTICS

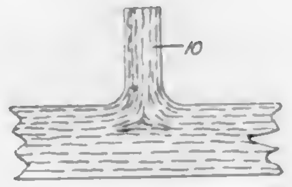
Hideo Tahara, 9 Furuishiba 2-chome, Koto-ku, Tokyo, Japan
Filed Mar. 14, 1966, Ser. No. 534,041
Int. Cl. B29c *17/07*
U.S. Cl. 264—99 **3 Claims**

A method for molding thermoplastic material, comprising the steps of rapidly withdrawing a mold clamping unit which has cut a continuously extruded parison and moving same away from the extrusion passage of the parison immediately after cutting the extruded parison, then effecting hollow molding, and then returning the mold clamping unit to its initial position on the extrusion passage of the parison so as to effect a successive molding.



3,449,482
METHOD FOR FORMING MOLDED RIBBED PANELS

James A. Mitchell, North Tarrytown, and Donald E. Wilbur, Jr., Hastings-on-Hudson, N.Y., and Frederick W. Wurtzell, Darien, Conn., assignors to Union Carbide Corporation, a corporation of New York
Filed Oct. 23, 1964, Ser. No. 406,012
Int. Cl. B29d *3/02*
U.S. Cl. 264—108 **8 Claims**



Molded ribbed panels suitable for a structural use composed of fibrous articles bonded together with a bonding agent can be fabricated by orienting the fibers in the ribbed sections normal to the plane of the skin section. This orientation results in enhanced tensile strength and diminished swell characteristics in panels fabricated from these structures.

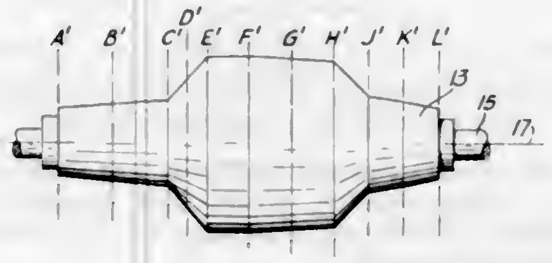
3,449,483
PROCESS FOR THE AGGLOMERIZATION OF SOLIDS FROM A SUSPENSION THEREOF IN WATER

Bernardus Bastiaan Quist, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 16, 1967, Ser. No. 616,460
Claims priority, application Netherlands, Mar. 1, 1966, 6602615
Int. Cl. C09c *1/58*
U.S. Cl. 264—117 **8 Claims**

Aqueous suspensions of fine solids are agglomerated into hard pellets by imparting a turbulent motion to the suspension in the presence of a bituminous material having a penetration index no higher than zero and a ring and ball softening point no higher than the agglomeration temperature.

3,449,484
METHOD FOR FORMING FILAMENT REINFORCED RESIN SHELLS OF NON-UNIFORM CROSS SECTION

Jonas Medney, Oceanside, N.Y., assignor to Koppers Company, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 549,739, Mar. 30, 1966, which is a continuation-in-part of application Ser. No. 288,248, June 17, 1963. This application Oct. 5, 1966, Ser. No. 584,598
Int. Cl. B29c *27/16, 25/00*
U.S. Cl. 264—159 **7 Claims**



A mandrel is specially prepared to receive resin impregnated filaments that are wound on the mandrel to form a skin on the mandrel. When cut and removed, each one-half skin portion is draped in a mold and the skin is urged into conformity with the mold and the resin is cured to form a hollow shell.

The mandrel is so formed that at any cross section, the perimetrical length is equal to twice the perimetrical length of a corresponding cross section of the mold.

3,449,485
METHOD OF DRAWING POLYACRYLONITRILE CONTAINING FIBRES

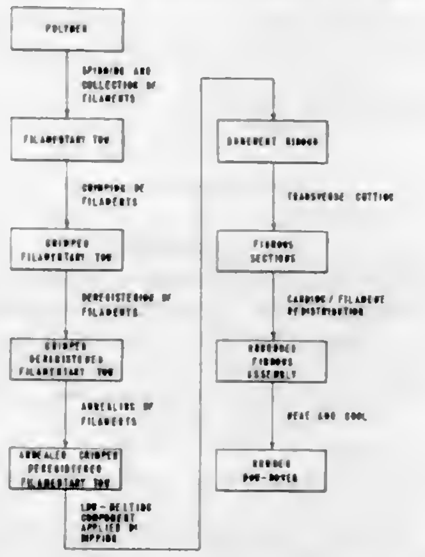
Roberto Maria Costa and Franco Codignola, Milan, Italy, assignors to Societa Italiana Resine S.p.A., Milan, Italy
No Drawing. Filed May 1, 1967, Ser. No. 634,874
Claims priority, application Italy, May 3, 1966, 10,083/66
Int. Cl. D01d *5/06;* **D01f** *7/00*
U.S. Cl. 264—182 **5 Claims**

The invention is a process of wet-spinning acrylonitrile polymers or copolymers comprising extruding the polymer into a coagulating bath of cumene and a solvent for the polymer kept at a low temperature and then drawing in a drawing bath of linear chain paraffins having from 10–16 carbon atoms in the molecule, the drawing being carried out at a higher temperature. Preferably the drawing temperature is at least 30° C. more than the coagulating temperature and may be between 100 and 120° C. The process results in improved threads and aids recovery of the solvent.

3,449,486
METHOD FOR PRODUCING A THERMALLY SELF-BONDED LOW DENSITY NONWOVEN PRODUCT

Rashmikant Maganlal Contractor and Robert Evans Kern, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 554,550, June 1, 1966, which is a continuation-in-part of application Ser. No. 410,766, Nov. 12, 1964. This application May 31, 1967, Ser. No. 649,778
Int. Cl. D04h *3/16, 1/58;* **B32b**
U.S. Cl. 264—115 **5 Claims**

A bonded, low density, nonwoven fibrous product is made by preparing an assembly of binder-coated, crimped, annealed, staple-length, synthetic fibers, mechanically working (e.g. carding) the assembly to break fiber-to-fiber bonds and to uniformly distribute the binder, then heating to fuse the binder at fiber cross-over points.


POLYMER
SPINNING AND COLLECTION OF FILAMENTS
FILAMENTARY TOW
CRIMPING OF FILAMENTS
CRIMPED FILAMENTARY TOW
DEREGISTERING OF FILAMENTS
CRIMPED DEREGISTERED FILAMENTARY TOW
ANNEALING OF FILAMENTS
ANNEALED CRIMPED DEREGISTERED FILAMENTARY TOW
LOW-MELTING COMPONENT APPLIED BY DIPPING
COHERENT RIBBON
TRANSVERSE CUTTING
FIBROUS SECTIONS
CARDING / FILAMENT REDISTRIBUTION
FIBROUS ASSEMBLY
HEAT AND COOL
BONDED NON-WOVEN

3,449,487
PROCESS FOR PRODUCING A MOLDED POLYMETHYL METHACRYLATE ARTICLE HAVING WHITE PIGMENT DISPERSED THEREIN FOR USE AS A SECONDARY STANDARD FOR REFLECTION MEASUREMENTS

Leopoldo A. Micco, Fullerton, Calif., and Donald P. Jones, Port Dickinson, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 717,875, Feb. 27, 1958. This application Sept. 5, 1962, Ser. No. 221,438
Int. Cl. B29c *21/00;* **B29f** *5/00*
U.S. Cl. 264—140 **4 Claims**

Process for producing a molded polymethyl methacrylate body having a white pigment uniformly dispersed therein, by dispersing the pigment in a solution of the polymer in a non-aqueous solvent, coagulating by pouring into hot water and drying, pulverizing and pressure molding the resulting coagulated product.

3,449,488
IMMUNOLOGY

John Bozicevich, Bethesda, Md., assignor, by mesne assignments, to Bionetics Research Laboratories, Inc., Falls Church, Va., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,627
Int. Cl. G01n *33/16*
U.S. Cl. 424—8 **9 Claims**

A test material is disclosed for the detection of rubella virus antibodies, as well as the method of preparing the test material and performing the test. The test material is a suspension of colloidal clay particles having rubella virus antigen adsorbed thereon. In the presence of rubella antibodies, the test particles flocculate, thereby indicating the antibody presence. The antigen is a purified product from which substantially all crystalloids and extraneous proteins have been removed in the process of preparing same from a tissue culture of the rubella virus.

3,449,489
PHARMACEUTICAL COMPOSITIONS AND THEIR PREPARATION

William E. Gaunt, 280 Prospect Ave., Hackensack, N.J. 07601
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,297
Int. Cl. A61k *27/12, 15/00*
U.S. Cl. 424—31 **35 Claims**

Small cuboidal dosage forms of a variety of medicaments are provided which can be either sustained release or enteric in nature. The biologically active agent is dissolved in a volatile solvent or solvent mixture with a film former or film forming polymer and the solution is cast onto a flat surface, the solvents evaporated and the remaining flexible film cut into strips and then transversely to form the cuboidal particles which are clear, transparent and glass-like in appearance.

3,449,490

ANTIBIOTIC NOGALAMYCIN-N-OXIDE

Paul F. Wiley, Texas Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed June 29, 1967, Ser. No. 649,923

Int. Cl. A61k *21/00*

U.S. Cl. 424—119 2 Claims

Antibiotic nogalamycin-N-oxide (U–25,795) produced by reacting the antibiotic nogalamycin with an oxidizing agent, for example, hydrogen peroxide. Nogalamycin-N-oxide can be used to inhibit the growth of various microorganisms, for example, *Bacillus subtilis, Staphylococcus aureus, Streptococcus fecalis,* and *Lactobacillus casei.*

3,449,491

NEMATOCIDAL USE OF TRIS-AMMONIUM DITHIOPHOSPHATE

Stanley J. Brois, Matawan, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 28, 1966, Ser. No. 545,841

Int. Cl. A01n *9/36, 7/00*

U.S. Cl. 424—128 5 Claims

This disclosure relates to fertilizer and pesticidal compositions comprising tris-ammonium dithiophosphate, derived as a hydrolysis product from reaction of P_2S_5 with aqueous ammonia, and methods of using such compositions as fertilizers and pesticides.

3,449,492

WATER RECONSTITUTABLE KAOLIN-PECTIN POWDERS

Erik H. Jensen, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 285,874, June 6, 1963. This application Oct. 5, 1964, Ser. No. 401,641

Int. Cl. A61k *27/06*

U.S. Cl. 424—154 6 Claims

A method for preparing a dry powder mixture which readily reconstitutes with water to form a suspension consisting of preparing a suspension of kaolin, bentonite, pectin and an alkyl polyalcohol having 3 to 6 carbon atoms in water and then removing the water by a drying process.

3,449,493

METHOD OF CONTROLLING PESTS WITH 2 - DIALKOXY-PHOSPHINOTHIOYLIMINO-1,3-DITHIOLES

Roger Williams Addor, Pennington, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Apr. 21, 1966, Ser. No. 544,097, now Patent No. 3,364,230, dated Jan. 16, 1968. Divided and this application Jan. 9, 1968, Ser. No. 696,502

Int. Cl. A01n *9/36*

U.S. Cl. 424—202 6 Claims

A method of controlling pests with phosphorylated 2-imino-1,3 - dithioles possessing insecticidal, acaricidal, nematocidal and herbicidal properties.

3,449,494

ANTI-INFLAMMATORY COMPOSITIONS CONTAINING A CORTICOIDAL STEROID AND A TESTOLOLACTONE

Leonard Joseph Lerner, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 330,250, Dec. 13, 1963. This application Sept. 29, 1966, Ser. No. 583,083

Int. Cl. A61k *17/00*

U.S. Cl. 424—240 2 Claims

Anti-inflammatory composition of a corticoidal steroid and a testololactone.

3,449,495

PROGESTATIONAL ACTIVE 17α-ALKOXY-16-METHYLENE PROGESTERONES

Klaus Brückner, Darmstadt-Eberstadt, and Wolfgang Beerstecher, Hans-Gunther Kraft, and Hartmut Kieser, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Continuation-in-part of application Ser. No. 337,752, Jan. 15, 1964. This application Aug. 30, 1966, Ser. No. 575,956

Claims priority, application Germany, Jan. 19, 1963, M 55,494

Int. Cl. A61k *17/06;* **C07c** *169/34*

U.S. Cl. 424—243 9 Claims

17α-alkoxy-16-methylene-progesterones having a high ratio of anti-estrogenic to progestational activities, thereby being particularly suitable for administration as a contraceptive without breakthrough bleeding and associated trauma.

3,449,496

COMPOSITIONS AND METHOD FOR TREATING HYPERTENSIVE PATIENTS COMPRISING HYDROCHLOROTHIAZIDE TRIAMTERENE AND RESERPINE

Alfred R. Maass, Swarthmore, and Murray G. Smyth, Jr., and Glenn E. Ullyot, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 8, 1965, Ser. No. 512,530

Int. Cl. A61k *27/00*

U.S. Cl. 424—246 6 Claims

Hypotensive compositions comprising a combination of a pteridine diuretic, a thiazide diuretic and a rauwolfia alkaloid having hypotensive activity, preferably a combination of triamterene, hydrochlorothiazide and reserpine, and method of treating hypertensive subjects by administering orally these compounds.

3,449,497

METHODS OF COMBATTING NEMATODES

Martin Jacob Handele and Johannes Kuipers, Weesp, and Kobus Wellinga, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,856

Claims priority, application Netherlands, Aug. 13, 1966, 6611424

Int. Cl. A01n *9/22, 17/08*

U.S. Cl. 424—263 6 Claims

Use of 3 methyl or 3,5-dimethyl 4-halo pyridine or pyridine N-oxides as soil nematocides. An example is 4-chloro-3-methylpyridine N-oxide. This abstract is not intended to be a description of the invention defined by the claims.

3,449,498

ANALGESIC COMPOSITIONS OF A 4-AMINOALKYLAMINO-QUINAZOLINE AND 1-AMINO-ALKOXYBENZIMIDAZOLE

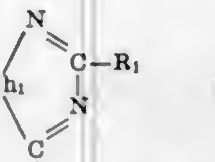
George de Stevens, Summit, Herbert Morton Blatter, Irvington, and Harvey Chernov, Parsippany, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 18, 1965, Ser. No. 508,564

Int. Cl. A61k *27/00*

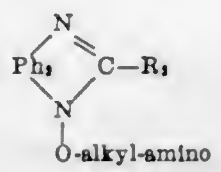
U.S. Cl. 424—251 3 Claims

Pharmaceutical compositions comprising essentially compounds of the Formulae I and II



(I)

and



(II)

in which each of Ph_1 and Ph_2 stands for a 1,2-phenylene radical, R_1 for hydrogen or an aromatic radical and R_2 for an aliphatic, araliphatic or aromatic radical, their N-oxides and quaternaries and the salts of these compounds. The compositions of the invention are useful, inter alia, as analgesic agents.

3,449,499

METHOD FOR THE REDUCTION OF GLYCEMIA

Jean Gaston Baget, Sceaux, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Jan. 21, 1965, Ser. No. 427,143

Claims priority, application France, Jan. 27, 1964, 961,646

Int. Cl. A61k *27/00*

U.S. Cl. 424—270 2 Claims

1. A method of treating diabetes which comprises administering orally to a human diabetic patient 2-benzenesulphonylamino-5-t-butyl-1-thia-3,4-diazole in a single daily dose of 5 to 40 milligrams per kilogram of said patient.

3,449,500

TREATMENT OF CARDIAC ARRHYTHMIAS WITH PHARMACEUTICAL COMPOSITIONS CONTAINING N-[(2-IMIDAZOLIN-2-YL)-METHYL]-IMINODIBENZYL OR SALTS THEREOF

Lincoln Harvey Werner, Summit, and Walter Edward Barrett, New Vernon, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 288,602, June 18, 1963. This application June 3, 1966, Ser. No. 557,596

Int. Cl. A61k *27/00*

U.S. Cl. 424—273 6 Claims

This invention is concerned with compositions for the treatment of cardiac irregularities, particularly cardiac arrhythmia, which compositions consist essentially of N-[(2-imidazolin-2-yl)-methyl]-iminodibenzyl or a pharmaceutically acceptable acid addition salt thereof together with a carrier.

3,449,501

METHOD OF TREATING SYMPTOMS OF PAIN AND INFLAMMATION

Allen D. Rudzik, Kalamazoo, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 26, 1967, Ser. No. 656,055

Int. Cl. A61k *27/00*

U.S. Cl. 424—273 5 Claims

Method of treating symptoms of pain and inflammation comprising administering internally to an animal suffering such symptoms an effective amount of 2-(2,6-dichlorobenzyl)-2-imidazoline or a pharmaceutically-acceptable salt thereof.

3,449,502

ARTHROPODICIDAL COMPOSITIONS

Kurt Gubler, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 434,656, Feb. 23, 1965. This application Oct. 31, 1967, Ser. No. 679,536

Claims priority, application Switzerland, Mar. 13, 1964, 3,300/64

Int. Cl. C07d *49/18;* **A01n** *9/12*

U.S. Cl. 424—273 18 Claims

Arthropodicidal composition containing 1-substituted thiomethyl-5 - di(lower)alkylcarbamyloxypyrazoles and acid addition salts thereof as pesticidal components and a method of using them as contact or systemic pesticides in the control of arthropods are disclosed.

3,449,503

COMPOSITIONS FOR THE RELIEF OF NEPHRITIC COLICS, HEPATIC DISTURBANCES AND DISORDERS OF THE GALL BLADDER, CONTAINING TRIMETHOXYBENZENE AND TRIMETHOXYACETOPHENONE

Louis Lafon, Paris, France, assignor, by mesne assignments, to Société anonyme dite: Orsymonde, Paris, France

No Drawing. Continuation of application Ser. No. 418,537, Dec. 15, 1964, and division of application Ser. No. 186,313, Apr. 10, 1962. This application July 17, 1967, Ser. No. 654,005

Int. Cl. A61k *27/00*

U.S. Cl. 424—331 7 Claims

Compositions comprising trimethoxybenzene or trimethoxyacetophenone to be administered either in the form of tablets orally or intravenously in the form of ampoules, or rectally in the form of suppositories, are suitable for the relief of pain due to nephritic colics, hepatic disturbances, and disorders of the gall bladder.

3,449,504

1,1,2 - TRIFLUORO - 2 - BROMOETHYL DIFLUOROMETHYL ETHER AS AN INHALANT ANESTHETIC AGENT

Ross C. Terrell, Summit, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,929

Int. Cl. A61k *13/00, 27/00*

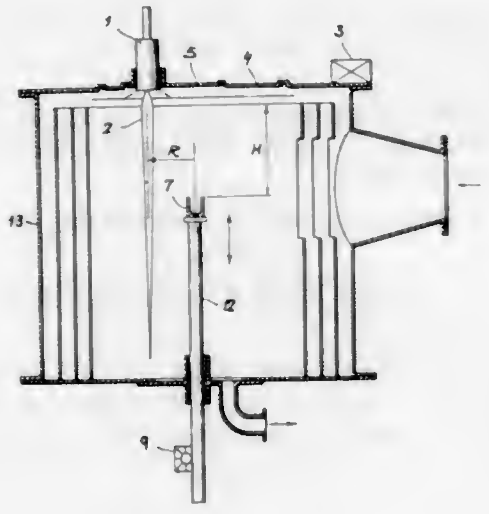
U.S. Cl. 424—342 2 Claims

This invention relates to the use of 1,1,2-trifluoro-2-bromoethyl difluoromethyl ether as an inhalant anesthetic.

ELECTRICAL

3,449,505
METHOD OF AND MEANS FOR HEAT-TREATING REFRACTORY MATERIALS AT HIGH TEMPERATURES

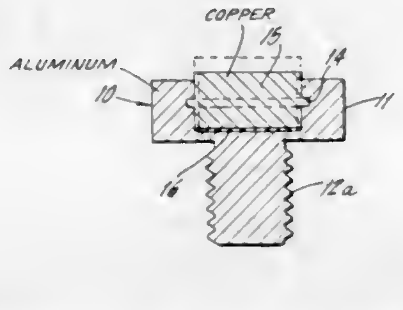
Wojciech Brzozowski, ul. Krucza 23/31 m72, Warsaw, Poland; Michal Mikoś, Zorzy 30m9, Warsaw-Anin, Poland; and Janusz Niewiadomski, 22 ul. Uniwersytecka 1m20, Warsaw, Poland
Filed May 19, 1966, Ser. No. 551,419
Claims priority, application Poland, May 22, 1965, P 109,197
Int. Cl. H05b *1/00;* **B23k** *9/00*
U.S. Cl. 13—1 **9 Claims**



A material to be subjected to high treatment temperatures is placed in a crucible inside a furnace chamber and exposed to radiant heat from a vertical plasma flux rotating about the crucible axis.

3,449,506
ALUMINUM RECTIFIER BASE HAVING COPPER INSERT

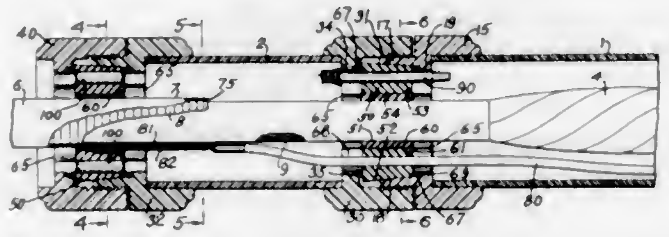
Harold Weinstein, Van Nuys, and Ernst Ortner, Los Angeles, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed May 11, 1967, Ser. No. 637,785
Int. Cl. H05k *5/04*
U.S. Cl. 174—52 **5 Claims**



An aluminum rectifier base for supporting a semiconductor wafer is formed of aluminum, and has a copper insert extending into and slightly above the central surface of the base. The outer periphery of the insert and the internal periphery of an opening in the stud which receives the insert have cooperating gear-shaped convolutions which mesh with one another, and an annular groove extends around the interior of the opening in the insert. A heading operation forces the gear-shaped convolutions into intimate thermal and electrical contact with the insert material, and insert material flows into the groove to lock the insert in position. The insert may be cylindrical or conical in shape. The flat bottom surfaces of the insert and opening can be brazed.

3,449,507
CABLE SPLICE ENCLOSURE

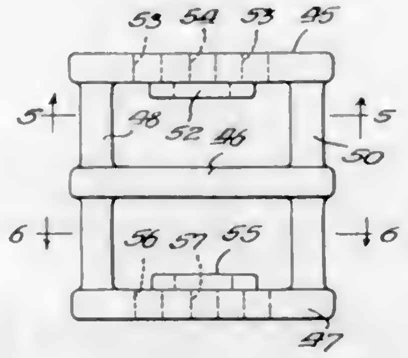
William H. Channell, 122 Oak Tree Drive, Glendora, Calif. 91740
Filed Dec. 5, 1966, Ser. No. 599,063
Int. Cl. H02g *15/08*
U.S. Cl. 174—93 **2 Claims**



A cable splice enclosure for multiple sheath cables, having end section sleeves attached to the ends of a cable splice sleeve by securing means, the cable splice sleeve receiving the cable splice with all cable sheaths save the innermost sheath being terminated in an end section sleeve and the innermost sheath extending into the cable splice sleeve, and separate sealing means for sealing the innermost cable sheath and for sealing the remaining cable sheaths in an end section sleeve.

3,449,508
STANDOFF HIGH VOLTAGE INSULATORS

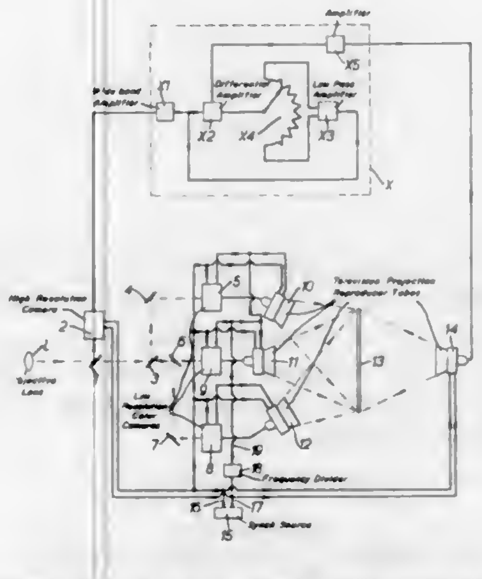
George E. Lusk, Downers Grove, Ill., assignor to G & W Electric Specialty Co., Blue Island, Ill., a corporation of Illinois
Filed May 19, 1967, Ser. No. 639,848
Int. Cl. H01b *17/00, 17/16*
U.S. Cl. 174—212 **3 Claims**



The improved standoff insulator of the invention can be produced in molded form from compression moldable plastics or resins. The substantially square or box-like shape of the insulator is formed by top, intermediate and bottom walls which are joined by side walls into a unitary structure. Openings are provided in the top and bottom walls and each wall includes a unitary projection extending downwardly from the top wall and upwardly from the bottom wall and each projection has an associated relation with the openings in its wall.

3,449,509
COLOUR TELEVISION SYSTEMS INCLUDING A HIGH RESOLUTION LUMINANCE CAMERA AND A PLURALITY OF LOWER RESOLUTION COLOUR CAMERAS

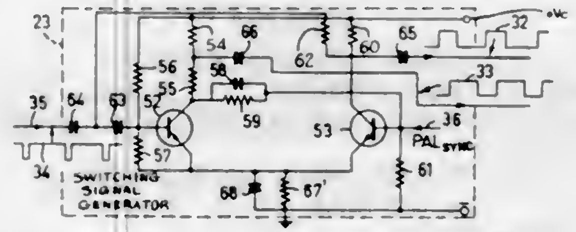
William Edward Hobbs, Chelmsford, and William James Rowley Clark, Great Baddow, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Apr. 29, 1966, Ser. No. 546,248
Claims priority, application Great Britain, Aug. 9, 1965, 33,992/65
Int. Cl. H04n *1/46, 9/02*
U.S. Cl. 178—5.2 **14 Claims**



Colour television systems wherein red, green and blue component colour camera tubes and a luminance camera tube are provided to view the object of transmission. The component colour camera tubes are of low resolution (e.g., Vidicons), while the luminance camera tube is of high resolution (e.g., an image orthicon) and scanning in the luminance tube is at a higher number of lines per field than in the colour tubes. At the receiver, red, green and blue colour component images derived from the signals produced by the colour tubes and a monochrome image derived from signals produced by the luminance tube are superimposed. In preferred embodiments, signals from the luminance tube are passed through a circuit including a differential amplifier to one input of which luminance signals are applied directly and to the other input of which luminance signals are applied via amplitude adjusting means and a low-pass filter passing the lower frequency portion of the luminance signal.

3,449,510
CIRCUIT ARRANGEMENT FOR PRODUCING A DISSYMMETRICAL SWITCHING SIGNAL IN AN NTSC-PAL CONVERSION SYSTEM

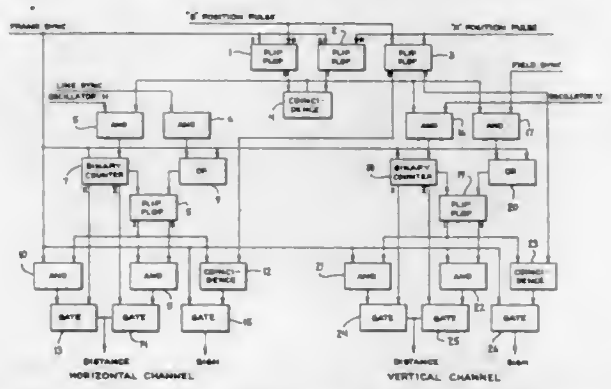
Wolfgang Steinkopf, Krefeld, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 16, 1965, Ser. No. 487,658
Claims priority, application Netherlands, Sept. 19, 1964, 6410975
Int. Cl. H04n *5/38, 5/44;* **H03k** *3/10*
U.S. Cl. 178—5.4 **5 Claims**



In a PAL color television system, or an NTSC–PAL conversion system, the switching signal for the PAL signals is dissymmetrical, having one state for one stroke period and the preceding and succeeding fly back periods, and another state for the next succeeding stroke period. The use of such a switching signal eliminates errors which result from switching the burst signal from line-to-line.

3,449,511
POSITION MEASUREMENT EQUIPMENT FOR TELEVISION IMAGES

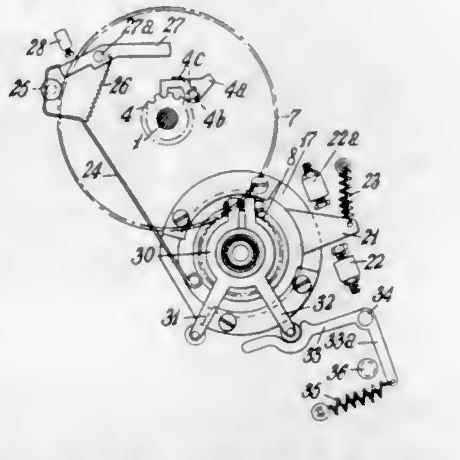
Klaus J. Hecker, Oberursel, Taunus, Germany, assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 24, 1966, Ser. No. 574,826
Int. Cl. H04n *3/00*
U.S. Cl. 178—6.8 **4 Claims**



A circuit for measuring the position of points on the face of a television picture tube by gating oscillations from an oscillator between two points on the television screen and having digital counters to count these oscillations for the horizontal and vertical deflections to accurately determine the horizontal and vertical distances on a television image and the relative position between the two points.

3,449,512
DRUM-TYPE FACSIMILE RECEIVERS

Kenneth George Hoer, Beckenham, Kent, England, assignor to Muirhead & Co Limited, Beckenham, Kent, England, a British company
Filed Feb. 17, 1966, Ser. No. 528,312
Claims priority, application Great Britain, Apr. 28, 1965, 17,951/65
Int. Cl. H04n *3/16, 5/38*
U.S. Cl. 178—7.3 **8 Claims**



A facsimile drum is rotated at high speed by a first drive from which the drum is disconnected upon completion of the facsimile scanning operation. Simultaneously, the drum is braked to a halt and a second slow speed drive becomes effective for rotating the drum to a predetermined angular position after the brake has been disconnected. The drum may be unloaded and reloaded at the predetermined position after which the first drive can be reconnected for a second scanning operation, this completing a sequence of operations which is repeated cyclically and automatically.

3,449,513

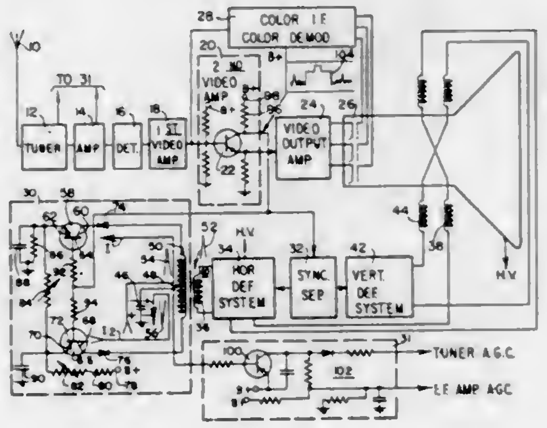
DUAL COMPLEMENTARY GATE KEYED AUTOMATIC GAIN CONTROL CIRCUIT

Paul Lawrence Jachim, Franklin Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 534,396, Mar. 15, 1966. This application Feb. 12, 1968, Ser. No. 704,622

Int. Cl. H04n *5/00*

U.S. Cl. 178—7.3 **8 Claims**



A pair of amplifying devices control currents which are added differentially to develop an AGC signal. The amplifying devices are controlled by the amplitude of the sync pulses of the composite video signal with the sync pulses acting to close one amplifying device and open the other amplifying device according to the amplitude of the horizontal sync pulse. One amplifying device may have a gate in series therewith so that conduction of the gate takes place only during the duration of the horizontal sync pulse.

3,449,514

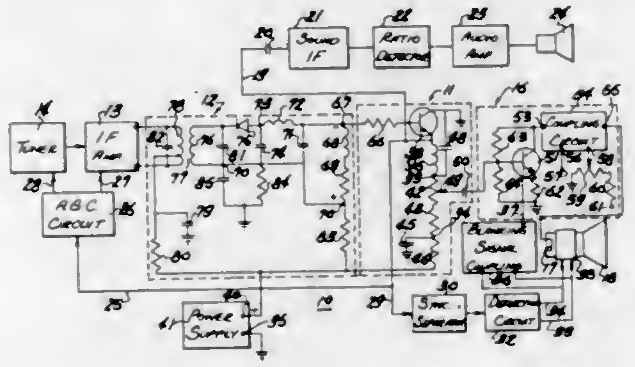
TELEVISION RECEIVER VIDEO DRIVER CIRCUIT

George A. Kent, Fort Wayne, and Richard J. Waring, Auburn, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed June 24, 1966, Ser. No. 560,261

Int. Cl. H04n *3/16, 5/44;* **H03b** *3/04*

U.S. Cl. 178—7.5 **7 Claims**



A multifunction television video driver circuit is disclosed which has a sufficiently high input impedance to avoid overloading the video detector coupled to its input and a sufficiently low output impedance that the sound IF, synchronization signal separator, AGC, and video output stages may all be driven from it. A reference level is applied to one of the detector output terminals so that the synchronization pulses will drive the video driver almost to saturation thus making it act as a noise clipper. Additionally, part of the bias current of the circuit is applied to the detector diode thus varying its bias level to minimize detector white clipping under various conditions of driver gain and loading.

3,449,515

TELEPRINTER APPARATUS EMPLOYING TECHNIQUES FOR INTERRUPTING MESSAGE FLOW DURING CARRIAGE RETURN

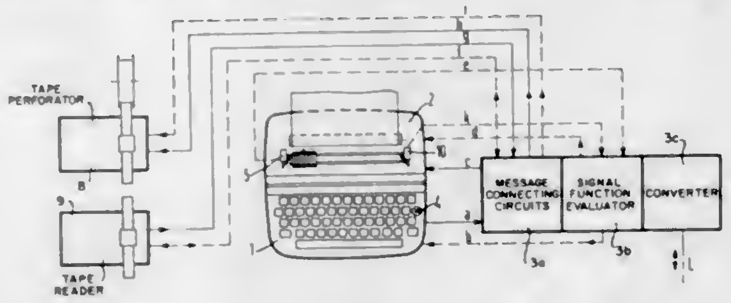
Fritz Butzke, Baierbrunn, Buchenhain, and Sven Voelcker and Bruno Nitschke, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Oct. 13, 1965, Ser. No. 495,445

Claims priority, application Germany, Oct. 14, 1964, S 93,726

Int. Cl. H04l *15/18, 15/12, 15/24*

U.S. Cl. 178—17.5 **5 Claims**



A teleprinter utilizes a plurality of signals of the character of carriage return signals to interrupt message flow during the carriage return operation. Switching apparatus, operated by the carriage as it reaches its line beginning position, releases the message flow to continue printing and transmission.

3,449,516

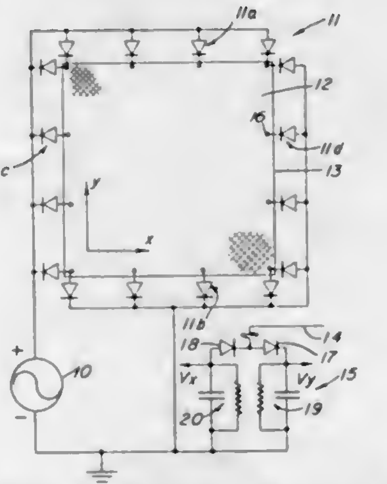
GRAPHICAL INPUT SYSTEM

Scott H. Cameron, Northfield, and Michael A. Liveright, Chicago, Ill., assignors to IIT Research Institute, Chicago, Ill., a corporation of Illinois

Filed Dec. 27, 1965, Ser. No. 516,403

Int. Cl. G08b *5/00*

U.S. Cl. 178—18 **4 Claims**



A graphical input system for producing electric signals in accordance with manually determined graphical information comprising a resistive tablet with orthogonal electric fields and a cooperating stylus wherein successive diodes are associated with individual contact terminals along each side of the tablet so as to prevent current flow between adjacent contact terminals at each side as a result of the electric field applied between the adjoining sides.

3,449,517

HALL EFFECT KEYER

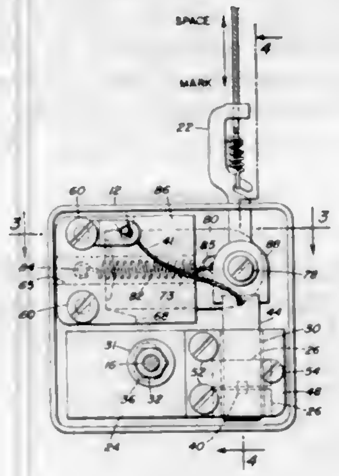
Richard H. Turja, Arlington, Va., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Mar. 29, 1967, Ser. No. 626,761

Int. Cl. H04l *15/04, 17/02*

U.S. Cl. 178—79 **14 Claims**

A Hall effect telegraphic keyer including a Hall device held near and symmetrical with the small gap of a two pole permanent magnet, the Hall device being imbedded in a nonmagnetic support coupled to a spring-biased rocking toggle block assembly operated by a connector link of a tape reader, output current of said Hall device driving, according to mark and space shifts, a transistor bridge network controlling a gating transistor whose collector-emitter junction is in series with the output loop.



3,449,518

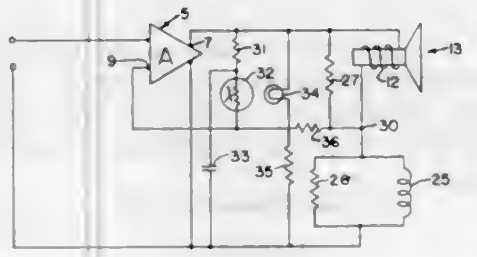
SOUND REPRODUCTION COMPENSATION SYSTEM

Louis W. Erath, 6327 Deerwood, Houston, Tex. 77042

Filed Sept. 15, 1965, Ser. No. 487,461

Int. Cl. H04m *1/02*

U.S. Cl. 179—1 **16 Claims**



A sound reproduction system which compensates for the nonlinear characteristics of a conventional loudspeaker such that the speaker sound output is constant over the audible frequency range and prevents damage to the speaker at high signal levels by employing frequency-sensitive and level-sensitive feedback networks in conjunction with a feedback amplifier and a loudspeaker. At low volumes, the frequency-sensitive network operates with the amplifier to increase the output level of low-frequency signals, while at high volumes, a level-sensitive network tends to cancel the effect of frequency-sensitive network, thus protecting the speaker from damage.

3,449,519

SPEAKER SYSTEM FOR SOUND-WAVE AMPLIFICATION

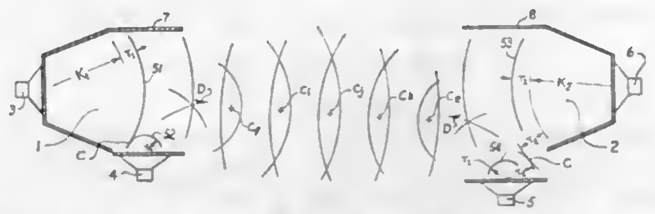
Morey J. Mowry, R.D. 4, Muncy, Pa. 17756

Continuation-in-part of application Ser. No. 480,679, Aug. 18, 1965. This application Jan. 24, 1968, Ser. No. 700,196

Int. Cl. H04r *1/26*

U.S. Cl. 179—1 **8 Claims**

A system for receiving one or more electrical input signals and developing sound waves from the signals, such that the various frequency components of the output sound wave appear to originate at various points in the free air in the vicinity of the system. Two pairs of speakers are placed at a distance from each other such that the output sound from each speaker pair is directed toward the other speaker pair, causing wave interference between the two speaker pairs. The speakers of each pair are also placed to cause interference between the sound waves from the two speakers in the pair. This interference is the apparent cause of the frequency separation.



3,449,520

CIRCUIT FOR TWO-WAY PULSE TRANSMISSION OF INTELLIGENCE VIA PLURAL MULTIPLEX CHANNELS PARTICULARLY WITH PROVISION FOR SWITCHOVER TO SINGLE CHANNEL OPERATION

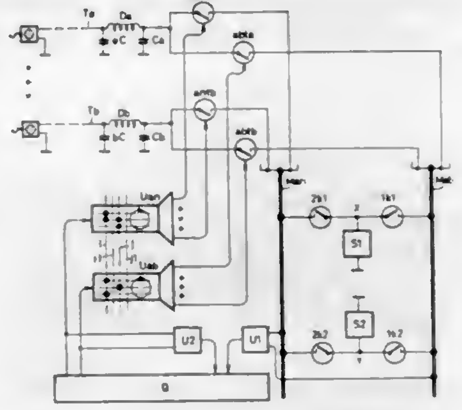
Hans Höschler, Munich, Germany, and Günther Kraus, Vienna, Austria, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Apr. 27, 1964, Ser. No. 362,873

Claims priority, application Germany, Apr. 29, 1963, S 84,993

Int. Cl. H04j *1/08*

U.S. Cl. 179—15 **35 Claims**



The exemplary embodiments show a time multiplex central system with subscribers' lines being connected for two-way communication by means of a pair of multiplex channels having a pair of central intermediate storers connected therewith and respectively employed during a first multiplex interval to receive pulse energy from the line storers of calling and called lines, and during a second multiplex interval to transmit the pulse energy to the respective line storers of such lines. Provision is made for fault-responsive switchover to single channel two-way communication. Cyclic storers for the respective multiplex channels store the addresses of the calling and called subscribers respectively with provision for fault-responsive transfer therebetween of the addresses of preferred subscribers so as to maintain communication therebetween in spite of a fault.

3,449,521

AUTOMATIC TELEPHONE EXCHANGE SWITCHING SYSTEMS

Bloomfield James Warman, London, Donald Keith Hicks, Hawley, near Dartford, Kent, and Alan James Barned, Sidcup, Kent, England, assignors to Associated Electrical Industries Limited, London, England, a British company

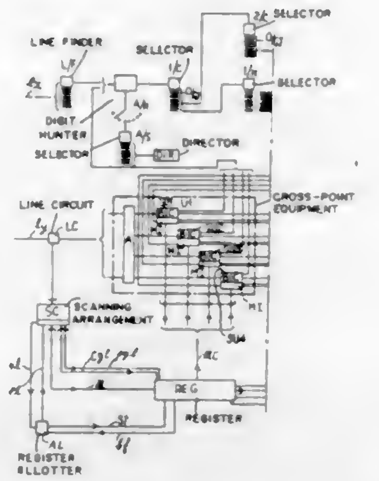
Filed Mar. 4, 1965, Ser. No. 437,153

Claims priority, application Great Britain, Mar. 11, 1964, 10,296/64

Int. Cl. H04m *3/00*

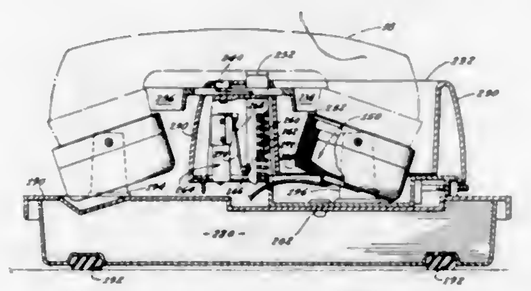
U.S. Cl. 179—16 **5 Claims**

An automatic telephone exchange switching system employing both step-by-step and co-ordinate switching equipment of the reed-relay cross-point type wherein certain of the exchange lines are served by the co-ordinate switches which have access to and are accessible from selector switches of the step-by-step equipment.



3,449,522
ACOUSTICAL COUPLER

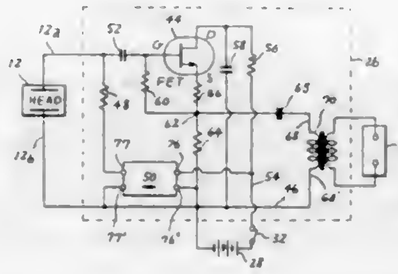
Paul J. Crane, Torrance, and Glenn A. Reese, San Pedro, Calif., assignors to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed July 21, 1965, Ser. No. 473,676
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 **14 Claims**



For coupling a telephone handset to a facsimile system, an acoustical coupler is made variously adjustable and sealable with the handset.

3,449,523
CONDENSER MICROPHONE APPARATUS

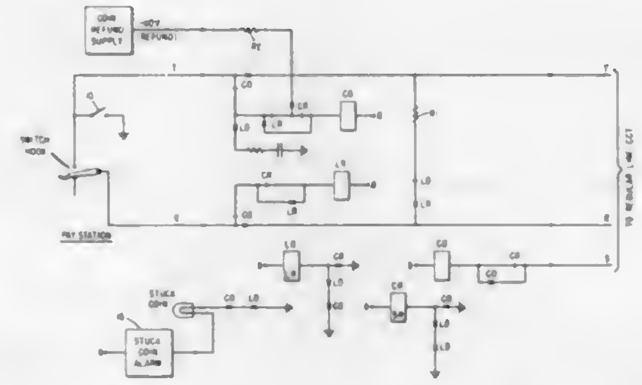
Kanesuke Kishi, Kawasaki-shi, and Hirotake Kawakami, and Kiyoshi Yamanouchi, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Jan. 10, 1966, Ser. No. 519,646
Claims priority, application Japan, Jan. 18, 1965, 40/2,636
Int. Cl. H04m *1/00;* **H02m** *3/22, 5/40*
U.S. Cl. 179—1 **2 Claims**



A condenser microphone apparatus which has a high output impedance as, for example, above 75 megohms at a frequency of 30 hertz and which is coupled through a condenser to the gate electrode of a field transistor connected with a source follower output in which a low voltage battery provides a power supply and is connected across the drain and source electrodes of the field effect transistor and with a DC to DC converter coupled to the low voltage battery and including a transistor oscillator with a rectifier and filter circuit connected to its output to provide a high voltage signal that is connected across the condenser microphone to provide a polarizing signal in the assembly of the condenser microphone, and the field effect transistor amplifier and the battery and converter mounted in a compact container.

3,449,524
PREPAY COIN ADAPTER

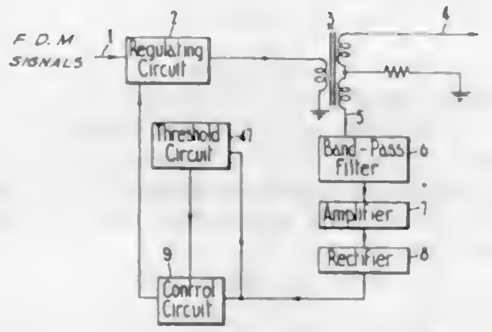
William W. Pharis, Rochester, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed July 22, 1966, Ser. No. 567,158
Int. Cl. H04m *17/02*
U.S. Cl. 179—6.3 **9 Claims**



A prepay coin adapter for use in pay station telephone equipment providing line lockout in the event of a stuck coin at the pay station and permitting subscriber initiated automatic release of a stuck coin each time the switch hook is flashed.

3,449,525
GAIN CONTROL CIRCUIT IN A FREQUENCY DIVISION MULTIPLEX TELECOMMUNICATIONS SYSTEM

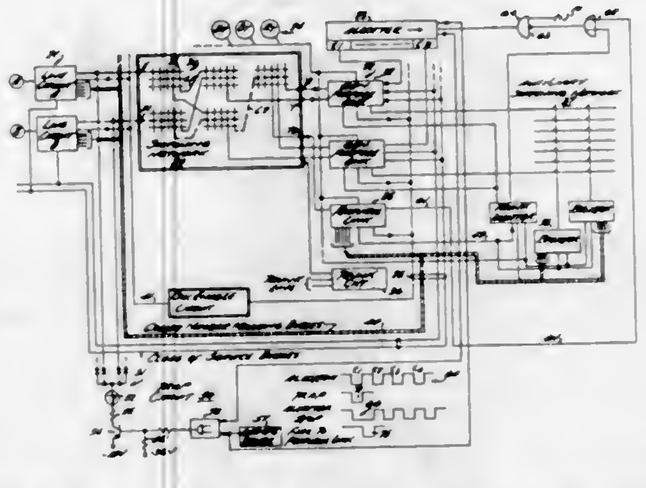
Allan David Berry, Maurice Peter Johnson, and John Raymond Whitbread, Coventry, England, assignors to The General Electric Company Limited, London, England, a British company
Filed Jan. 11, 1966, Ser. No. 519,842
Claims priority, application Great Britain, Jan. 13, 1965, 1,521/65
Int. Cl. H04j *1/14;* **H03g** *1/02*
U.S. Cl. 179—15 **2 Claims**



In a frequency division multiplex system, the gain of a signal carrying circuit is controlled in dependence upon the amplitude of a pilot oscillation. Means is provided to maintain the circuit gain substantially constant in the event of an abnormal amplitude of pilot oscillation.

3,449,526
TRAP CIRCUIT FOR USE IN AN ELECTRONIC SWITCHING TELEPHONE SYSTEM

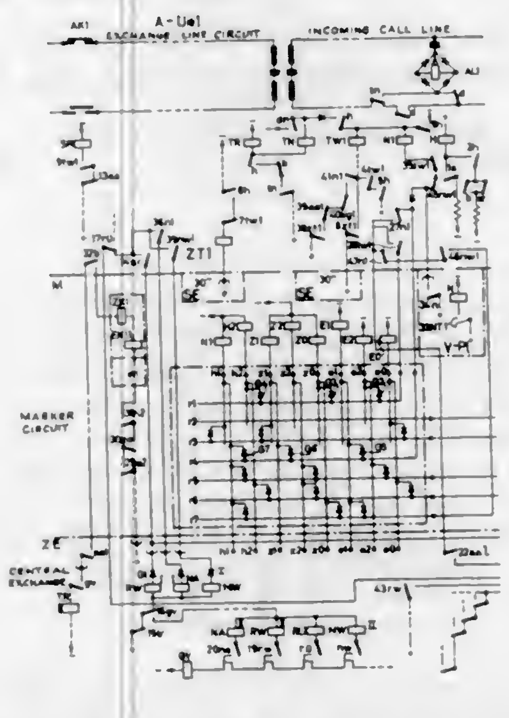
Donald Francis Seemann, Lockport, and Alfred M. Hestad and Nikola Ljotic Jovic, Chicago, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Apr. 8, 1966, Ser. No. 541,280
Int. Cl. H04q *11/04*
U.S. Cl. 179—18 **5 Claims**



Means is provided for holding calls in a self-seeking network system while transfer is made from a general purpose link to a special purpose link.

3,449,527
CONTROL CIRCUIT FOR DIAL SELECTION OF EXTENSION TELEPHONES

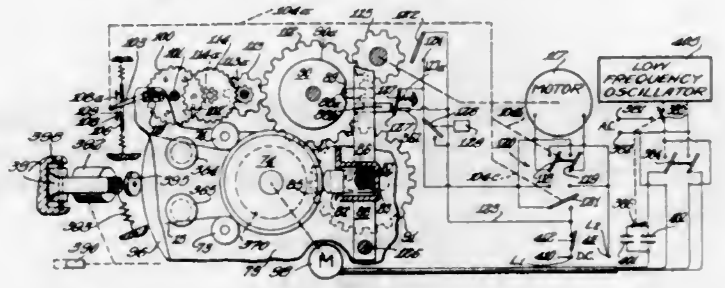
Walter Strobelt and Erwin Huber, Munich, and Andreas Friese, Gauting, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 350,173, Mar. 9, 1964. This application Oct. 23, 1967, Ser. No. 701,493
Claims priority, application Germany, Mar. 12, 1963, S 84,112
Int. Cl. H04m *3/00*
U.S. Cl. 179—18 **3 Claims**



A circuit arrangement for a centrally controlled telephone P.A.B.X system. A special non-selected connecting line is provided to be connected with a seized incoming trunk line dependent upon the existence of a predetermined switching condition in the trunk circuit. A centrally arranged conversion device is provided in each of the trunk line circuits to evaluate different switching conditions, such as, night operation, day answering transfer, night answering transfer, or collective call. Marking relays are operatively connected to the conversion device and are automatically energized in response to a switching condition to designate within a coupling field the connection station corresponding to such switching condition.

3,449,528
TWO SPEED TAPE TRANSPORT WITH INDEPENDENT AUDIO AND VIDEO MODES OF OPERATION

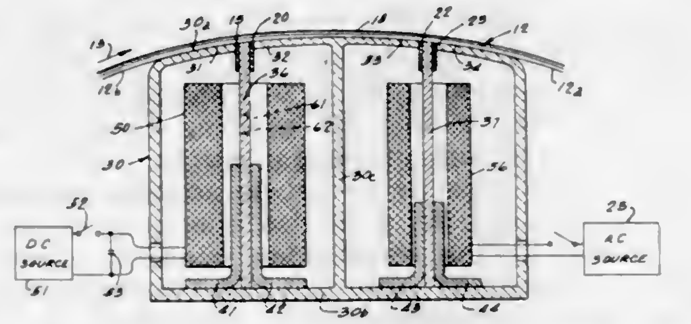
Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, Chicago, Ill., a corporation of Illinois
Filed May 17, 1965, Ser. No. 456,192
Int. Cl. G11b *5/00, 15/28*
U.S. Cl. 179—100.2 **11 Claims**



A longitudinal scan video and/or audio magnetic transducer apparatus with provision for head shifting, bulk demagnetization, automatic head cleaning by means of a revolving brush, and conversion between video transducing operation at a high transducing speed and audio transducing operation at a low transducing speed.

3,449,529
ERASE HEAD

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1965, Ser. No. 476,438
Int. Cl. G11b *5/00;* **G01d** *15/12*
U.S. Cl. 179—100.2 **3 Claims**

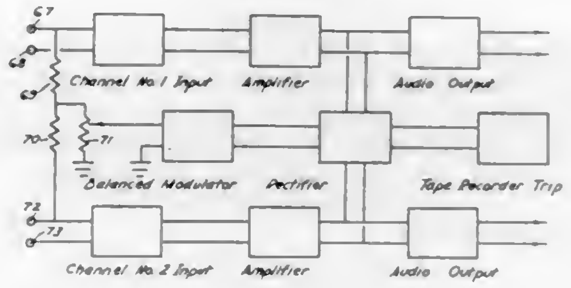


An erase head particularly for operation at tape speeds of the order of sixty inches per second wherein a last unidirectional field reverses the polarity of magnetization of the tape relative to the next previous saturating magnetic field to offset the latent memory of such saturation in a subsequent alternating erasing field treatment. A head construction is used having one or more poles projecting into an aperture in a keeper surface, the keeper material forming part of the useful magnetic circuit for erase or signal flux. An erase head configuration for erasing composite audio-video signals is shown.

3,449,530
APPARATUS FOR ELIMINATING TONE BURST SIGNALS IN AUDIO CIRCUITS OF TAPE RECORDERS

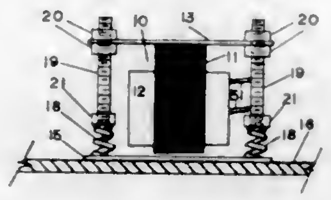
Jefferson L. Watts, Statesville, and John W. Coffman III, Greensboro, N.C., assignors to Greensboro Electronics, Inc., Greensboro, N.C., a corporation of North Carolina
Filed Oct. 1, 1964, Ser. No. 400,841
Int. Cl. G11b *5/78, 27/36*
U.S. Cl. 179—100.2 **3 Claims**

A multiple channel amplifying device with at least two audio channels and a third cue channel for controlling the audio channels by normally audible tone bursts wherein the tone bursts are eliminated from the outputs of the audio channels by isolating the cue signals from program signals, amplifying and rectifying the cue signals and subsequently using these signals to bias control tubes to cut off or stop the operation of an actuating mechanism.



3,449,531
ELECTRO-MECHANICAL TRANSDUCER

William J. Ashworth, Rte. 2, New Albany, Miss. 38652
Filed Jan. 9, 1968, Ser. No. 696,632
Int. Cl. H04r *7/02*
U.S. Cl. 179—115 **9 Claims**

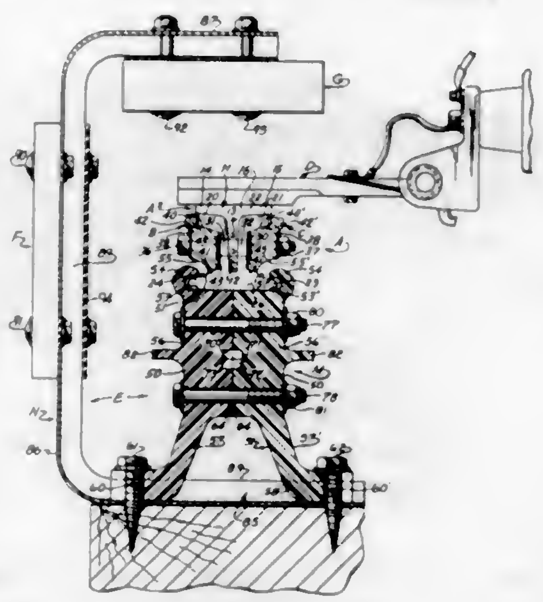


A sound system using a transducer or sound reproducer, having a radiating flexible diaphragm which is attached to a sounding board, for example, walls, doors, car body, etc., causing the sounding board to radiate sound. The electromagnet driving member is resiliently attached to the armature so that the armature and driving members are capable of relative, interacting motion and are thereby capable of good low frequency response as well as a good mid range and high frequency response. The resilient mounting can be accomplished by either springs or resilient pads. Besides sound reproduction, other uses for the sound reproducer are available.

3,449,532
CONDUCTOR BAR TYPE ELECTRICAL DISTRIBUTION SYSTEM

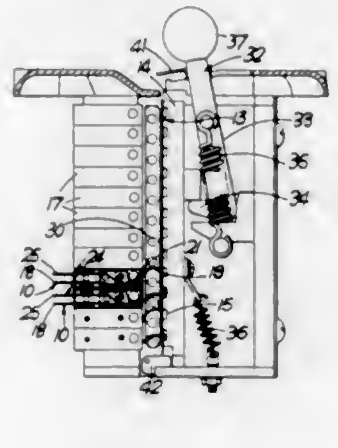
Roy F. Dehn, Wickliffe, Ohio, assignor to McNeil Corporation, Wickliffe, Ohio, a corporation of Ohio
Application Oct. 8, 1965, Ser. No. 494,187, now Patent No. 3,325,606, dated June 13, 1967, which is a continuation-in-part of application Ser. No. 313,959, Oct. 4, 1963. Divided and this application Jan. 20, 1967, Ser. No. 610,580
Int. Cl. B60m *1/34*
U.S. Cl. 191—29 **5 Claims**

An electric power distribution trolley-type conductor rail comprising a plurality of conductors arranged end to end and adapted to be engaged by a current collector movable therealong. Each conductor member comprising a first member of high electrical conductivity having web and flange portions and longitudinally extending surfaces inclined in opposite directions with respect to the plane of the web portion and a second member of relatively high strength, the two members being fixedly secured together by mechanical fastening means at longitudinally spaced intervals throughout their length. The second member having an upper flange forming a surface to be engaged by a current collector. Adjoining ends of adjacent conductor members being connected together by splice plates having inclined surfaces adapted to wedge against the inclined surfaces of the conductor members. The conductor members are so constructed that they can be cut transversely at any point and secured together by the splice which are constructed such that the insulator for supporting the conductor rails can be located at any place throughout the length thereof.



3,449,533
ELECTRICAL SWITCHES AND DEVICES EMPLOYING ELECTRICAL SWITCHES

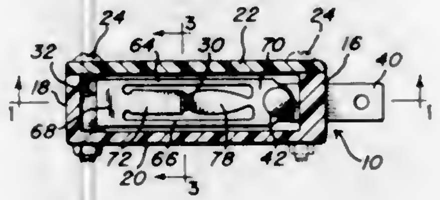
Thomas Charles Taylor, Farlington, England, assignor to Sealectro Limited, Farlington, England, a British company
Filed Feb. 15, 1967, Ser. No. 616,252
Claims priority, application Great Britain, Feb. 16, 1966, 6,862/66
Int. Cl. H01h *43/08, 3/00, 9/00*
U.S. Cl. 200—46 **4 Claims**



An electrical switch employs a flexible blade anchored at one end and providing a movable contact member, a fixed contact member for engagement by the movable contact member and a stop about which the blade may be flexed to move the movable contact member into and out of engagement with the fixed contact member. There is also described a card sensing device employing a plurality of these switches.

3,449,534
SWITCH BLADE WITH STRAIGHT SIDED STIFF TONGUE AND ARCUATE SIDED BOWED FLEXIBLE TONGUE

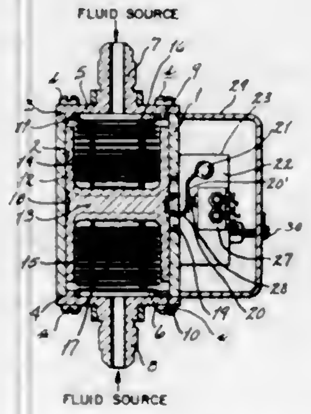
Werner Robert Bauer, Radnor, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation of application Ser. No. 642,614, Mar. 8, 1967. This application June 26, 1968, Ser. No. 742,979
Int. Cl. H01h *15/18*
U.S. Cl. 200—67 **11 Claims**



This application discloses a switch construction having a flexible snap switch blade with opposite inward tongues connected to the ends of the blade. One of the tongues is a relatively flexible longitudinally arcuate sided tongue and the other is a relatively stiff, longitudinally parallel sided tongue. The tongues engage opposite notches in a central rod. These members are mounted in a switch cavity of a casing from which an actuating plunger and electrical connectors extend. The switch construction may be made of very small size and relatively large current carrying capacity.

3,449,535
FLUID OPERATED SWITCH

John R. Otto, St. Louis, and Herbert A. Pidcock, Maplewood, Mo., assignors to Essex Manufacturing Co., Inc., Gravois, Mo., a corporation of Missouri
Filed Aug. 1, 1966, Ser. No. 569,296
Int. Cl. H01h *35/38*
U.S. Cl. 200—82 **10 Claims**

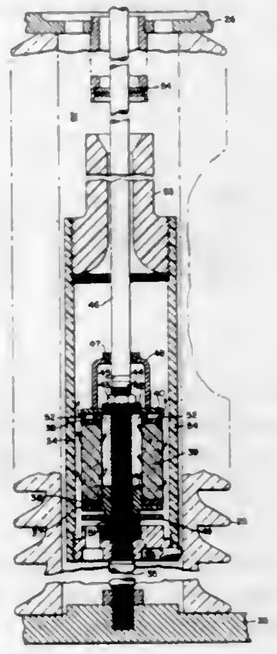


A fluid operated switch having a housing with a piston disposed therein, fluid pressure sensitive elements connected to opposite sides of the piston, said elements being connected to sources of fluid for causing movement of said piston responsive to a pressure differential in said elements, an electric switch disposed adjacent the housing and a switch actuator engaged at one end to said switch and at the other end to said piston for switch-operating movement consequent to travel of said piston.

3,449,536
LOAD BREAK CIRCUIT INTERRUPTER UTILIZING ADSORBED GAS EVOLVED FROM SERIES-CONNECTED ACTIVATED CARBON

Earl F. Beach, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 501,137
Int. Cl. H01h *33/82, 9/30*
U.S. Cl. 200—148 **10 Claims**

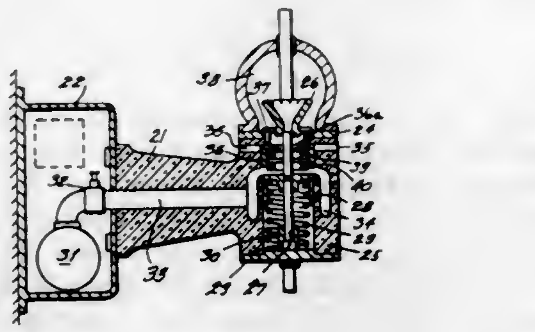
A circuit interrupter is provided having an explosion chamber with a restricted orifice outlet. A moving contact rod, movable through the restricted outlet, confines generated gas therein evolved from an activated carbon material, which is conductive and conducts the line current a portion of the opening operation.



The interrupting structure is particularly applicable for use with a load-break disconnecting switch of the swinging blade type in which normally the interrupting structure is electrically bypassed by the switch blade.

3,449,537
CIRCUIT BREAKER FOR INTERRUPTING AT ZERO CURRENT AND AUTOMATICALLY RECLOSING AFTER UNSUCCESSFUL INTERRUPTION

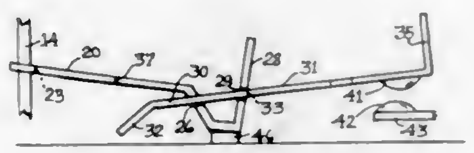
Fritz Kesselring, Kusnacht, Zurich, Switzerland, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Application May 14, 1965, Ser. No. 455,824, now Patent No. 3,378,727, dated Apr. 16, 1968, which is a continuation-in-part of application Ser. No. 27,437, May 6, 1960. Divided and this application Dec. 12, 1967, Ser. No. 704,205
Int. Cl. H01h *33/82*
U.S. Cl. 200—148 **4 Claims**



A pneumatically operated circuit breaker has a movable contact connected to a pneumatic operating mechanism operated by separate current sensing structures. The first current sensing structure operates to move the contacts to an open position immediately prior to zero current. The second current sensing means is responsive to continued current through the contacts after current zero, which indicates a failure for the contacts to interrupt the current, and immediately closes the contacts before the current can rise to substantial values. The first current sensing means includes a phase shift means which causes a leading relation of the output signal of the current sensing means in relation to the current being measured to permit generation of an output operating signal just prior to current zero.

3,449,538
SNAP-ACTION PULSE SWITCH

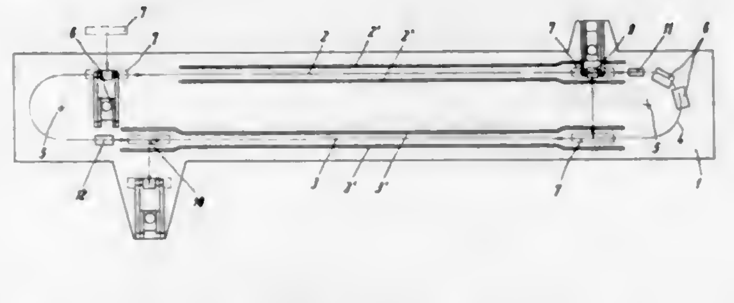
Eric L. Long, Highland Park, Ill., assignor to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois
Filed Aug. 7, 1967, Ser. No. 658,709
Int. Cl. H01h *13/56, 21/40*
U.S. Cl. 200—160 **9 Claims**



A switch having a jointed blade movable with a snap-action by dual overcentering mechanisms, each operatable upon a part of the switch blade effecting simultaneous movement between the parts of the switch blade, and at the same time permitting independent movement of one part of the blade with respect to the other, as well as to a circuit-establishing fixed contact bearing terminal after a momentary contact therewith.

3,449,539
APPARATUS FOR INDUCTIVELY HEATING WORKPIECES

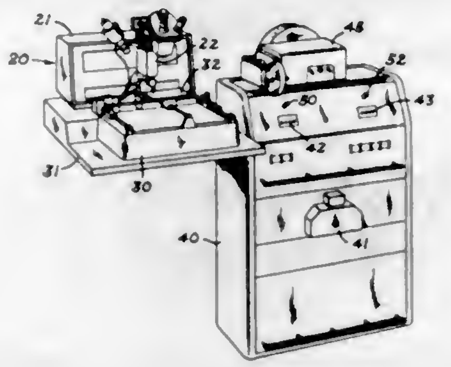
Friedrich Scheffler, Remscheid, Ernst Stangl, Remscheid-Reinshagen, and Friedrich Karl Gehrmann, Remscheid, Germany, assignors to AEG-Elotherm G.m.b.H., Remscheid-Hasten, Germany
Filed May 25, 1967, Ser. No. 641,364
Claims priority, application Germany, June 18, 1966, A 52,778
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.69 **4 Claims**



Plants for inductively heating metal workpieces in cross-field inductors using long plate inductors are often too large for existing shop floors, and the arrangement according to the invention provides two cross-field inductors with workpiece-transferring means between the end of one and the beginning of the other. With the arrangement according to the invention, one cross-field inductor may be "doubled-up" on the other, thus further conserving floor space.

3,449,540
NUMERICALLY CONTROLLED AUTOMATIC POSITIONING AND WELDING APPARATUS

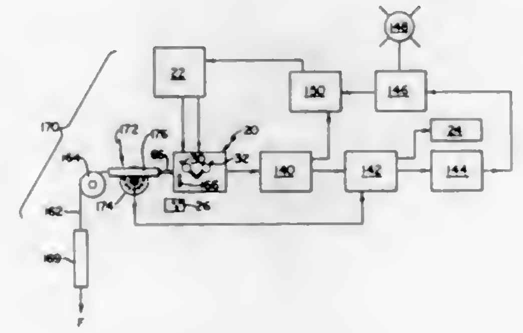
Richard J. Yanko, Fairborn, John K. Penrod, Bellbrook, and George W. Jensen, Dayton, Ohio, assignors to Arvin Systems, Inc., Yellow Springs, Ohio, a corporation of Ohio
Filed Feb. 23, 1966, Ser. No. 529,500
Int. Cl. B23k *11/10*
U.S. Cl. 219—80 **12 Claims**



A numerically controlled automatic positioning and welding system employs an analog X–Y plotter table and switches for selecting the position of the table in relation to a workpiece, which is usually a small electrical component or circuit board, having parts which are to be welded. As desired positions are located by the manual operation of the digital input switches, a block type tape punch is actuated to record these positions, and to enter a weld command signal as desired. An automatic welder is provided which is controlled from the tape concurrently with the control of the plotter to effect welds at the predetermined and previously located positions with respect to the workpiece.

3,449,541
APPARATUS FOR PRODUCING RESISTANCE WELDS

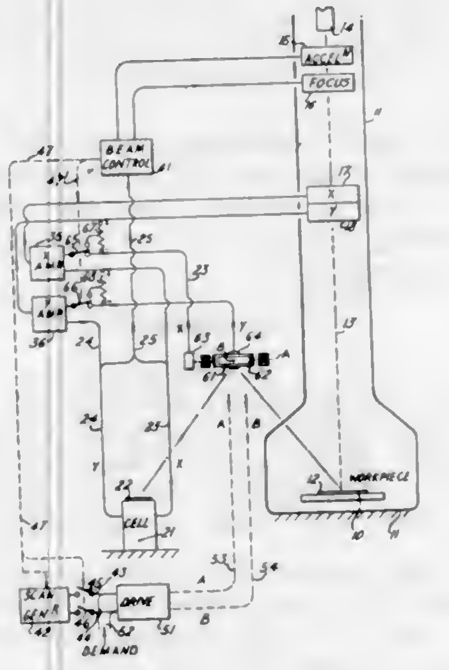
Norman G. Wilcox, Littleton, William C. Croucher, Englewood, and Edward J. Ramaley, Denver, Colo., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Continuation-in-part of application Ser No. 378,902, June 29, 1964. This application Jan. 20, 1966, Ser. No. 521,962
Int. Cl. B23k *11/24*
U.S. Cl. 219—108 **15 Claims**



The apparatus includes a pair of relatively movable electrodes through which a predetermined clamping force is placed on parts positioned therebetween which are to be resistance welded. When the predetermined clamping force is established, a predetermined amount of electrical energy is automatically directed to the electrodes and simultaneously a measuring means is activated. The measuring means measures the "set down" or reduction in thickness of the parts to be welded caused by the welding operation and uses the measured set down to indicate quality of the weld. Electrode movement is measured from the time the electrodes first applies the predetermined pressure on the parts until the same electrode pressure is re-established after the welding has been completed. The measured set down is displayed to the operator and in the event it falls outside of the programmed acceptable quality limits, a circuit is energized which locks the welding apparatus. The welding apparatus can then only be put into operation by a key which unlocks the apparatus.

3,449,542
PHOTOELECTRIC CONTROL MEANS FOR DEFLECTING BEAMED ENERGY AS APPLIED TO THE SURFACE OF A WORKPIECE

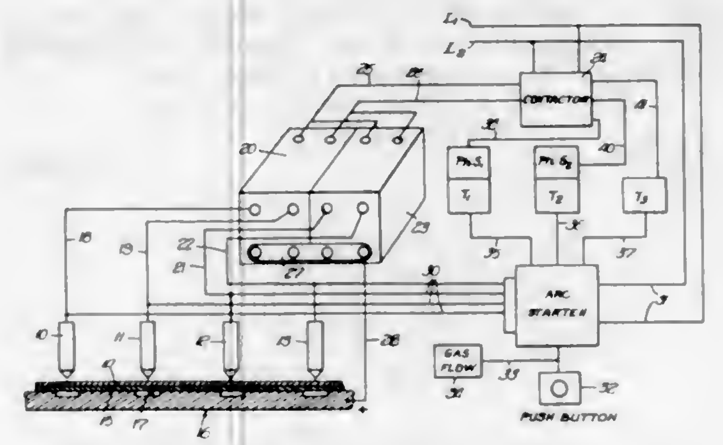
Charles Irvine Conner, Penicuik, and Arthur Thomas Killiner, Crescent, Musselburgh, Scotland, assignors to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland
Filed Oct. 11, 1966, Ser. No. 585,857
Claims priority, application Great Britain, Oct. 14, 1965, 43,545/65
Int. Cl. B23k *15/00, 9/10*
U.S. Cl. 219—121 **5 Claims**



A servo system to control the movement of an electron beam in machining engagement with a workpiece, the system responding in dependence on the displacement with respect to a reference point on a photocell surface of a projected image of the light spot set up at the point where the beam engages the workpiece.

3,449,543
TIG SPOT WELDING BY MEANS OF A PULSATING UNIDIRECTIONAL CURRENT

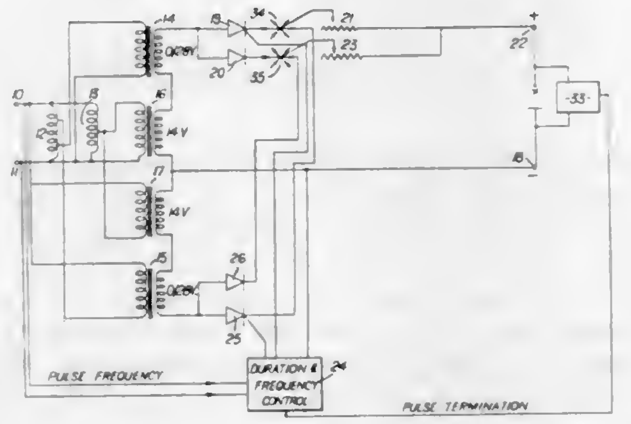
David Sciaky, Chicago, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 11, 1966, Ser. No. 547,062
Int. Cl. B23k *9/12, 9/18, 9/24*
U.S. Cl. 219—131 **4 Claims**



The invention provides a method and apparatus for producing a pulsating unidirectional current useful in Tig spot welding. The unidirectional current includes pulses of high magnitude alternating with pulses of low magnitude and the same are produced by a pair of phase shift circuits having timers and which control the duration of the respective pulses and also control a contactor which functions to alternately supply the phase shifted outputs to rectifying means.

3,449,544
CONTROLLED ARC WELDING

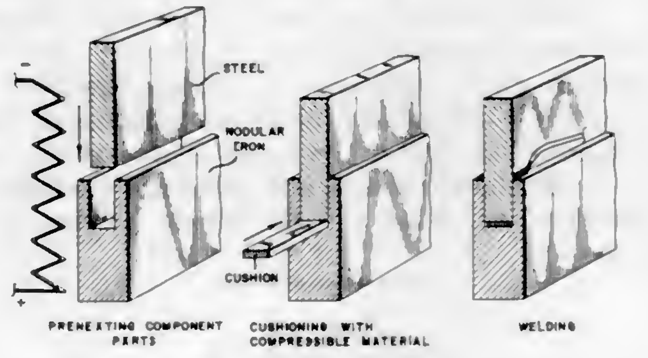
James C. Needham, Abington Hall, Cambridge, England, assignor to The Welding Institute, London, England
Filed Mar. 27, 1967, Ser. No. 626,279
Claims priority, application Great Britain, Mar. 29, 1966, 13,904/66
Int. Cl. B23k *9/10*
U.S. Cl. 219—131 **6 Claims**



A controlled transfer arc welding apparatus which includes in addition to a power supply for providing an arc maintaining current and a means for cyclically enhancing the arc current to provide for recurring current pulses having a level above the minimum value required for spray transfer, a detector for sensing the detachment of a droplet from the controlled electrode and a means actuated by the detector for terminating the current pulse which causes the detachment.

3,449,545
METHOD FOR WELDING NODULAR IRON TO STEEL

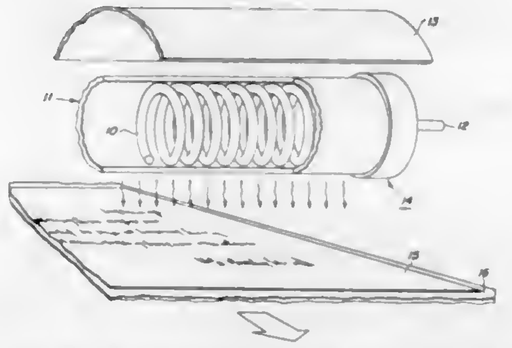
William H. Petitt, Chattanooga, Tenn., assignor to The Harriman Manufacturing Company, Chattanooga, Tenn., a corporation of Tennessee
Filed Apr. 1, 1964, Ser. No. 356,418
Int. Cl. B23k *9/32, 31/02, 35/24*
U.S. Cl. 219—137 **9 Claims**


STEEL
NODULAR IRON
CUSHION
PREHEATING COMPONENT PARTS
CUSHIONING WITH COMPRESSIBLE MATERIAL
WELDING

1. Method for welding nodular iron to steel comprising:
(A) pre-heating the nodular iron and steel;
(B) cushioning with a compressible material capable of accommodating the differential of contraction between said nodular iron and steel in the area of contact between said nodular iron and said steel; and
(C) welding said nodular iron to said steel.

3,449,546
INFRA-RED HEATER

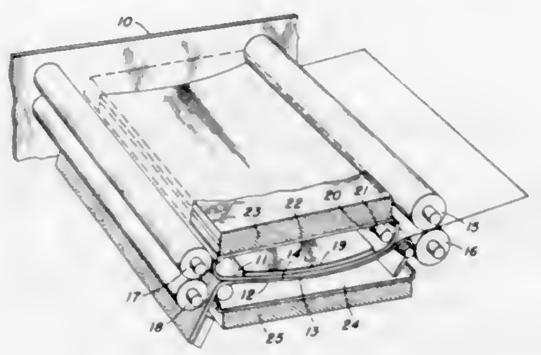
Prafulla S. Dhoble, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 23, 1966, Ser. No. 559,922
Int. Cl. G01n *21/34*
U.S. Cl. 219—216 **3 Claims**



A xerographic fusing apparatus for simultaneously heating a xerographic powder image and a paper support material to different temperatures with infrared radiation, the fusing apparatus having the capability of efficiently heating the powder image to its fusing temperature while at the same time heating, without deleterious effects, the paper support material to a different temperature wherein the paper acts as a heat source to aid in the fusing process.

3,449,547
THERMOGRAPHIC DEVELOPING APPARATUS

Robert C. Goodman, Binghamton, and Robert L. Boston, Vestal, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,722
Int. Cl. H05b *1/02*
U.S. Cl. 219—216 **1 Claim**

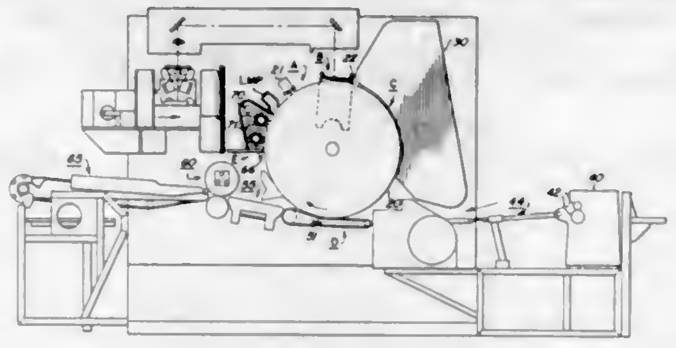


An apparatus for developing thermodiazo materials which utilizes a heated stationary platen and a resilient support guide member placed in contact therewith. Thermodiazo material is passed in sliding contact between the platen and guide member under the influence of infeed roller means. The effect of the heated platen on the material for a predetermined time will affect the chemicals in the material and cause the developing process to be completed.

3,449,548
FUSING DEVICE

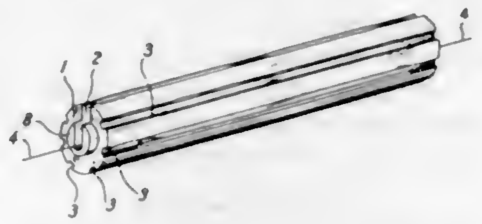
John A. Adamek, Joseph Fantuzzo, and Frazer D. Punnett, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,342
Int. Cl. H05b *3/10*
U.S. Cl. 219—216 **3 Claims**

An improved heat fusing device for fixing heat fusible electroscopic marking particles onto a support sheet comprising a frame supporting a pair of pressure rolls arranged to form a nip through which the support sheet is advanced with the marking particles contacting the upper roll surface which is heated. The lower roll is made up of a deformable material having elongated slits arranged in a predetermined overlapping relationship to present uniformly greater nip widths during rotation of the rolls thereby enabling sufficient heat and pressure to be applied at the nip for a predetermined duration to fix the marking particles onto the support material without causing any distortion of the image formed by the marking particles.



3,449,549
HEAT TREATMENT APPARATUS FOR A TRAVELLING YARN OR YARNS

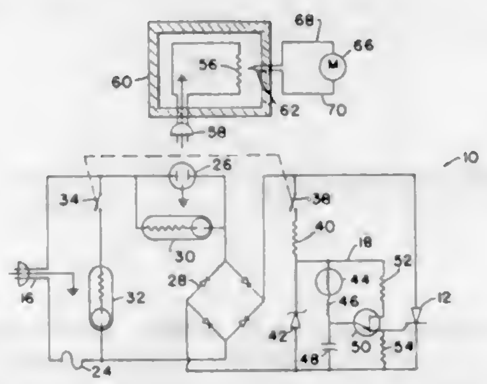
Kosaku Isobe, Tokyo-to, and Seinosuke Kakiage, Kiryu-shi, Japan, assignors to Kokusai Denki Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Mar 27, 1967, Ser. No. 626,151
Claims priority, application Japan, Mar. 29, 1966, 41/18,948; Nov. 2, 1966, 41/71,935
Int. Cl. D02j *13/00*
U.S. Cl. 219—388 **10 Claims**



A heat treatment apparatus for heat treating of a travelling yarn or yarns by utilizing infra-red rays which are radiated from a film radiator of high polymer deposited on the surface of at least one deep groove of a heated cylinder.

3,449,550
TEMPERATURE CONTROL APPARATUS

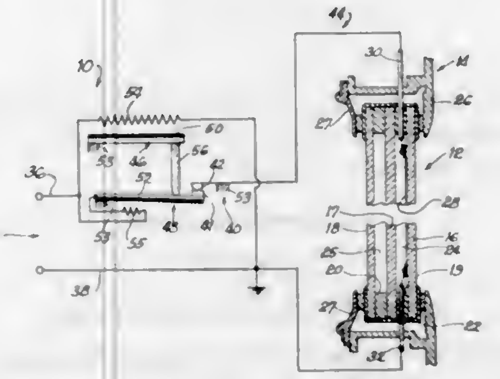
Kenneth G. Slotkowski, Oak Park, Mich., assignor, by mesne assignments, to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed Dec 13, 1965, Ser. No. 513,169
Int. Cl. H05b *1/02*
U.S. Cl. 219—502 **12 Claims**



A temperature controller which has a sensing element that responds to the temperature to be controlled and a control element that maintains the desired temperature. The control element, which preferably is a silicon controlled rectifier, can be varied continuously through the range from full power application to zero power application. This smooth application of continuously varied power to the heating elements provides precise temperature control without the undershoot and overshoot of on-off controllers. This smoothly variable application of power to the heating elements also minimizes the effect of thermal shock to the elements and greatly prolongs their useful life.

3,449,551
ANTISHOCK CONTROL DEVICES FOR ELECTRICALLY HEATED GLASS PANELS OR THE LIKE

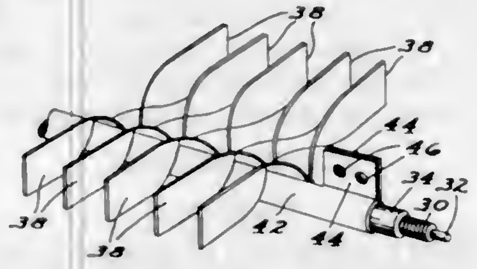
Daniel J. Aisanich, Chicago, Ill., assignor to Ardco, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 5, 1967, Ser. No. 665,333
Int. Cl. H05b *1/02*
U.S. Cl. 219—511 **20 Claims**



An antishock control device, comprising contacts for normally supplying electrical power to the heating element of a glass panel, a first relay device responsive to the line voltage and having an action tending to open the contacts, and a second relay device responsive to the load current and having an action which nullifies or overpowers the action of the first relay device, so as to keep the contacts closed during normal operation, the contacts being opened in the event that the load current is interrupted by breakage of the glass panel or otherwise, whereby any shock hazard is obviated. In certain embodiments the relay devices exert opposing forces. In other embodiments, the relay devices produce movements which normally offset each other.

3,449,552
SPACE HEATER CONSTRUCTION

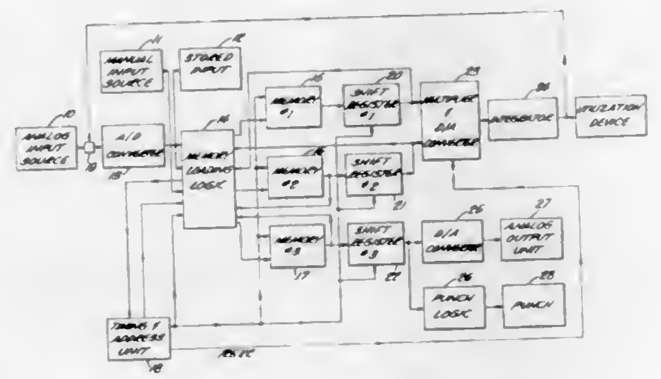
Howard K Graves, Cleveland, Ohio, assignor to H. W. Tuttle & Company, Tecumseh, Mich., a corporation of Michigan
Filed Oct. 11, 1965, Ser. No. 494,808
Int. Cl. H05b *3/06, 3/50*
U.S. Cl. 219—530 **2 Claims**



An electrical space heating apparatus formed with a plurality of heating elements connected to a common mounting bracket. Each heating element is a wire wound on an insulating core and circumscribed by a flexible rubber insulating material which is enclosed in a sheet metal tube which is formed with abutting edges and integral fins extending outwardly from the edges and twisted so that their distal ends lie in spaced planes generally parallel to each other and perpendicular to the axis of the tube.

3,449,553
COMPUTER FOR DETERMINING THE CORRELATION FUNCTION OF VARIABLE SIGNALS

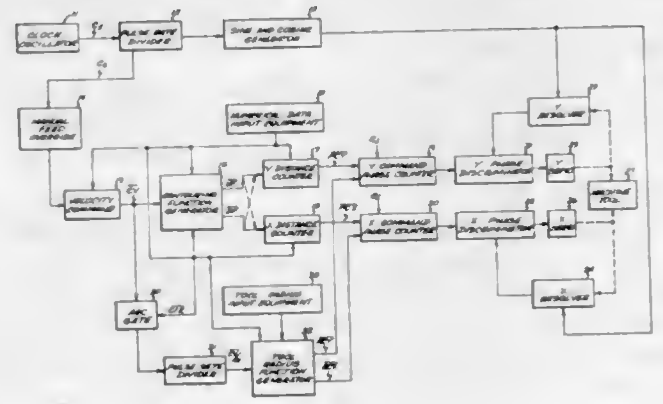
Merrill L. Swan, Arcadia, Calif., assignor to United Geophysical Corporation, Pasadena, Calif., a corporation of Delaware
Filed Aug. 23, 1965, Ser. No. 481,524
Int. Cl. G06j *1/02;* **G06g** *7/16;* **G06f** *7/38*
U.S. Cl. 235—150.52 **23 Claims**



This invention facilitates the making of correlation functions between two series of digital signals that vary as functions of time. The signals to be correlated are continuously circulated in circulating digital memory units and precessing means is used with one or both of the circulating memories causing series of digital numbers to be variably displaced in time relative to each other in each circulation cycle. The signals from the two circulating memories are multiplied together in a manner in which the product of the multiplication varies as a function of time.

3,449,554
OFFSET COMPENSATION FOR NUMERICAL CONTROLS

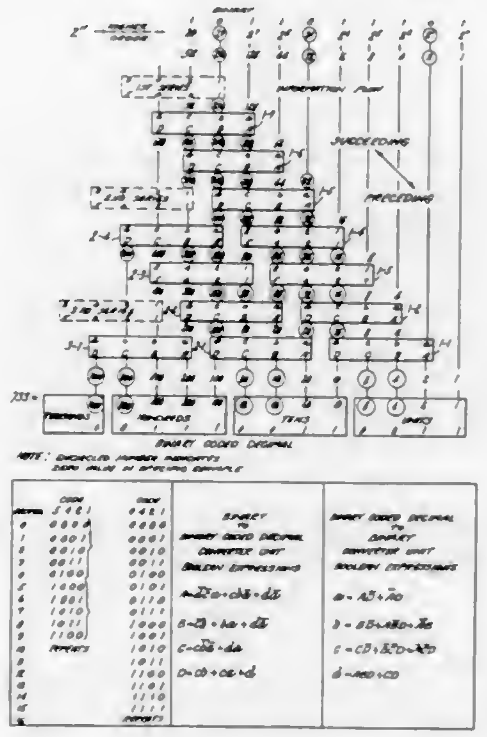
Leroy U. C. Kelling, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 350,370, Mar. 9, 1964. This application Aug. 28, 1967, Ser. No. 668,986
Int. Cl. G06f *15/46;* **G06g** *7/46*
U.S. Cl. 235—151.11 **22 Claims**



An arrangement for adjustably and automatically maintaining a machine element at a predetermined distance with respect to a commanded path of relative motion between a machining element and a material to be machined. A compensating function generator continuously modifies the component axial commands being generated by a contouring function generator to provide the compensated control action.

3,449,555
PARALLEL BINARY TO BINARY CODED DECIMAL AND BINARY CODED DECIMAL TO BINARY CONVERTER UTILIZING CASCADED LOGIC BLOCKS

An Wang, Lincoln, Mass., assignor to Wang Laboratories Inc., Tewksbury, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 179,322, Mar. 13, 1962. This application June 2, 1965, Ser. No. 460,649
Int. Cl. G06f *5/02;* **H04l** *3/00;* **H03k** *13/00*
U.S. Cl. 235—155 **7 Claims**

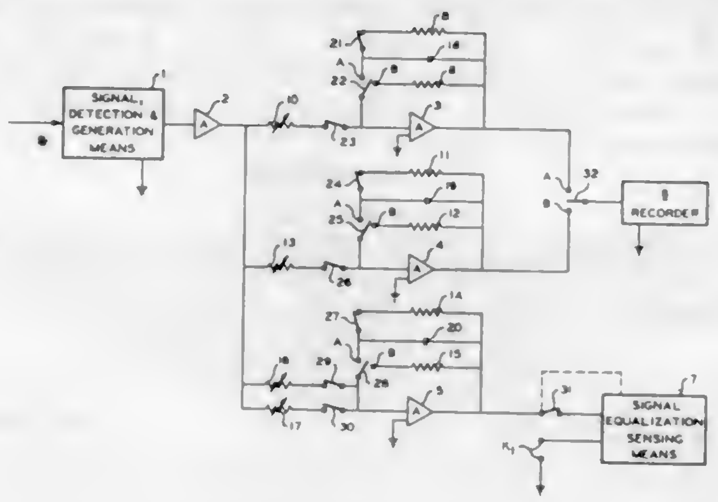


Parallel conversion of signals representing multi-bit binary numbers to signals representing binary-coded numbers (e.g. binary-coded-decimal numbers) and of signals representing binary-coded numbers to binary numbers. A single modular logic net suffices for each conversion. Specified direct interconnections of such modular nets in a plurality of stepped series provides all circuitry necessary to perform virtually instantaneous conversion even of numbers of relatively high order.

3,449,556
ANALOG COMPUTER FOR DETERMINING THE PROPORTION OF ONE RESPONSE TO A SUM OF RESPONSES

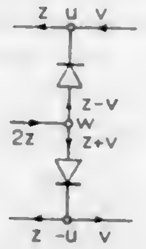
Edwin K. Clardy, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,622
Int. Cl. G06g *7/14*
U.S. Cl. 235—193 **3 Claims**

3. Apparatus for normalizing a pair of sequential signals which comprises first, second, and third condensers; switching means constructed and arranged to charge the first sequential signal to said first and third condensers, and the second sequential signal to said second and third condensers, whereby the charge on the third condenser represents the sum of said signals; first, second, and third resistors sized to reduce the charges on the respective condensers by a constant factor per unit of time; means to sense the potential across said third condenser; second switching means connected to said resistors, said condensers and said sensing means, said second switching means being arranged to connect said resistors in parallel with the respective capacitors after they have been charged by said signals, whereby the charge on said capacitors is reduced, said second switching means thereafter being actuated by said sensing means to disconnect said resistors from the capacitors when the charge on said third capacitor falls to a predetermined value, whereby the charges on the first and second condensers are normalized, and means indicating the values of the normalized signals on the first and second condensers.


SIGNAL, DETECTION & GENERATION MEANS
RECORDER
SIGNAL EQUALIZATION SENSING MEANS

3,449,557
FUNCTION GENERATORS

William Spencer Percival, West Ealing, London, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain
Filed Jan. 16, 1964, Ser. No. 338,150
Claims priority, application Great Britain, Jan. 16, 1963, 1,926/63
Int. Cl. G06j *7/26;* **G06f** *15/34*
U.S. Cl. 235—197 **15 Claims**

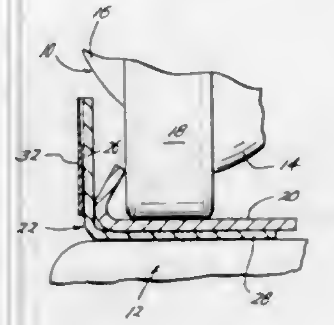


This specification describes function generators for producing functions of two variables applied as electrical signals to a pair of Zener diodes. The signals are applied so that the Zener diodes operate between zero voltage and the Zener voltage, for which range a substantially exponential relationship between current and voltage is exhibited. The generators can be used to multiply or divide audio signals by control signals and they allow a wide range of control with a low breakthrough of the control signal when the circuit parameters are accurately balanced.

3,449,558
VEHICLE SAFETY LIGHTING DEVICE

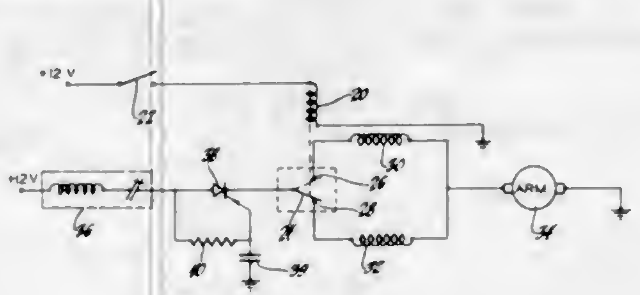
Ray W. Whitmer, 5002 Willowbend, Houston, Tex. 77035
Filed Apr. 15, 1966, Ser. No. 542,795
Int. Cl. F21v *9/16*
U.S. Cl. 240—2.25 **2 Claims**

A safety illumination device for vehicle headlights in the form of a ring-like member adapted to be positioned about a vehicle headlight and having an annular face upon which a luminous material is disposed in position to be illuminated by light from an approaching vehicle. The member is formed with an annular flange having a roughened face positioned for engagement with the headlight and a radial flange extending peripherally about the annular flange and formed with corrugations extending radially from the free edge of the radial flange. The luminous material is disposed on the outer face of the radial flange in position to be illuminated by light from an approaching vehicle. The member is cut through radially to allow peripheral expansion and contraction of the member and the annular flange is formed with adjacent end portions shaped for interengagement to connect the end portions together to hold the member on the headlight.



3,449,559
HEADLAMP ACTUATOR

Joseph P. Licata, Dayton, Ohio, and Frederick T. Tucker, West Haven, Conn., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 532,930
Int. Cl. B60q *1/02, 9/00*
U.S. Cl. 240—7.1 **6 Claims**

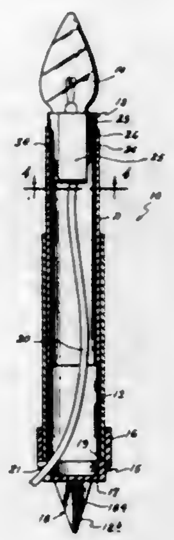


Actuating mechanism for moving a headlamp cover in opposite directions between closed and open positions. A control circuit operates a reversible motor to cause the cover to move from one position to another. A relay responsive to a stall load on the motor is operable to interrupt power to the motor when the cover reaches its closed and open positions.

3,449,560
LAMP FOR JACK-O'-LANTERNS

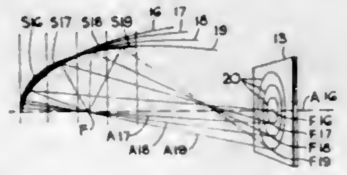
Eugene Swee, Bronx, N.Y., and William Bloom, Cliffside Park, N.J., assignors to Miner Industries, Inc., New York, N.Y., a corporation of Delaware
Filed June 29, 1967, Ser. No. 650,048
Int. Cl. F21l *19/00*
U.S. Cl. 240—16 **3 Claims**

An electric lamp for jack-o'-lanterns comprises two telescopically engaged, cardboard tubes, a light bulb socket retained in an end of one of the tubes and having an electric cable extending from the socket through the tubes, and a base. A pointed projection depends from the base to engage in the pulpy interior of a pumpkin for holding the lamp in erect position. An opening is provided in the side of the base through which the electric cable extends.



3,449,561
ACONIC COLLECTOR

Richard W. Basil, Canoga Park, and Frederic N. Benning, Chatsworth, Calif., assignors to Textron Electronics, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 291,079, June 27, 1963. This application July 3, 1967, Ser. No. 650,703
Int. Cl. F21v *7/08*
U.S. Cl. 240—103 **5 Claims**

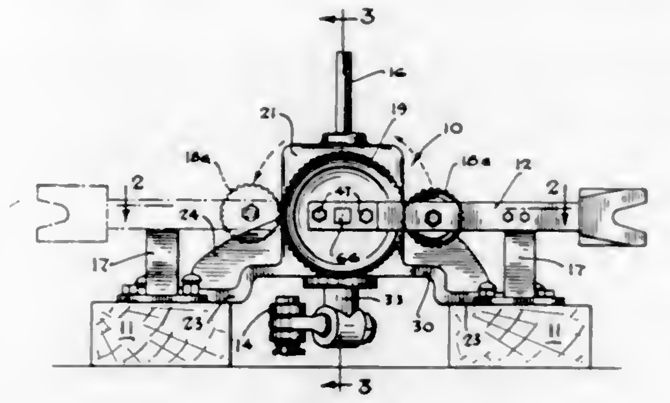


A light collecting mirror for directing radiant energy from a source such as an arc lamp onto a given area wherein the shape of the collecting reflector is such as to compensate for finite source size of the radiant energy to provide a desired uniform illuminance on the area or, if desired, provide a predetermined graded illuminance. The collector is formed by revolving about a generating axis curved line segments which constitute in part portions of ellipses whose major axes lie at different acute angles to the generating axis. The secondary foci of the ellipses are thus radially spaced from the generating axis so that ring patterns are formed at the area illuminated. By using a large number of such segments for generating the collector, a series of concentric rings of decreasing radii may be provided in the test area with the result of fairly uniform illuminance. Further uniformity and compensation is achieved by having some of the secondary foci fall beyond the plane of the test area such that the images provided at the test area serve to fill in desired darker portions to provide the uniform illuminance.

3,449,562
SWITCH STAND

Rosser L. Wilson, Mahwah, N.J., and Earl E. Frank, Tallman, and Edward C. Sperry, Warwick, N.Y., assignors to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 696,446
Int. Cl. B61l *5/06*
U.S. Cl. 246—411 **2 Claims**

A railroad switch stand is so constructed as to be thrown manually, or by the train itself, or by a power unit mounted on the handle used for manual operation. The switch points may be thrown to a new position by



any one of the three possible modes of operation without regard to the mode in which they were previously set.

3,449,563

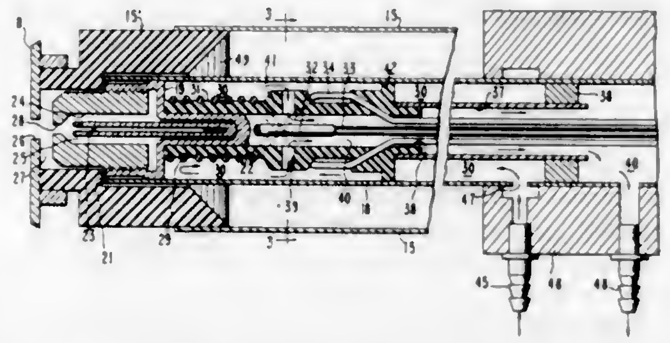
SAMPLE INSERTION PROBE HAVING INTEGRAL SAMPLE INTRODUCTION CONTROL MEANS AND MASS SPECTROMETER MEANS USING SAME

Harmon W. Brown, Sunnyvale, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Feb. 21, 1966, Ser. No. 528,946

Int. Cl. B01d *59/44*

U.S. Cl. 250—41.9 **9 Claims**



A cycloidal mass spectrometer is disclosed. The spectrometer includes an improved sample insertion probe for inserting materials to be analysed through the vacuum envelope of the mass spectrometer into the region of the ion source. The sample probe includes a sample cavity containing the sample of material to be volatilized. A gas passageway communicates between the cavity in the probe and the cavity of the ion source for passing volatilized sample material into the ion source. The probe also includes integral means for controlling the rate at which the volatilized sample enters the ion source from the sample cavity, whereby a precise control over the rate of sample introduction is obtained. The rate at which the volatilized sample enters the source is controlled by selection of a proper nozzle disposed at the exit to the sample cavity for controlling the flow of the volatilized sample into the ion source. In addition, means such as a heater or cooler are provided integrally of the probe for controlling the temperature of the sample to be volatilized, thereby controlling the rate at which the sample is volatilized for passing into the ion source. In a preferred embodiment, a temperature sensing element is disposed within the probe such that the temperature of the sample cavity may be precisely controlled. By providing a more precise control over the rate of sample volatilization and sample introduction into the ion source, a wider range of sample material may be analysed in a shorter time with less system contamination.

3,449,564

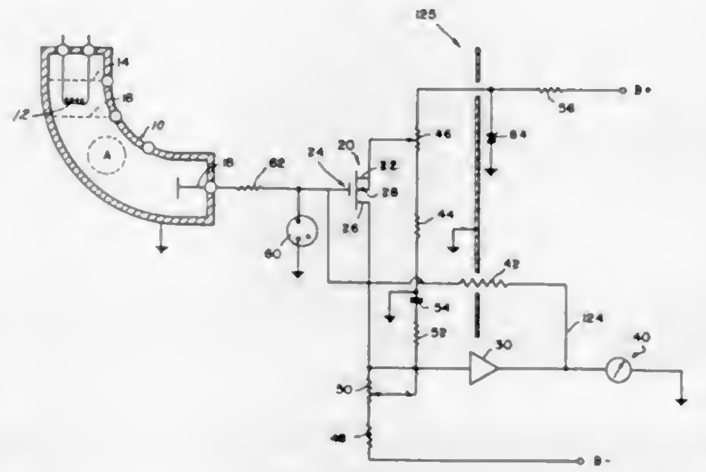
MASS SPECTROMETER LEAK DETECTOR CIRCUIT MEANS EMPLOYING AN INSULATED GATE FIELD EFFECT TRANSISTOR

Philip C. Harvey, Bedford, Deane P. Sheldon, Franklin, and Leendert J. K. van Opijnen, Needham, Mass., assignors to National Research Corporation, Newton, Mass., a corporation of Massachusetts

Filed Dec. 9, 1966, Ser. No. 600,622

Int. Cl. B01d *59/44*

U.S. Cl. 250—41.9 **2 Claims**



A mass spectrometer leak detector with an insulated gate field effect transistor incorporated in the spectrometer tube, as a pre-amplifier in the spectrometer collector circuit, is described.

3,449,565

APPARATUS FOR ABSORPTION ANALYSIS USING A SOURCE HAVING A BROADENED EMISSION LINE

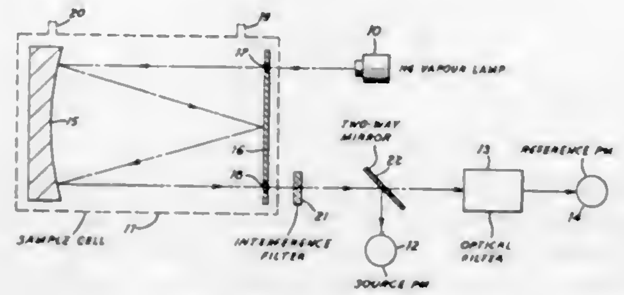
Anthony Rene Barringer, Willowdale, Ontario, Canada, assignor to Barringer Research Limited, Rexdale, Ontario, Canada, a corporation

Filed Oct. 11, 1965, Ser. No. 494,680

Claims priority, application Great Britain, Oct. 16, 1964, 42,416/64

Int. Cl. G01n *23/12*

U.S. Cl. 250—43.5 **4 Claims**



A spectrophotometer for analyzing vapours having characteristic absorption lines. A particular vapour to be analyzed is illuminated by a lamp having a broadened emission line centered at a characteristic absorption line of the vapour. The width of the emission line is greater than the width of the absorption line. After passing through the vapour, the light is split into two beams. The intensity of one beam (sample beam) is measured, and then the other beam (reference beam) is passed through an absorption cell containing a sufficient quantity of the particular vapour so that light within the linewidth of the absorption line is completely absorbed. The intensity of the remaining portion of the other beam is then measured, and the two measurements are differentially compared.

3,449,566

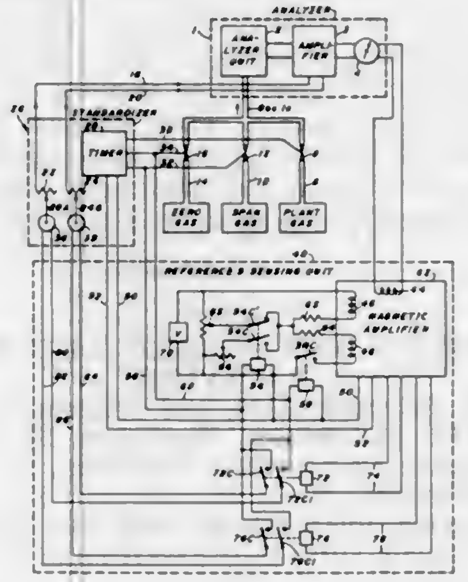
REFERENCE AND SENSING UNIT FOR AUTOMATIC GAS STANDARDIZERS

William A. Kolb, Forest Hills Borough, and James H. Wilson, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,162

Int. Cl. G01n *21/26;* **G01t** *1/16;* **H01j** *39/00*

U.S. Cl. 250—43.5 **6 Claims**



A reference and sensing unit for use with the automatic gas standardizer of an infrared gas analyzer uses a dual bi-stable magnetic amplifier as a comparator to compare a reference voltage to a second voltage which indicates the analysis of a calibrating gas. The comparator output actuates a motor operated potentiometer to adjust the second voltage to equal the reference voltage, thus changing the comparator output to zero.

3,449,567

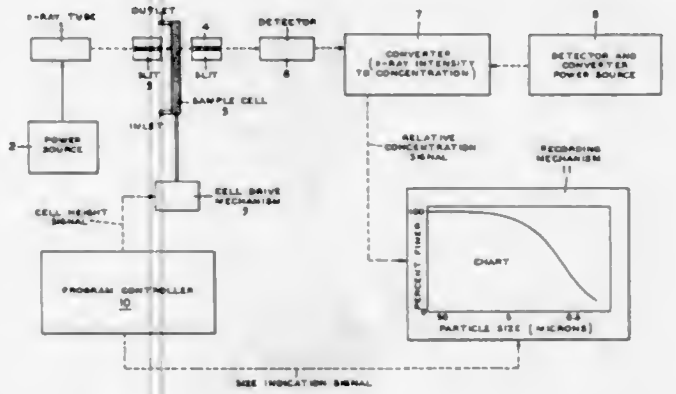
APPARATUS AND PROCESS FOR DETERMINING PARTICLE SIZE BY X-RAY ABSORPTION ANALYSIS

James Peter Olivier and George K. Hickin, Macon, Ga., assignors to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware

Filed Jan. 23, 1967, Ser. No. 610,841

Int. Cl. G01n *23/12*

U.S. Cl. 250—43.5 **5 Claims**



An apparatus and process for measuring and automatically recording the particle size distribution of material in suspension, which is based on the application of Stokes' Law of sedimentation. A beam of X-rays is used to measure particle concentration in terms of the transmittance of the beam in the suspension relative to the suspending fluid. A programmed drive mechanism causes the distance between the point of intersection of the X-ray beam with the suspension and upper or lower surface of the suspension to be continuously changed with time.

3,449,568

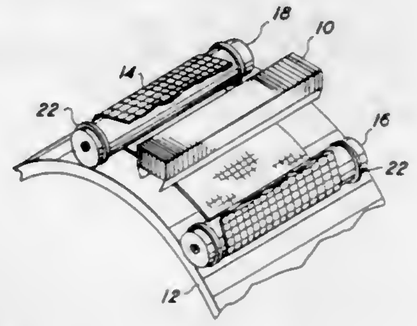
CORONA DISCHARGE APPARATUS FOR CREATING AN ELECTROSTATIC CHARGE PATTERN ON A XEROGRAPHIC SURFACE

Richard C. Vock, Ontario, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 27, 1966, Ser. No. 605,057

Int. Cl. H01j *37/26*

U.S. Cl. 250—49.5 **5 Claims**



Apparatus for changing a cylindrically shaped xerographic surface in a pattern configuration. The apparatus includes a corona discharge device spaced from the xerographic surface and a conductive screen contacting the xerographic surface in the path of flow of the corona discharge. The conductive screen is electrically biased to a polarity the same as that on the corona discharge device and moved in synchronism with the xerographic surface so that the charge laid down on the xerographic surface is continuous and in a pattern corresponding to apertures in the conductive screen.

3,449,569

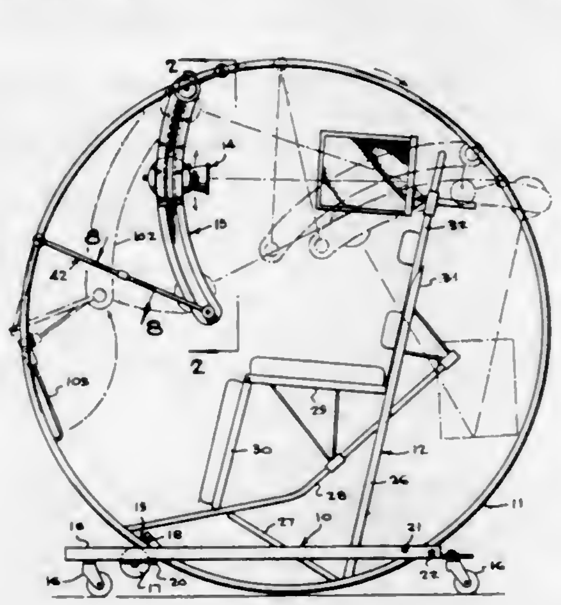
RADIOLOGICAL APPARATUS WHEREIN THE X-RAY SOURCE IS MOUNTED FOR ROTATIONAL AND STRAIGHT-LINE MOVEMENT

José L. Garcia Oller, 3402 Bienville St., New Orleans, La. 70119

Filed July 22, 1966, Ser. No. 567,155

Int. Cl. H01j *37/20, 5/48;* **G01n** *23/00*

U.S. Cl. 250—50 **12 Claims**



An apparatus for diagnosing a patient including a support means, rotatable means mounted on the support means, patient support means mounted on the rotatable means, carrier means pivotally mounted on the rotatable means for pivotal movement in the plane of rotation of the rotatable means, the carrier means being movable along a line of travel intersecting a line passing through the pivotal connection of the carrier means and the rotatable means, the lines lying in the plane of rotation of the rotatable means, a radiant energy source mounted on the carrier means and means for locking the carrier means in preselected positions along the line of travel at preselected angles.

3,449,570

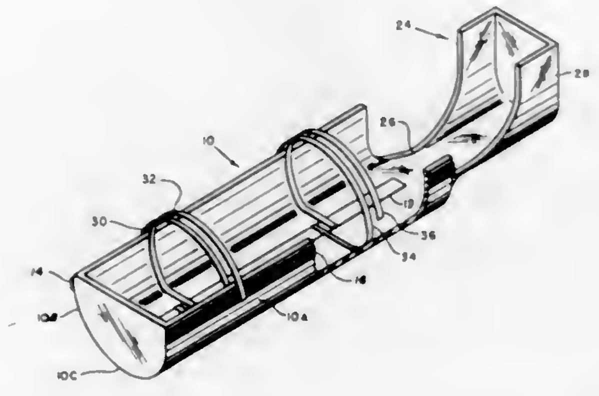
X-RAY TABLE HAVING A PLURALITY OF PAIRS OF SLINGS WITH OPPOSITELY WINDABLE MEMBERS

Pieter W. Kok, New Milford, N.J., assignor, by mesne assignments to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,247

Int. Cl. G01n *23/00*

U.S. Cl. 250—54 **6 Claims**



A patient support for X-ray examination devices is constructed of a material transparent to X-rays and provided with a bottom support and a pair of opposite side supports. The side supports extend up from the bottom support by a distance exceeding the height of the center of gravity of the support when fully loaded. A plurality of pairs of flexible slings are used to secure the patient to the support. Each pair of slings constitutes two flexible members closely spaced to each other and windable in opposing directions about the patient.

3,449,571

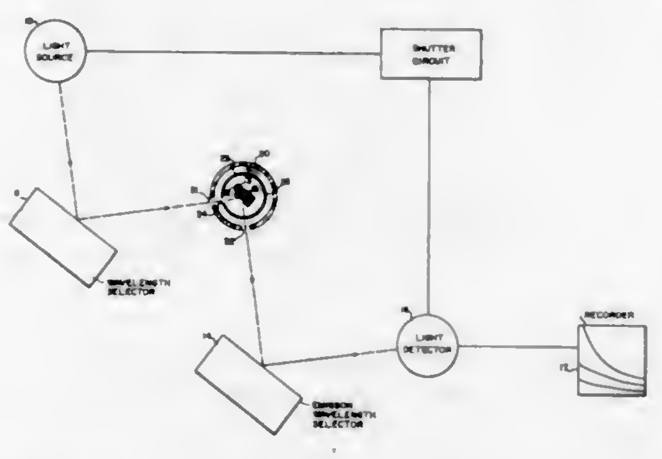
METHOD OF DETECTING AND IDENTIFYING MICROORGANISMS AND OTHER BIOLOGIC MATERIALS

Kirk C. Hoerman, Potomac, Md., and Herschel C. Sudduth, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 7, 1967, Ser. No. 651,957

Int. Cl. G01n *21/38, 23/08*

U.S. Cl. 250—71 **2 Claims**



This invention provides rapid accurate identification of the physical and chemical makeup of biological materials in condensed systems including microorganisms, based on the quantum aspects of luminescent domains within the solid structure submitted to radiant energy excitation. A sample of the material to be identified is placed in a special holder and cooled to about liquid nitrogen temperature. The sample is subjected to radiation of a desired and optimum wavelength. The radiation excites the atoms or molecules of the material to produce luminescense. The light emitted by luminescence is detected by a photomultiplier tube and the output of the photomultiplier tube either as intensity varying with wavelength or time after cessation of exciting energy is recorded as a trace on an oscilloscope or any other well known means. The trace or signature recorded is peculiar to that sample material or microorganism. Thus, different bacteria, e.g., cocci, bacilli or viri, etc., as well as certain proteins and various types of animal and plant cells, components and interfaces thereof in condensed systems may be identified.

3,449,572

DOSIMETER FOR SENSING ULTRAVIOLET RADIATION

Kermit H. Sylvester, Zion, and William E. Franz and Robert M. McGlathery, Waukegan, Ill., assignors to Chemilumen Corporation, Waukegan, Ill., a corporation of Illinois

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,055

Int. Cl. H01j *39/00;* **G01t** *1/00, 1/16*

U.S. Cl. 250—83 **22 Claims**

A method and apparatus for detecting ultraviolet radiation which is insensitive to visible radiation and infrared radiation employing a solution of a 2,3,5-triphenyl-2H-tetrazolium chloride based composition as the sensitive medium.

3,449,573

METHOD AND APPARATUS FOR OBTAINING IMAGES FROM GAS DETECTORS BY ELECTRON AVALANCHES

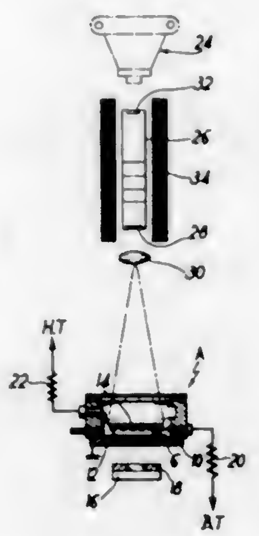
Alain Lansiart, Orsay, Jean Pierre Morucci, Villebon-sur-Yvette, and Georges Roux, Chatou, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Nov. 21, 1966, Ser. No. 595,714

Claims priority, application France, Nov. 27, 1965, 40,030

Int. Cl. H01j *39/02*

U.S. Cl. 250—83.3 **1 Claim**



Images are obtained from gas detectors by the formation of electron avalanches. The voltage between the auxiliary electrode and the anode of the detector is adjusted to maximum for prevention of spark formation by β particles, X-ray photons or gamma-ray photons and the images of glow discharges caused by electron avalanches are recorded.

3,449,574

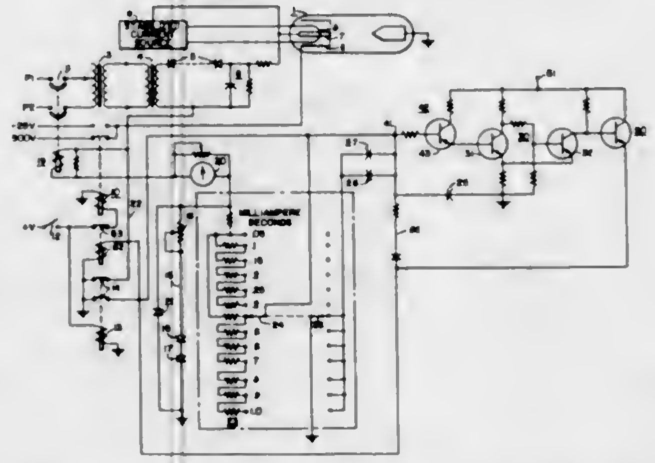
SEMICONDUCTOR CURRENT PULSE CONTROLLER FOR REGULATING THE EXPOSURE PROVIDED BY AN X-RAY TUBE

Philip A. Duffy, Jr., Catonsville, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 12, 1965, Ser. No. 507,490

Int. Cl. H05g *1/46;* **H03k** *17/28*

U.S. Cl. 250—95 **4 Claims**



A fast acting controller for sensing the magnitude and time duration of current through an X-ray tube wherein a transistorized monostable triggering circuit responds to the attainment of a signal governed by the current magnitude and the prior setting of a desired milliamp-second product by the operator of the X-ray machine. A Darlington type circuit provides an impedance sufficiently high to match the triggering circuit to a charging circuit which determines the milliamp-second product. The triggering circuit provides quick action in interruptng the current through the tube when the desired duration of exposure with a chosen magnitude of current has occurred. A feedback circuit provides an input signal to maintain the monostable triggering circuit in its unstable state until the charging circuit is discharged.

3,449,575

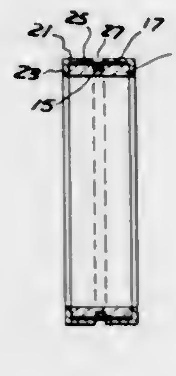
PROTECTIVE ENCLOSURE AND MOUNT FOR RADIOACTIVE ELEMENTS

Theodore M. Smith, 14750 Puritan Ave., Detroit, Mich. 48227

Filed Sept. 23, 1965, Ser. No. 489,522

Int. Cl. G21h *5/02*

U.S. Cl. 250—106 **7 Claims**



A protective enclosure and mount which includes removably nested within an annular groove of a metal support band, a split metallic ring impregnated with radioactive material, the metallic window band mounted over the support band and enclosing said ring, and spaced oppositely arranged annular retainers with outer radial flanges mounted and sealed over said window and support bands.

3,449,576

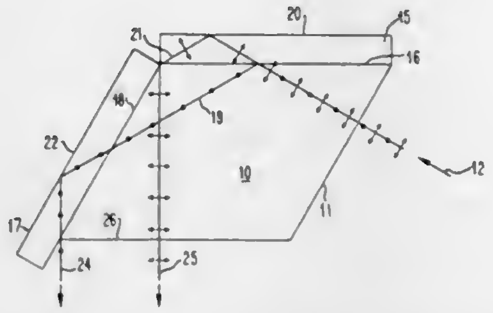
COMPENSATED PATH LENGTH POLARIZED LIGHT DEFLECTOR-SELECTOR

Harry S. Hoffman, Jr., Saugerties, and James Lipp, Kingston, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 2, 1965, Ser. No. 469,068

Int. Cl. G02f *1/24;* **G02b** *5/30, 27/28*

U.S. Cl. 350—157 **9 Claims**



A compensated optical light beam deflection device. Self-compensation of light paths of different wavelengths of radiation is achieved by the unique configuration of birefringent material in conjunction with an isotropic medium. A beam consisting of two orthogonal polarizations is deflected so as to separate the two polarizations into independent beams.

3,449,577

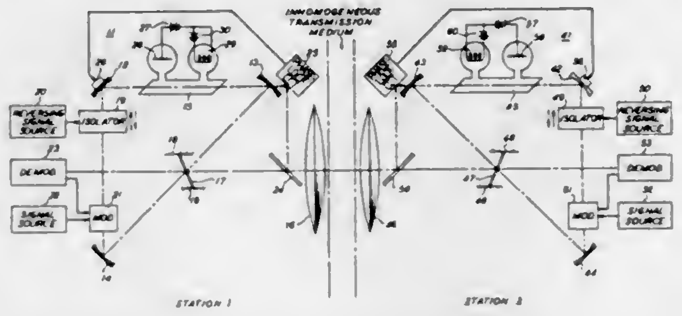
CONTROLLED TRANSMISSION OF WAVES THROUGH INHOMOGENEOUS MEDIA

Herwig W. Kogelnik, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 23, 1965, Ser. No. 503,287

Int. Cl. H04b *9/00*

U.S. Cl. 250—199 **26 Claims**



The distortions of an inhomogeneous optical transmission medium are compensated by forming a hologram of an optical wavefront from one communicating station through which the reverse-transmitted message-modulated signal from the other communicating station passes, the reverse transmittal being sent through the hologram from the opposite side corresponding to the conjugate image.

3,449,578

TURBIDIMETER USING PHOTOELECTRIC LINEARIZING CIRCUIT INCLUDING SWITCHING CIRCUIT TO INSERT PRESELECTED RESISTANCES

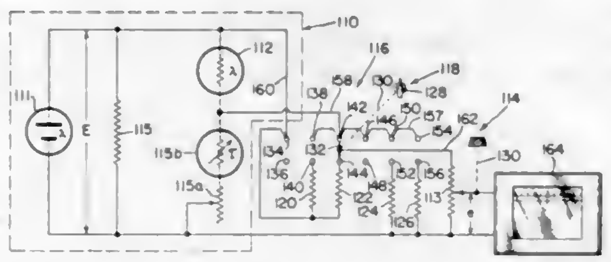
Jonathan R. Keim, Narberth, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 12, 1966, Ser. No. 542,004

Int. Cl. H01j *39/12;* **G01n** *21/26*

U.S. Cl. 250—209 **1 Claim**

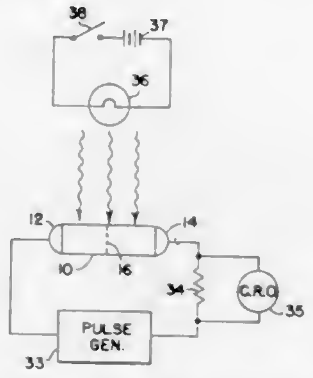
A reflection turbidimeter in which the non-linearity of response of the photovoltaic cell is compensated by a voltage dividing circuit including a photoresistive cell and a potentiometer. Temperature compensation is provided by a thermistor. To make the turbidimeter more adaptable a switching circuit is included which can switch



various preselected resistances either in parallel with the photoresistive cell or in parallel with the potentiometer.

3,449,579
PHOTOMETER AND METHOD UTILIZING A SEMICONDUCTOR CONTAINING A GRAIN BOUNDARY

Rolf K. Mueller, St. Paul, Minn., assignor, by mesne assignments, to Litton Systems Inc., Beverly Hills, Calif., a corporation of Maryland
Continuation of abandoned application Ser. No. 778,678, Dec. 8, 1958. This application Feb. 21, 1963, Ser. No. 260,103
Int. Cl. A01j *39/12;* **G01j** *1/42*
U.S. Cl. 250—211 10 Claims



1. A photometer for sensing light, which comprises:

means for generating first and second selected voltage pulses spaced by a given interval of time, and

a semiconductive element of a single material type having a grain boundary therein, said grain boundary being responsive to said first voltage pulse for assuming a given reference charge condition, said grain boundary being effective upon cessation of said first selected voltage pulse to retain said reference charge condition for a given relaxation period, said relaxation period exceeding said given interval of time, said grain boundary being effective in response to said first selected voltage pulse to conduct a first current pulse having a first transient characteristic dependent upon the charge condition of said grain boundary prior to application of said first selected voltage pulse, said grain boundary being responsive to said light during said relaxation period for changing said given reference charge condition to a second charge condition,

said generating means being effective after said response of said grain boundary to said light to apply said second selected voltage pulse across said grain boundary to recharge said grain boundary to said given reference charge condition, said second selected voltage pulse being effective to render said grain boundary effective to conduct a second current pulse having a second transient characteristic distinct from said first transient characteristic for indicating the quantity of said light causing said change in said given reference charge condition.

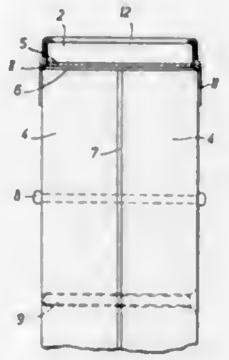
6. A method of determining light intensity, which comprises:

subjecting a semiconductive element having a grain boundary provided with a reference charge condition to light during a given interval of time to reduce said reference charge condition to a second charge condition, and

applying a voltage pulse to said semiconductive element to cause said grain boundary to conduct a current pulse having a transient characteristic indicative of the difference between said said reference charge condition and said second charge condition to determine the intensity of said light.

3,449,580
PHOTOCELL CONSTRUCTION HAVING TRANSPARENT SUBSTRATE UPON WHICH PHOTOCELL IS DISPOSED AND HEAT SINK

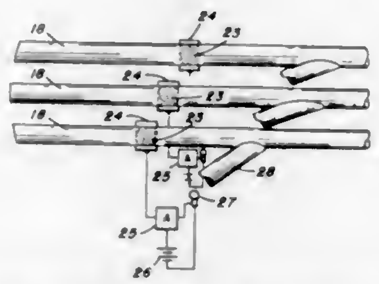
Walter Heimann and Hans R. Maus, Wiesbaden-Dotzheim, and Erich A. Wolf, Wiesbaden, Germany, assignors to Forschungslaboratorium Prof. Dr.-Ing. Walter Heimann, am Kohlheck, Wiesbaden-Dotzheim, Germany
Filed Mar. 9, 1965, Ser. No. 438,341
Claims priority, application Germany, Mar. 14, 1964, F 42,318
Int. Cl. H01j *39/12;* **G01t** *1/16*
U.S. Cl. 250—211 5 Claims



A photocell having a thin photoconductive film supported by a transparent substrate and cooled by a heat sink. The transparent substrate is mounted on the heat sink by means of a cement of high thermal conductivity and low electrical conductivity which is adhered to the heat sink and the side of the transparentsubstrate bearing the photoconductive film, and is in a thin enough layer to provide good heat conduction from the photoconductive film to the heat sink.

3,449,581
AMPLIFYING LIGHT CONDUCTING CONDUIT WITH LIGHT PASSAGE INTERRUPTING MEANS

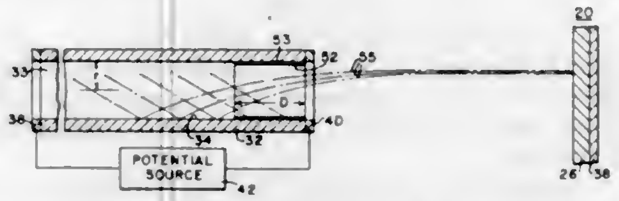
Norman N. Rubin, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1965, Ser. No. 510,706
Int. Cl. H01j *31/50*
U.S. Cl. 250—213 4 Claims



A light conducting conduit formed of a plurality of light conducting rods ground at the forward end in the form of a lens. It has means for amplifying the picture picked up by the forward lens and means for interrupting the passage of light through the rods. It may be used in the nose or sides of a plane to provide a pilot with a forward or laterial picture on a screen in the cockpit.

3,449,582
ELECTRON MULTIPLIER DEVICE HAVING AN ELECTRICALLY INSULATING SECONDARY EMISSION CONTROL SURFACE

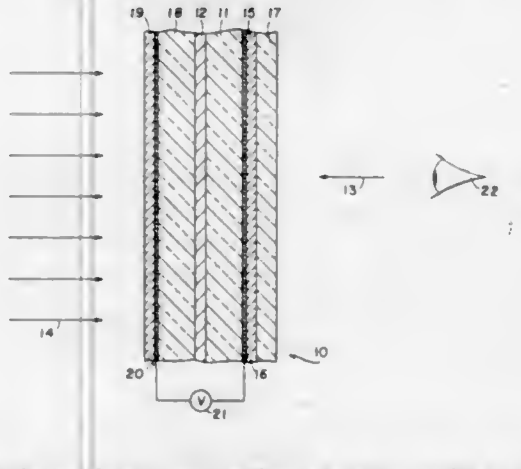
William M. Sackinger, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 2, 1966, Ser. No. 524,974
Int. Cl. H01j *39/12*
U.S. Cl. 250—213 6 Claims



This invention is directed to an electron multiplier including at least one tubular element having a first portion upon the interior surface capable of emitting secondary electrons in response to the bombardment by primary electrons. The interior surface of the tubular element has a second portion adjacent the exit opening through which the electrons are directed from the tubular element. This second portion is made of a suitable semiconductive or insulating material having a low secondary emission ratio.

3,449,583
PHOTOCONDUCTIVE ELECTRO-OPTIC IMAGE INTENSIFIER UTILIZING POLARIZED LIGHT

Dayton D. Eden, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 24, 1966, Ser. No. 529,845
Int. Cl. H01j *31/50*
U.S. Cl. 250—213 9 Claims

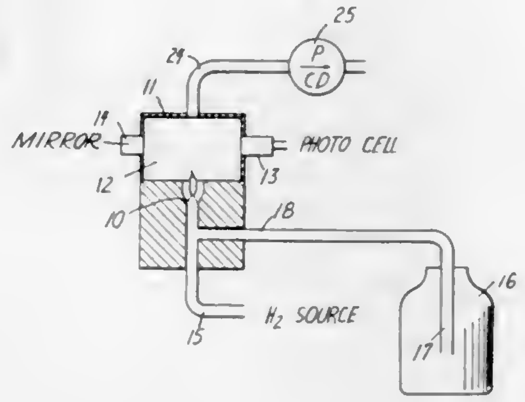


Disclosed is a photoconductive electro-optic transducer between two glass panels being made up of a sandwich of a front electrode; an electro-optic crystal; a mirror surface, reflective from one side, and nonreflective from the other; a photoconductive panel; and a back electrode, and operable such the when ambient light is directed through a polarizer onto the front side of the transducer and an image is directed onto the back side, the image will be reproduced and amplified on the front due to variations in the electro-optic material which change the polarization of the incident ambient light.

3,449,584
CONTAMINATED AIR DETECTOR USING RADIANT ENERGY SENSITIVE MEANS

Robert L. Bailey, Spokane, Wash., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed May 20, 1966, Ser. No. 551,798
Int. Cl. G01n *21/26, 31/12*
U.S. Cl. 250—218 6 Claims

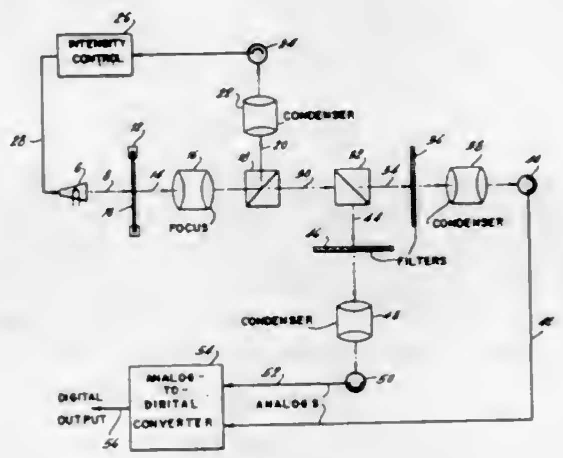
A production line contaminated air detector capable of detecting contaminants in containers operates on a sample of atmosphere which is withdrawn from a container and introduced into a colorless hydrogen flame. The flame is enclosed in a sealed container with a photocell capable of



being activated by coloration of the flame. A vacuum pump is operatively connected to the sealed enclosure to purge the enclosure between successive tests.

3,449,585
AUTOMATIC RECOGNITION SYSTEM USING CONSTANT INTENSITY IMAGE BEARING LIGHT BEAM

Arnold Trehub, 145 Farview Way,
Amherst, Mass. 01002
Filed Feb. 15, 1966, Ser. No. 527,591
Int. Cl. G01n *21/22*
U.S. Cl. 250—219 9 Claims

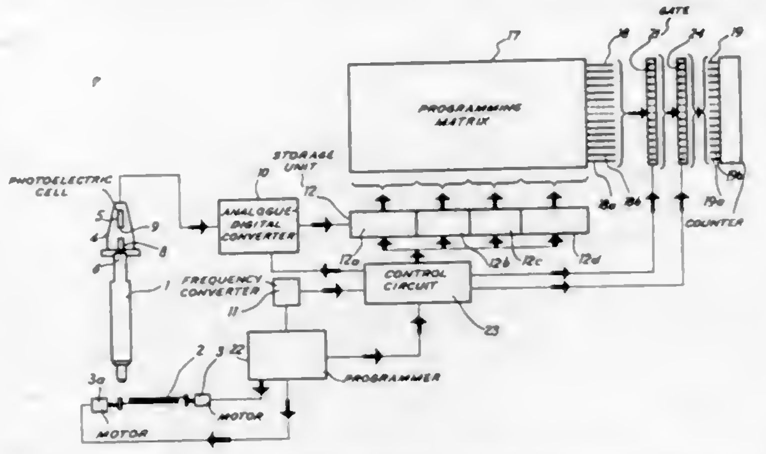


An automatic pattern recognition arrangement which maintains the intensity of an image-bearing light beam constant. The image-bearing light beam is developed from an unknown pattern and the beam intensity is maintained constant by a feedback control loop.

3,449,586
AUTOMATIC SCANNING DEVICE FOR ANALYZING TEXTURES

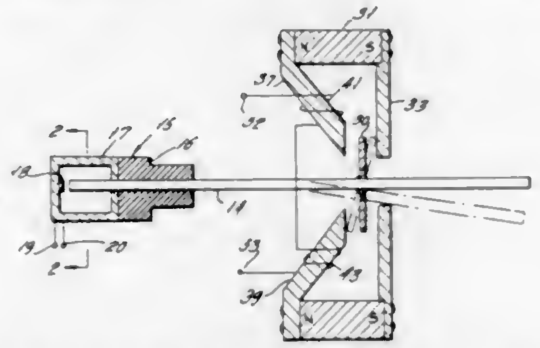
Jean Serra, Stations d'Essais-Irsid, Maizieres-les-Metz, Moselle, France
Filed June 30, 1966, Ser. No. 561,932
Claims priority, application France, July 2, 1965, 23,273
Int. Cl. G01n *21/30, 21/00;* **G01b** *11/28*
U.S. Cl. 250—219 10 Claims

An automatic scanning device analyzes the texture of a heterogeneous medium with means which detects a quality in one zone of the medium and converts the detected quality into an electric signal, means for displacing the zone within the medium and for taking uniformly spaced measurements throughout the medium, a memory system wherein each signal is stored, logical selection means for comparing the stored signals, and counting means for integrating separately the number of concordances and discordances of the stored signals.



3,449,587
FIBRE OPTIC SCANNER DEVICE FOR NAVIGATIONAL INSTRUMENTS

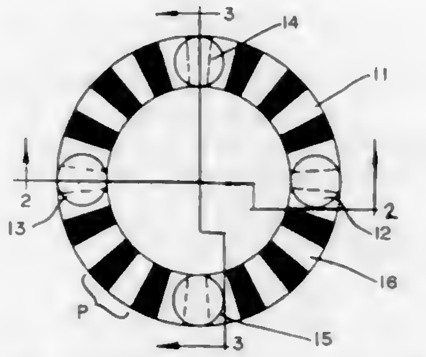
John W. Barnes, Floral Park, Queens, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Feb. 11, 1965, Ser. No. 431,822
Int. Cl. H01j *39/12*
U.S. Cl. 250—227 **3 Claims**



A scanning device in which a fibre optic filament is oscillated by a magnetic driving structure, with the oscillating end of the fibre optic element scanning the image of an object to be tracked. If the image moves to one side or another of the null position of the fibre optic scanner, error signals are generated to adjust the null position axis.

3,449,588
PHOTOELECTRIC INCREMENTAL ENCODER PROVIDING OUTPUT INDICATION OF AMOUNT AND DIRECTION OF RELATIVE MOTION BETWEEN TWO MEMBERS

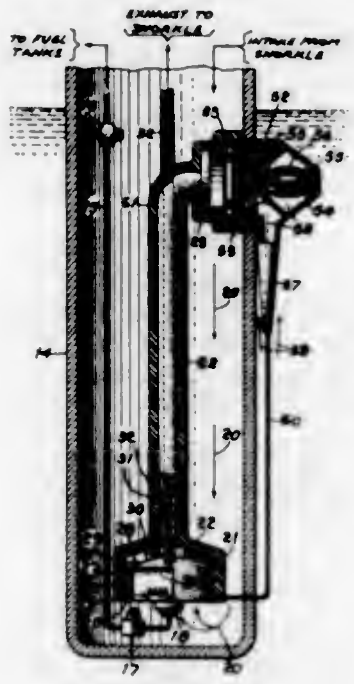
Roger D. Foskett, Winchester, Mass., assignor to Dynamics Research Corporation, Stoneham, Mass., a corporation of Massachusetts
Filed Mar. 14, 1966, Ser. No. 534,137
Int. Cl. G01d *5/34*
U.S. Cl. 250—231 **7 Claims**



A pair of relatively rotatable discs ruled with alternately opaque and transparent sectors is positioned between a pair of light sources and a pair of photodetectors. Light from the two sources is directed toward the discs at different angles, so that one detector produces a signal out of phase with the signal from the other, the phase relationship providing an indication of the direction of movement and the number of electrical cycles produced by the detectors providing an indication of the amount of the relative movement.

3,449,589
POWER SUPPLY SYSTEM

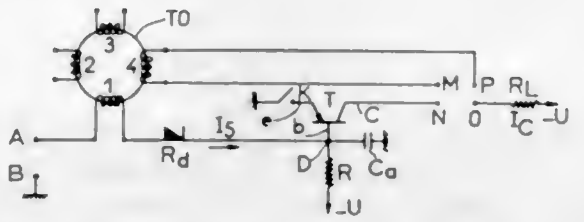
Charles P. Majkrzak, Nutley, and Michael S. Polgar, Eatontown, N.J., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed June 13, 1966, Ser. No. 556,990
Int. Cl. F02c *3/22*
U.S. Cl. 290—2 **7 Claims**



A power supply for unattended oceanographic station. Propane gas tanks are used to supply fuel to a mercury vapor turbogenerator to generate the electrical energy. The free circulation of external sea water is used as a heat sink to condense the mercury vapor. A lubricating arrangement is included for long-term unattended operation of the generator.

3,449,590
MAGNETOSTATIC RELAY ARRANGEMENT

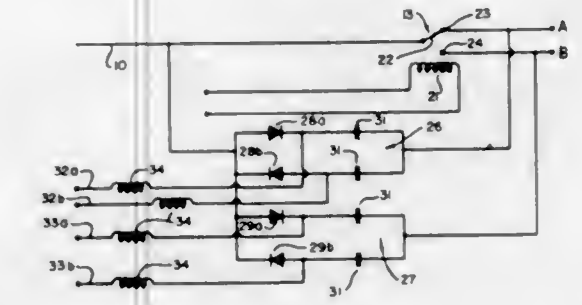
Claude Monin, Villennes-sur-Seine, France, assignor to CIT—Compagnie Industrielle des Telecommunications, Paris, France, a French corporation
Filed June 8, 1965, Ser. No. 462,197
Claims priority, application France, June 15, 1964, 978,314
Int. Cl. H01f *27/42*
U.S. Cl. 307—88 **10 Claims**



A magnetostatic relay including a magnetic amplifier having a load winding connected directly to the base of a transistor via a rectifier, the transistor emitter being connected to ground.

3,449,591
HIGH-SPEED SWITCHING SYSTEM

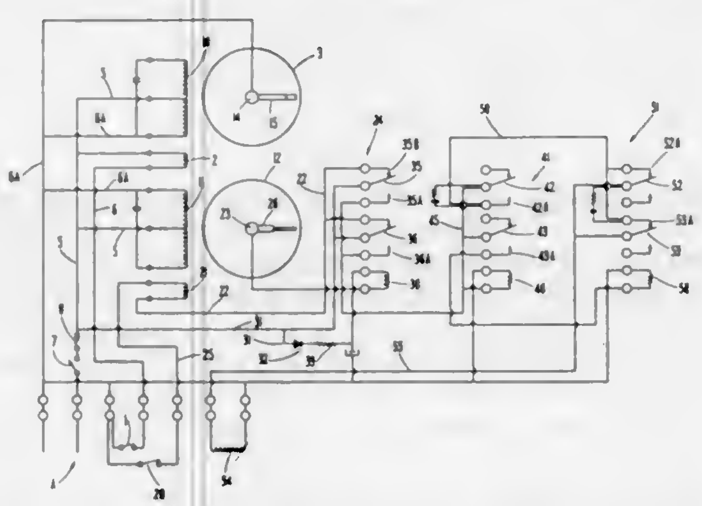
William G. Hoover, Los Altos Hills, Calif., assignor to Granger Associates, Palo Alto, Calif., a corporation of California
Filed May 20, 1966, Ser. No. 551,707
Int. Cl. H01h *9/30*
U.S. Cl. 307—136 **4 Claims**



A high-speed switching system for transferring large amounts of power form one load to a second load with high timing accuracy. A mechanical switch has its moving contact arm coupled to a source of power and switches between a pair of contacts one associated with each of two loads. In shunt with the mechanical switch are two low impedance paths each including a pair of diodes connected in push-pull arrangement. These paths temporarily carry the load current when the mechanical switch is in the process of switching.

3,449,592
TIMER CONTROL FOR TEXTILE FOLDING MACHINES OR THE LIKE

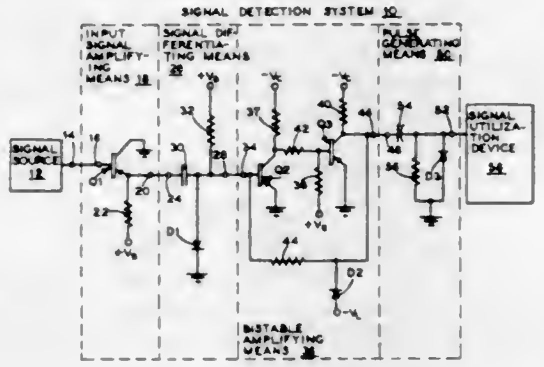
Robert L. Sjostrom, Boca Raton, Fla., assignor to Sjostrom Automations, Inc., Boca Raton, Fla., a corporation of Florida
Filed Feb. 27, 1968, Ser. No. 708,701
Int. Cl. H01h *7/00, 43/10*
U.S. Cl. 307—141 **6 Claims**



A timer for use with a textile folding machine or similar or similarly functioning machine. The timer consists essentially of two aligned motors operating at different but related speeds. These motors are connected to electrical contacts which are moved over the same path in opposite directions. A microswitch is engaged by an article as it passes over a conveyor for a time period which is equivalent to a measured length of the article. This switch is electrically connected to one motor which causes the contact on this one motor to move at a given speed over a selected distance from the initial starting position. When the article is disengaged from the switch, the motor stops rotating and the contact stops at a second position. At a subsequent time the article moves into engagement with a second switch which causes the second motor to rotate at a second faster speed as for example, a speed twice the speed of the first. Thus, the electrical contact connected to the second motor reaches the second position at which the first switch is located in half the time it took the first switch. When the second electrical contact reaches the second electrical contact a circuit is closed from a power supply to a time delay relay. This time delay relay in turn causes a solenoid to operate for a time period, depending upon the selected parameters of the time delay relay. This solenoid may be used to control an air valve and thereby effect a fold or other function on the article being carried at a line halfway along the length of the article.

3,449,593
SIGNAL SLOPE DERIVATIVE DETECTION APPARATUS

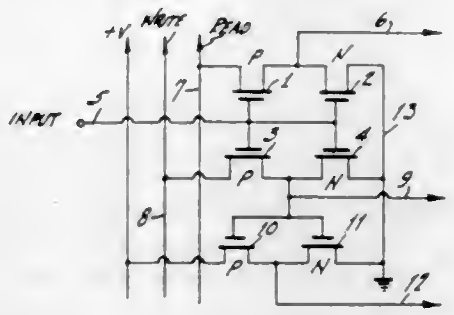
Francis C. Marino, Huntington, N.Y., assignor to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,495
Int. Cl. H03b *3/04;* **H03k** *17/00*
U.S. Cl. 307—235 **11 Claims**


SIGNAL DETECTION SYSTEM 10
INPUT SIGNAL AMPLIFYING MEANS 18
SIGNAL DIFFERENTIATING MEANS 28
PULSE GENERATING MEANS 50
SIGNAL SOURCE 12
SIGNAL UTILIZATION DEVICE 54
BISTABLE AMPLIFYING MEANS 36
Q1
Q2
Q3
D1
D2
D3
20
22
24
30
32
34
37
40
42
44

Single slope derivation detection apparatus comprising a signal differentiating means and a bistable amplifying means which detects the zero crossing of the differentiated signal.

3,449,594
LOGIC CIRCUITS EMPLOYING COMPLEMENTARY PAIRS OF FIELD-EFFECT TRANSISTORS

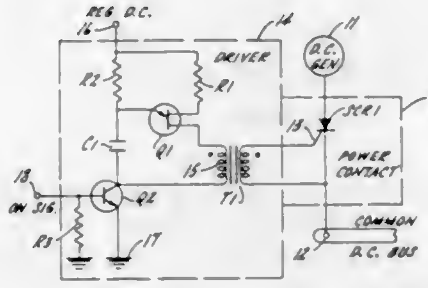
John James Gibson, Princeton, and Joseph R. Burns, Trenton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,562
Int. Cl. H03k *19/08*
U.S. Cl. 307—251 **8 Claims**



Two conduction paths, each comprising the series-connected source-to-drain channel of two field-effect transistors of different conductivity types. One end of each path may be connected to a source of reference potential, such as ground and the other end of each path may serve as first and second signal input terminals, respectively. One or a number of signals may be applied to the gate electrodes of the four transistors. There may be a signal output terminal in each path at the connection between the two channels of the path and the output terminal of one path may be connected to the other end of the second path.

3,449,595
D.C. BUS SWITCHING POWER CONTACT

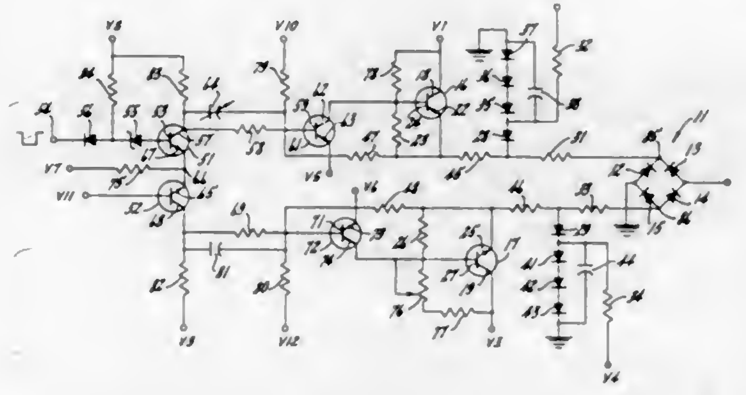
Albert J. Marek, Dallas, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 7, 1965, Ser. No. 485,646
Int. Cl. H03k *17/60*
U.S. Cl. 307—252 **5 Claims**



A direct current bus electronic switching power contact having a solid state component with its conduction electrodes in series from a direct current source to a load and with its control electrodes coupled to a relaxation oscillator and driver circuit to switch the solid state component to a condition of conduction during driver oscillations and to reverse bias the solid state component during driver cutoff or short out.

3,449,596
VIDEO GATING CIRCUIT

Walter E. Milberger, West Severna Park, Md., and Louis G. Ottobre, Corona, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 9, 1965, Ser. No. 478,493
Int. Cl. H03k *17/16*
U.S. Cl. 307—257 **2 Claims**

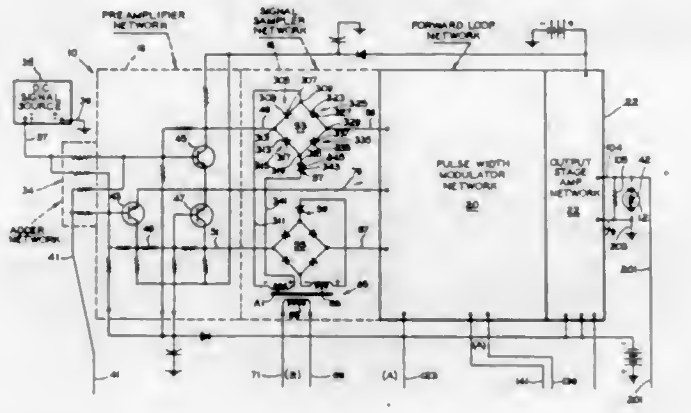


An improved video gating circuit for eliminating or controlling undesirable residue or pedestal voltage gating transients having a diode bridge network driven by a pair of complementary operational amplifiers utilizing positive feedback, for overcoming storage and delay variations associated with saturated switching while providing a relatively high voltage gain and properly biasing the diode bridge. A pair of diode clamps serve to minimize pedestal modulation.

3,449,597
SIGNAL SAMPLER NETWORK

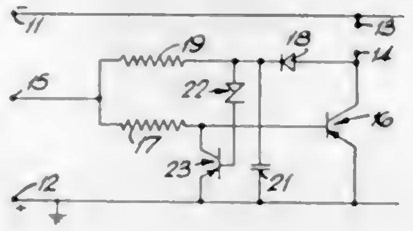
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 23, 1965, Ser. No. 489,640
Int. Cl. H03k *17/02*
U.S. Cl. 307—257 **4 Claims**

A dual signal sampler network including dual bridge means, each of said bridge means being controlled by a voltage responsive Zener diode, the Zener diode permitting passage of a sampled signal through the controlled bridge means upon a reverse current breakdown of the Zener diode by a selected passage of a reverse current breakdown control pulse, and inductive coupling means for simultaneously applying a reverse current breakdown control pulse to the Zener diode controlling each bridge means so as to simultaneously render both the dual bridge means conductive of respective dual sampled signals.



3,449,598
TRANSISTOR CIRCUITS

Maurice James Wright, Harborne, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Oct. 4, 1965, Ser. No. 492,430
Claims priority, application Great Britain, Oct. 14, 1964, 41,863/64
Int. Cl. H03k *1/12*
U.S. Cl. 307—202 **2 Claims**

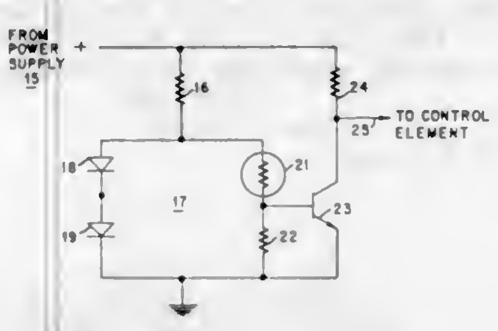


In a transistor circuit the load is connected in the collector circuit of a main transistor, and pulses are applied to the base of the transistor from time to time so that the main transistor conducts. At the same time as the main transistor conducts, a capacitor starts to charge, and in the event that the impedance of the load is below a predetermined value, then the capacitor charges sufficiently to break down a Zener diode or other voltage sensitive device, which in turn causes conduction of a switch, for example a transistor, for short-circuiting the base-emitter of the main transistor.

3,449,599
TEMPERATURE CONTROL CIRCUIT

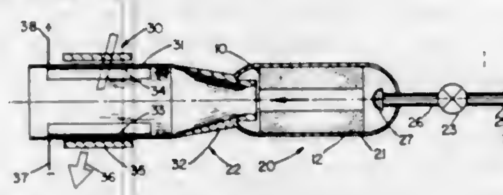
John J. Henry, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 5, 1967, Ser. No. 607,585
Int. Cl. H03k *1/02*
U.S. Cl. 307—310 **3 Claims**

The disclosure relates to temperature control circuits of medium accuracy for controlling the temperature of an object or space within a desired range of temperatures. Control is effected by using a temperature sensitive element, such as a thermistor, connected in a balanced bridge circuit so that changes in resistance of the thermistor, reflecting changes in temperature, will have the effect of unbalancing the bridge to produce control signals that will initiate changes in temperature of the heating or cooling system it controls and thus restores the desired temperature.



3,449,600
MHD GENERATOR FUELED BY SOLID GRAIN PROPELLANT

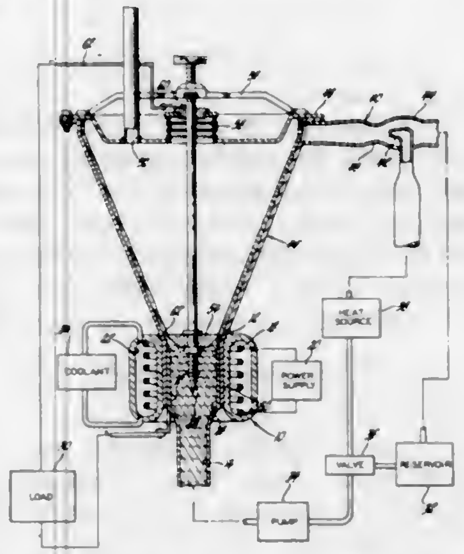
Allen L. Holzman, Palo Alto, and John J. Allport, Sunnyvale, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 7, 1964, Ser. No. 402,246
Int. Cl. F02k *9/00*
U.S. Cl. 310—11 **8 Claims**



4. An electrical generator comprised of a heat resistant hollow conduit having two open ends, first and second opposing heat resistant electrodes located on the inside surface of said conduit, means for creating a magnetic field across said conduit, and a hybrid rocket motor in fluid communication with said conduit said motor containing a solid propellant grain incapable of self-sustained combustion containing a predetermined amount of at least one component possessing a low ionization potential.

3,449,601
METHOD AND APPARATUS FOR GENERATING ELECTRIC POWER

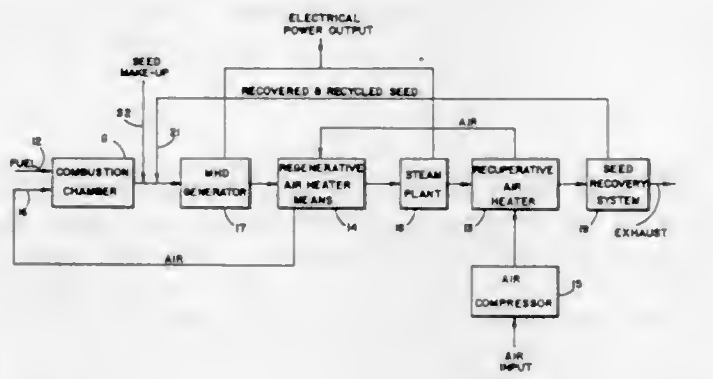
Donald L. Tipton, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 17, 1965, Ser. No. 514,621
Int. Cl. H02k *45/00;* **G21d** *7/02*
U.S. Cl. 310—11 **16 Claims**



Electric power generating method and apparatus utilizing a magnetohydrodynamic generator which is supplied conductive working fluid by an injector-condenser. The injector-condenser utilizes a gaseous phase of the working fluid to pump a liquid phase of the working fluid from a reservoir and causes the transfer of a two phase stream of working fluid at a high velocity to a frustoconical chamber where it follows a vortex-like path. In this chamber the gaseous and liquid phases are centrifugally separated and the gaseous phase is prevented from entering the magnetohydrodynamic chamber by a separator.

3,449,602
MEANS FOR AND METHOD OF HEATING GASES FOR MAGNETOHYDRODYNAMIC DEVICES

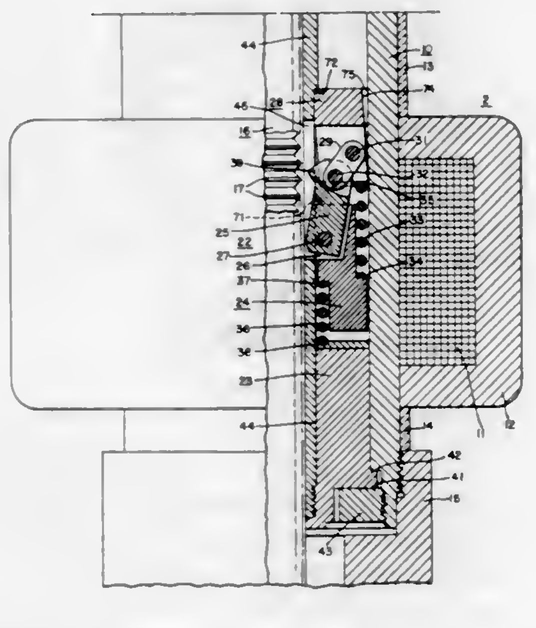
Finn A. Hals, Lexington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,721
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 **15 Claims**



Means for and a method of heating a combustion supporting medium such as air for MHD devices wherein the air is first preheated in a recuperative heater and then passed through and heated to its final temperature in regenerative heater means that prior to receiving the air is raised to a temperature and for a time that results in re-evaporation of any condensed seed in the regenerative heater means.

3,449,603
TWO-COIL LINEAR MOTION DEVICE

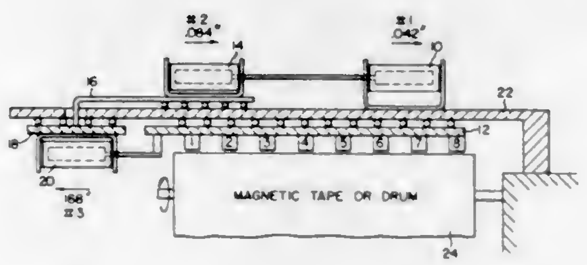
Thomas F. Hursen, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1967, Ser. No. 664,977
Int. Cl. H02k *41/02*
U.S. Cl. 310—12 **9 Claims**



The structure and operation of a linear motion device of the magnetic jack type are simplified by utilizing only two solenoid operating coils and gripper assemblies instead of three or more solenoids to produce bi-directional linear motion of a drive rod, or other element, in step-by-step manner.

3,449,604
LINEAR LOAD POSITIONER APPARATUS

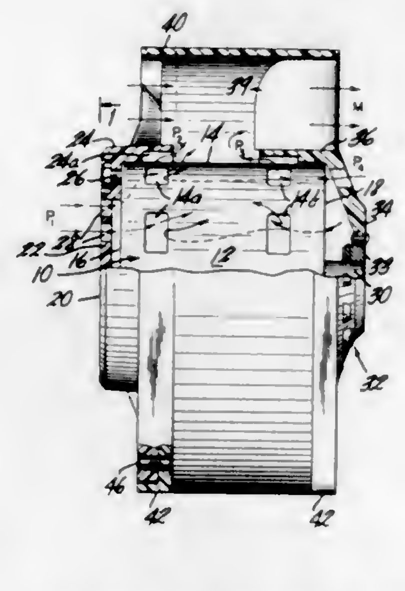
Howard A. Wagner, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1966, Ser. No. 520,120
Int. Cl. H02k *41/02*
U.S. Cl. 310—14 **2 Claims**



There is disclosed a very accurate load positioner apparatus for effecting a desired mechanical linear movement of a load; a predetermined movement load positioner apparatus including a plurality of movement effecting devices, such as solenoids, each operative for providing a different weighted distance of movement and that requires a minimum stroke movement to position a load to a selected one of a predetermined number of binary weighted load positions.

3,449,605
COOLING ARRANGEMENT FOR FAN-MOTOR COMBINATION

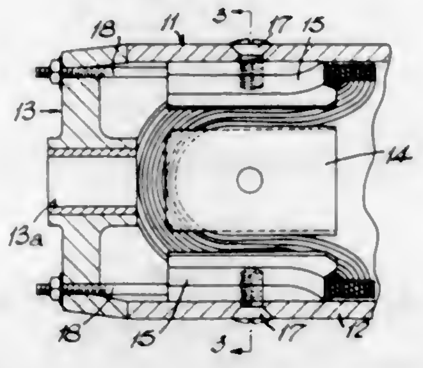
Donald S. Wilson, Latham, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,686
Int. Cl. H02k *9/06*
U.S. Cl. 310—58 **8 Claims**



A cooling arrangement for a fan including an electric motor having an air-moving element secured about its periphery to establish a main air stream axially thereof. Openings are formed at each end of the motor housing to provide access for cooling air to pass through the motor and annular air passages, formed around the motor, acting as Venturis, respond to the main air stream to establish cooling air flows through the motor without additional air-moving elements.

3,449,606
DYNAMOELECTRIC MACHINE WITH END COVER SECURED TO SALIENT POLES

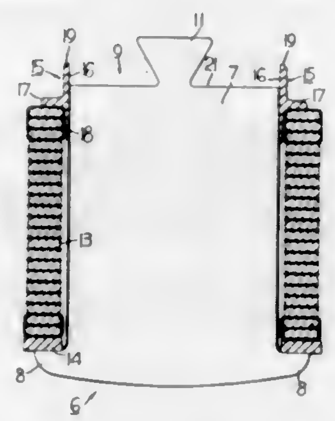
Kenneth Preece, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed July 24, 1967, Ser. No. 655,496
Claims priority, application Great Britain, Aug. 8, 1966, **35,376/66**
Int. Cl. H02k *5/02*
U.S. Cl. 310—89 3 Claims



A dynamoelectric machine including a yoke, pole pieces carried by the yoke, and an end cover secured to the yoke by means including one or more axially extending shanks carried by one or more of the pole pieces respectively, and engaging the end cover.

3,449,607
COIL SUPPORT IN SALIENT POLE DYNAMOELECTRIC MACHINE

John W. Sargent, New Berlin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 14, 1967, Ser. No. 690,668
Int. Cl. H02k *1/00, 3/00, 19/26*
U.S. Cl. 310—194 **2 Claims**



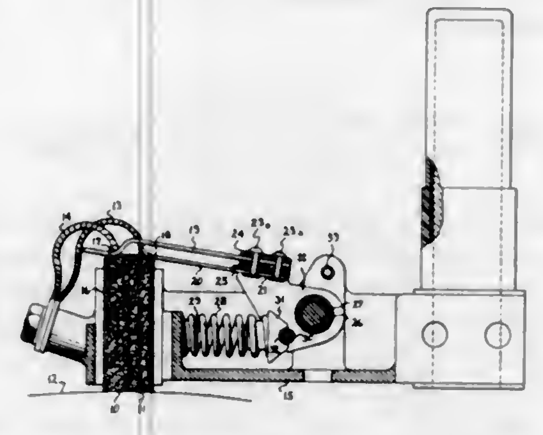
A T-shaped support for form wound coils positione about a pole piece of a salient pole dynamoelectric machine. One part of the cross of the T is tapered and is located between the pole and the coil. The leg of the T overlies the coil end. The other part of the cross of the T projects beyond the pole surface with the excess trimmed off after the assembly is dipped in varnish and baked.

3,449,608
BRUSH HOLDER

Howard J. McLean, North Palm Beach, Fla., assignor to General Electric Company, a corporation of New York
Filed Jan. 25, 1966, Ser. No. 522,947
Int. Cl. H01r *39/40;* **H02k** *13/10*
U.S. Cl. 310—246 **7 Claims**

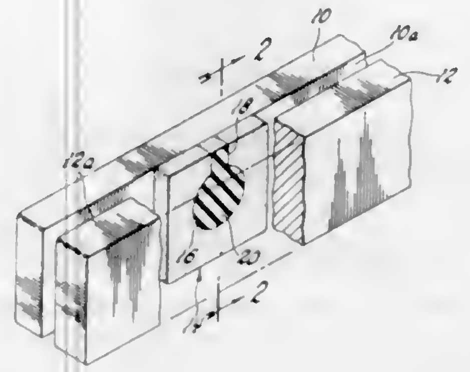
A brush holder assembly for a dynamoelectric machine having a support member with an opening to guide two

brushes arranged in tandem. A pivotally mounted crank member has first and second spring arms attached in cantilever fashion with the free end of one bearing on the top of one of the brushes and the free end of the other bearing on the top of the other brush. A spring means acts on the crank member and urges its rotation in a direction to cause the free ends of the spring arms to urge the brushes into contact with the commutator of the dynamoelectric machine.



3,449,609
SPACER BLOCK ARRANGEMENT FOR DYNAMO-ELECTRIC MACHINE WINDINGS

Elmer E. Thiessen, La Grange, Walter Drabik, Downers Grove, and Willard R. Stigler, Western Springs, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 29, 1966, Ser. No. 582,923
Int. Cl. H02k *3/46*
U.S. Cl. 310—260 **5 Claims**

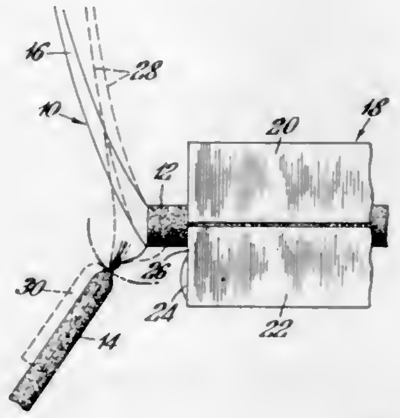


A spacer block arrangement for spacing the end turns of coils of a dynamoelectric machine. A plurality of spacer blocks formed of a hard insulating material are disposed between adjacent conductors. Each block has a recess which is filled with a plastic material. The plastic material connects the conductors and holds the spacer block in place relative to the conductors.

3,449,610
MAGNETIC CONTROL OF ELECTRIC ARCS BY MEANS OF PERMANENT MAGNETS ATTACHED TO THE ELECTRODE HOLDER

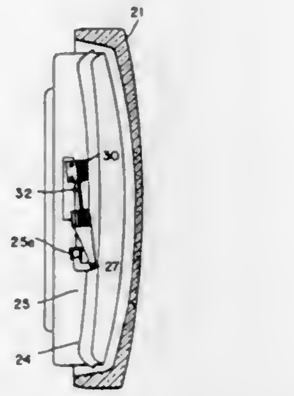
Roger E. Harrington, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed June 2, 1967, Ser. No. 643,136
Int. Cl. H01j *1/02, 7/24;* **H01k** *1/58*
U.S. Cl. 313—32 **7 Claims**

An arc illumination system which incorporates a magnetic material to offset the undesirable self-induced magnetic phenomena in the area of the arc. The magnetic material is placed in intimate contact with the positive electrode holder and is cooled substantially solely by virtue of its contact therewith.



3,449,611
SUSPENSION SYSTEM FOR COLOR TELEVISION TUBE MASK

James W. Schwartz, Western Springs, and Laszlo Javorik, Chicago, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois
Filed June 22, 1966, Ser. No. 559,623
Int. Cl. H01j *29/46, 29/18*
U.S. Cl. 313—85 **9 Claims**

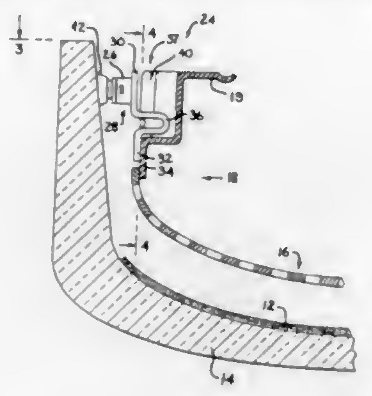


1. In a relatively elongated color television tube having an enlarged end with mask mounting posts extending inwardly at the top and sides of said tube adjacent said enlarged end, a mask positioned in said tube adjacent said enlarged end, and spring clips connecting said posts and corresponding portions of said mask, each spring clip comprising two parts, one part being connected to its associated post and the other part being connected to the corresponding portion of said mask, and bimetal means coupling said parts for moving said mask toward said enlarged end to compensate for expansion of said mask due to temperature increase thereof.

3,449,612
COLOR CATHODE RAY TUBE HAVING SHADOW MASK FRAME FORMED TO ACCOMMODATE A SUPPORT SYSTEM

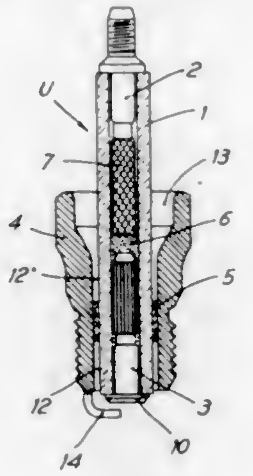
Charles W. Zachrich, Defiance, Ohio, assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 24, 1968, Ser. No. 723,832
Int. Cl. H01j *19/54, 21/00*
U.S. Cl. 313—85 **6 Claims**

A mask support frame having at least 3 walls and an instanding planar flange about the upper edge thereof formed with conformed pockets in a plurality of the walls at the jointure area between the walls and the flange to accommodate movement amplifying hinges of the frame support system and allow utilization of the planar instanding flange.



3,449,613
CENTER ELECTRODE OF A SPARK PLUG FIXED IN PLACE BY PLASTIC METAL

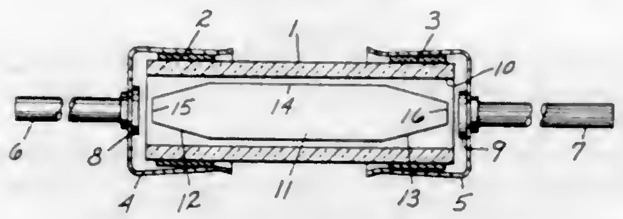
Francesco Testerini, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy
Filed Jan. 30, 1967, Ser. No. 612,550
Claims priority, application Italy, Jan. 31, 1966, 14,014/66
Int. Cl. F23q *3/00;* **H01t** *13/02, 13/08*
U.S. Cl. 313—136 **6 Claims**



The insulator of the spark plug which locks the central electrode is fixed to the spark plug body 4 by means of a bushing 5 of plastic metal which can be fixed at the desired height inside the constant thickness gap provided between said parts.

3,449,614
SPARK GAP

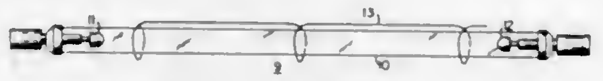
Arthur L. Myers, Lake City, Pa., assignor to Erie Technological Products, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Jan. 27, 1967, Ser. No. 612,150
Int. Cl. H01j *21/22*
U.S. Cl. 313—146 **2 Claims**



A floating conductor shorter than the distance between end terminals provides either a single long gap or two shorter gaps which break down to provide over voltage protection.

3,449,615
XENON FLASH LAMP FOR LASER PUMPING IN LIQUID NITROGEN

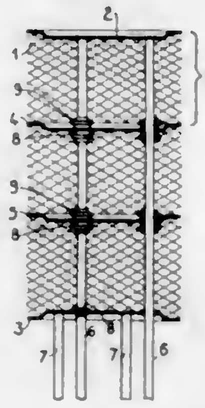
James W. Tucker, Alexandria, and James N. Bradford, Falls Church, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 25, 1965, Ser. No. 442,838
Int. Cl. H01j *61/16, 61/12*
U.S. Cl. 313—226 **3 Claims**



This disclosure is directed to a xenon flash lamp for laser pumping in liquid nitrogen. The lamp includes an operating gas of xenon and a starting gas selected from helium, neon, argon, krypton, hydrogen or nitrogen at a partial pressure of from 5 to 400 torr depending on the type of starting gas used. The starting gas is activated which in turn heats the xenon so that the tube will then operate with the xenon. The starting tube and laser are immersed in liquid nitrogen and the lamp may be operated even though it is immersed in the liquid nitrogen.

3,449,616
TUBULAR MESH CATHODE FOR HIGH-POWER ELECTRONIC TUBES

Jean M. Sarrois, Haute-Savoie, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed July 5, 1966, Ser. No. 562,608
Claims priority, application France, July 7, 1965, 25,295
Int. Cl. H01j *19/08*
U.S. Cl. 313—341 **8 Claims**

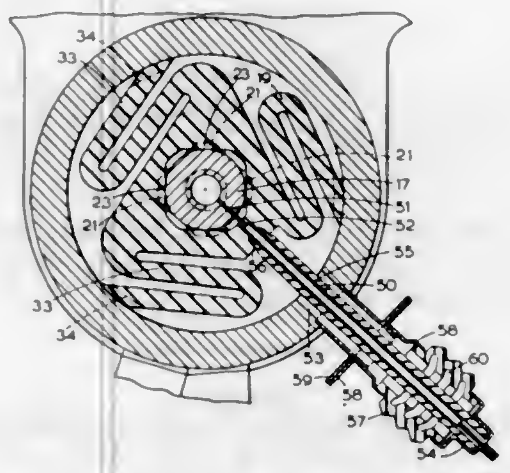


A cathode for high-power electronic tubes includes a plurality of tubular wire mesh portions, the axial length of each portion being shorter than their respective diameters. The ends of the mesh portions are fixed to the edge of circular plates so that sagging and other undesired deformations of the cathode when the tube is hot are substantially eliminated.

3,449,617
ELECTRON DISCHARGE DEVICE HAVING AT LEAST ONE ELECTRODE MOUNTED BY A MEANDER-TYPE INSULATOR

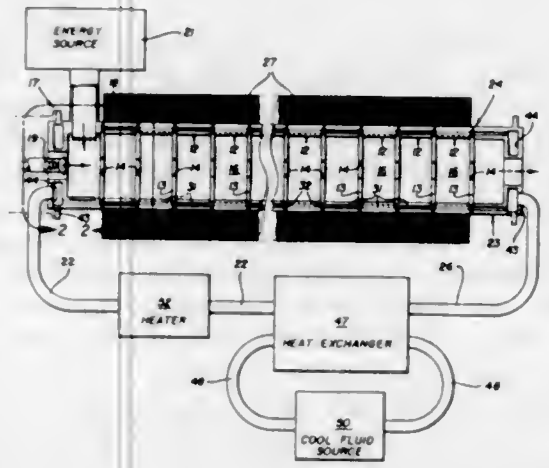
Karl Heinz Robert Christian Kreuchen, Heston, and Norman Edward Dixon, Ickenham, England, assignors to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain
Filed Oct. 24, 1966, Ser. No. 588,810
Claims priority, application Great Britain, Nov. 3, 1965, 46,596/65
Int. Cl. H01j *23/08, 25/34*
U.S. Cl. 315—5.34 **8 Claims**

An electron discharge device, such as a klystron comprises means for producing electrons, electrostatic focussing means for constraining said electrons to travel as a beam past energy interchange means, and means for collecting said electrons. The focussing means includes one electrode having a central aperture for the beam located closely adjacent to a conducting surface of said energy interchange means. The said electrode is mounted by means of an insulator which contacts said electrode and said conducting surface and is formed as a meander so that there is no direct path on the surface of said insulator from a point of contact with said electrode to a point of contact with said conducting surface.



3,449,618
WAVEGUIDE COOLING SYSTEM FOR LINEAR ACCELERATOR

William J. Gallagher, Walnut Creek, Calif., assignor to Applied Radiation Corporation, Walnut Creek, Calif., a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,565
Int. Cl. H01j *25/10*
U.S. Cl. 315—5.41 **5 Claims**

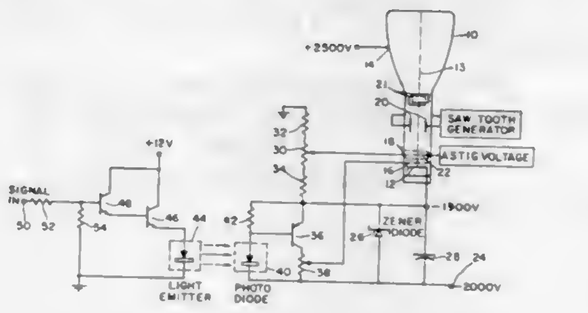


A waveguide cooling system for linear accelerator utilizing a plurality of longitudinally extending passageways formed in the waveguide walls and interconnected by annular passageways surrounding the waveguide iris disks.

3,449,619
APPARATUS FOR CONTROLLING THE VOLTAGE ON AN ELECTRON TUBE ELEMENT

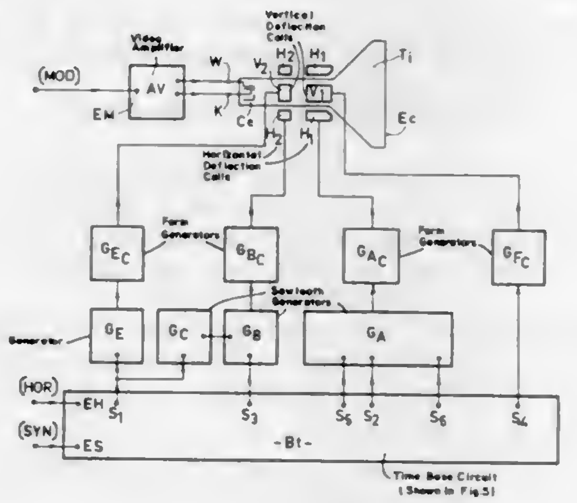
Bernard J. Stalp, Hillsboro, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Apr. 21, 1967, Ser. No. 632,706
Int. Cl. H01j *31/26*
U.S. Cl. 315—10 **10 Claims**

Apparatus for applying a modulating control signal at a low voltage level to an element of an electron tube connected to a higher voltage supply. A modulating signal operates a light source for illuminating light-sensitive means connected in a circuit at the higher voltage level of the electron tube element. A DC voltage differential or bias applied to such tube element is altered in accordance with the modulation.



3,449,620
DEVICE FOR REPRODUCING INFORMATION ON THE SCREEN OF A CATHODE-RAY TUBE

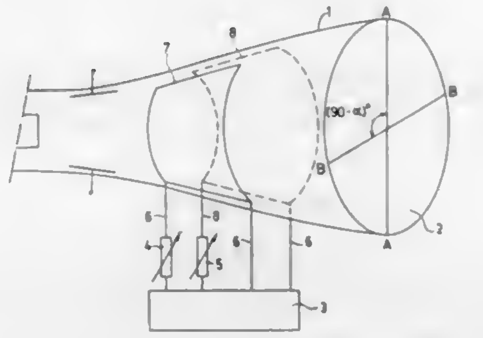
Jean Caron and Firmin Bigo, Evreux, Eure, France, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 19, 1966, Ser. No. 543,561
Claims priority, application France, May 28, 1965, 18,746
Int. Cl. H01j *29/70*
U.S. Cl. 315—22 **17 Claims**



An alpha numerical display system for displaying rows and columns of symbols, in which the symbols are scanned in sequence in each row, the rows are scanned in sequence, and each symbol is scanned in a series of vertical scans before the next symbol is scanned. Each symbol has a plurality of points that are intensified in a predetermined sequence to provide a desired illuminated symbol. The horizontal scan wave is the sum of three sawtooth waves: the first of which has an amplitude corresponding to the length of a row symbols and a trace time corresponding to the time required to scan a row of symbols, the second of which has an amplitude corresponding to the width of a symbol and the adjoining space and a trace time corresponding to the time required to scan a symbol, and the third of which has an amplitude corresponding to the distance between adjacent horizontal points of a symbol and a trace time corresponding to the time for scanning one vertical line of a symbol. The vertical scan wave is the sum of a sawtooth signal having an amplitude corresponding to the height of a symbol and having a trace time corresponding to the time required to vertically scan a symbol, and a stepwave signal having a step height corresponding to the interval between rows and a step width corresponding the time required to scan a row of symbols.

3,449,621
ARRANGEMENT FOR CORRECTING DEFLECTION ERRORS IN A CATHODE-RAY TUBE

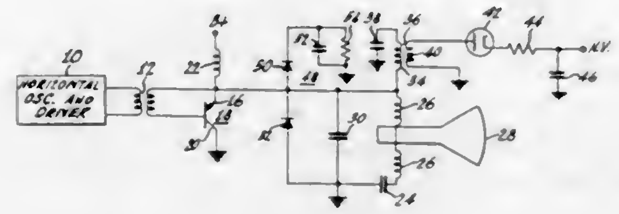
Erich Eduard Himmelbauer and Jan Peper, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 10, 1966, Ser. No. 571,619
Claims priority, application Netherlands, Aug. 13, 1965, 6510584
Int. Cl. H01j *29/70, 29/80*
U.S. Cl. 315—25 **5 Claims**



A cathode ray tube that includes electrostatic deflection means for deflecting the electron beam along first and second perpendicular axes. Deflection errors are compensated by providing means for producing a quadripolar magnetic field having asymptotes that are parallel to said axes. The quadripolar field is located between the electrostatic deflection means and the screen of the tube so as to rotate the deflection axes of the electron beam.

3,449,622
TELEVISION DEFLECTION CIRCUITS

Carl F. Wheatley, Jr., Somerset, N.J., assignor to Radio Corporation of America a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 443,034
Int. Cl. H01j *29/76*
U.S. Cl. 315—27 **7 Claims**

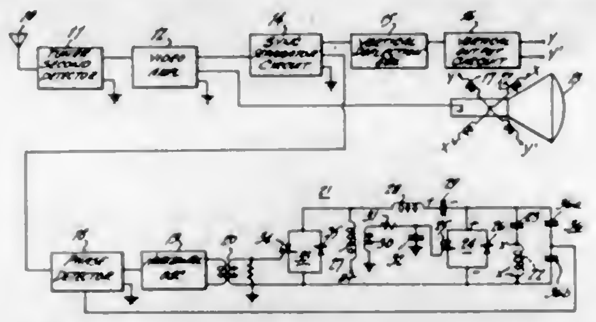


A protection circuit associated with the horizontal output transistor in a television receiver comprises a capacitor coupled in series relation with the transistor and with an associated output transformer. A limiting resistor is also incorporated between a high voltage filter capacitor and a high voltage rectifier coupled to the transformer. A voltage clamp is also coupled across the transistor.

3,449,623
ELECTRON BEAM DEFLECTION CIRCUIT

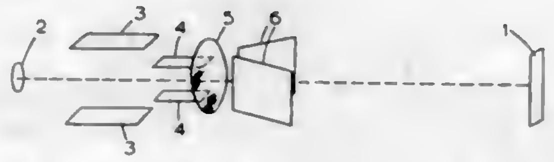
Wolfgang F. Dietz, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,375
Int. Cl. H01j *29/70, 29/74*
U.S. Cl. 315—27 **24 Claims**

A solid state horizontal deflection circuit is provided utilizing a combination of two bidirectionally conductive switching means which serve respectively as trace and retrace switches. Each of the switching means comprises the parallel combination of a silicon controlled rectifier (SCR) and a diode. The retrace switch is triggered on shortly before the desired beginning of retrace and, in conjunction with a resonant commutating circuit, serves to turn off the trace switch thereby initiating retrace. The commutating circuit is arranged to turn off the retrace SCR before the end of retrace.



3,449,624
FOCUSING AND DEFLECTING SYSTEM FOR A CATHODE RAY TUBE

Bernard Joseph Mayo, Beaconsfield, and James Alec Lodge, Maidenhead, England, assignors to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain
Filed Sept. 15, 1966, Ser. No. 579,766
Claims priority, application Great Britain, Sept. 25, 1965, 40,904/65
Int. Cl. H01j *29/56, 29/74*
U.S. Cl. 315—31 **5 Claims**

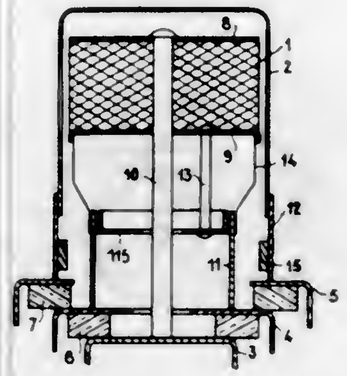


A cathode ray tube having electrostatic focusing and deflecting systems has in order between the gun cathode and the target, first and second pairs of opposed electrodes symmetrically arranged relative to the axis of the tube, a mesh electrode perpendicular to the axis of the tube and a further pair of opposed electrodes symmetrically arranged with respect to the axis of the tube. The second pair of electrodes is supplied with potentials for deflecting the beam in a first plane including the axis of the tube, and the further pair of electrodes is supplied with potentials for deflecting the beam in a second plane including the first axis and perpendicular to said first plane. Moreover, the first and second pair of opposed electrodes are also suitably energised to form a first cylinder electrostatic lens for focusing the electrons in said first plane to a line perpendicular to said plane. The mesh and the further pair of opposed electrodes cooperate to form a second cylinder electrostatic lens for focusing the electrons in the second plane, to produce in the absence of the first cylinder electrostatic lens a line perpendicular to said second plane. The mesh is positioned adjacent the exit end of the second pair of opposed electrodes to control the curvature of the image field.

3,449,625
ELECTRON TUBE HAVING IMPROVED LOW-IMPEDANCE CATHODE CONNECTING MEANS

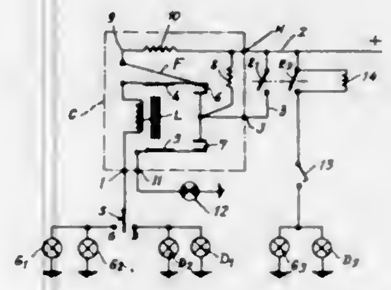
Pierre Gerlach, Thonon-les-Bains, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France
Filed Apr. 25, 1967, Ser. No. 633,512
Claims priority, application France, May 27, 1966, 63,239
Int. Cl. H01j *7/44, 13/46, 17/34*
U.S. Cl. 315—40 **8 Claims**

The cathode in the form of a tubular wire mesh (**1**) supported between spaced end plates (**8, 9**) is connected across the connector terminals (**3, 4**) of the tube by means of massive conductor rods (**10, 13**) providing a low-resistance path for the direct current serving to heat the cathode, and is also connected to one of said terminals (**4**) by way of an annular set of thin strip conductors (**14**) providing a parallel low-impedance path for signal frequency currents. An impedance-matching ring (**16**) having a tapered surface (**17**) provides a gradual impedance transition from the impedance between cathode (**1**) and grid (**2**), to the impedance between the respective connector sleeves (**11, 12**).



3,449,626
CONTROL MECHANISMS FOR FLASHING LIGHTS, ESPECIALLY FOR DIRECTION INDICATOR LIGHTS FOR MOTOR VEHICLES

Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, Hauts-de-Seine, France
Filed Oct. 24, 1965, Ser. No. 504,374
Claims priority, application France, Feb. 16, 1965, 5,732
Int. Cl. B60q *1/38*
U.S. Cl. 315—77 **1 Claim**

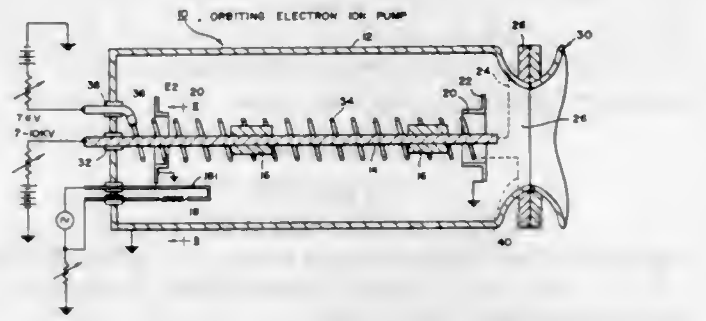


A control mechanism for the lights of a vehicle comprising a flasher unit including means to shunt resistors in the lighting circuitry thus providing high and low light intensities for daylight and night driving respectively.

3,449,627
ORBITING ELECTRON IONIZATION PUMP HAVING TWO ANODES

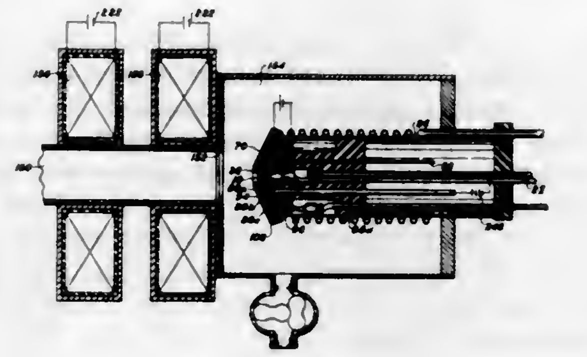
Joseph C. Maliakal, Waltham, Mass., assignor to National Research Corporation, Highlands, Mass., a corporation of Massachusetts
Filed June 9, 1967, Ser. No. 644,958
Int. Cl. H01j *13/28, 17/22*
U.S. Cl. 315—109 **1 Claim**

Orbiting electron type of vacuum pump with a double anode structure comprising a first central anode containing a getter source surrounded by a second transparent anode. With both anodes operating (second at slightly lower potential than the first), the first anode potential basically controls getter sublimation rate and the second anode potential basically controls ionization rate.



3,449,628
PLASMA ARC ELECTRODES WITH ANODE HEAT SHIELD

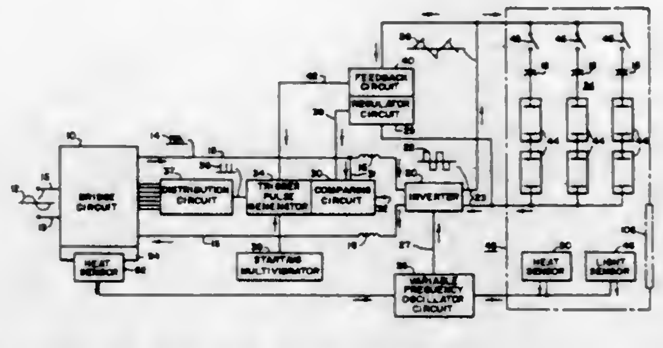
Gordon L. Cann, Laguna Beach, and Robert L. Harder, Altadena, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 458,837, May 20, 1965. This application Apr. 27, 1966, Ser. No. 545,701
Int. Cl. H01j *7/24, 17/26, 17/28*
U.S. Cl. 315—111 **8 Claims**



A method of and apparatus for electromagnetically containing a body of high temperature plasma are disclosed. The approach disclosed involves extracting from the plasma a substantial fraction of the heat otherwise absorbed by the anode by providing an electrically floating heat absorbing electrode downstream of and adjacent the anode.

3,449,629
LIGHT, HEAT AND TEMPERATURE CONTROL SYSTEMS

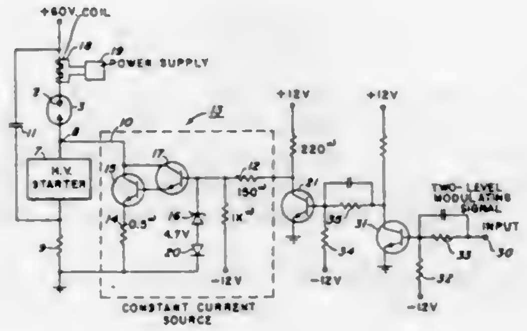
John W. Wigert, Berea, Ohio, and Laban E. Lesster, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 486,284, Sept. 10, 1965. This application May 16, 1968, Ser. No. 731,675
Int. Cl. H05b *37/02, 39/04, 41/36*
U.S. Cl. 315—151 **8 Claims**



A room is controlled both with respect to temperature and lighting level by varying the energization of the lighting load. This is accomplished by separate temperature and lighting level sensors which act to control the power level to the lighting load. In the preferred circuit, the sensors control the frequency of a variable-frequency oscillator, which in turn controls the rate of switching of an inverter. This rate of switching, in turn, controls the power input to the lighting load.

3,449,630
MODULATION OF ARC LAMP

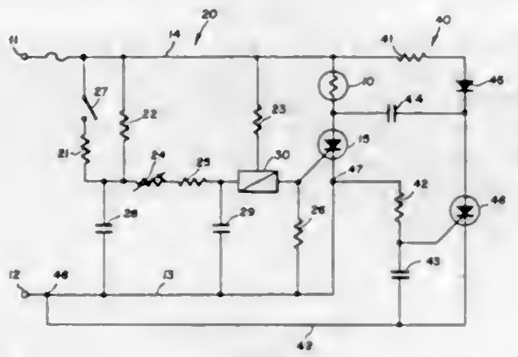
Charles T. Roth, Webster, and James A. Smith, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 20, 1965, Ser. No. 514,808
Int. Cl. H05b *37/02, 39/09, 41/30*
U.S. Cl. 315—172 **6 Claims**



The modulation to a mercury short-arc lamp emanates from a controllable constant current source which is positioned in parallel across the simmering arc lamp. The simmering arc is maintained across the lamp electrodes during quiescent periods by a coil and power supply in coupling relation to the lamp. Consequently, the cutting in and out of the constant current source achieves a rapid virtually square pulse modulation of the arc lamp which emits a light output that is essentially a function of the current through the arc.

3,449,631
POWER CONTROL CIRCUIT FOR LOW VOLTAGE LAMPS

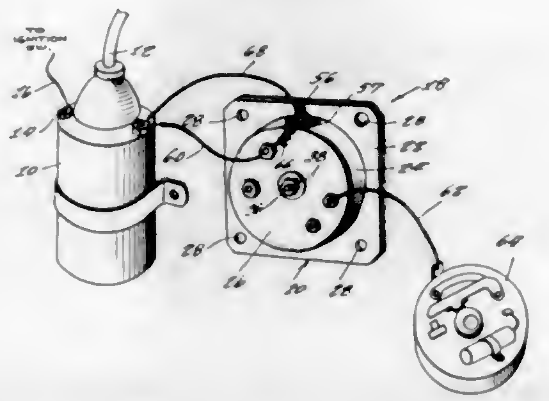
Jay G. Schreckengdust, Lima, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
Filed Mar. 8, 1968, Ser. No. 711,611
Int. Cl. H05b *37/02, 39/04*
U.S. Cl. 315—238 **10 Claims**



Low voltage, high current density lamps are pulse energized by a phase shift network triggering an SCR in series with the lamp, and the power is regulated by an RC integrating circuit that detects the voltage drop in a length of conductor in the load circuit and triggers another SCR to discharge a commutating capacitor into the load circuit. The phase shift network is also commutated by the commutating capacitor to prevent instant re-triggering of the SCR in the load circuit.

3,449,632
SAFETY CUTOUT SWITCH

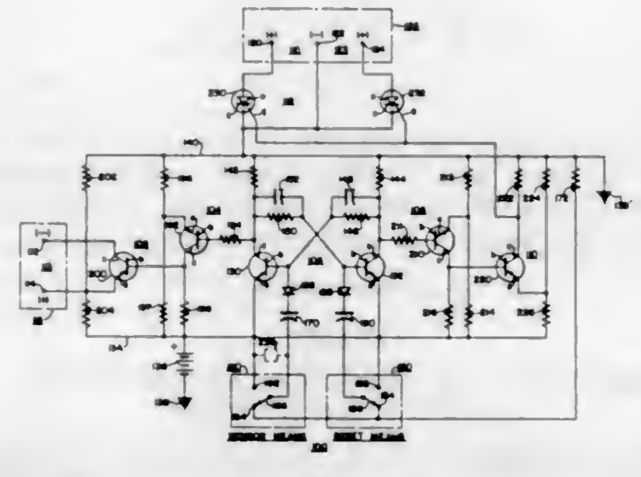
Charles E. Hagel, 2002 Albany Ave., Rte. 1, Hot Springs, S. Dak. 57747
Filed Jan. 9, 1967, Ser. No. 608,010
Int. Cl. H01h *35/02;* **H02h** *5/00, 1/00*
U.S. Cl. 317—9 **4 Claims**



A safety cutout switch which is provided with a circuit connection with the ignition of an automobile operative to cutoff the ignition in the event the automobile overturns to prevent a short-circuit and possible fire and further provided with a two-part housing for the safety cutout switch for mounting transversely of the automobile and providing a support for each end of a fixed shaft therein, the shaft carrying a weight swingable in a plane transverse of the automobile operative on upset of the automobile to move a contact element to open the ignition circuit, including a direct connection from the coil to a separate contact suitably located in the housing to be engaged by the movable weight on upset of the automobile operative to ground the ignition circuit to shutoff the engine, this serving as an additional safety feature should the cutout contact points fail to separate.

3,449,633
ELECTRICAL TRANSFORMER

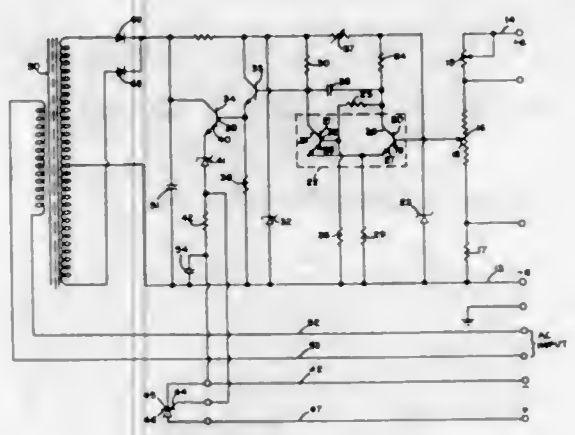
Heinz G. Fischer and James C. Schroeder, Muncie, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 7, 1967, Ser. No. 621,320
Int. Cl. H02h *7/14, 7/04, 5/00*
U.S. Cl. 317—14 **5 Claims**



A power transformer having a magnetic core-winding assembly disposed within a casing which contains an insulating dielectric fluid, sensing means disposed to sense the rate of change of pressure within the casing, and a solid state relay which has a flip-flop circuit responsive to the sensing means. The flip-flop circuit controls static switches which are adapted for connection in protective and alarm circuits for the transformer.

3,449,634
OVERVOLTAGE PROTECTION DEVICE FOR REGULATED POWER SUPPLIES

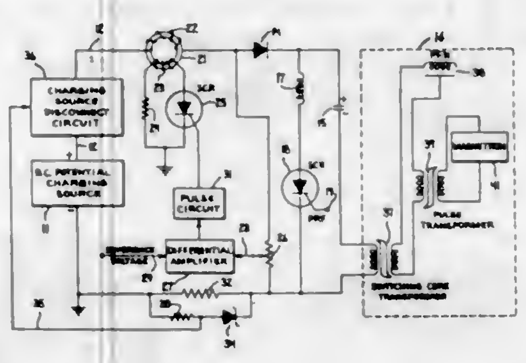
Han-Min Hung, Cambria Heights, N.Y., assignor to Forbro Design Corp., New York, N.Y., a corporation of New York
Filed Dec. 23, 1966, Ser. No. 604,380
Int. Cl. H02h *3/28*
U.S. Cl. 317—31 **10 Claims**



An overvoltage protection circuit for direct current (DC) power supplies compares a portion of the voltage across the load to be protected with a reference voltage using a Schmitt trigger which also generates a pulse to fire a crowbar silicon controlled rectifier also connected across the load whenever the load voltage exceeds a predetermined voltage for longer than a minimum time interval.

3,449,635
TRANSMITTER OVERLOAD PROTECTION CIRCUIT

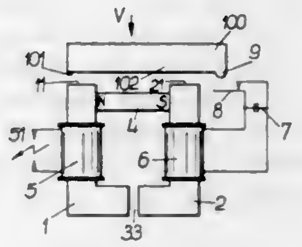
John P. Staples, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 21, 1967, Ser. No. 662,210
Int. Cl. H02h *3/08, 7/20*
U.S. Cl. 317—31 **5 Claims**


CHARGING SOURCE DISCONNECT CIRCUIT
D.C. POTENTIAL CHARGING SOURCE
PULSE CIRCUIT
DIFFERENTIAL AMPLIFIER
SCR
PULSE TRANSFORMER

An overload protection and charge level regulation circuit for a solid state magnetic modulator of a radar transmitter in which a toroidal inductance operating near saturation has a first winding utilized in place of the ordinary charging choke in the modulator charging loop. A second winding of the toroidal inductance is coupled in series circuit with a resistance and a silicon controlled rectifier (SCR) which, in turn, is controlled by a voltage sensing circuit coupled in parallel with the modulator pulse storage capacitance. In normal operation, the voltage sensing circuit triggers the SCR-second winding circuit at a predetermined voltage level late in the capacitance charging cycle in order to prevent overcharging the capacitance; however, a short or open in the transmitter load will cause the SCR to be triggered much earlier in the charging cycle causing the inductance to saturate, breaking down a Zener diode-resistance circuit which is in series with the storage capacitance in the charging loop, to produce a pulse which may be utilized to control a charging source disconnect circuit that removes the direct current (D.C.) potential source from the charging loop, thereby shutting off the transmitter. A short in the charging loop itself will cause the Zener diode network to produce a similar disconnect pulse to protect the modulator and transmitter circuitry.

3,449,636
SYSTEM FOR GENERATING NONPERIODICAL ELECTRIC SPARKS

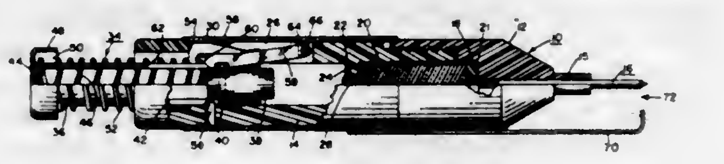
Klaus Dieter Wosylus, Frankfurt am Main, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Mar. 13, 1968, Ser. No. 712,835
Claims priority, application Germany, Mar. 16, 1967, B 91,646
Int. Cl. H01t *13/40;* **F23q** *3/00, 5/00*
U.S. Cl. 317—81 **5 Claims**



A system for mechanically generating nonperiodical electric sparks has a permanent magnet, two soft iron conductors each in contact with a pole of the magnet, and at least one armature that is movable between a position in contact with the ends of the conductors and a position spaced therefrom. The other ends of the conductors for at least a time period define an air gap. A low voltage coil surrounds one conductor and is arranged in parallel with a condenser and a normally closed switch that is opened by the armature as the armature moves into the contact position, and a high voltage coil that surrounds the other conductor and is in series with a spark gap arrangement.

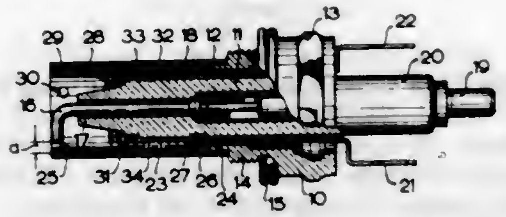
3,449,637
PUSHBUTTON PIEZOELECTRIC IGNITER

Akio Suzuki, Tokyo, Japan, assignor to Clevite Corporation, a corporation of Ohio
Filed Dec. 29, 1967, Ser. No. 694,658
Claims priority, application Japan, Jan. 6, 1967, 42/1,720
Int. Cl. F23q *3/01*
U.S. Cl. 317—81 **10 Claims**



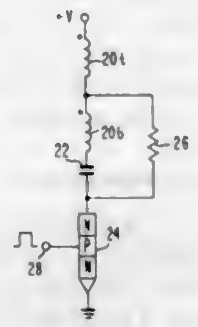
A pushbutton piezoelectric igniter for manual actuation having an elongated tubular housing carrying a piezoelectric element which is actuated by impact. The impact mechanism is also generally tubular and includes a push rod carrying a spring biased hammer, a latch for restraining the hammer while the push rod is being depressed until the rod lifts off the restraining force and permits the hammer to suddenly strike the piezoelectric element. A modification includes a stationary outer sleeve telescoped over the housing so that the main body but particularly the electrode may be shifted into and retracted from the flame area.

3,449,638
IGNITION DEVICE
Otto Beesch, Stuttgart-Sonnenberg, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Feb. 29, 1968, Ser. No. 709,479
Claims priority, application Germany, Apr. 27, 1967, B 70,728
Int. Cl. F23q *7/06, 3/00;* **F02p** *19/02*
U.S. Cl. 317—82 **5 Claims**



A glow plug comprises a first electrode and a second electrode surrounding the first electrode with clearance. An insulating member surrounds the first electrode in the clearance and has an outer circumferential face spaced from the second electrode. A helically convoluted resistance wire overlies the outer circumferential face spaced from the second electrode and is fixed with one end to the second electrode and with the other end to a terminal which is electrically insulated from both electrodes. Intermediate its ends two convolutions of the resistance wire are in part received in two annular grooves provided in the outer circumferential face of the insulating member.

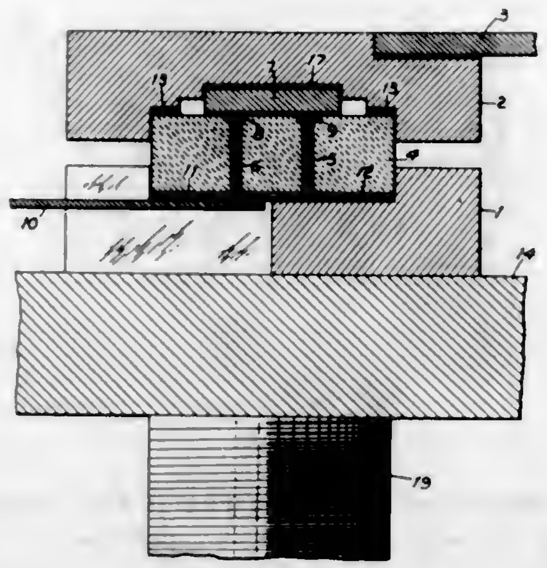
3,449,639
ACTUATOR DRIVER CIRCUIT
Edgar Alan Brown, Saratoga, and Richard H. Darling, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,311
Int. Cl. H01h *47/10, 47/14, 47/32*
U.S. Cl. 317—123 **10 Claims**



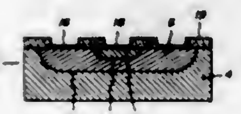
A driver circuit for an electromagnetic device wherein an actuator coil is coupled in a first circuit path with an energy storage device which permits a high initial current responsive to the energization of a switch means and then progressively shunts current to a second circuit path comprising an impedance element and a part of the actuator coil to produce a second lower level of current. Upon deenergization of the switch means the energy storage device discharges the stored energy through the impedance element and the other part of the actuator coil to rapidly decrease the current in the circuit to substantially zero.

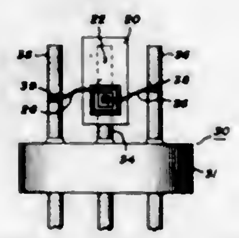
3,449,640
SIMPLIFIED STACKED SEMICONDUCTOR DEVICE
William S. Franklin, North Palm Beach, Fla., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,857
Int. Cl. H01l *5/00, 7/00*
U.S. Cl. 317—234 **8 Claims**

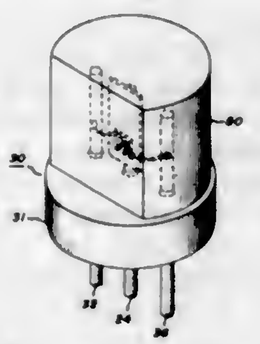
A semiconductor device, e.g. a high frequency power transistor, made up of a number of interlocking component parts which may be readily assembled utilizing mass production techniques. After assembly, ("stacking" the parts), the stacked array is passed through a furnace to solder all connections simultaneously. The device includes (i) an upper terminal member, (ii) an active semiconductor element located in a recess in the upper member, (iii) a dielectric spacer having slots therein lined with conductive material, the slots being flared at one surface of the spacer to engage and index with corresponding raised terminals of the active element, and (iv) a lower terminal member joined to a metallized area on the opposite surface of the spacer (said metallized area being electrically connected to one of the conductive slot linings) together with (v) means for making electrical connections to another metallized area on said opposite surface (the other metallized area being electrically connected to the other conductive slot lining), the upper terminal member and the lower terminal member.

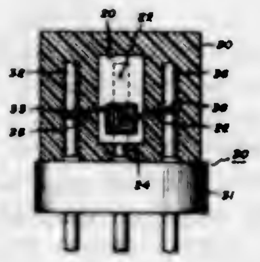


3,449,641
EPOXY ENCAPSULATED SEMICONDUCTOR DEVICE WHEREIN THE ENCAPSULANT COMPRISES AN EPOXY NOVOLAK
Harold R. Lee, Auburn, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 11, 1966, Ser. No. 519,853
Int. Cl. H01l *7/00*
U.S. Cl. 317—234 **12 Claims**



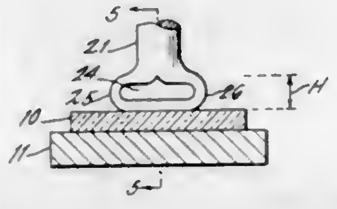






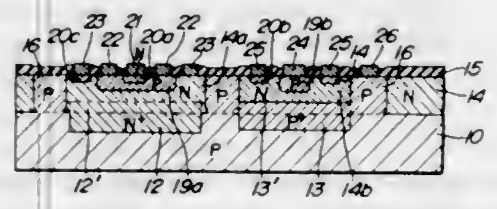
An electronic component comprising a body of semiconductor material having metallic contacts and encapsulated in a moisture permeability-resistant filled epoxy resinous encapsulant having an epoxide equivalent weight of about 175 to 182 and cured with an amine-free mixed curing agent of nadic methyl anhydride and hexahydrophthalic anhydride.

3,449,642
O-BEND LEAD FOR SEMICONDUCTOR PACKAGES
Ernst Ortner, Manhattan Beach, and Richard A. Hartman, Palos Verdes, Calif., assignors to International Rectifier Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 27, 1968, Ser. No. 708,715
Int. Cl. H01l *5/02*
U.S. Cl. 317—234 **6 Claims**



A lead for a semiconductor device has a central axial slot flattened to form a generally flattened opening through the lead which permits flexing of the lead without transmitting excessive strain to the semiconductor wafer to which it is connected.

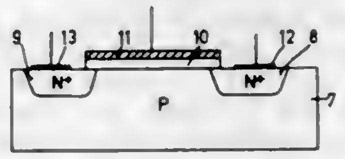
3,449,643
SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE
Ichiro Imaizumi, Tokyo, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Sept. 8, 1967, Ser. No. 666,353
Claims priority, application Japan, Sept. 9, 1966, 41/59,172
Int. Cl. H01l *11/00, 19/00*
U.S. Cl. 317—235 **8 Claims**

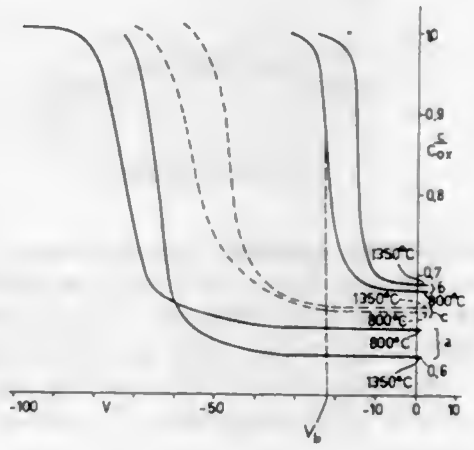


A semiconductor integrated circuit device having a structure wherein, a first and a second N type separated regions of epitaxial layer are formed on a common P type semiconductor substrate to cover respectively an N type and a P type buried region which are buried in the substrate with high impurity concentration, a P type and an N-type diffused regions are provided by double diffusion in the first separated region so that the first separated region incorporated with the N type buried region, and the P type and N type diffused regions form the collector, base andemitter of an NPN transistor substructure respectively, and another P type diffused region is provided in the second separated region so that the P type semiconductor substrate, the N type second separated region, and said P type diffused region form the collector, base, and emitter of a PNP transistor substructure respectively.

As a result of P type impurity diffusion from the P type buried region into the second N type separated region, a part of said second N type separated region is converted into P type, thereby the PNP transistor structure with a small base width is provided.

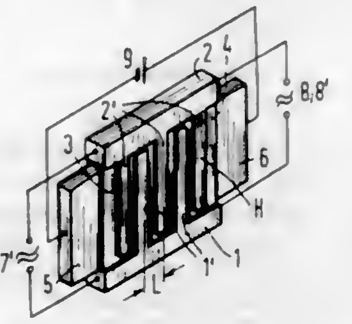
3,449,644
SEMICONDUCTOR DEVICE WITH INVERSION LAYER, UNDERNEATH AN OXIDE COATING, COMPENSATED BY GOLD DOPANT
Armenag Garabed Nassibian, Harrow, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,511
Claims priority, application Great Britain, Dec. 16, 1964, 51,202/64
Int. Cl. H01l *11/00, 15/00*
U.S. Cl. 317—235 **6 Claims**





A semiconductor device of the unipolar or bipolar types employing silicon containing an oxygen-rich region, in which the effects of the oxygen are at least partly compensated by introducing gold into the oxygen-rich region. Among the improvements obtained are a reduction in channelling and better control of deliberately induced inversion layers.

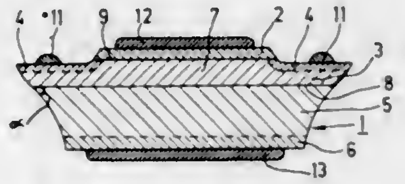
3,449,645
UNIPOLAR TRANSISTOR FOR HIGH FREQUENCIES
Rudolf Muller, Strasslach, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed May 3, 1966, Ser. No. 547,349
Claims priority, application Germany, May 5, 1965, S 96,950
Int. Cl. H01l *11/04, 11/10*
U.S. Cl. 317—235 **8 Claims**



A unipolar transistor for high frequencies comprises a crystalline semiconductor body having a source electrode and a drain electrode substantially coplanarly disposed thereon. The semiconductor body has a channel zone for charge carriers in the semiconductor body between the source and drain electrodes. A delay line comprising at least one field effect control electrode is positioned on the channel zone of the semiconductor body between and substantially coplanarly disposed with the source and drain electrodes and has a delay direction which is parallel to the longitudinal direction of the channel zone.

3,449,646
HIGH-VOLTAGE TRANSISTOR WITH CONTROLLED BASE AND COLLECTOR DOPING AND GEOMETRY

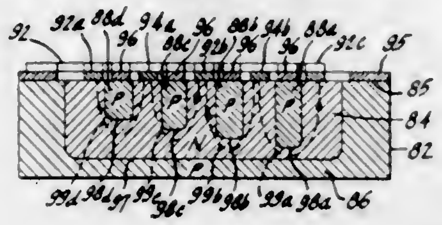
Willem Gerard Einthoven, Nijmegen, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1966, Ser. No. 587,456
Claims priority, application Netherlands, Oct. 22, 1965, 6513666
Int. Cl. H01l *11/00*
U.S. Cl. 317—235 **11 Claims**



A high-voltage transistor comprising a high band-gap semiconductor having a base zone thickness of 15–60 microns and a base impurity concentration exceeding 2×10^{12} per cm.², and a high resistance collector zone having a thickness of 80–300 microns and a collector impurity concentration equal to or less than 2.5×10^{14} per cm.³.

3,449,647
REMOTE CUTOFF JUNCTION GATE FIELD EFFECT TRANSISTOR

Joseph H. Scott, Jr., Newark, and John A. Olmstead, Somerville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,425
Int. Cl. H01l *13/00*
U.S. Cl. 317—235 **1 Claim**



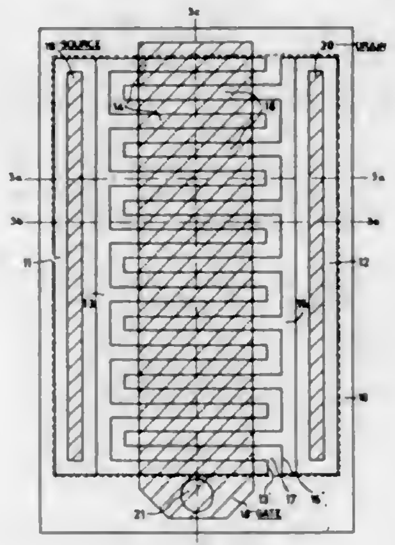
A junction-gate field effect transistor with a remote-cutoff transfer characteristic.

The transistor has a pair of opposed gates, the spacing between which varies transversely of the direction of current flow to provide differing values of pinch-off voltage laterally along the gates.

3,449,648
IGFET WITH INTERDIGITAL SOURCE AND DRAIN AND GATE WITH LIMITED OVERLAP

Julian Robert Anthony Beale, Reigate, and Andrew Francis Beer, Crawley, England, assignors, by mesne assignments to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,193
Claims priority, application Great Britain, Feb. 18, 1966, 7,254/66
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 **6 Claims**

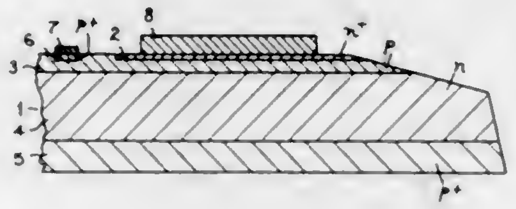
An insulated gate field-effect transistor having interdigitated source and drain electrodes with a gate electrode overlying only the interdigitated projections and being spaced from the common electrode regions to provide



a transistor exhibiting improved transconductance without increased feedback capacitance.

3,449,649
S.C.R. WITH EMITTER ELECTRODE SPACED FROM SEMICONDUCTOR EDGE EQUAL TO 10 TIMES BASE THICKNESS

Horst Irmler, Mannheim, and Bernhard Voss, Viernheim, Germany, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed June 28, 1967, Ser. No. 649,629
Claims priority, application Germany, July 9, 1966, B 87,937
Int. Cl. H01l *11/04*
U.S. Cl. 317—235 **4 Claims**

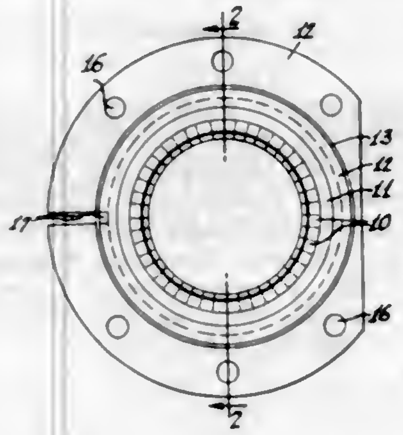


A semiconductor element comprises a body of monocrystalline semiconductor material which includes therein a plurality of adjacent zones having alternating conductivity and a control electrode is provided on an inner zone which adjoins an outer zone that serves as the emitter. This outer zone extends at least partly to the edge of the semiconductor body and has a contact layer applied thereto but which does not extend up to the edge of the semiconductor body. The distance of the edge from the contact layer is at least 10 fold the thickness of the inner zone adjoining the outer zone and amounts to at least 0.3 mm., and is preferably from 1 to 2 mm. The outer zone is also not contacted by the contact layer in the region adjoining the control electrode.

3,449,650
CAPACITOR ANODE HOLDER

Seymour Lynn, Cherry Hill, and Warren Calvin Ries, Moorestown, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,682
Int. Cl. H01g *1/02, 13/00*
U.S. Cl. 317—257 **6 Claims**

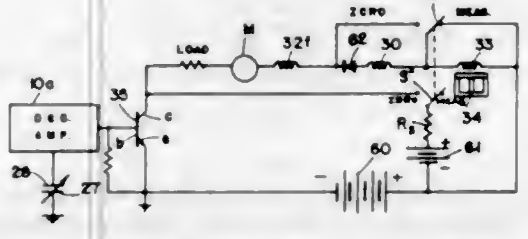
A capacitor anode holder of two rings between which is sandwiched a dieelctric. The dielectric is an epoxy resin uniformally coated on one of the rings. One of the



rings has attached to it spring loaded metallic contacts which will receive the anode of a tube.

3,449,651
INDEPENDENT ZERO AND RANGE ADJUSTMENTS FOR NONLINEAR OUTPUT DIFFERENTIAL PRESSURE TRANSMITTER FORCE BALANCE SYSTEM

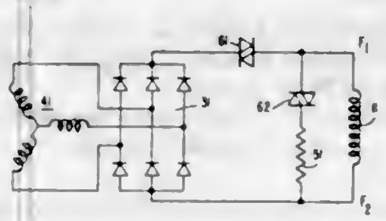
Edward J. Cranch, Bryn Athyn, and Robert H. Stanwood, Gwynedd, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 23, 1965, Ser. No. 434,457
Int. Cl. G05b *11/01;* **G01l** *9/14, 27/00*
U.S. Cl. 318—22 **13 Claims**



A nonlinear force balance transmitter for measuring parameters such as liquid flow is provided with a circuit which allows momentary conversion to a linear force balance transmitter for precise zero adjustment. Load current normally driven through moveable and fixed coils with interaction magnetic fields to produce the desired nonlinear force on the moveable coil as a function of this current is momentarily removed from the fixed coil during zero adjustment and the moveable coil is caused to operate in a constant magnetic field which results in the force on the moving coil being linearly related to the current therethrough.

3,449,652
STARTING CIRCUIT FOR A SYNCHRONOUS MOTOR

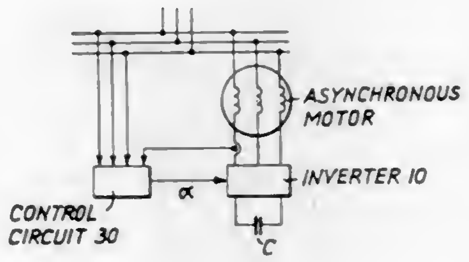
Akira Ishizaki, Tokyo, Japan, assignor to Meidensha Electric Mfg. Co., Ltd., Tokyo, Japan
Filed Sept. 19, 1966, Ser. No. 580,462
Claims priority, application Japan, Sept. 17, 1965, 40/56,967
Int. Cl. H02p *1/50*
U.S. Cl. 318—181 **4 Claims**



An automatic starting circuit for an A.C. synchronous motor. A thyristor is connected in parallel with a field winding and another thyristor is connected in series with the winding, allowing shunting and disconnection of the winding to restore synchronism.

3,449,653
CIRCUIT ARRANGEMENT FOR COMPENSATING REACTIVE LOADS

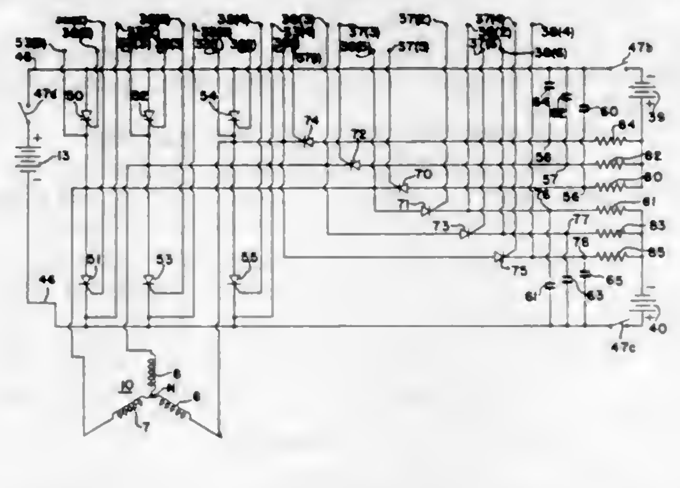
Floris Koppelmann, Berlin, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed May 6, 1966, Ser. No. 548,289
Claims priority, application Germany, May 6, 1965, L 50,651
Int. Cl. H02p *1/26, 5/38*
U.S. Cl. 318—227 **10 Claims**



A circuit arrangement for compensating a reactive load connected to a power line. The circuit includes a controllable inverter having A.C. and D.C. terminals. The A.C. terminals are connected in series with either the power line or the load voltage line and the D.C. terminals are connected to a reactive circuit element such as a capacitor. The circuit further includes a control circuit to effect the forced commutation of the inverter so that the inverter and the reactive circuit element will provide a reactive voltage.

3,449,654
DIRECT CURRENT COMMUTATION SYSTEM FOR BRUSHLESS ELECTRICAL MOTORS

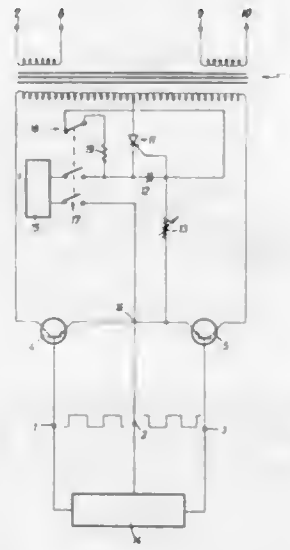
Leonard J. Sheldrake and Jerrold L. Mullen, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,743
Int. Cl. H02k *29/04;* **H02m** *7/52, 7/80*
U.S. Cl. 321—5 **1 Claim**



A commutating system for operating brushless type alternating current induction motors from a direct current potential source. An extinguishing capacitor is provided for each commutating silicon controlled rectifier included in the bridge type inverter. The capacitors corresponding to the commutating silicon controlled rectifiers contained in the positive polarity bank of the inverter are connected in parallel across a source of charging direct current potential and the capacitors corresponding to the silicon controlled rectifiers in the negative polarity bank of the inverter are connected in parallel across another source of charging direct current potential.

3,449,655
SATURABLE CORE TRANSFORMER CIRCUIT

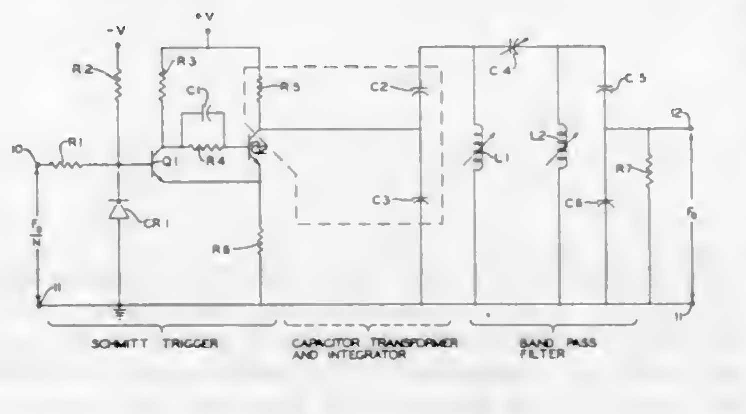
Karl Jager, Nuremberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 16, 1967, Ser. No. 675,710
Claims priority, application Germany, Oct. 21, 1966, St 26,019
Int. Cl. H02m *1/18*
U.S. Cl. 321—11 **7 Claims**



The invention comprises a circuit in which a pair of transistors are connected in push-pull across the primary winding of a saturable core transformer. The transistors are gated on alternately. A silicon controlled rectifier (SCR) is connected in a series circuit from a primary winding center tap through a collector voltage supply to a junction of the transistor emitters. An RC circuit is connected to the SCR gate to delay the SCR conduction for a predetermined period to prevent high magnetizing currents from damaging the circuit.

3,449,656
HARMONIC FREE FREQUENCY MULTIPLIER UTILIZING CAPACITOR INTEGRATION

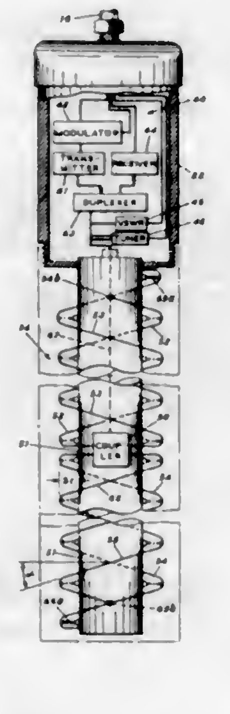
Jean W. Grieninger, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,788
Int. Cl. H02m *5/00, 5/16, 5/22*
U.S. Cl. 321—66 **4 Claims**



A sine wave signal is applied to a Schmitt trigger circuit which converts the applied sine wave signal to a square wave signal. The square wave signal is integrated by a capacitor, and applied to a band pass filter which provides a sine wave signal having a selected integral multiple of the applied sine wave signal.

3,449,657
HELICAL ANTENNA FOR IRRADIATING AN EARTH FORMATION PENETRATED BY A BOREHOLE AND METHOD OF USING SAME

Oke A. Fredriksson, Fullerton, F. Nicholas Fossatl, Lafayette, and F. Alexander Roberts, Brea, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,967
Int. Cl. G01v *3/12*
U.S. Cl. 324—6 **19 Claims**



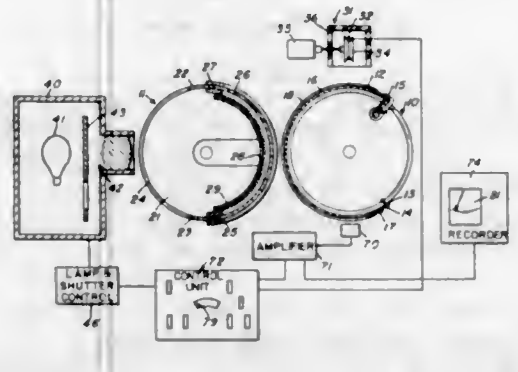
A subsurface earth formation exploration tool for logging an earth formation penetrated by a well bore to approximate the distance to an electromagnetic discontinuity in the formation, the tool including a helical antenna for irradiating the formation with electromagnetic energy in a plane transverse to the axis of the borehole. The helical antenna is sufficiently reduced in diameter to fit within standard size boreholes, yet has high radiation intensity per unit length by the use of first and second pairs of helical conducting elements wound along a central disposed conductor element axially elongated along the axis of the borehole. The helical antenna also includes coupling means adjacent to the midpoint of the central conducting element in electrical contact with the helical elements. Energy is coupled between the central element and the pairs of helical conducting elements using energization points selected to produce first and second pairs of electromagnetic waves, each of which propagating in phase in opposed axial directions along the antenna.

3,449,658
METHOD AND APPARATUS FOR SENSITOMETRICALLY TESTING PHOTOCONDUCTIVE INSULATORS

Gene H. Robinson and James G. Jarvis, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 17, 1966, Ser. No. 595,226
Int. Cl. G01r *5/28*
U.S. Cl. 324—32 **11 Claims**

1. Apparatus for sensitometrically testing a strip of photoconductive insulating material comprising:

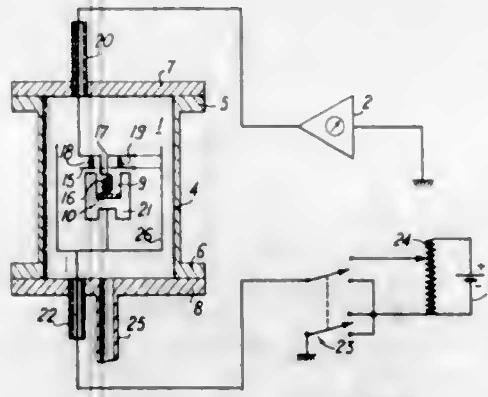
- a strip support movable in a prescribed path sequentially at a charging rate and at an exposure rate;
- a corona charging source arranged relative to said path for applying a predetermined surface charge to said strip;
- means arranged relative to said path and spaced from said corona source for exposing said strip after being charged;
- an absorptive wedge having a continuously varying density throughout its length positioned between said strip support and said exposing means and movable relative to said exposing means;



- drive means including first coupling means for moving said support at said charging rate whereby said strip is moved relative to said corona source, and second coupling means for moving said support and said wedge at said exposure rate whereby said strip and said wedge are moved in synchronism relative to said exposing means; and
- control means responsive to the potential of said predetermined surface charge for deenergizing said corona source, for activating said exposing means and for deactivating said first coupling means and activating said second coupling means.

3,449,659
METHOD AND APPARATUS FOR SELECTING GAS PRESSURES OVER A WIDE RANGE

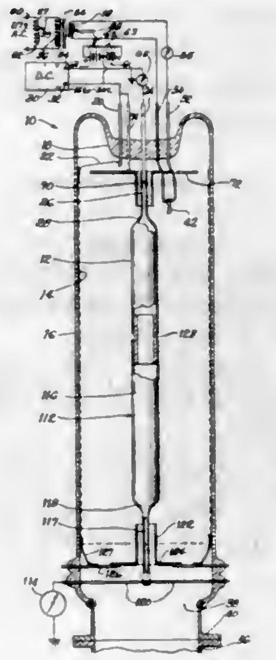
Claude Boiziau, Massy, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed July 26, 1965, Ser. No. 474,658
Claims priority, application France, Aug. 3, 1964, 984,364
Int. Cl. G01n *27/62, 27/64*
U.S. Cl. 324—33 **4 Claims**



A radioactive source pressure gauge and method of measuring gas pressure over a wide range. An ionization chamber comprised of a stainless steel cylinder communicating with a gas enclosure under study houses a radioactive source, which may be selectively energized with a D.C. voltage, and a helical grid spaced from said source to define a path for ionized gas. A metal probe mounted within the volume defined by said helical grid is electrically connected to said radioactive source whereby it will influence the electric field within the ionization chamber and restrict the mean free path of the ions in order to prevent recombination. An amplifier and display meter are connected to the grid to monitor the ionization current. By selectively de-energizing the source and probe the meter may be calibrated to display only ionization current.

3,449,660
ORBITRON ELECTRONIC VACUUM GAUGE HAVING SECOND ANODE FOR COLLECTING SCATTERED ELECTRONS

Raymond G. Herb, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed Aug. 10, 1966, Ser. No. 571,560
Int. Cl. G01n *27/62*
U.S. Cl. 324—33 **22 Claims**

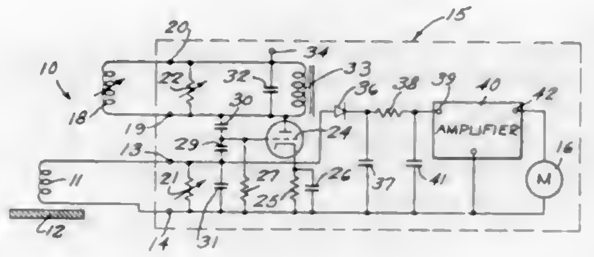


A first central anode is disposed axially within a boundary electrode, mounted within an enclosure connected to a vacuum system. A positive voltage is impressed between the central anode and the boundary electrode to produce a cylindrical electric field therebetween. Electrons are introduced into said field with initial angular momentum so that the electrons will travel in spiral orbits around the central anode. A second central anode is aligned axially with the first anode and is also charged with a positive voltage. The current to the second anode is measured separately to provide an indication of the vacuum in the enclosure. Such current increases with pressure, because of the increased scattering of the orbiting electrons by the gas molecules in said enclosure. The electrons may be introduced by a U-shaped ribbon filament having a highly emissive zone on at least one side thereof. The zoned filament causes a larger proportion of the emitted electrons to go into orbits around the central anodes. The highly emissive zone may be produced by thoriating a portion of the filament. The highly emissive zone may be recessed into the surface of the filament. Either or both legs of the U-shaped filament may be formed with highly emissive zones.

3,449,661
EDDY CURRENT TESTING SYSTEM HAVING LIFT-OFF COMPENSATION, AND UTILIZING A TUNED PLATE-TUNED GRID OSCILLATOR

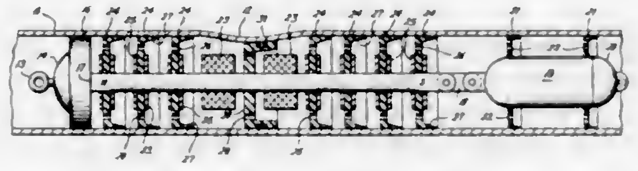
Heino Puidak, Chicago, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1963, Ser. No. 329,716
Int. Cl. G01r *33/00, 33/14*
U.S. Cl. 324—34 **5 Claims**

Conductivity measuring system wherein first and second parallel resonant circuits are respectively coupled between input and output electrodes and a common electrode of an amplifier device with a test coil being coupled into one of the resonant circuits. The relative reactances and resistances of the resonant circuits are adjusted to obtain substantially no change in the indication in response to changes in the effective spacing between the coil and the workpiece.



3,449,662
MAGNETIC INSPECTION METHOD AND APPARATUS USING RESILIENT MAGNETIZING MEANS AND RESILIENT SENSORS

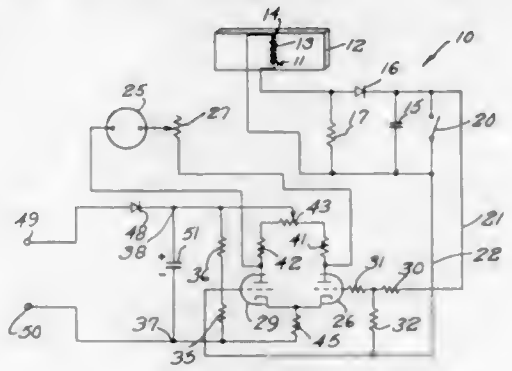
Fenton M. Wood, Sugarland, Tex., assignor to American Machine & Foundry Co., New York, N.Y., a corporation of New Jersey
Filed Oct. 16, 1963, Ser. No. 316,630
The portion of the term of the patent subsequent to Dec. 21, 1982, has been disclaimed
Int. Cl. G01r *33/12*
U.S. Cl. 324—37 18 Claims



1. An apparatus for testing tubular metallic members having internal and external circumferential surfaces, said apparatus comprising:
  a resilient search unit comprising
    an annular body member of electrically non-conductive, non-magnetic, elastomeric material shaped to resiliently contact one of said circumferential surfaces,
  an electrically conductive coil of extensible and resilient material embedded just under that surafce of said annular body member that is contacting said metallic member, whereby a thin layer of flexible, non-magnetic, electrically non-conductive material overlies said coil and secures said coil from contact with said metallic member,
  magnetizing means for establishing a magnetic field in said metallic member, comprising
    first and second annular resilient magnetically conductive members spaced axially on opposite sides of said search unit and resiliently engaging said one circumferential surface for conducting magnetic flux of said field to and from said metallic member,
    means for causing movement of said search unit and said magnetically conductive members relative to said metallic member, and
    electrical detection means connected to said coil for indicating defects by said coil.

3,449,663
MAGNETIC TESTING SYSTEM CURRENT MEASURING DEVICE

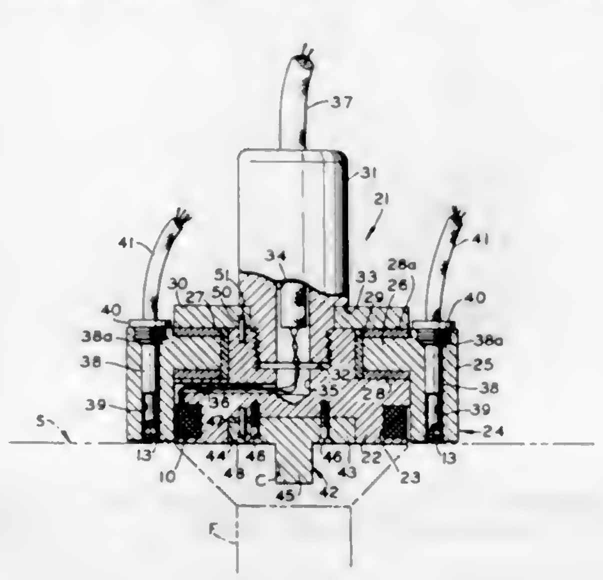
Kenneth W. Schroeder, Arlington Heights, and Bruce G. Isaacson, Chicago, Ill., assignors to Magnaflux Corporation, a corporation of Delaware
Filed Apr. 10, 1964, Ser. No. 358,783
Int. Cl. G01r *33/12*
U.S. Cl. 324—38 1 Claim



A magnetic particle inspection system with a device for measuring the amounts of magnetization by the system of a test part therein, including means for applying a series of high amperage uni-directional current pulses to the part to magnetize it, sensing coil means for developing low voltage signals proportional to the amplitude of said current pulses, means for rectifying the voltage signals and transmitting them to storage means, where they are added in stores, and measuring means for indicating the value of the stored voltage. If the saturation point of the test part is not reached, the magnetization of the part is approximately proportional to the value of the stored voltage signals, and can be determined with the device of this invention.

3,449,664
MAGNETIC REACTION TESTING APPARATUS AND METHOD OF TESTING UTILIZING SEMICONDUCTOR MEANS FOR MAGNETIC FIELD SENSING OF AN EDDY-CURRENT-REACTION MAGNETIC FIELD

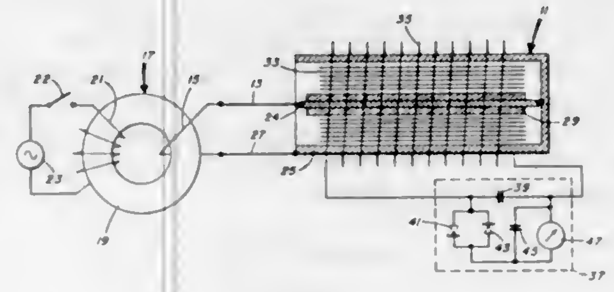
George H. Smith, Columbus, Ohio, assignor to F. W. Bell, Inc., Columbus, Ohio, a corporation of Ohio
Filed May 16, 1966, Ser. No. 550,399
Int. Cl. G01r *33/14, 33/06, 33/12*
U.S. Cl. 324—40 15 Claims



Non-destructive testing of electrically conductive materials is accomplished by an eddy-current, magnetic reaction field testing method utilizing apparatus which induces a flow of eddy currents in the test material and detects a resulting magnetic field which includes magnetic reaction field components due to the eddy currents and is indicative of the characteristics or condition of the test material in the region of induced eddy currents. The apparatus comprises a closed loop, magnetizing coil which is juxtaposed to a surface of the test material in inductively coupled relationship for inducing a flow of eddy currents in the material, and semiconductor, magnetic-field-sensing devices disposed radially outward of the magnetizing coil. The semiconductor, magnetic-field-sensing devices respond to the composite magnetic field and are of a size and configuration to respond to only a small portion of the composite field thereby having high resolution for detecting relatively small, localized anomalies in the test material which affect the eddy current flow path.

3,449,665
PERPENDICULAR-MAGNETIZATION TYPE MAGNETOMETER USING A CORE WOUND OF FERROMAGNETIC TAPE

William A. Geyger, deceased, late of Takoma Park, Md., by Ella Geyger, executrix, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 11, 1965, Ser. No. 463,406
Int. Cl. G01r *33/02*
U.S. Cl. 324—47 6 Claims

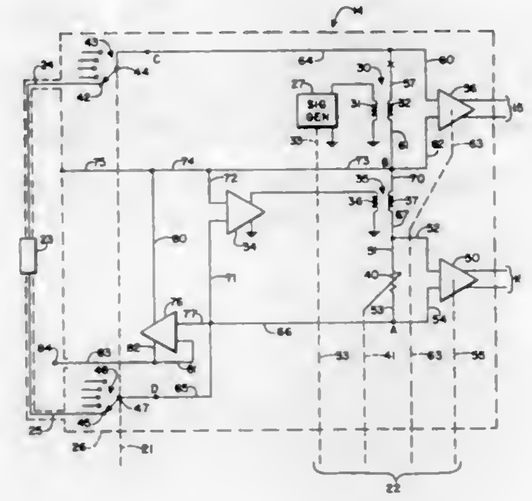


A perpendicular-magnetization type magnetometer employing a magnetic tape wound core of high permeability material. A slotted copper cylinder conductor is placed over the core and a single winding primary conductor runs through the center thereof and connects to the slotted copper cylinder. The primary circuit is directly connected to a single turn secondary of a current transformer. The secondary or detector winding of the perpendicular-magnetized tape core is perpendicular to the primary winding and is wound on the copper cylinder conductor. The output circuit of the secondary or detector winding is applied to an even harmonic detector circuit from which the magnitude of an external magnetic field to be measured is obtained.

3,449,666
IMPEDANCE SENSING CIRCUIT HAVING AMPLIFIER MEANS FOR MAINTAINING A PAIR OF POINTS AT THE SAME POTENTIAL

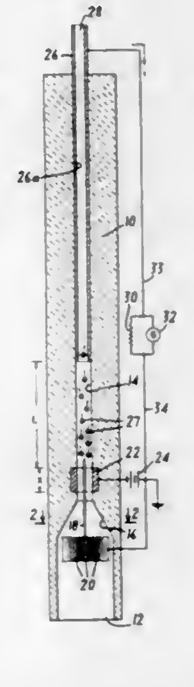
William A. Plice, Minnetonka, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,517
Int. Cl. G01r *27/14*
U.S. Cl. 324—57 1 Claim

An impedance measuring system including a programmable sensing circuit for providing a pair of output voltages for application to a computer from which the reactive and resistance components of an impedance may be determined, said sensing circuit including an A.C. source, an unknown impedance, a standard impedance and input means connected in a closed series loop with an amplifier having its input connectable across the series combination of the source and unknown impedance and its output connectable across said input means for maintaining the ends of the series combination of the input means and the standard impedance at the same potential, whereby a voltage sensing means connectable across said source is functionally connected across said unknown impedance and provides one of said output voltages. The other output voltage is obtained from across said standard impedance.



3,449,667
ELECTROGASDYNAMIC METHOD AND APPARATUS FOR DETECTING THE PROPERTIES OF PARTICULATE MATTER ENTRAINED IN GASES

Meredith C. Gourdine, Oakland, N.J., assignor to Gourdine Systems, Incorporated, Livingston, N.J., a corporation of Delaware
Filed May 18, 1966, Ser. No. 551,017
Int. Cl. G01n *27/00, 27/62;* **G01r** *5/28*
U.S. Cl. 324—71 30 Claims



Electrogasdynamic methods and apparatus for measuring the properties of particles entrained in a gas stream, in which the gas stream is passed down a flow path defined by a dielectric conduit. In the upstream portion of the conduit, the entrained particles are charged by exposure to a corona discharge and carried downstream to a collector section where the particles come into contact with a conductive collector element that is connected to a current indicating circuit. This circuit preferably has an impedance large enough to establish, between the collector section and the corona discharge, an axial electric field having a polarity and magnitude sufficient to prevent the discharge into the collector section of ions that have the same polarity as the charged particles, but which are not attached to or associated with those particles.

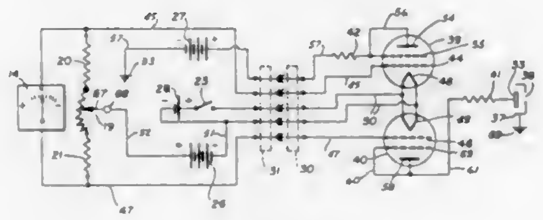
3,449,668
PORTABLE STATIC METER FOR DETERMINING THE MAGNITUDE AND POLARITY OF ACCUMULATED ELECTROSTATIC CHARGES

Lyman L. Blackwell and Edward T. Able, Denver, Colo., assignors to B. K. Sweeney Manufacturing Co., Denver, Colo.

Filed Mar. 15, 1965, Ser. No. 439,865

Int. Cl. G01r *31/02, 5/28*

U.S. Cl. 324—72 7 Claims



A portable metallic housing provided with a static-sensing disc of a radio-active isotope, such as tritiated titanium foil, and containing electronic circuitry including: two triode electronic tubes, a polarity-indicating volt meter, two bias batteries and a potential-balancing circuit for bringing the voltmeter to zero when no external static charge is impinging upon the static-sensing disc so that when the latter is brought into proximity to a subject having an external static charge the voltmeter will be actuated to indicate the voltage and polarity of the static charge of the subject.

3,449,669
FREQUENCY CONTROL CIRCUIT TRANSFORMING PHASE ANGLE INTO FREQUENCY

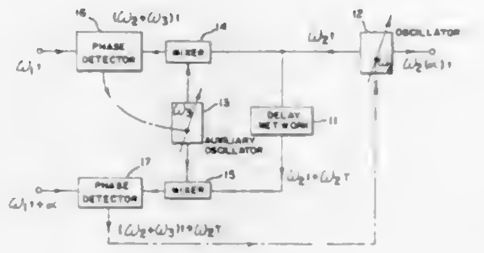
Carl-Erik Granqvist, Lidingo, Sweden, assignor to AGA Aktiebolag, Lidingo, Sweden, a corporation of Sweden

Filed Feb. 7, 1966, Ser. No. 525,634

Claims priority, application Sweden, Mar. 6, 1965, 2,864/65

Int. Cl. G01r *23/14;* **H03b** *19/12*

U.S. Cl. 324—82 9 Claims



An oscillator is controlled to make its frequency a linear function of the phase of a signal oscillation relative to a reference oscillation. The output of the oscillator is supplied to a delay network having a constant time delay. An auxiliary oscilllator produces an auxiliary oscillation which is heterodyned with the input and with the output of the delay network to produce first and second heterodyne signals, respectively. A first phase detector compares the first heterodyne signal with the reference oscillation and controls the auxiliary oscillator to maintain frequency and phase equality between them. A second phase detector compares the phase of the second heterodyne signal with that of the signal oscilaltion and controls the oscillator so as to maintain phase equality, which is obtained when the phase difference before and after the delay network equals that between the signal oscillation and the reference oscillation.

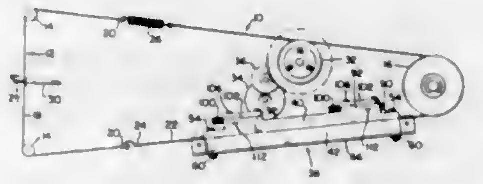
3,449,670
ADJUSTABLE MEANS FOR A SELF-BALANCING POTENTIOMETER INDICATING DEVICE

Paul L. Stone, Meadowbrook, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 2, 1966, Ser. No. 569,716

Int. Cl. G01r *17/06*

U.S. Cl. 324—99 10 Claims



An indicating device of the self-balancing potentiometer type is shown having a potentiometer for generating a potential signal which is applied to a differential amplifier along with an input signal to be indicated. The resultant output signal energizes a motor for driving an indicator and the potentiometer to a new balanced position. Adjustable contacts engage each end of the potentiometer slide-wire for providing a zero and span adjustment of the indicating device.

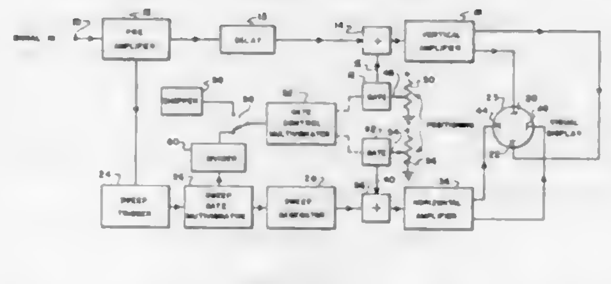
3,449,671
OSCILLOGRAPHIC APPARATUS FOR MEASURING THE MAGNITUDE AND DURATION OF INPUT WAVEFORMS

Gordon D. Long, Beaverton, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Feb. 18, 1966, Ser. No. 528,625

Int. Cl. G01r *13/20*

U.S. Cl. 324—121 8 Claims



An oscilloscope includes means for intermittently adding electrical values to the horizontal and vertical deflection signals thereby producing first and second displays of an input waveform. The electrical values are adjustable for convenient juxtaposition of selectable portions of the displays for measuring dimensional parameters of the waveform.

3,449,672
NONPHASE-SENSITIVE SUMMARY AND AVERAGING A.C. VOLTMETER

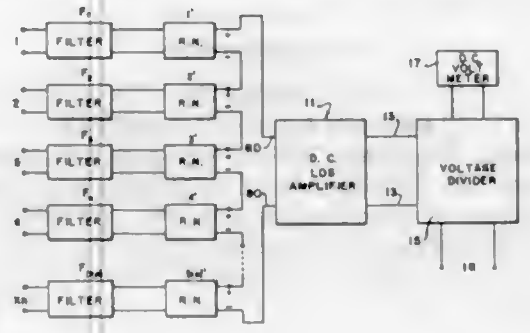
Edward V. Thomas, 102 Southway, Severna Park, Md. 21146

Filed Nov. 27, 1963, Ser. No. 326,640

Int. Cl. G01r *7/04*

U.S. Cl. 324—140 6 Claims

The voltmeter has a plurality of A.C. voltages fed to a plurality of respective rectifying networks. The outputs of the rectifying networks are connected in series to provide a series summation of the D.C. voltages. The D.C. voltages are then fed to the input of a logarithmic amplifier and the output of the amplifier is fed to a voltmeter.



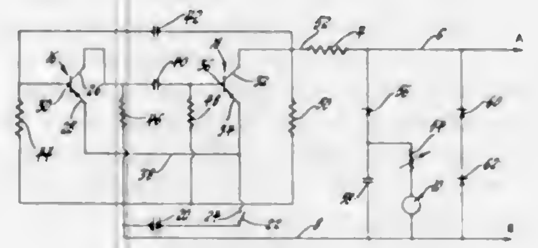
3,449,673
TESTING SYSTEM FOR CHECKING DIODES CONNECTED IN SITU WITH INDUCTANCE WINDINGS OF DYNAMOELECTRIC MACHINES

James L. Gregg, Russiaville, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 15, 1964, Ser. No. 382,832

Int. Cl. G01r *31/24*

U.S. Cl. 324—158 1 Claim



A portable testing unit including probes that may be brought into proximity with circuitry including diodes and any diode checked for short or open circuit without disconnecting the same from its normal operative circuit. A high frequency source of power is provided so that the test voltage being applied to the diode would develop high impedance in the operative circuit associated therewith to effectively restrict the test signal solely to the diode.

3,449,674
TRANSISTOR T-R SERIES SWITCH WITH COLLECTOR-EMITTER CAPACITANCE TUNED WITH ANTI-RESONANT CIRCUIT

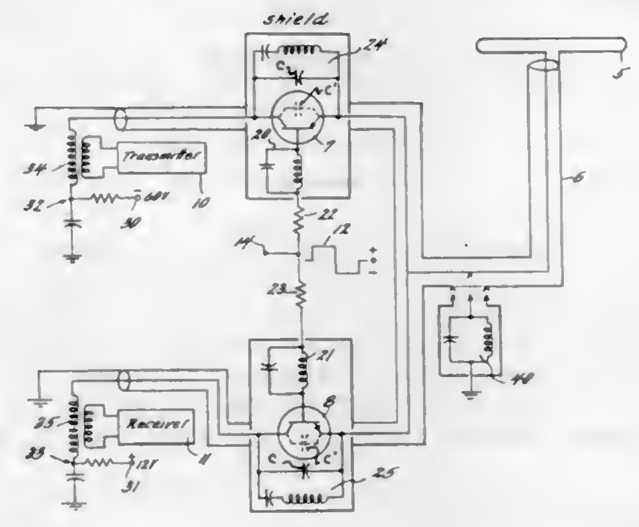
Nevlin C. Pace, 4306 N. 40th St., Arlington, Va. 22207

Filed Aug. 4, 1964, Ser. No. 387,319

Int. Cl. H04b *1/44;* **H04l** *5/00*

U.S. Cl. 325—21 1 Claim

1. In combination a first transistor with collector, emitter and base electrodes, a receiver having an R-F input stage coupled to said collector electrode to receive current therefrom, an antenna connected to said emitter electrode to pass current thereto, D-C potential means connected to pass transistor current through said emitter-collector path, an anti-resonant circuit tuned to the receiver R-F frequency coupled between said emitter and collector, a second transistor having collector, base and emitter electrodes, one of said transistors being NPN and the other PNP, a transmitter R-F output stage connected to said collector of the second transistor to receive R-F current therefrom, said antenna connected also to the emitter electrode of said second transistor to pass R-F current therefrom, and switching means connected to the bases of both transistors to set one in a conduction state upon receipt of a negative potential and to set the other in a conduction state upon receipt of a positive potential, thereby electronically switching the antenna to transmitter or receiver.



3,449,675
SIGNAL TRANSMISSION SYSTEM WITH REDUNDANCY REDUCTION

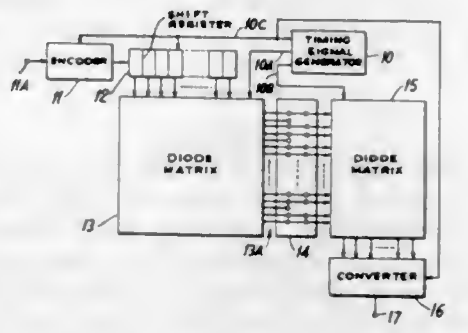
Tadahiro Sekimoto, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

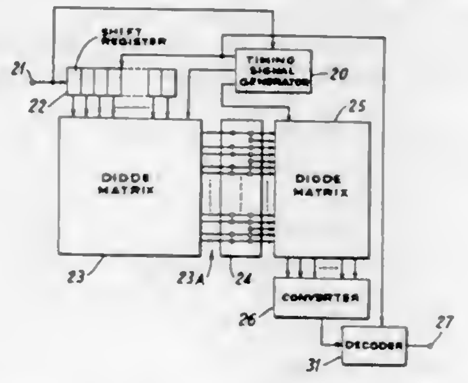
Continuation-in-part of application Ser. No. 409,672, Nov. 9, 1964. This application Oct. 31, 1967, Ser. No. 679,362

Claims priority, application Japan, Nov. 7, 1963, 38/60,067

Int. Cl. H04b *1/00, 7/00*

U.S. Cl. 325—38 5 Claims





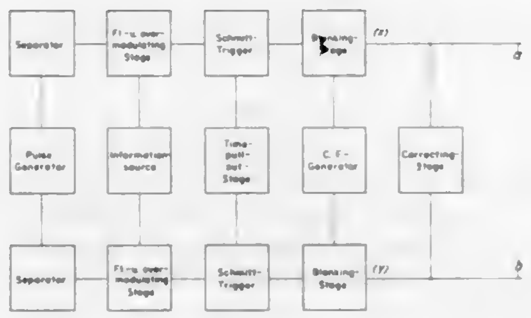
A PCM communication system wherein redundancy is minimized by employing the correlation between two consecutive samples of an analogue signal. Because of the correlation, the number of combinations of possible successive samples will be less than the total number of combinations in the absence of correlation. The present invention employs a PCM encoder at the transmitter in combination with a shift register for storing two consecutive signal samples, two diode matrices, and a terminal board connecting the matrices. The output terminals of the first matrix at which an output will not appear due to correlation are then unconnected to the second diode matrix which is smaller and defines the pulse signal to be transmitted.

ERRATUM

For Class 325—137 see:
Patent No. 3,449,715

3,449,676
SIGNAL GENERATING SYSTEMS

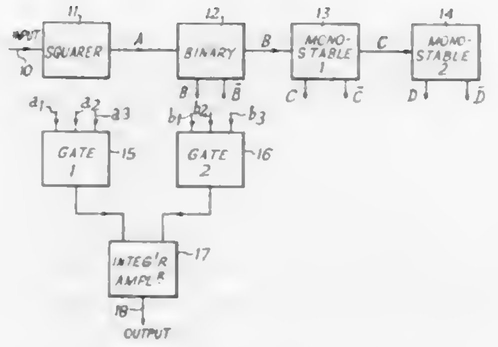
Boris Malinowsky, deceased, late of Kirchheim, unter Teck, Germany, by Peter Becker, administrator, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Hamburg, Germany
Filed Feb. 9, 1961, Ser. No. 88,226
Claims priority, application Germany, Feb. 11, 1960, B 56,610
Int. Cl. H04b *1/04, 1/66;* **H03k** *7/00*
U.S. Cl. 325—142 **18 Claims**



1. A signal generating system comprising, in combination, a signal generator producing positive and negative half wave carrier pulse trains, and having an internal resistance; a source of keying pulses; keying circuit means operable to modulate said carrier pulses by said keying pulses; and means, including said keying pulses and circuit connections to said generator, effective to vary the internal resistance of said generator over a wide range independently for the positive and negative half waves.

3,449,677
PULSE FREQUENCY DISCRIMINATORS

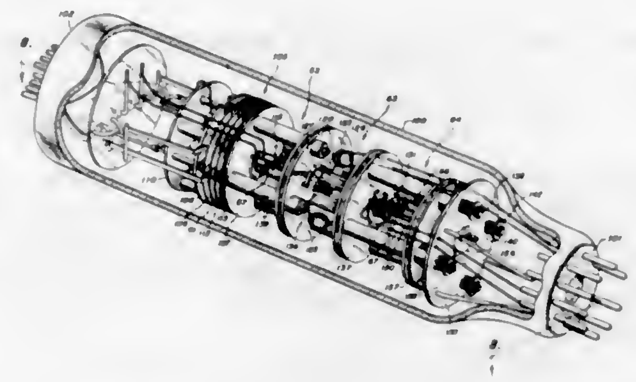
Anthony Leonard Isaacs, London, and Dennis William Allen, Farnborough, England; said Allen assignor to The Minister of Aviation, in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, and said Isaacs assignor to Thorn Electronics Limited, London, England
Filed June 1, 1965, Ser. No. 459,996
Claims priority, application Great Britain, June 1, 1964, 22,606/64
Int. Cl. H03b *3/04;* **H03d** *13/00*
U.S. Cl. 329—50 **8 Claims**



A frequency discriminator is provided in which an input signal of pulse form is applied to control the generation of a train of reference pulses and these reference pulses are combined in a circuit including AND gates with a square-wave signal having a half-period equal to the period of the input pulses, the resulting output signal being proportional to the difference between the recurrence period of the input pulses and the duration of the reference pulses.

3,449,678
PARAMETRIC AMPLIFIER

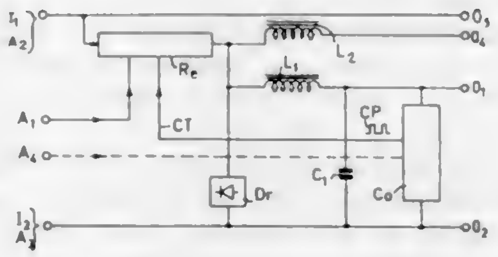
Glen Wade, Wayland, Mass., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 747,764, July 10, 1958. This application June 20, 1963, Ser. No. 289,792
Int. Cl. H03f *7/06;* **H01j** *29/96, 23/16*
U.S. Cl. 330—4.7 **26 Claims**



An electron beam modulated with signal energy passes through a region in which a field establishes electron resonance for the electrons in the beam. In that region, the electrons are subjected to an inhomogeneous periodically-varying field of quadrupole configuration. In each of the illustrated species, the quadrupole field is created by four electrodes circumferentially spaced around the path of the beam. In one version, wherein a parametric pumping signal applied to the electrodes is twice the frequency of the signal energy carried by the beam, the individual quadrupole electrodes are straight and generally in alinement with the path of the beam. In other versions, wherein the energy from which amplification is obtained may be defined in terms of frequencies either significantly greater or lower than such a twice-frequency relationship, the quadrupole electrodes are skewed or twisted around the beam path or are in the form of individual transmission lines.

3,449,679
AUDIO AMPLIFIER CIRCUITS AND THE LIKE

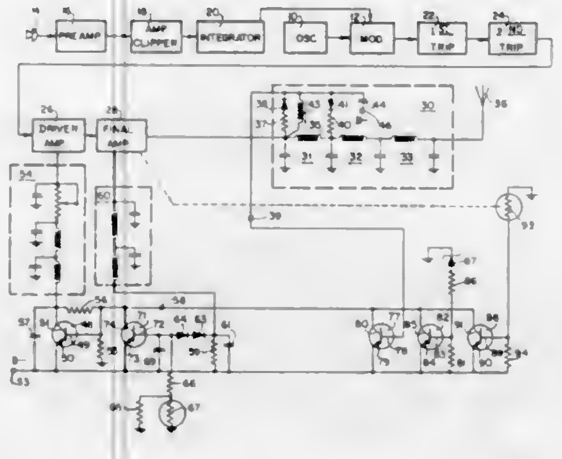
Brian Ernest Attwood, Horley, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 15, 1966, Ser. No. 534,307
Claims priority, application Great Britain, Mar. 16, 1965, 11,192/65
Int. Cl. H03f *3/38, 3/68, 3/04*
U.S. Cl. 330—10 **10 Claims**



A combined low frequency amplifier and direct current regulator includes a series regulator operating in the switching mode connected between a source of voltage and direct current output terminals. A source of pulses is modulated in at least one time characteristic (e.g. frequency, width or both) by the output voltage in order to control the regulator. A source of low frequency signals (e.g. audio signals) also time modulates the pulses. The low frequency output is connected to the output of the regulator by means of a filter circuit.

3,449,680
TRANSISTOR PROTECTION CIRCUIT

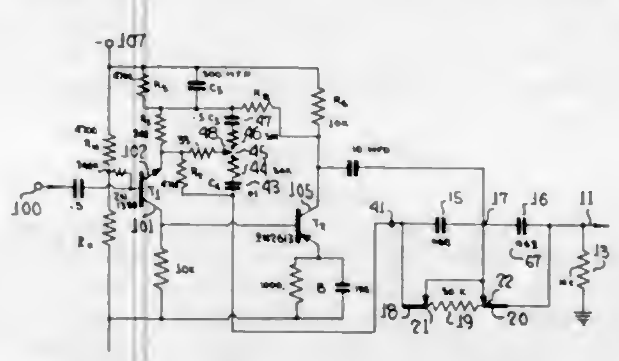
William A. Schilb, Lombard, Ill., and Norman P. Alexander, Cheltenham, Gloucester, England, assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 29, 1966, Ser. No. 538,399
Int. Cl. H03g *11/04;* **H03f** *3/04*
U.S. Cl. 330—11 **12 Claims**



A protection circuit for semiconductors acts to limit the current in an amplifying stage by reducing the drive signal applied to the amplifying stage. The drive signal is regulated in response to any one or more of a combination of measured parameters as, for example, final amplifier current, output VSWR, supply voltage and amplifier transistor temperature.

3,449,681
AMPLIFIERS WITH TONE CONTROLS

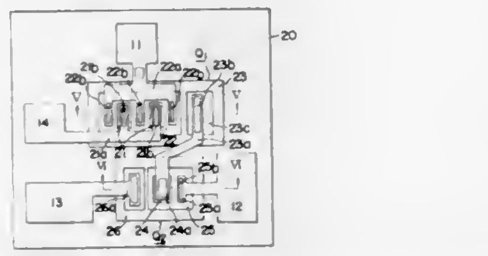
David Hafler, Merion Station, Pa., assignor, by mesne assignments, to TLD, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1964, Ser. No. 419,503
Int. Cl. H03f *3/18;* **H03g** *3/30;* **H03h** *5/00*
U.S. Cl. 330—17 **18 Claims**



A transistorized audio preamplifier having bass and treble tone controls and temperature stabilization, employing novel potentiometers for bass control and for treble control. The treble control circuit consists of a first capacitor, a first potentiometer section, a second potentiometer section and a second capacitor, connected in the order recited. A break or infinite impedance is provided between the resistances, so that at mid-point adjustment the tone control circuit is entirely ineffective, and moving the slider to one side or the other brings one or the other potentiometer into play. In the bass control circuit, the potentiometer is used selectively to short one of two capacitors, except for a mid-point position, where both capacitors are shorted to provide a flat response.

3,449,682
INTEGRATED-CASCODE AMPLIFIER WITH IMPROVED FREQUENCY CHARACTERISTIC

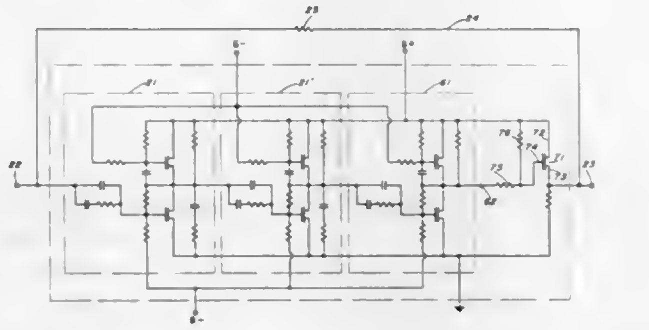
Ichiro Miwa and Yoshito Ohmura, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company of Japan
Filed Jan. 17, 1968, Ser. No. 698,587
Claims priority, application Japan, Jan. 20, 1967, 42/4,774
Int. Cl. H03f *3/68*
U.S. Cl. 330—20 **1 Claim**



In a semiconductor integrated-circuit device comprising first and second transistors of n-p-n type formed as a cascode circuit in a single p-type semiconductor substrate, the base region of the first transistor in common-emitter configuration is made larger in size than the base region of the second transistor in common-base configuration so that a large base contact can be attained, and the base-spreading resistance of the first transistor will be small, whereby the frequency characteristic of the device as an amplifier is substantially improved.

3,449,683
OPERATIONAL THIN FILM AMPLIFIER

Charles E. Gane, Annandale, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 26, 1967, Ser. No. 634,812
Int. Cl. H03f *3/04, 3/16, 3/14*
U.S. Cl. 330—21 **7 Claims**

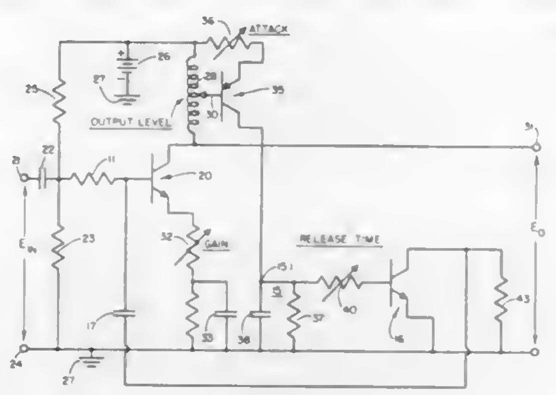


There is disclosed a monotronic amplifier utilizing two thin film field effect transistors connected in modified cascode relationship. A low frequency filter is connected to the input of the amplifier and a high frequency filter is connected to the output. An appropriate feedback means provides a negative feedback. This amplifier can then be cascaded with other similar amplifiers to form a high gain A.C. monotronic operational amplifier.

3,449,684
AUDIO COMPRESSION AMPLIFIER

Sholly Kagan, 10—12 Indian Rock Road, East Natick, Mass. 01760
Filed Oct. 24, 1966, Ser. No. 588,968
Int. Cl. H03g *3/30, 3/20*
U.S. Cl. 330—29 **10 Claims**

The present invention is related to automatic volume control circuits in radio transmitters, receivers and all forms of audio frequency reproducing equipment. The dynamic range of a signal presented at the input to an amplifier is linearly compressed by shunting said input as a function of the signal strength. A transistor device operating in a passive mode (without gain) is used as the shunt.



3,449,685

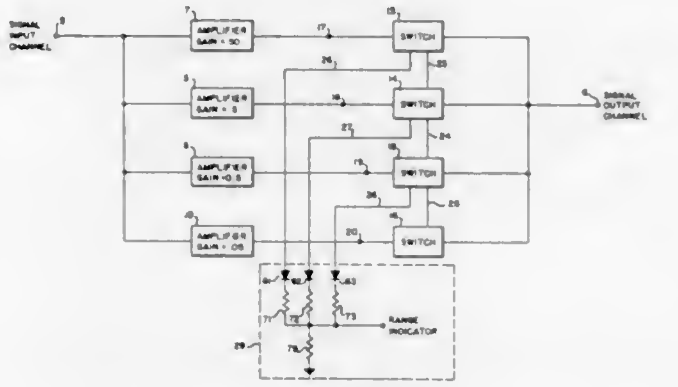
AUTOMATIC RANGE SELECTOR EMPLOYING PLURAL AMPLIFIERS OF DIFFERENT GAINS

Julian C. Holmes, Friendly, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 25, 1967, Ser. No. 634,797

Int. Cl. H03g *3/30;* **H03f** *1/14, 3/68*

U.S. Cl. 330—29 **1 Claim**



An automatic range selector system for selecting from a group of amplifiers having different sensitivities but common inputs the highest sensitivity amplifier having a signal at its output within a predetermined range. A single channel recording device covering the predetermined range can be coupled to the output of the automatic range selector and can be used for gathering information from the highest sensitivity amplifier which has an output within the predetermined, on-scale range of the recorder.

3,449,686

VARIABLE GAIN AMPLIFIER

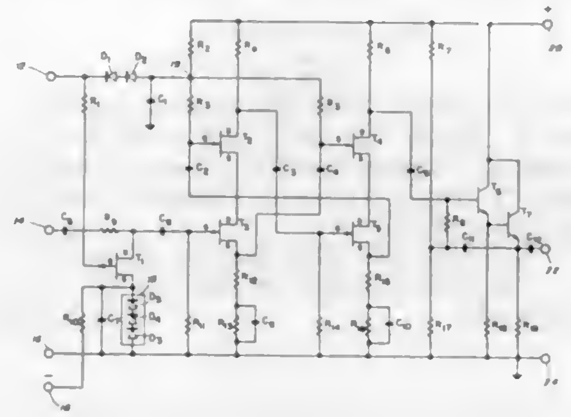
Thomas H. Bladen, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 29, 1967, Ser. No. 644,431

Int. Cl. H03g *3/30;* **H03f** *1/34*

U.S. Cl. 330—29 **4 Claims**

A variable gain amplifier having field effect transistors as the active elements providing a wide automatic gain control range greater than 100 db. A voltage variable attenuator connects broad band input signals to variable gain cascode connected amplifier stages, an automatic gain control signal controls the field effect transistors over a wide dynamic range, and feedback arrangement between the cascode stages maintains amplifier stability.



3,449,687

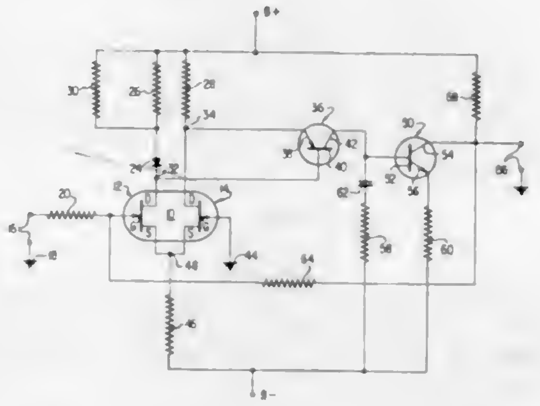
DIFFERENTIAL AMPLIFIER

Ronald L. Knauber, Colorado Springs, and Eddie A. Evel, Englewood, Colo., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed May 20, 1965, Ser. No. 457,282

Int. Cl. H03f *3/68, 3/04, 3/14*

U.S. Cl. 330—30 **5 Claims**



A simplified differential amplifier circuit using a pair of matched field effect transistors as a differential input stage, followed by a single transistor as an intermediate stage between the differential stage and a non-differential output stage.

3,449,688

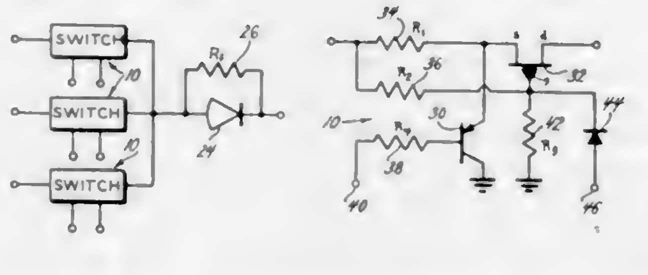
MEANS FOR IMPROVING THE OPERATING CHARACTERISTICS OF SWITCHING DEVICES

Raymond E. Brown, Hazelwood, Mo., assignor, by mesne assignments, to McDonnell Douglas Corporation, St. Louis County, Mo., a corporation of Maryland

Filed Jan. 6, 1966, Ser. No. 519,028

Int. Cl. H03f *3/68*

U.S. Cl. 330—30 **12 Claims**



A switching circuit having solid state elements including at least one field effect device connected between an input source and an output, said circuit including means for making the offset voltage characteristics of the field effect device independent of the characteristics of the input source.

3,449,689

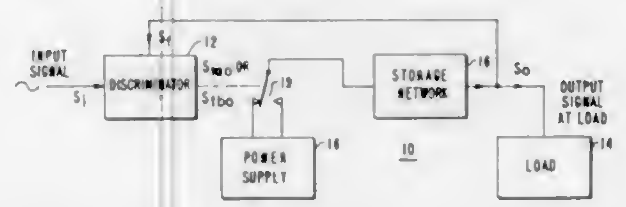
ON-OFF TRANSDUCER

John Harley, 255 Brooklyn Ave., Pretoria, Transvaal, Republic of South Africa

Filed May 27, 1965, Ser. No. 459,473

Int. Cl. H03f *1/14;* **H03k** *17/00;* **H03d** *1/06*

U.S. Cl. 330—51 **7 Claims**



An electronic on-off signal transducer is provided which converts an input signal into an output signal which is a substantial reproduction of the waveform of the input signal. The output signal is continuously fed back for comparison with the coexisting input signal and is modified to reduce any variations therebetween which exceed a predetermined threshold.

3,449,690

FREQUENCY SYNTHESIZER

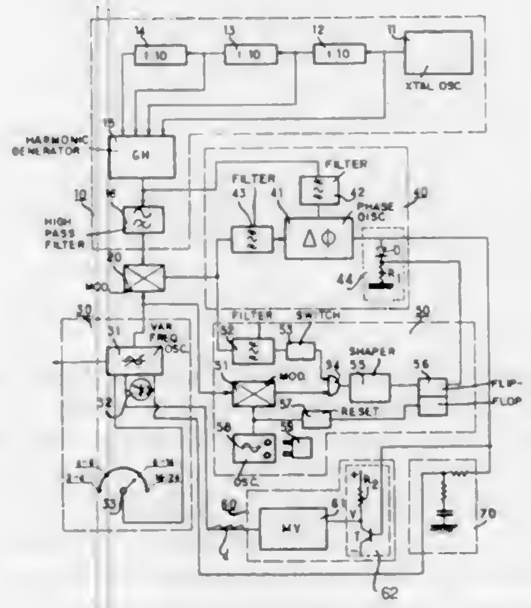
Leon Berman, Asnieres, France, assignor to C.I.T.—Compagnie Industrielle des Telecommunications, Paris, France, a French corporation

Filed July 26, 1967, Ser. No. 656,166

Claims priority, application France, July 26, 1966, 70,993

Int. Cl. H03b *3/10, 3/08, 21/02*

U.S. Cl. 331—4 **10 Claims**



A frequency synthesizer operating with a harmonic generator of high stability and a variable frequency oscillator is provided with an auxiliary fixed oscillator, whose frequency approximates a desired frequency; as the variable frequency, in the course of an exploration process, crosses the auxiliary oscillator frequency, a logical circuit is actuated, which effects the switching over from the exploration process to the synchronized state, at the moment of crossing the next harmonic frequency of high stability, i.e. the desired frequency.

3,449,691

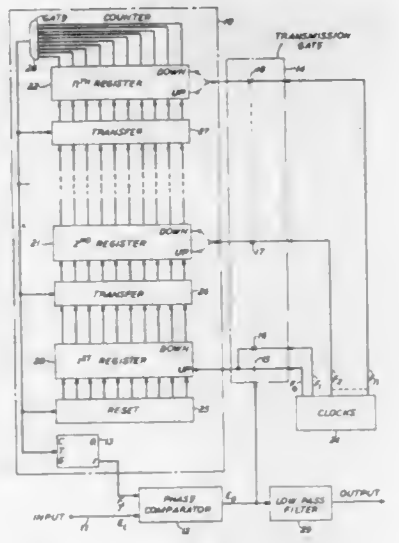
DIGITAL PHASE-LOCKED LOOP

Gerald P. Pasternack, Matawan, and Ronald L. Whalin, Ocean Township, Monmouth County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 10, 1967, Ser. No. 674,311

Int. Cl. H03b *3/06*

U.S. Cl. 331—18 **8 Claims**



A voltage controlled pulse generator composed entirely of digital logic circuits is directly connected to the binary signal output of an EXCLUSIVE-OR phase comparator in a phase-locked loop. The pulse generator counts clock pulses provided by a plurality of sources having different pulse repetition rates and produces an output which is dependent on the clock pulse count. The binary output of the comparator selectively gates the clock sources to produce a clock count proportional to the average amplitude of the binary signal. To obtain a response to a step in frequency of the input signal obeying an *n*th order linear difference equation, the generator includes *n* counters which successively accumulate clock pulses for *n* successive signal cycles.

3,449,692

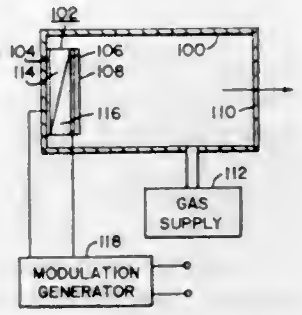
LASER MODULATION SYSTEMS

Claus H. Haake, Altadena, Calif., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 4, 1963, Ser. No. 306,515

Int. Cl. H01s *3/10;* **G02f** *1/30*

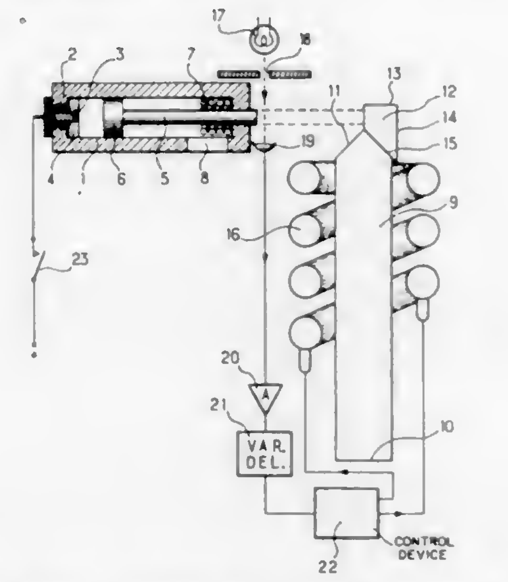
U.S. Cl. 331—94.5 **2 Claims**



A laser modulation system wherein the vibration or displacement of one of the mirrored surfaces, either by distance or angle, is accomplished by a modulation condenser.

3,449,693
CONTROL DEVICE FOR LASER OSCILLATORS

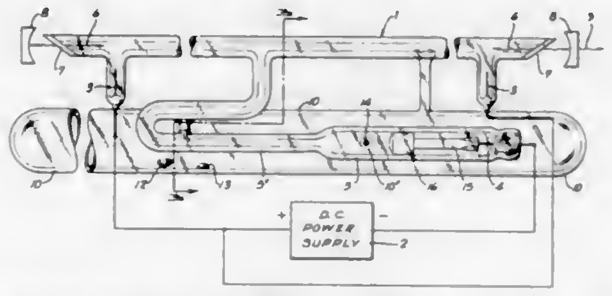
Raymond Rocherolles, Sceaux, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed July 10, 1964, Ser. No. 381,654
Claims priority, application France, July 10, 1963, 940,998
Int. Cl. H01s *3/02, 3/09, 3/16*
U.S. Cl. 331—94.5 **2 Claims**



A device for triggering a crystal laser at a predetermined period after initiating optical pumping by displacement of a movable prism positioned adjacent one end face of the laser. An explosive actuated piston member is directed to impact the prism thereby removing the same from the end face of the laser upon detonation of the explosive. The extension rod passes through a light beam directed to a photocell for supplying an electrical impulse to a control device for illuminating a flash-lamp surrounding the laser just prior to removal of the prism from the end face of the laser by impact with the piston member.

3,449,694
GAS LASER WITH INTERNAL ELECTRODES

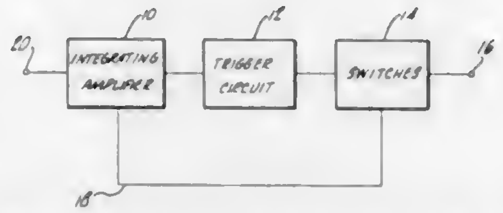
William E. Bell, Palo Alto, Calif., assignor to Spectra-Physics, Inc., Mountain View, Calif., a corporation of California
Filed Sept. 9, 1964, Ser. No. 395,228
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **12 Claims**



An internal-electrode, D-C excited, gas laser having a second gaseous medium which is more completely ionized than the active laser medium so that the second medium becomes concentrated in the vicinity of the cathode and protects against undesirable interaction between the active medium and the cathode. In a typical example, the active medium contains a rare gas at a pressure of less than 10 torr, and the second medium is a metal vapor at a pressure of less than 1 torr generated from a reservoir appended to the laser tube in the vicinity of the cathode. The bombardment of ions from the metal vapor concentrated in the cathode region is less damaging than the ion bombardment which occurs from the rare gas active medium in the absence of the metal vapor. Moreover, the existence of the reservoir prevents significant cleanup of the metal vapor. An anode electrode is positioned adjacent each optical transmission window of the laser tube in order to prevent the deposit of metal on these windows.

3,449,695
VOLTAGE TO FREQUENCY CONVERTER INCLUDING A FEEDBACK CONTROL CIRCUIT

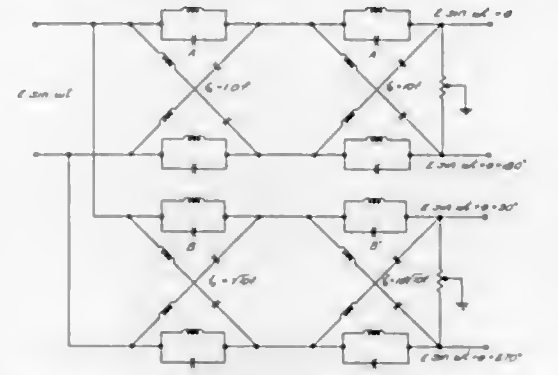
Roger F. Marsh, Arcadia, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Oct. 9, 1964, Ser. No. 402,876
Int. Cl. H03b *3/04;* **H03k** *3/04;* **H04l** *3/00*
U.S. Cl. 332—9 **12 Claims**



A voltage to frequency converter utilizing an integrating amplifier, a trigger circuit and a pair of switches in serial connection. One of the switches is connected to an output terminal from the converter and the second of the switches is connected by means of a feedback connection to the integrating amplifier to periodically reset the amplifier each time a pulse is produced at the output terminal. The frequency of pulses from the output terminal is directly proportional to the analog signal presented at an input terminal to the converter.

3,449,696
DUAL SECTION ALL PASS LATTICE FILTER WHEREIN NONLINEARITIES OF TWO SECTIONS CANCEL

Claude C. Routh, 2866 Eagle St.,
San Diego, Calif. 92103
Filed Apr. 12, 1965, Ser. No. 449,381
Int. Cl. H01p *5/12;* **H03h** *7/10*
U.S. Cl. 333—6 **5 Claims**

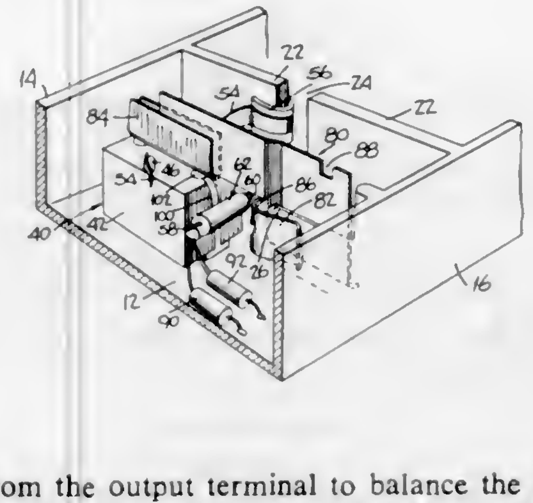


A plurality of cascaded lattice filter sections with series and shunt branches, contain tunable resonant and antiresonant circuits, respectively. The design parameter, af_0, of one section is so chosen as to yield a phase shift which is substantially linear with the logarithm of the applied frequency f_0. If the resonant frequency of another section is a multiple of the resonant frequency of the branches of the one section the linearity of the network is extended.

3,449,697
ATTENUATOR WHEREIN SHUNT CAPACITIVE LOADING CANCELS SERIES CAPACITIVE SIGNAL LEAK AT HIGHER FREQUENCIES

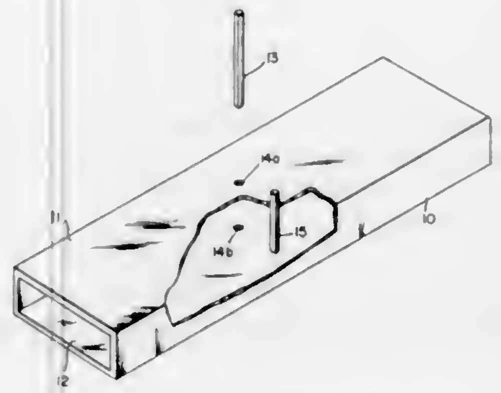
Richard M. Mison, Wayne, N.J., assignor to Ohmega Laboratories, Pine Brook, N.J., a partnership
Filed Oct. 19, 1967, Ser. No. 676,554
Int. Cl. H01p *1/22;* **H04b** *3/04*
U.S. Cl. 333—81 **18 Claims**

An attenuator for use at very high frequencies using pi attenuator sections for producing high attenuation per section. Each section is shielded from the adjacent section if there are two or more sections and one or more sections have a sliding shield to isolate the input terminal of the section from the output terminal to balance the inherent capacitance loss in order to equalize the frequency response.



3,449,698
REACTIVE WAVEGUIDE POST

Paul V. Cooper, Torrance, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,814
Int. Cl. H01p *1/00;* **H01r** *11/22*
U.S. Cl. 333—98 **3 Claims**

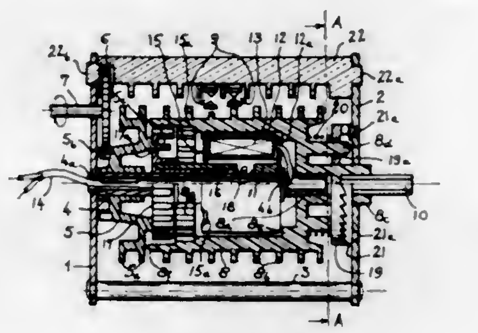


An improved technique for the placement of reactive posts in hollow waveguiding structures. In order to simplify the mounting of conductive posts inside a waveguide, use has been made of spring-like roll pins. According to this technique, a hole or holes are drilled through the walls of the waveguide in the desired location. The roll pin is then deformed by squeezing, inserted through the hole or holes, and then released. The torsional spring action of the roll pin against the interior of the hole provides the electrical and mechanical connection. No soldering or other bonding is required.

3,449,699
PROGRAMMER FOR CONTROLLING SWITCHES OF WASHING MACHINES AND THE LIKE

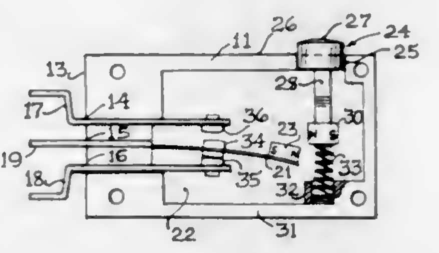
Jean Jullien Davin, Valence-sur-Rhone, France, assignor to Crouzet S.r.l., Milan, Italy
Filed Dec. 23, 1966, Ser. No. 604,416
Claims priority, application Italy, Dec. 24, 1965, 28,604/65
Int. Cl. H01h *51/08*
U.S. Cl. 335—138 **11 Claims**

A programmer which includes a rotary cam means which is continuously rotated for actuating at least one switch, this rotary cam means being supported for rotary movement by a fixed shaft which also supports for rotary movement a rotary cam block having a hollow interior adapted to receive additional components of the assembly. A releasable coupling means is provided for releasably coupling the rotary cam means and the cam block to each other, and this releasable coupling means is capable of being periodically energized so as to provide a step-by-step advance of the cam block, a positioning means being provided for determining the angular positions of the cam block during the intervals between the turning thereof periodically when the coupling means is energized. The cam block itself controls additional switches of the assembly.



3,449,700
MAGNETICALLY ACTUATED SNAP-ACTION SWITCH

Edward Gillilan, Highland Park, Ill., assignor to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois
Filed July 31, 1967, Ser. No. 657,157
Int. Cl. H01h *5/02, 9/00*
U.S. Cl. 335—188 **1 Claim**

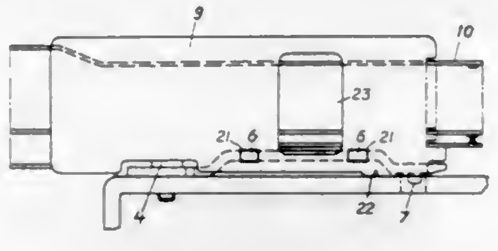


A snap-action switch wherein a flexible contact blade is movably positioned between spaced apart circuit-making terminals, with the blade carrying at its free end a magnet. A magnet-carrying actuator is movable relative to the switch blade, through a predetermined path, and is disconnected from the movable blade except through the magnetic fields which are induced by each of the magnets carried by the blade and actuator.

3,449,701
SPRING ASSEMBLY FASTENING DEVICE

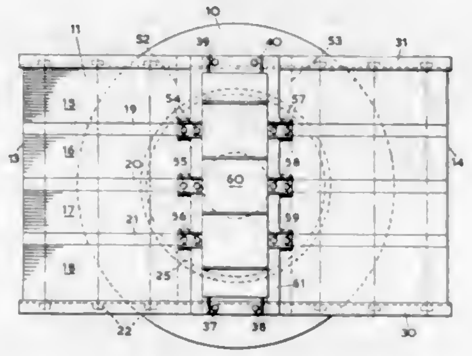
Carl Gustaf C. Busck, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 11, 1967, Ser. No. 608,635
Claims priority, application Sweden, Mar. 11, 1966, 3,229/66
Int. Cl. H01h *1/48, 1/50*
U.S. Cl. 335—197 **5 Claims**

A relay contact spring assembly is releasably attached to the relay yoke by mounting the contact springs on a base plate which has at one end a lug engageable with a mounting hole in the yoke and is slid at the other end beneath the overhanging head of a retaining member secured to the yoke whereby upon bending up the plate end having the lug so that the lug is clear of the hole the assembly can be detached from the yoke as a unit by simply pulling the other plate end clear of the head of the retaining member.



3,449,702
ELECTRICAL REACTORS

George David Wale, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Dec. 11, 1967, Ser. No. 689,399
Claims priority, application Great Britain, Dec. 9, 1966, 55,231/66
Int. Cl. H01f *15/00*
U.S. Cl. 336—100 **5 Claims**

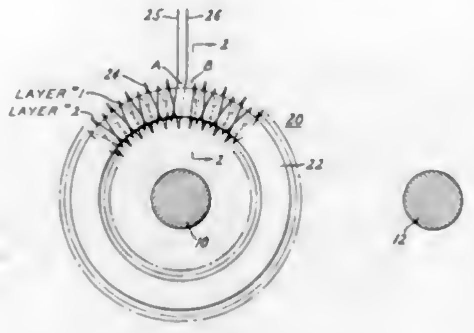


In an electrical reactor having a shell-type magnetic core including two yoke members connected by at least two leg members and at least one winding disposed between the two yoke members there is provided one or more vibration dampers each comprising a spring mounted mass arranged to suppress vibrations set up in the core due to alternating current flowing in the winding. Main and subsidiary dampers may be provided, the main dampers being tuned to the frequency of the alternating current and the subsidiary dampers being tuned to a harmonic of the alternating current.

3,449,703
CURRENT TRANSFORMER HAVING AN ACCURACY UNIMPAIRED BY STRAY FLUX FROM ADJACENT CONDUCTORS

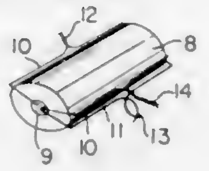
Floyd L. Steen, Lansdowne, Pa., assignor to General Electric Company, a corporation of New York
Filed Mar. 20, 1968, Ser. No. 714,605
Int. Cl. H01f *40/00, 27/34, 27/28*
U.S. Cl. 336—174 **5 Claims**

A current transformer having its secondary wound about an annular core of nonmagnetic insulating material in an even number of successive layers. In a two-layer secondary, the inner layer extends from a first point on the core along substantially the entire core length to a second point closely adjacent the first point, and the outer layer extends from the second point back to the first point. The turns in these layers are wound about the core in the same direction, and both layers have a substantially equal number of turns distributed substantially uniformly along the length of the core.



3,449,704
IMPEDANCE TRANSFORMER FOR VHF BANDS

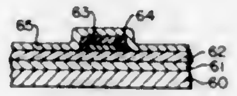
Mitsuo Matsushima, Higashi Katsushika-gun, and Tadaharu Akino and Shigeru Kato, Ichikawa-shi, Japan, assignors to TDK Electronics Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Mar. 16, 1967, Ser. No. 623,696
Int. Cl. H01f *17/06, 27/28*
U.S. Cl. 336—175 **2 Claims**

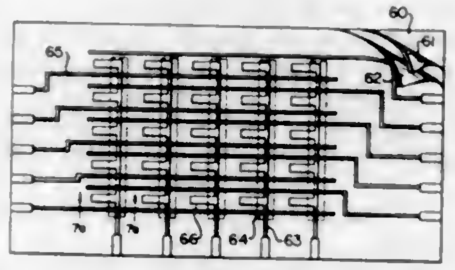


An impedance transformer having a single close-in type through hole with at least a two turn primary and a single turn secondary wound thereon. Both of the windings are maintained in close contact with the inside wall of the hole of the core, and, in regions inside the hole, are brought into close contact with each other. The respective turns of the primary winding in regions outside said hole are spaced from one another.

3,449,705
PHOTOCONDUCTIVE MATRIX SHEET

Rhodes R. Chamberlin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Apr. 21, 1966, Ser. No. 544,193
Int. Cl. H01c *7/08*
U.S. Cl. 338—17 **3 Claims**

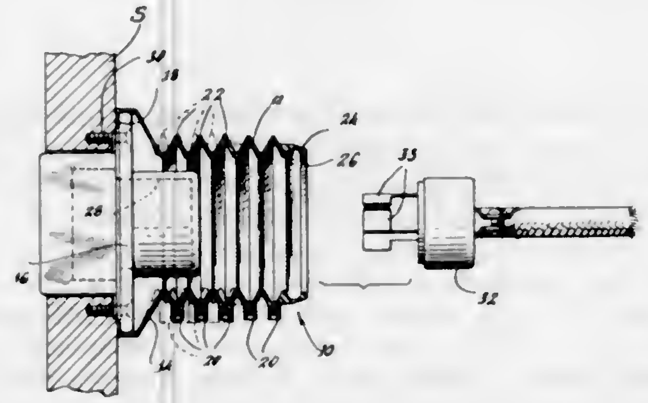




A photoconductive matrix sheet-like layer in disclosed supported on an electrically insulating substrate. Intersecting sets of electrical conductors are disposed on the photoconductive material, and a highly insulating dielectric separates the sets at the crossing points. Means is provided for joining the conductors at the crossing points through the adjacent area of the photoconductive material to give light-responsive areas.

3,449,706
PROTECTIVE ENCLOSURE FOR ELECTRICAL WIRING DEVICES

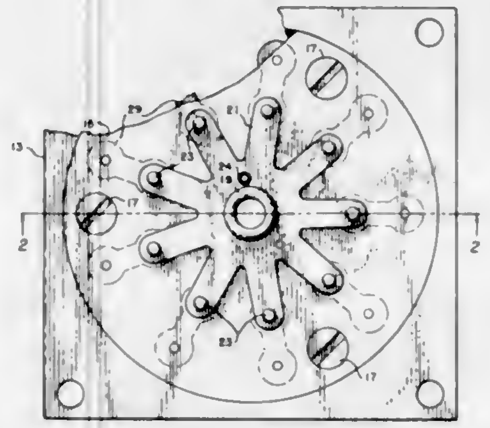
Vincent L. Carissimi, Fairfield, Conn., assignor to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 12, 1967, Ser. No. 674,978
Int. Cl. H01r *7/02;* **H05k** *5/03;* **B65d** *65/02*
U.S. Cl. 339—94 **8 Claims**



A protective enclosure, for an electrical receptacle, having a rear portion securable to a supporting surface and formed to house an electrical receptacle and receptacle face plate and a forward axially deformable bellows portion normally extending beyond the forward face of the receptacle.

3,449,707
SOCKET FOR SUBMINIATURE ELECTRONIC DEVICES

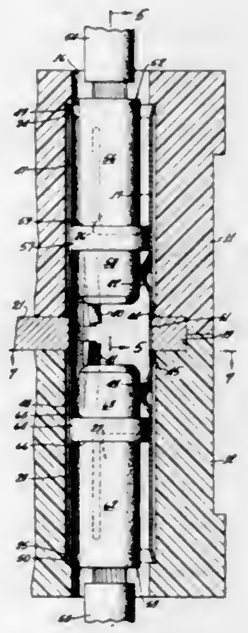
John H. Smith, Shrewsbury, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 8, 1968, Ser. No. 696,166
Int. Cl. H01r *3/00*
U.S. Cl. 339—147 **2 Claims**



The invention herein relates broadly to a socket for containing and confining electronic components and specifically directed to a means for confining and connecting subminiature components by a solderless technique which contemplates the use of a spring holder of spider-like configuration for securing in position subminiature devices such as photo-diodes, either singly or in combination, within a base of extremely thin proportions.

3,449,708
FEED-THROUGH TERMINAL JUNCTION

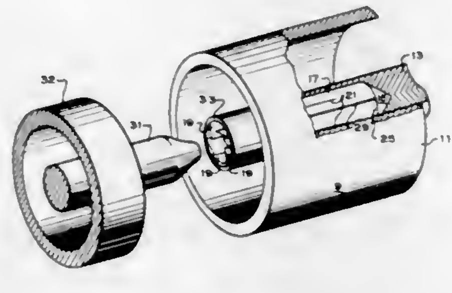
Roland B. Lawrence, Banning, and George H. Harnack, Calimesa, Calif., assignors to The Deutsch Company Electronic Component Division, Banning, Calif., a corporation of California
Filed Dec. 12, 1967, Ser. No. 689,913
Int. Cl. H01r *13/50, 9/08*
U.S. Cl. 339—198 **21 Claims**



A terminal junction device including a housing of dielectric material receiving a bus, the housing and bus having a plurality of bores therethrough, tubular retainer members in the bores, and a contact inserted from either end into the retainer member, the retainer member having inwardly directed portions engaging the contacts to hold the contacts in place and to provide an electrical connection therewith and produce an electrical circuit from the contacts through the retainer member to the bus.

3,449,709
CONDUCTOR CONTACT AND METHOD OF MAKING THE SAME

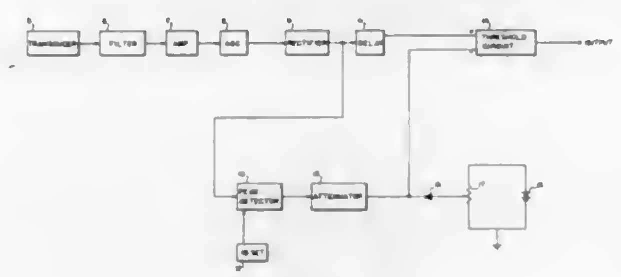
David R. Veteran, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Nov. 10, 1966, Ser. No. 593,569
Int. Cl. H01r *13/24*
U.S. Cl. 339—258 **5 Claims**



The receptacle portion of a connector includes a conductive element having an internal bore, and a contactor element of sheet material which is first cut to form a plurality of finger sections and then rolled up and inserted into the bore. A notch in each of the finger sections engages a flange at the end of the conductive element to retain the contactor element within the bore.

3,449,710
CONTROLLED THRESHOLD DETECTOR FOR SONAR APPLICATIONS

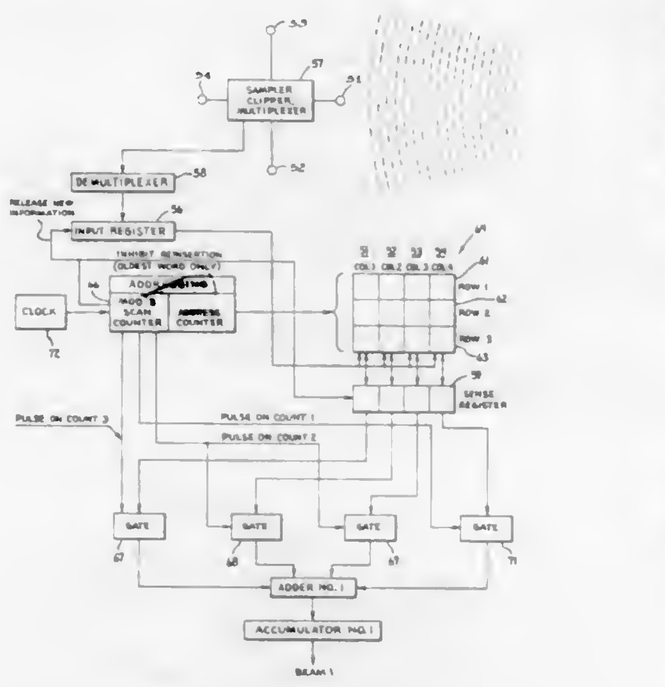
George J. Moss, Jr., Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 18, 1967, Ser. No. 676,686
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 **9 Claims**



An apparatus for detecting echo returns from narrow-beam Sonar sets wherein a decision circuit receives one input, which is a delayed signal proportional to an echo pulse received at the transducer, and wherein the decision circuit receives a second input which is a fixed number of decibels below the peak of the echo pulse signal. The output of the decision circuit changes abruptly when the amplitudes of the two inputs are equal and the output signal is independent of the amplitude of the echo pulse.

3,449,711
BEAM FORMER

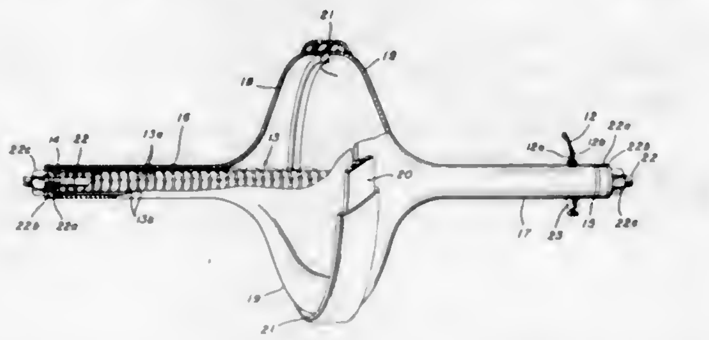
Luther W. Ricketts, Jr., Urbana, Robert E. Stalcup, Champaign, and Robert J. Erickson, St. Joseph, Ill., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 483,434
Int. Cl. H04b *13/00;* **G01s** *3/80, 5/18*
U.S. Cl. 340—6 **12 Claims**



Signals from different energy transducers are delayed and combined to indicate the directional location of a source whose energy reaches the transducers. The signals are clipped and stored in a digital memory device in such a manner that certain groups of signals represent predetermined directional beams. The stored signals are gated to a plurality of accumulators to provide directional information.

3,449,712
FOLDED TRANSDUCER TRANSMITTING OR RECEIVING FOR LOW FREQUENCY UNDERWATER SOUND

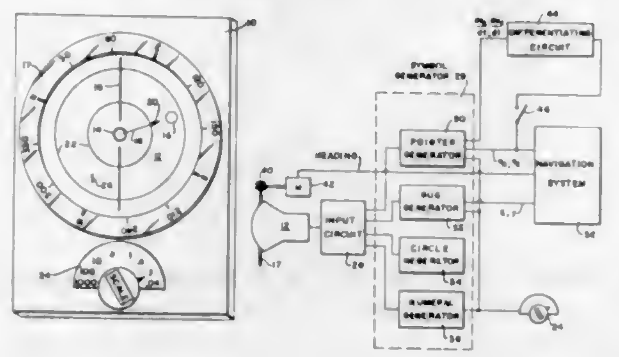
Wesley L. Angeloff, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 31, 1967, Ser. No. 679,299
Int. Cl. H04b *13/02*
U.S. Cl. 340—8 **8 Claims**



The present invention relates to transducers of acoustic energy transmitted or received through a water medium. The invention includes a stack of electromechanical elements such as stacked piezo-electric cylinder, that are deformable in accordance to an impressed electric field when the transducer is used as a transmitter or that yield an electric output signal representative of a mechanical deformation of the stack in accordance with impinging acoustic energy. A concentric housing extends inwardly from opposite ends of the stack to terminate in a pair of radially, outwardly extending, flanged, horn-shaped surfaces peripherally joined by a resilient annular ring. Thus arranged, the surfaces are free to vibrate in accordance with impinging acoustic energy or in response to electric potentials impressed across the electromechanical stack. Relevant acoustic transducer theory dictates that the resonant frequency of the present type of transducer is dependent upon the length of the stacks, the mass of the stack and of the radiating or receiving surface. By folding back a light weight housing attached at opposite ends of the electromechanical stack to concentrically enclose the stack to terminate in a radiating-receiving surface, the present transducer has effectively increased the characteristics of the transducer stack to give an optimum low frequency response. By being so constructed an extremely compact transducer exists considering the low frequency at which it operates.

3,449,713
DISPLAY APPARATUS FOR VTOL-AIRCRAFT

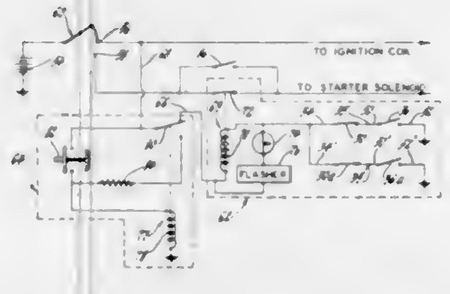
Kurt Kaiser, Heidelberg, Germany, assignor to TELDIX Luftfahrt-Ausrustungs G.m.b.H.
Filed Apr. 28, 1967, Ser. No. 634,588
Claims priority, application Germany, Apr. 28, 1966, T 31,012
Int. Cl. G01g *5/00*
U.S. Cl. 340—27 **6 Claims**



A display apparatus for the pilot of a VTOL-aircraft, where a line is formed whose direction represents the horizontal direction of travel of the craft and whose length is a function of the horizontal speed of the craft. This display, which also gives a pictorial representation of the relative position of the craft and the landing site, makes it easier for the pilot to bring the craft in for a precision landing.

3,449,714
VEHICLE SEATBELT SAFETY SYSTEM

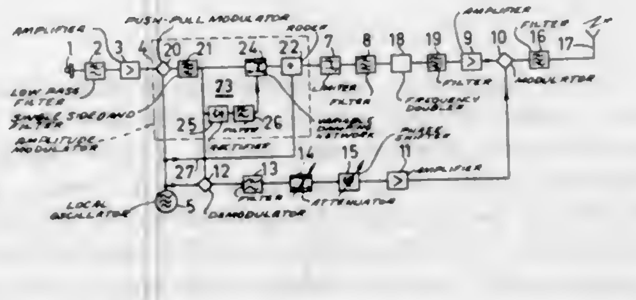
Nelson E. Farley, Jr., deceased, late of Farmington, Mich., by Elizabeth L. Farley, executrix, Farmington, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 6, 1965, Ser. No. 453,842
Int. Cl. B60q *1/00;* **G08b** *5/00;* **B60k** *27/00*
U.S. Cl. 340—52 **10 Claims**



1. In a motor vehicle having a battery, a starter solenoid, an ignition circuit arranged generally in parallel with said starter solenoid, and an ignition switch for selectively connecting said battery to said starter solenoid and said ignition circuit,
  the improvement comprising a safety circuit connected in parallel with said ignition circuit,
  said safety circuit including relay means,
  relay contact means movable in response to operation of said relay means and being connected in series with said starter solenoid, said relay contact means being ineffective to control the condition of said ignition circuit,
  a seatbelt condition responsive switch connected in series with said relay means for controlling the operation of said relay means.

3,449,715
TRANSMITTING ARRANGEMENT FOR THE TRANSMISSION OF COMPATIBLE SINGLE SIDEBAND OSCILLATIONS

Theodorus Jozef van Kessel, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,540
Claims priority, application Netherlands, Apr. 4, 1964, 6403783
Int. Cl. H04b *1/68;* **H03c** *1/06, 1/52*
U.S. Cl. 325—137 **3 Claims**



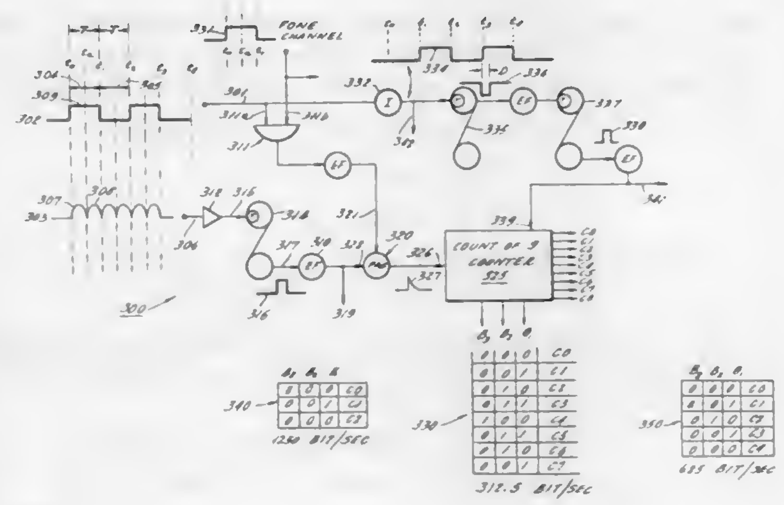
In a compatible single sideband system, the input signals are modulated on a carrier to produce a first single sideband signal, and this signal is limited and then frequency doubled. The doubled oscillations are modulated with the original signals and transmitted. The system suppresses signal components outside the desired band. Further suppression is obtained by dynamically controlling the modulation index of the signals in one of the channels connected to the input of the output modulator.

3,449,716
DIGITAL SELF-OPTIMIZING TERMINAL

Abraham Brothman, Dumont, N.J., Stephen Halpern, Forest Hills, N.Y., and Richard D. Reiser, Newark, Bruce A. Cuddeback, Passaic, N.J., and Allen H. Miller, Laurelton, N.Y., assignors, by mesne assignments, to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware

Filed May 9, 1963, Ser. No. 279,107

Int. Cl. G06f *11/10;* **H03k** *17/02*
U.S. Cl. 340—146.1 **14 Claims**



4. Means for examining incoming binary data bits coded in a predetermined manner to form messages comprising first means for dividing the data bit interval into a plurality of information intervals equal in time duration; second means for generating a pulse to identify the presence of each information interval; third means for determining the binary state of the data bit being examined during each information interval; fourth means for counting the number of information intervals in said data bit which are in one binary state; fifth means for tagging the binary data bit being processed as being in one binary state when said fourth means generates a count lying in a first predetermined range; sixth means for tagging the binary data bit being processed as being in the opposite binary state when said fourth means generates a count lying in a second predetermined range and seventh means for tagging the data bit being processed as being ambiguous when said fourth means generates a count lying in a third predetermined range.

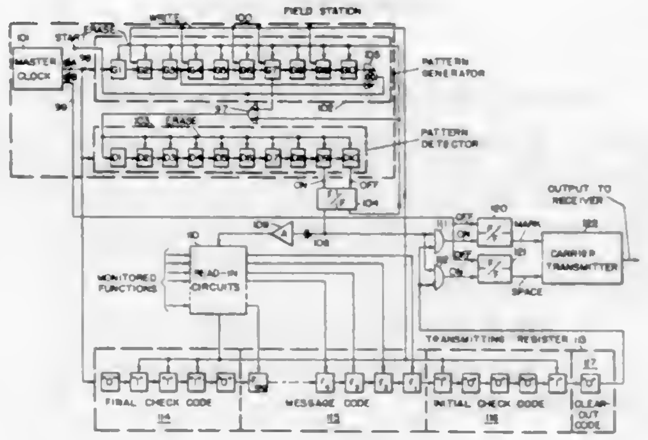
3,449,717
CODE COMMUNICATION SYSTEM

Willis R. Smith, Klaus H. Frielinghaus, and Arthur W. Wetmore, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed June 15, 1964, Ser. No. 374,918

Int. Cl. G08b *29/00;* **G06f** *11/12*
U.S. Cl. 340—146.1 **14 Claims**

A code communication system in which a transmitting station monitors various functions of apparatus and sends a coded message corresponding to the monitored functions along with a unique checking code to a receiving station. The check code consists of an identifying code sent prior to the message and a complement of this identifying code sent at the end of the message, means are provided at the receiving station for receipt of the coded message and for checking the authenticity of the message by comparison between the identifying code and its complement.



3,449,718

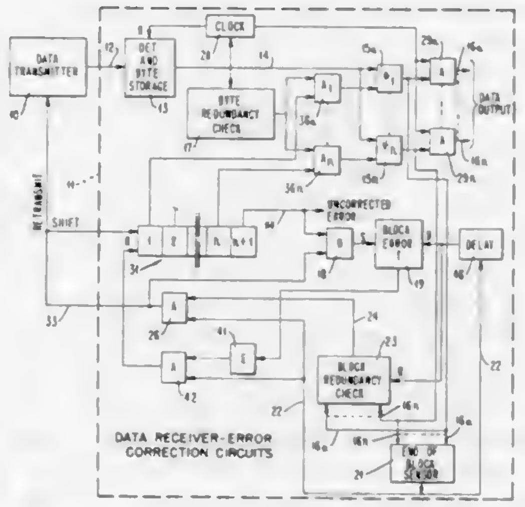
ERROR CORRECTION BY ASSUMPTION OF ERRONEOUS BIT POSITION

Paul W. Woo, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 10, 1965, Ser. No. 462,933

Int. Cl. G08b *29/00;* **G06f** *11/00;* **G11b** *5/00*

U.S. Cl. 340—146.1 **12 Claims**



An error correction system for a data block in which each byte is error checked, and all bits at each single byte position are error checked. Any error is assumed by inverting a bit at an arbitrarily select bit position of each byte having an error check. The data bits after such possible inversion are provided to the block redundancy check for all bit positions. Whenever no block error is indicated by the block redundancy check after a block has been received with a bit position error assumption, the block has been received correctly. If the block redundancy summation detects an error, a retransmission of the block is signaled and another bit position is assumed as the erroneous bit position during that retransmission for an attempted correction.

3,449,719

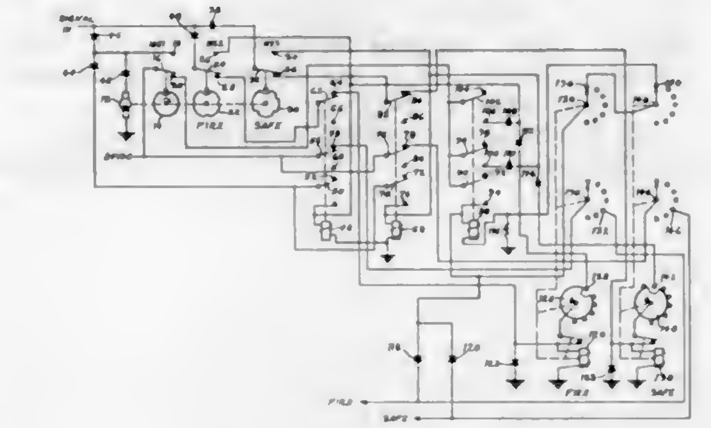
CAM CONTROLLED PULSE RESPONSIVE RECEIVER

Peter W. Camarata, Huntington, and John W. Wicks, Oceanside, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed Feb. 23, 1965, Ser. No. 434,715

Int. Cl. H04q *1/30*

U.S. Cl. 340—164 **6 Claims**



A receiver responsive to coded signal pulses is disclosed. Two cams having coded surfaces control stepping relays in response to proper code input. Signal responsive indicator means is provided.

3,449,720

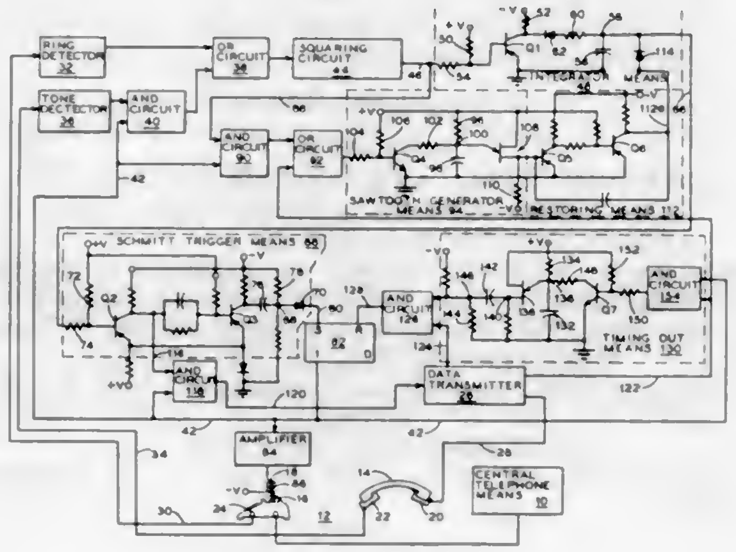
SIGNAL DURATION AND PULSE WIDTH RESPONSIVE CONTROL APPARATUS

Frank C. Marino, Huntington, and Edgar Wolf, New Hyde Park, N.Y., assignors to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,132

Int. Cl. H04q *5/14;* **H04m** *11/06*

U.S. Cl. 340—167 **8 Claims**



Control apparatus for connecting a data transmitter with a data receiver which generates first and second control signals wherein the second control signal has a preselected width. The apparatus includes means responsive to the first control signal to establish a connection between the data transmitter and the data receiver and to initiate the transfer of data in response to the second control signal. Means are also provided for disabling the first-named means if the second signal is not received for a preselected interval of time or if a cycle of the signal is not of the preselected pulse width.

3,449,721

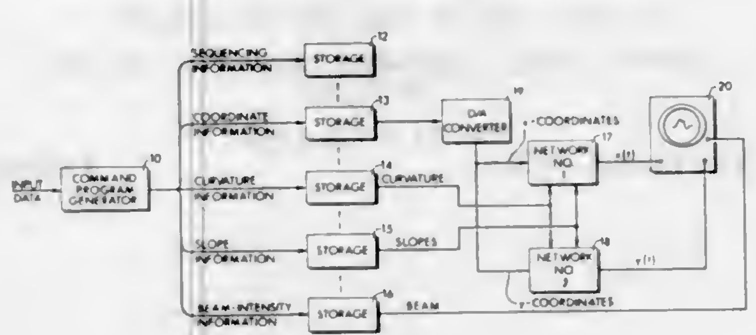
GRAPHICAL DISPLAY SYSTEM

Michael L. Dertouzos, Newton, and Huber L. Graham, Cambridge, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed Oct. 31, 1966, Ser. No. 590,855

Int. Cl. G11b *13/00*

U.S. Cl. 340—172.5 **6 Claims**



1. A system for displaying a contour composed of a plurality of curve portions comprising:
   - means for storing information specifying sequentially the initial and final positions of each of said curve portions, the curvature of each of said curve portions between said initial and final positions and the slopes of each of said curve portions at said initial and final positions;
   - network means having a plurality of variable parameters responsive to said position, curvature, and slope information for producing a plurality of output signals representative of each of said curve portions; and
   - means responsive to said output signals for sequentially displaying said curve portions thereby displaying a reproduction of said contour.

3,449,722

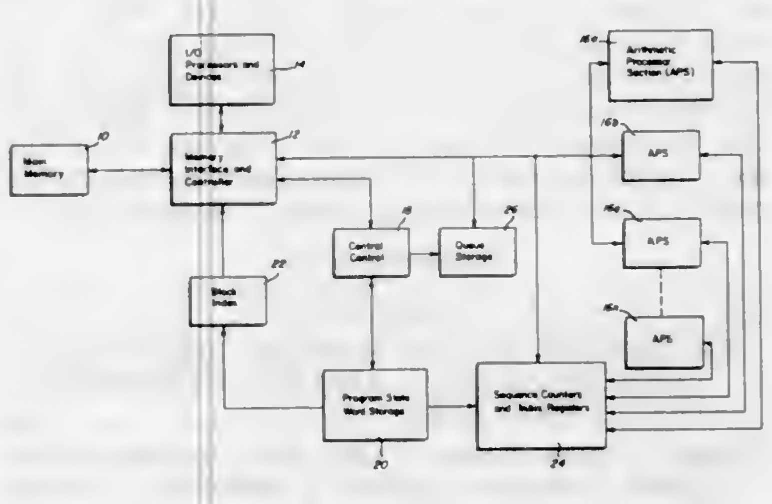
ELECTRONIC MULTIPROCESSING APPARATUS INCLUDING COMMON QUEUEING TECHNIQUE

B. T. Tucker, Waltham, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,802

Int. Cl. G11b *13/00*

U.S. Cl. 340—172.5 **7 Claims**


Main Memory
10
I/O Processors and Devices
14
Memory Interface and Controller
12
Central Control
18
Queue Storage
26
Block Index
22
Program State Word Storage
20
Sequence Counters and Index Registers
24
Arithmetic Processor Section (APS)
16a
APS
16b
16c
16n

A queueing technique for utilization in a multiprocessor-multiprogramming environment wherein the plurality of processor sections are organized so that each processor section handles a particular type of instruction; means being provided for directing instructions in the form of program requests from the various programs to central control means wherein the program requests are scanned and temporarily stored, awaiting the avilability of the appropriate processor section; the queueing arrangement serving in common the plurality of processor sections and including means for chaining requests directed to a particular processor so as to insure that upon becoming available, a processor section will be presented with the program request therefor which has resided longest in the common queue.

3,449,723

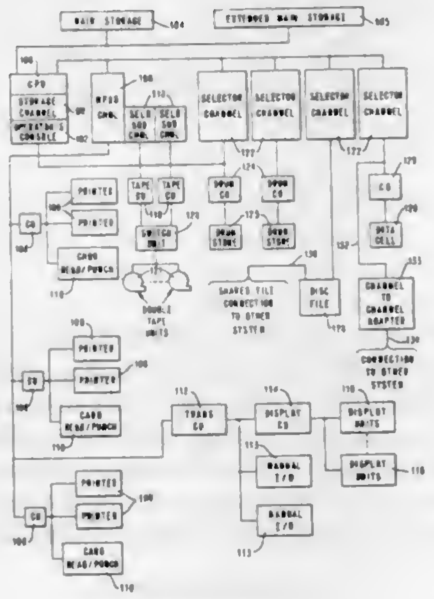
CONTROL SYSTEM FOR INTERLEAVE MEMORY

David W. Anderson, John V. Mizzi, and Francis J. Sparacio, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 12, 1966, Ser. No. 578,744

Int. Cl. G06f *1/02, 13/00*

U.S. Cl. 340—172.5 **10 Claims**



A data processing system has a plurality of interleaved memory modules and a system for controlling the use of the modules by other units of the data processing system. Requests for access to the individual modules are supplied on successive machine cycles. When a module is busy, a request thereto may be rejected into a temporary storage register which reapplies the request until it is accepted at a time the module is not busy. Where two requests are to the same address, the requests are chained. When a fetch request is made to the same address as for an outstanding store request, the fetch request is blocked until the store request can be executed and then the fetch request is chained thereto. A priority circuit determines which request from a plurality of competing sources will be applied to the modules.

3,449,724

CONTROL SYSTEM FOR INTERLEAVE MEMORY

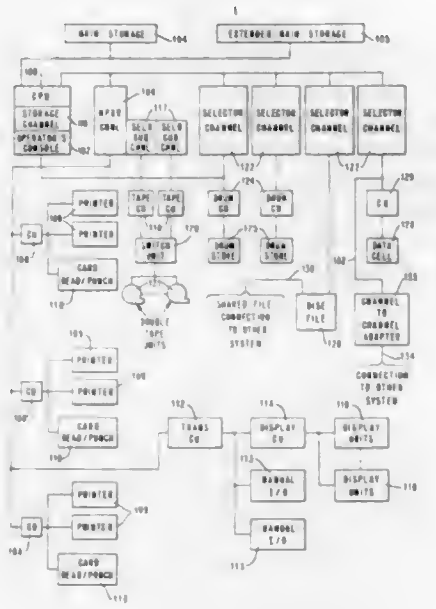
Lawrence J. Boland, John V. Mizzi, and John W. Smith, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 12, 1966, Ser. No. 578,745

Int. Cl. G06f *1/04;* **H04q** *3/00*

U.S. Cl. 340—172.5 **12 Claims**

A data processing system has a plurality of interleaved memory modules and a system for controlling the use of the modules by other units of the data processing system. Requests for access to the individual modules are supplied on successive machine cycles. When a module is busy, a request thereto may be rejected into a temporary storage register which reapplies the request until it is accepted at a time the module is not busy. Where two requests are to the same address, the requests are chained. When a fetch request is made to the same address as for an outstanding store request, the fetch request is blocked until the store request can be executed and then the fetch request is chained thereto. A pushdown register receives request information that is pushed down through several stages on successive machine cycles to provide control data for the chaining, for gating data out on to a common bus and for reserving a time slot on the bus for data from sources outside of the memory system. A priority circuit determines which request from a plurality of competing sources will be applied to the modules.



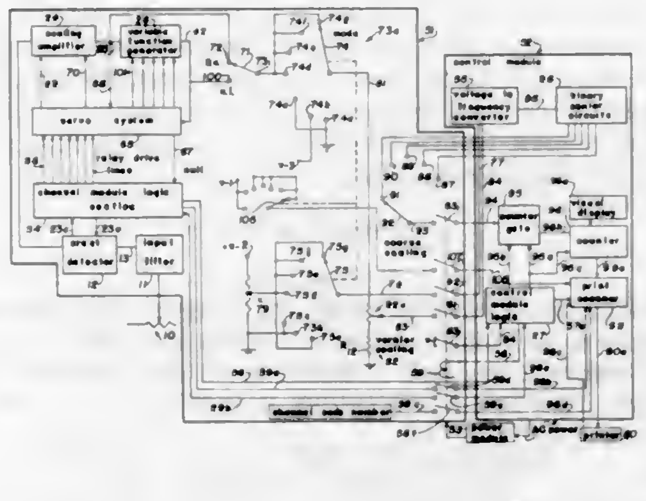
3,449,725
AUTOMATIC DIGITAL DATA PROCESSING SYSTEM FOR CONTINUOUS FLOW ANALYSIS

Bernard J. Eckelkamp and David W. Spence, Houston, Tex., assignors to Infotronics Corporation, Inc., a corporation of Texas

Filed Oct. 11, 1966, Ser. No. 585,812

Int. Cl. G11b *13/00*

U.S. Cl. 340—172.5 8 Claims



An automatic data processing system for use with analytical measuring instruments. This system includes a number of analog measurement signal input channels, a common time-shared analog-to-digital converter and a printer for providing a readable record of the analytical measurements. This system also includes automatic scaling and calibrating circuits for enabling the record to be printed in directly readable clinical-type measurement units.

3,449,726
NUMBER DISPLAY SYSTEM

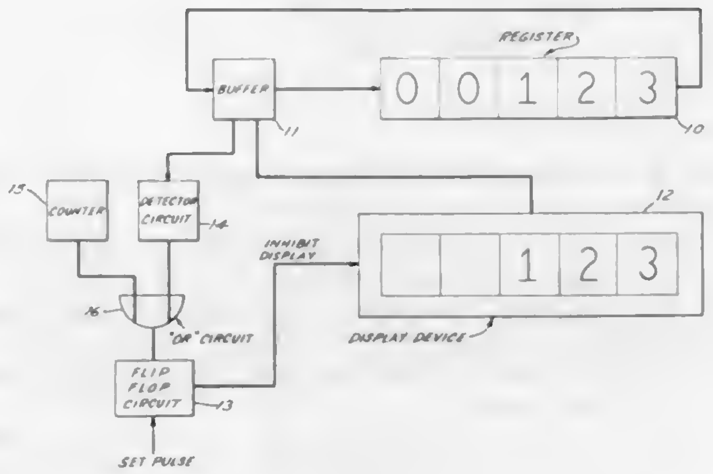
Takuya Kawamoto, Shunsuke Sakoda, and Mitsuhiro Hattori, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed Nov. 21, 1966, Ser. No. 595,875

Claims priority, application Japan, Nov. 20, 1965, 40/71,565

Int. Cl. G11b *13/00*

U.S. Cl. 340—172.5 3 Claims



A number display system having a register for storing a number of digits and a display for displaying such digits transmitted sequentially in ascending order of significance from the register to a buffer during successive time bits each corresponding to a transmitted digit, the buffer stores, for a time interval corresponding to the number of time bits equal to the number of digits, the digit which is transmitted thereto during the time bit at the commencement of each time inerval, whereby the buffer stores the digits sequentially in descending order of significance during a series of the time intervals equal to the number of digits, each digit stored in the buffer for a time interval is transmitted at the conclusion thereof to the display device, the display of the digits thus transmitted to the display device is inhibited at the start of the series of time intervals, as by the output of a suitably set flip-flop circuit, and, upon the detection of a digit other than zero stored in the buffer, the display inhibition is cancelled, as by resetting of the flip-flop circuit, to ensure the display of only effective digits. Further, the display inhibition is cancelled to permit the display of a zero immediately preceding a decimal point.

3,449,727
TRANSISTOR LATCH MEMORY DRIVEN BY COINCIDENTALLY APPLIED OPPOSITELY DIRECTED PULSES

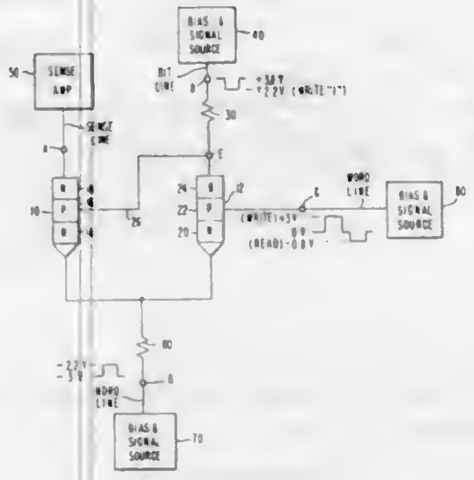
Wilbur D. Pricer, Pleasant Valley, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,306

Int. Cl. G11b *9/00*

U.S. Cl. 340—173 11 Claims

A simplified memory cell and an array of such cells is disclosed. Each of the cells is uniquely constructed to keep the number of active devices, as well as the associated bias and signal source, to a minimum. The sources are connected to each memory cell in such a way as to drive the cells with appropriately applied pulses so that the functions of reading and writing can be readily performed.



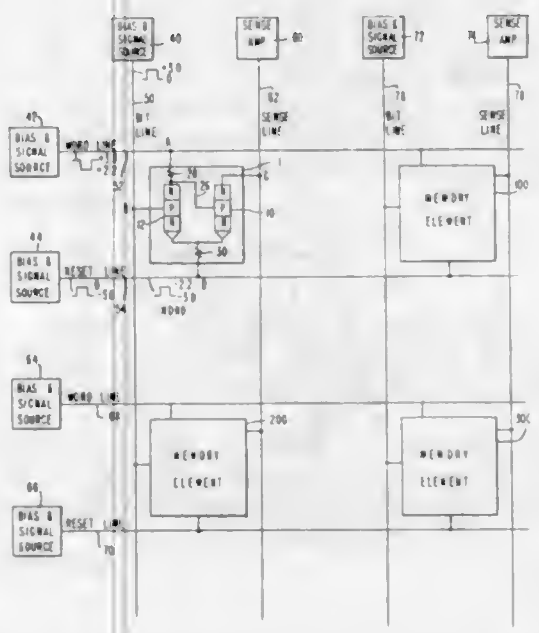
3,449,728
FEEDBACK CURRENT SWITCH MEMORY ELEMENT

Robert A. Henle, Hyde Park, and Wilbur D. Pricer, Pleasant Valley, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 28, 1966, Ser. No. 523,614

Int. Cl. H03k *3/26*

U.S. Cl. 340—173 13 Claims



A memory element which is simply constructed using only two transistors and having direct coupling from the collector of one transistor to the base of the other transistor. The memory elements or cells are arranged in a matrix and at least three lines are connected to each cell, the first line being a WORD line, connected to the first terminal, or collector, of one of the transistors in each of the memory cells corresponding to bit positions in a predetermined data word; the second line being a BIT line connected to a second terminal, or base, of said one of the transistors in each of the memory cells corresponding to the same bit position in different data words. Coincident, oppositely-directed, pulses are applied by way of the first and second lines in order to write a "1" into a predetermined cell within the array. At least one other line is also utilized for resetting the cells.

The memory cellls can also be arranged to provide a transistor shift register and utilizing the same coincident pulsing techniques for writing in information and with means for resetting so as to shift information within the register.

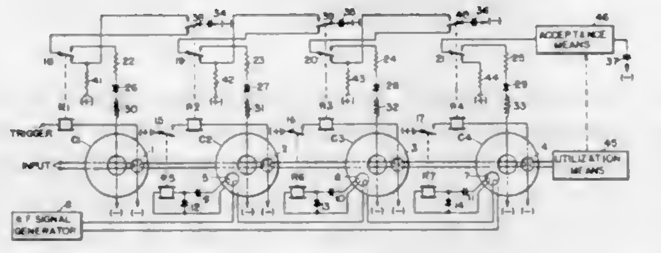
3,449,729
MULTI-APERTURE CORE SHIFT REGISTER

Klaus H. Frielinghaus and Willis R. Smith, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Mar. 4, 1963, Ser. No. 262,551

Int. Cl. G11c *11/08;* **H01h** *47/04*

U.S. Cl. 340—174 18 Claims



A signal transfer circuit having a plurality of storage means each storage means being coupled to a subsequent storage means. A driver circuit is coupled to each storage means and is responsive to information stored in both the storage means to which it is coupled and the next subsequent storage means. The driver initiates the transfer of information from the storage means to which the driver is coupled to the next subsequent storage means when the next subsequent storage means is cleared. The information contained in the last storage means is cleared when such information is accepted by application utilization circuitry.

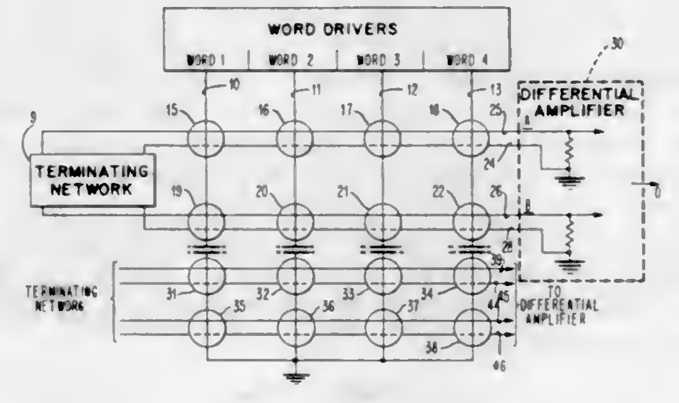
3,449,730
MAGNETIC MEMORY EMPLOYING REFERENCE BIT ELEMENT

Carlos F. Chong, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 418,174

Int. Cl. G11b *5/02*

U.S. Cl. 340—174 4 Claims

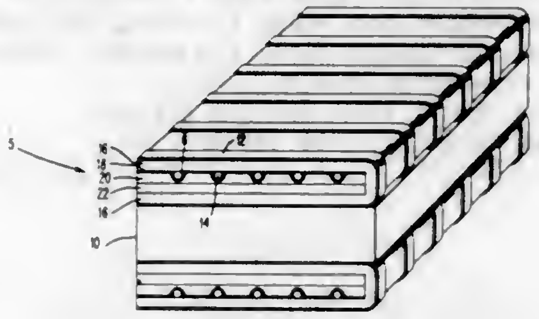


This invention obtains improved discrimination between a binary zero and one. Improved signal discrimination is obtained in one embodiment by utilizing a thin film dummy bit in conjunction with each address bit of a memory word. The output signal of the address bit in combination with the reference bit after detection by a differential amplifier is either twice the output of a single memory bit or zero depending upon whether a binary zero or one is stored.

3,449,731
PLATED WIRE MEMORY PLANE

Woo F. Chow, Horsham, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 30, 1965, Ser. No. 475,941
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **7 Claims**

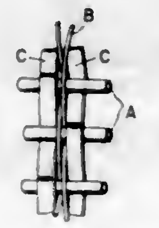


This invention relates to be plated wire memory plane which provides a low impedance transfer loop. The plane is formed by forming the wire into a co-axial structure by insulating the wire from the supporting metal substrate with the oxide of the metal. The ends of the wire are connected to a metal of low resistivity such as a copper substrate to provide a low impedance wire transfer loop wherein information can be transferred from one location to another location along its length.

3,449,732
WOVEN INFORMATION-STORAGE MATRIX

Hisao Maeda and Akira Matsushita, Ota-ku, Tokyo-to, Japan, assignors to Toko Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Continuation of application Ser. No. 309,530, Sept. 17, 1963. This application Sept. 1, 1967, Ser. No. 665,186
Claims priority, application Japan, Sept. 21, 1962, 37/41,507; Oct. 11, 1962, 37/45,144
Int. Cl. G11b *15/00*
U.S. Cl. 340—174 **5 Claims**



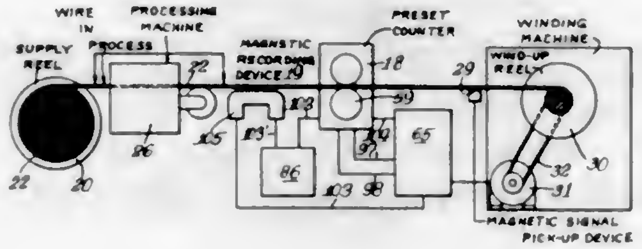
An information-storage matrix having a woven structure of orthogonally intersecting arrays of warp and weft conductors. The weft conductors are straight, stiff, solid in cross section and arranged in parallel. A ferromagnetic information-retentive circumferential film without discontinuities extends axially on each weft conductor. A plurality of pairs of flexible warp conductors effectively define coil turns on each of the non-magnetic conductors associated with respective bit-storage zones on the film of the non-magnetic conductors. Spacers between adjacent pairs of flexible conductors are effective to cause each effective coil turn to lie close adjacent to its respective bit-storage zone.

3,449,733
METHODS AND APPARATUS FOR USE IN THE INDUSTRIAL MAGNETIC MATERIALS ART

Leonard G. Berquist, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware

Filed Apr. 1, 1964, Ser. No. 356,591
Int. Cl. G11b *5/04, 5/74;* **B65h** *25/00*
U.S. Cl. 340—174.1 **8 Claims**

Recording and sensing means in which a signal is applied on a predetermined portion of an elongated member during movement of that member in one direction of and along its axis, and sensing of said signal upon movement of such elongated member in the other direction of and along its axis.

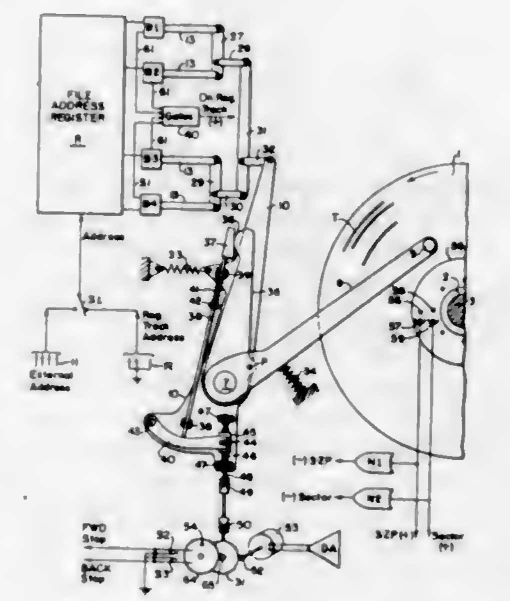


3,449,734
POSITIONING APPARATUS FOR A RANDOM ACCESS STORAGE DEVICE USING A DUAL-FREQUENCY REFERENCE TRACK

Karl A. Frey, Boston, and Elmer C. Simmons, Whitman, Mass., assignors, by mesne assignments, to Mohawk Data Sciences Corporation, East Herkimer, N.Y., a corporation of New York

Filed Apr. 28, 1965, Ser. No. 451,424

Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **12 Claims**

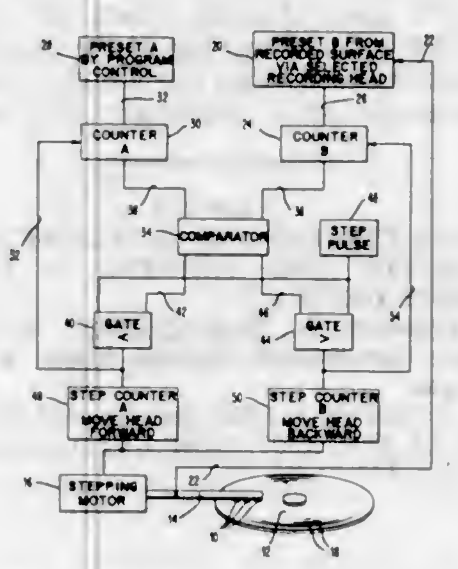


A random access digital storage device includes a plurality of stacked magnetic disks arranged to cooperate with a plurality of tandem-connected accessing arms, each of the latter supporting a read-write head. The arms are selectively movable in unison under the control of a primary positioner whereby the heads are positioned over desired data tracks on each of the disk surfaces. A dual-frequency reference track on one of the disk surfaces permits periodic precise realignment of each head with its respective data tracks. This is done by a vernier positioning means which, after the primary positioner has placed the heads into rough registration with the reference track, adjusts the heads with respect to the primary positioner until the head associated with the reference track is precisely centered thereon. This latter condition is determined by a circuit which detects a change in the regularity of the waveform generated in the read head by the dual frequencies of the reference track.

3,449,735
TRANSDUCER POSITIONING SYSTEM

Samuel C. Cogar, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,674
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **1 Claim**

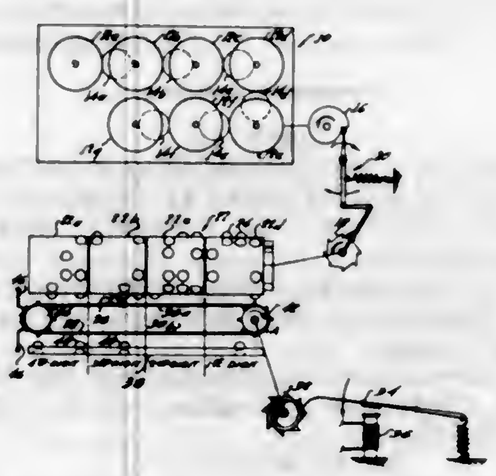

PRESET A BY PROGRAM CONTROL
PRESET B FROM RECORDED SURFACE VIA SELECTED RECORDING HEAD
COUNTER A
COUNTER B
COMPARATOR
STEP PULSE
GATE <
GATE >
STEP COUNTER A MOVE HEAD FORWARD
STEP COUNTER B MOVE HEAD BACKWARD
STEPPING MOTOR
22

The present system provides first and second input circuits for respectively entering into first and second counters information indicating the position of a read head and the position to which the read head should be moved. The information from the two counters is compared and there is provided one of two output signals from the comparator. One of the output signals indicates that the first counter value is less than the value in the second counter while the second output indicates that the first counter value is greater than value in the second counter. A "less than" signal is transmitted through circuitry to the stepping motor to effect a current flow of one polarity while a "greater than" signal is transmitted to the stepping motor to provide a current of polarity in the other direction. In this way the stepping motor moves the read heads in a forward direction or a reverse direction.

3,449,736
METER READING SYSTEM

Arthur J. Little, Springfield, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

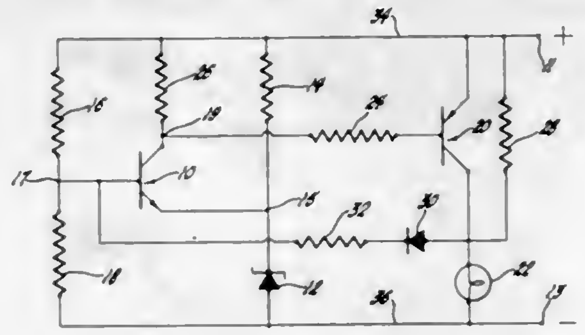
Original application Aug. 7, 1964, Ser. No. 388,099, now Patent No. 3,387,267, dated June 4, 1968. Divided and this application Feb. 23, 1968, Ser. No. 707,664
Int. Cl. G08c *19/16*
U.S. Cl. 340—204 **3 Claims**



The following specification describes a portable arrangement for reading a utility meter from a remote position. The axially spaced dials of the meter each have an associated plurality of series of protuberances or marks with each mark in a series spaced axially in accordance with binary code corresponding to a respective decimal digit. Each series is positioned circumferentially so that one series corresponding to the associated dial reading is aligned with axially movable contacts or a pick up device to transmit a signal corresponding to each scanned marking over a wire to the remote position.

3,449,737
OVERPOTENTIAL INDICATOR DEVICE CONTROL CIRCUIT

John A. Stewart, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,635
Int. Cl. G08b *21/00;* **G05f** *1/40, 1/52*
U.S. Cl. 340—248 **3 Claims**



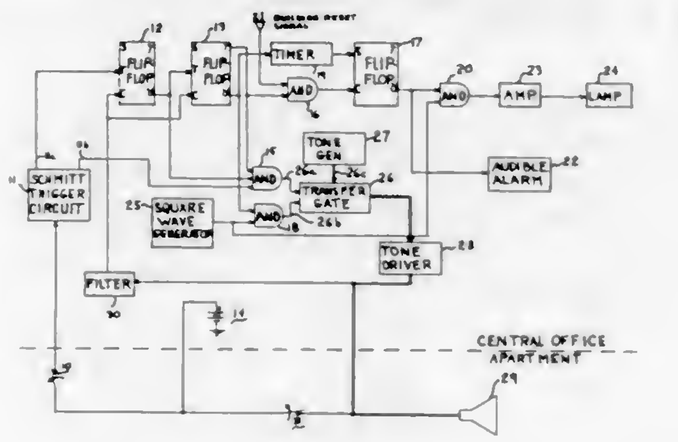
A control circuit for an overpotential indicator device having two input terminals across which the potential to be monitored is impressed. A variable reference potential, which varies with potential magnitude applied across the input terminals, and a substantially constant reference potential are applied across the base-emitter electrodes, respectively, of a control transistor. The emitter-collector electrodes of a switching transistor are connected in series with the filament of an electric indicating lamp across the input terminals and the base electrode is connected to the collector electrode of the control transistor. With potentials exceeding a predetermined magnitude, the control transistor conducts to provide base-emitter and, consequently, emitter-collector current flow through the switching transistor to complete an energizing circuit for the lamp. To preheat the lamp filament and to produce a faster switching action of the control transistor, the junction between the indicating lamp and the switching transistor is connected to the positive polarity input terminal through a resistor and to the base electrode of the control transistor through the series combination of a resistor and a diode.

3,449,738
ELECTRONIC SECURITY SYSTEM

Jerome J. Chesnul, Chicago, and Ronald A. Waxman, Highland Park, Ill., assignors to Jeron Electronics, Inc.
Filed June 15, 1966, Ser. No. 557,841
Int. Cl. G08b *13/08*
U.S. Cl. 340—274 **4 Claims**

1. A security system for detecting the unauthorized opening of an entrance to apartments and for alerting a central office thereto, comprising:
signalling means adapted to transmit a first and a second distinguishable signal in each of said apartments;
first and second binary storage means, each having a clear and a set state, for each apartment;
means, including a key-actuated switch in each apartment having a first and a second position, for holding said first and second binary storage means in a clear state when said switch is in said first position;

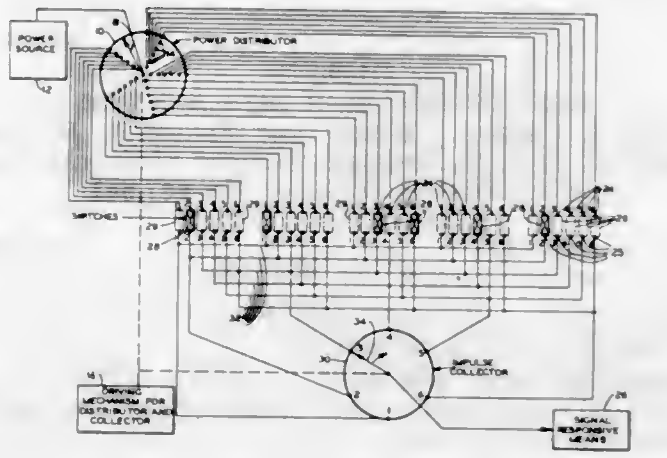
- means associated with the entrance to each apartment for generating a signal in response to said entrance being opened;
- means responsive to said entrance signal for setting said first storage means responsive to the first opening of said entrance after said switch is set to its second position thereby energizing said apartment signalling means to transmit said first signal indicative of an operable condition of said system;
- means responsive to said entrance signal and said first storage means for changing the state of said second storage means the second time said entrance signal is generated after said switch is placed in its second position and for energizing said apartment signalling means to transmit said second signal;



- timer means responsive to the output signal of said second storage means for generating a signal a predetermined time after the state of said second storage means has been changed; and
- alarm means in said central office receiving the output signal of said timer means for signalling an alarm in response to said timer output signal, said alarm signal being indicative of an unauthorized entrance to an apartment, said timer being inactivated prior to generating an output signal if said switch is set to its first position thereby causing said second storage means to assume a clear state.

3,449,739
CLOCK CONTROLLED SIGNALLING SYSTEM

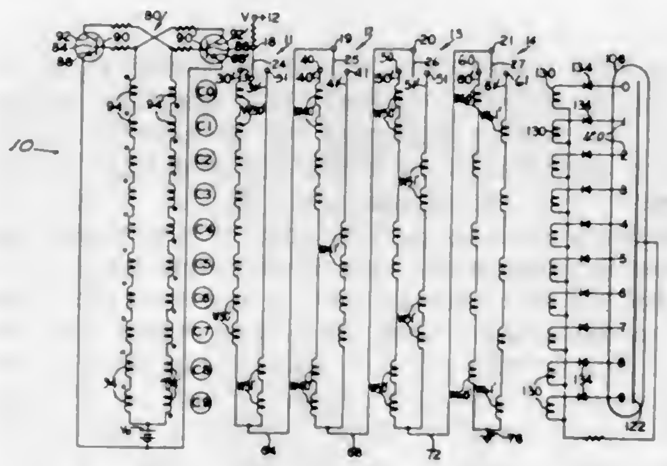
Herbert H. Simmons, 377 Church St.,
San Francisco, Calif. 94114
Continuation of application Ser. No. 388,233, Aug. 7, 1964. This application July 9, 1968, Ser. No. 746,701
Int. Cl. G08b *1/08, 3/00;* **H01h** *43/10*
U.S. Cl. 340—309.4 4 Claims



One or more output signals are generated in the control system in accordance with a predetermined time schedule. The control system has a pair of power distributors connected in series with a plurality of switch means provided in the power paths and with the power inlet and power outlet means. Each power distributor includes a movable conductor element. One movable conductor element of one power distributor acts to sequentially contact each of the groups of switch means while the second movable conductor element of the other power distributor acts sequentially to interconnect each switch means in each group of switch means with the power inlet and power outlet. Presetting of the control system is done through manually operable switches that are interposed between the power outlets and the power inlets.

3,449,740
DECODER CIRCUIT USING MAGNETIC CORE ELEMENTS AND DRIVING A DECIMAL DISPLAY DEVICE

James A. Lockhart, Jr., Basking Ridge, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 3, 1965, Ser. No. 430,074
Int. Cl. H04l *3/02;* **G06f** *5/02;* **G08c** *9/04*
U.S. Cl. 340—347 7 Claims

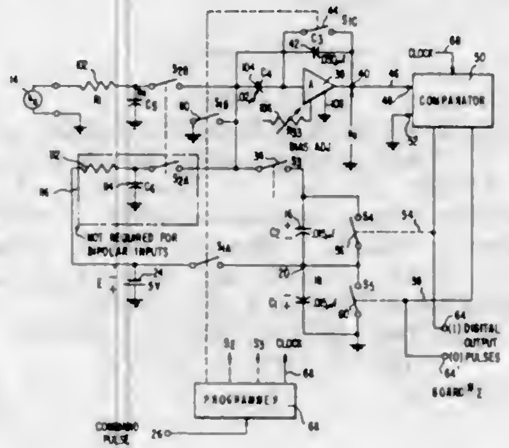


The disclosure is of a binary-coded decimal to decimal decoder circuit including ten magnetic cores and an oscillator having two output leads, one lead being connected through ten windings, each wound in one polarity on a core, and the second lead being coupled through ten windings, each being wound in the opposite polarity on a core. Four pairs of parallel current flow paths are provided, with each pair including a total of ten inhibit windings, one on each core. The windings are disposed differently on each of the four pairs of paths so that, when binary-coded decimal signals are applied to the four pairs of paths through switches which select one path of each pair, each combination of signals inhibits all but one core and this uninhibited core becomes part of the oscillator and is switched by the oscillator. Each core also carries a winding coupled to a display device for operation thereby.

3,449,741
REVERSIBLE ANALOG-DIGITAL CONVERTER UTILIZING INCREMENTAL DISCHARGE OF SERIES CONNECTED CHARGE SHARING CAPACITORS

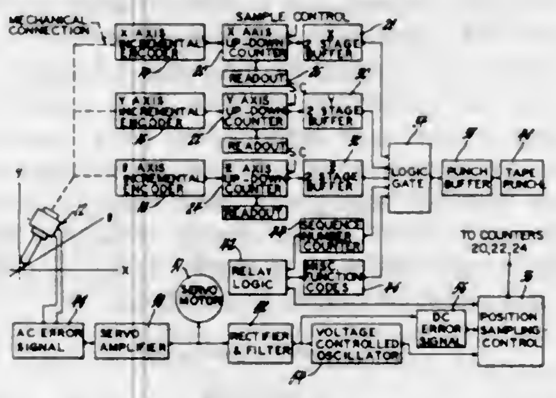
McKenny W. Egerton, Jr., Owings Mills, Md., assignor to Towson Laboratories, Inc., Baltimore, Md., a corporation of Maryland
Continuation-in-part of application Ser. No. 250,369, Jan. 9, 1963. This application Feb. 8, 1965, Ser. No. 437,615
Int. Cl. H03k *13/254*
U.S. Cl. 340—347 13 Claims

Disclosed is a signal generator for analog to digital and digital to analog converters and a reversible converter incorporating the generator. The generator comprises a pair of equal capacitors which share charge in binarily decreasing increments. The capacitors are simultaneously charged to equal potentials and then one is discharged depending on the polarity of the signal to be generated. The capacitors are then connected in series between a reference potential and a charge transfer amplifier having a feedback capacitor such that a charge is developed on the feedback capacitor at the same time it is shared between the equal capacitors. The sequence is repeated through a complete encoding cycle to build up a signal on the feedback capacitor.



3,449,742
DIGITIZER SYSTEM

Thomas T. Stapleton, Clawson, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 4, 1965, Ser. No. 453,163
Int. Cl. H04l *3/00;* **G08c** *9/00, 11/00*
U.S. Cl. 340—347 3 Claims

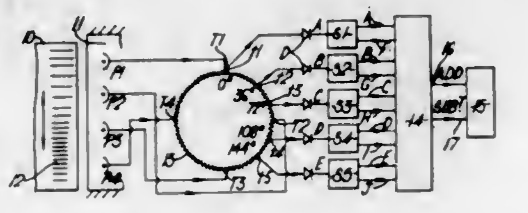


A sampling rate control for surface contour tracers. A tracer probe is moved over the surface in contact therewith, probe position data is accumulated and sampled periodically. As the probe experiences rapid deflection due to rapidly changing surface contour, the sampling rate is increased to obtain increased position data in the area of rapidly changing contour.

3,449,743
APPARATUS FOR DETERMINING THE EXTENT AND SENSE OF THE MOVEMENT OF A CYCLIC PATTERN

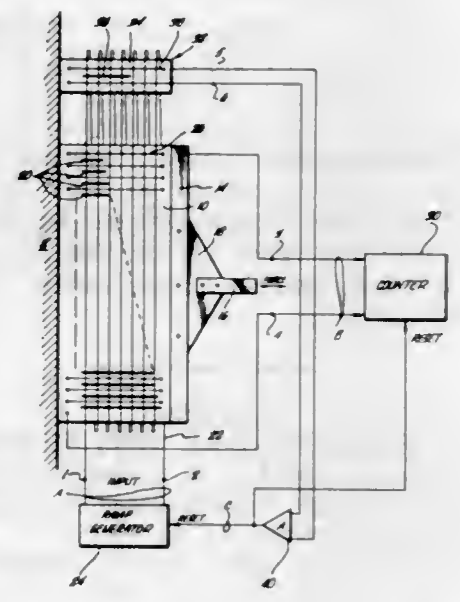
Alexander Turnbull Shepherd and Ronald Robert McLaren, Edinburgh, Scotland, assignors to Ferranti, Limited, Hollinwood, Lancashire, England, a company of the United Kingdom of Great Britain and Northern Ireland
Filed July 6, 1965, Ser. No. 469,449
Claims priority, application Great Britain, July 7, 1964, 27,883/64
Int. Cl. H04l *3/00;* **G06f** *7/38;* **G06g** *7/00*
U.S. Cl. 340—347 9 Claims

Photoelectric apparatus for representing by a pulse count the movement of a cyclic optical pattern past a bank of photocells the outputs from which derive the pulses for the counter by way of a phase-multiplying resistor chain to increase the number of pulses generated per cycle of the movement.



3,449,744
MAGNETIC DIGITAL TRANSDUCER

James U. Lemke, Los Angeles, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 501,913
Int. Cl. G08c *9/04*
U.S. Cl. 340—347 9 Claims



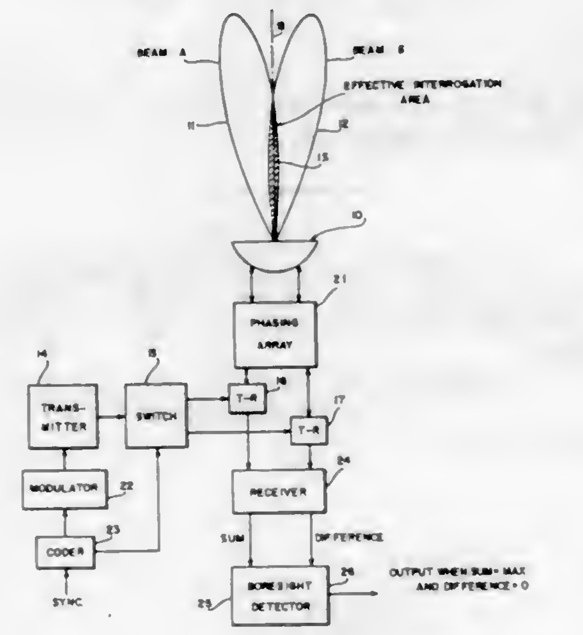
There is described a transducer having a pluraliy of thin magnetic film each of different coercivity, subject to a magnetic field that increases up to a predetermined level. The number of layers in which the magnetization is reversed by the field is a measure of a force applied to the magnetic material in such a way to stress the magnetic films to change the coercivity of the layers.

3,449,745
SYNTHETIC BEAM SHARPENING SYSTEM

Arthur P. Holt, Jr., Marietta, Ga., assignor to Lockheed Aircraft Corporation, Los Angeles, Calif.
Filed Jan. 15, 1965, Ser. No. 427,209
Int. Cl. G01s *9/56, 9/02*
U.S. Cl. 343—6.5 4 Claims

1. Apparatus for producing a synthetically sharpened beam for an electronic interrogation system, comprising:
- R–F radiator means capable of producing a first beam and a second beam, each of said beams diverging from the boresight of the radiator means by a predetermined degree, said beams being spatially oriented so that there exists a region capable of being covered by each of said beams;
- a source of R–F energy;
- interrogation signal generating means connected to said source of R–F energy to cause said source to be operative in response to a signal produced by said interrogation signal generating means;

switch means receiving the output from said R–F source and also receiving the output from said interrogation signal generating means, said switch means having a first output and a second output and connecting the output from said R–F source to either of said first and second outputs in response to a corresponding signal received from said interrogation signal generating means; and

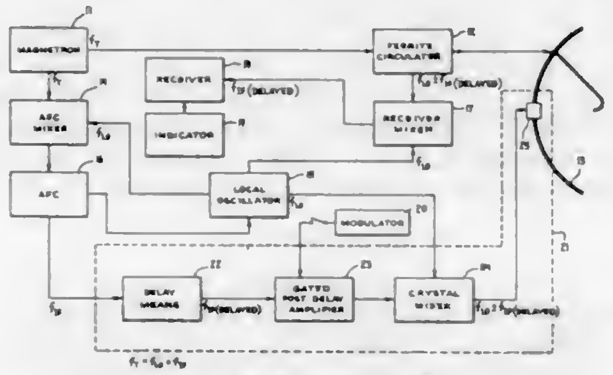


means connecting each of said switch means outputs to said R–F radiator means so that an R–F signal appearing at said first switch output causes generation of said first beam and an R–F signal appearing at said second switch output causes generation of said second beam.

3,449,746
INTEGRAL RADAR TEST SYSTEM

Robert H. Begeman and Jack T. Kearschner, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 6, 1967, Ser. No. 680,686
Int. Cl. G01s *7/40*
U.S. Cl. 343—17.7 **10 Claims**



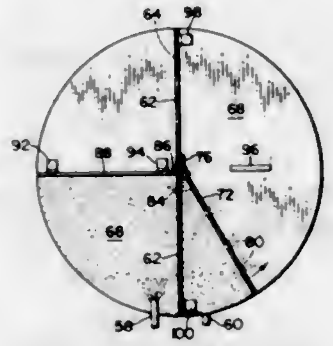
RADAR SYSTEM WITH INTEGRAL TEST MEANS

A radar performance checking means, to be constructed as an integral part of an airborne radar system, for enabling continual testing of the system during actual inflight operation. The invention produces a synthetic target signal by sampling the intermediate frequency (IF) pulse in the automatic frequency control (AFC) unit of the radar system under test, delaying and gating this sampled pulse which is then heterodyned with a signal from the radar local oscillator (LO) in a crystal mixer to produce sum and difference frequencies, one of which corresponds to the radar transmitter frequency and is utilized as the synthetic target signal. This sum frequency signal is applied to the radar system antenna through a small feedhorn located at the center of the antenna reflector. This synethetic target signal is then "received" by the antenna and passed through its waveguide and receiver system, to provide a comprehensive test of both the transmitter and receiver sections of the radar system, which test may be performed, during actual in-flight operation of the system, at the end of a scan or other convenient time when a true return is not required.

3,449,747
IMPACT-ACTUATED OBJECT LOCATOR

Raymond S. Daughenbaugh, 4601 South B St., Oxnard, Calif. 93030; Charles A. Hennessey, U.S. Naval Ammunition Depot, McAlester, Okla. 74501; Francis M. Holmes, 28625 Trailriders Drive, Palos Verdes Peninsula, Calif. 90274, and Samuel E. Lager, 385 LaCumbre Road, Somis, Calif. 93066

Filed Dec. 14, 1967, Ser. No. 690,591
Int. Cl. G01s *7/36, 7/42*
U.S. Cl. 343—18 **10 Claims**

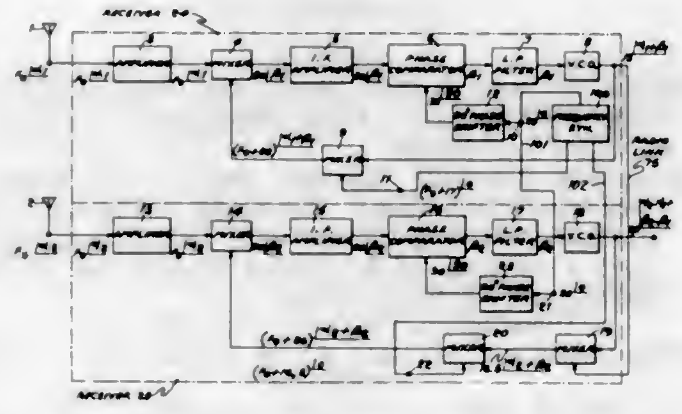


The present invention relates to apparatus for marking the position of a disabled vehicle in order to facilitate the recovery thereof. The invention is particularly applicable for use at sea in order to locate a sunken ship or a disabled submarine. In a preferred embodiment, the invention is directed to apparatus which is automatically released when an underwater vehicle sustains an impact of predetermined magnitude or descends beyond a predetermined depth, such apparatus including a buoyant member which rises to the surface. At such time, a built-in foam-generating apparatus is activated to fill a meteorological balloon containing internal reflectors of microwave energy, the foam then hardening to form a practically indestructible assembly. The inernal energy reflectors render the unit readily detectable by a search radar, and hence recovery of the sunken vehicle is expedited.

3,449,748
PHASE DIFFERENCE MEASURING SYSTEM

Leo Maria Hendrik Thyssens, Zoersel-Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 8, 1968, Ser. No. 696,391
Int. Cl. G01s *5/06*
U.S. Cl. 343—113 **6 Claims**

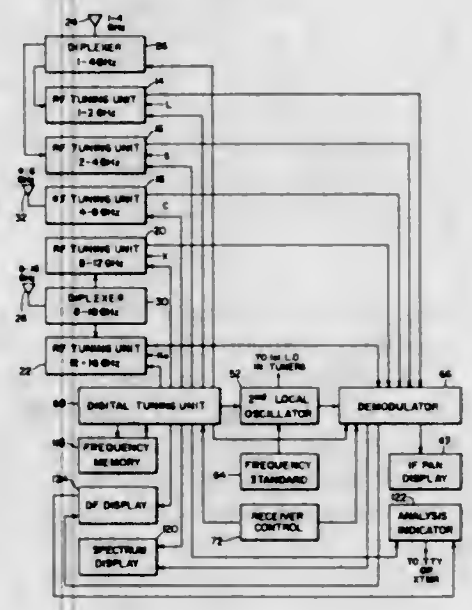


In a system for tracking earth satellites, the phase difference between signals received at two distant tracking stations is measured. The phase difference measuring arrangement consists of a phase-locked loop at each station, each loop including a voltage controlled oscillator (V.C.O.), and a feedback chain coupled between the input and output of the V.C.O. A phase comparator in the feedback chain compares the feedback signal with a reference signal of fixed phase. The output of the V.C.O. of the first station is injected into the feedback circuit of the second station to subtract, in effect, the phase angle seen by the first loop from that of the second loop, thereby giving the phase difference between the signals received from the satellite at the two stations.

3,449,749
ELECTROMAGNETIC SURVEILLANCE SYSTEM

William J. McEvoy, 5081 Aurora Drive, Ventura, Calif. 93003

Filed June 24, 1968, Ser. No. 739,447
Int. Cl. G01s *5/02;* **G01r** *23/16;* **H04b** *1/36*
U.S. Cl. 343—113 **10 Claims**



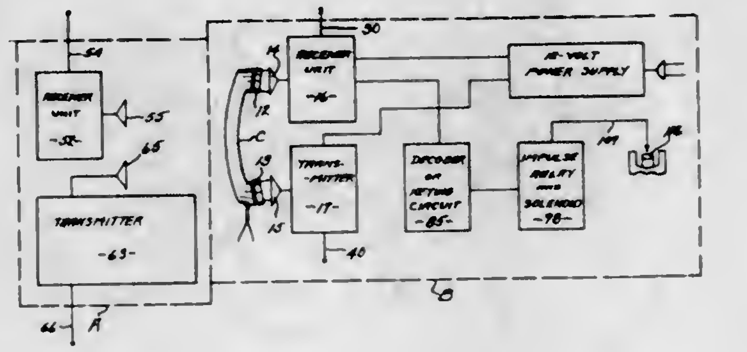
A microwave electromagnetic surveillance system designed to receive and analyze electromagnetic radiation in the range lying between 1 and 18 gHz. The system comprises four modules respectively associated with acquisition, control, analysis, and recording. The spectrum is divided into five bands, each with fully electronic tuning by means of yttrium-iron-garnet (YIG) filters as preselectors. YIG tuning is also used in the oscillator networks. A memory module is included to permit programming the spectrum such that certain frequencies may be recalled, or bands of frequencies locked out. The system further features digital frequency tuning; direct decimal readout of frequency, pulse repetition period, and pulse length; panoramic display of the entire spectrum; spectrum analysis; and antenna control for direction finding.

3,449,750
DUPLEX RADIO COMMUNICATION AND SIGNALING APPARATUS FOR PORTABLE TELEPHONE EXTENSION

George H. Sweigert, Euclid, Ohio, assignor to John H. Shafer, Euclid, Ohio

Continuation of application Ser. No. 546,762, May 2, 1966. This application Apr. 4, 1968, Ser. No. 718,960
Int. Cl. H04l *5/00*
U.S. Cl. 343—177 **2 Claims**

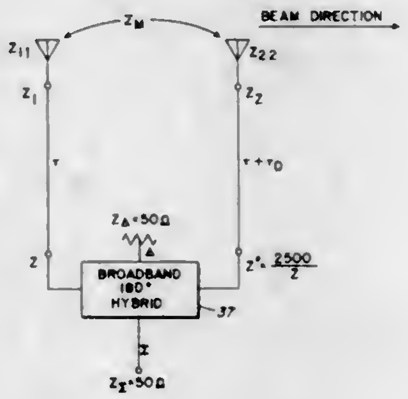
A telephone communication system for use with a conventional subscriber's domestic telephone instrument and which includes a transmitter-receiver unit at the subscriber's location acoustically coupled to the telephone instrument, a portable transmitter-receiver unit for use at a remote location and which is easily carried in the hand of the user; the transmitter at the subscriber's location and the receiver at the remote location being operable on a preselected first radio frequency and the transmitter at the remote location and the receiver at the subscriber's location being operable on a second radio frequency whereby to enable simultaneous two-way voice communication between the remote location and the subscriber's location.



3,449,751
COMPLEMENTARY PAIR ANTENNA ELEMENT GROUPS

Klaus G. Schroeder, Dallas, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Sept. 20, 1965, Ser. No. 488,541
Int. Cl. H01q *21/00, 1/50, 19/12*
U.S. Cl. 343—727 **20 Claims**



A new class of broadband antennas with automatic impedance matching through combining two elements as a complementary pair in such a way that the reflection coefficients cancel. This is accomplished by using two antenna elements with complementary imepance characteristics and feeding them with a 180 degree hybrid so that the radiation produced by the two elements is additive in the desired propagation direction.

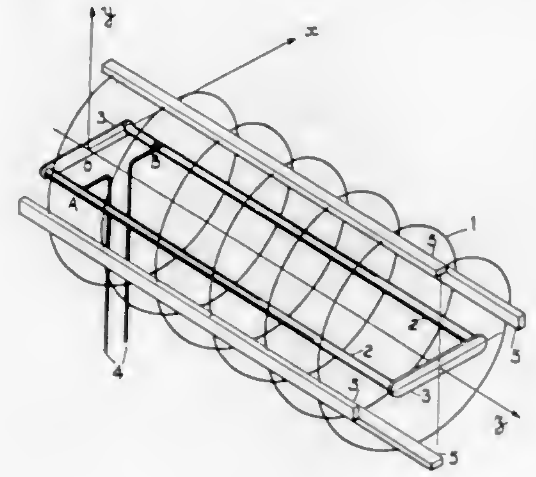
3,449,752
HELICAL ANTENNA ELECTROMAGNETICALLY COUPLED TO RESONANT LINE

Erich Spitz and René Romeas, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Oct. 6, 1966, Ser. No. 584,829
Claims priority, application France, Oct. 8, 1965, 34,231
Int. Cl. H01q *1/36*
U.S. Cl. 343—895 **7 Claims**

1. An end fire radiator element comprising: a helical radiating structure having an axis; a bifilar resonant line

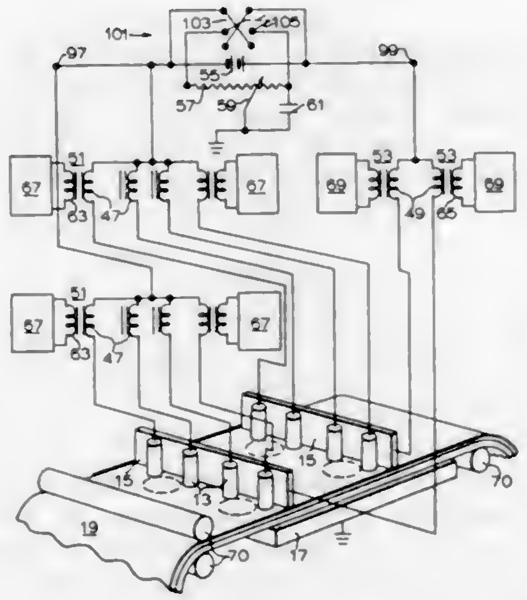
extending coaxially with said structure; means for coupling said line to a feeder; said line having two parallel conductors having respective first and second ends; said



first ends being short-circuited and a short-circuiting means for shorting said second ends for adjusting the resonance frequency of said line.

3,449,753
APPARATUS FOR CONTROLLING CONTRAST IN ELECTROSTATIC PRINTERS

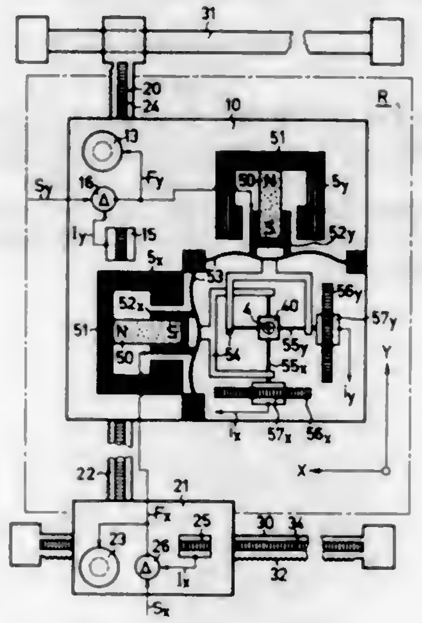
David A. Starr, Jr., Southfield, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 1, 1965, Ser. No. 429,393
Int. Cl. G01d *15/06;* **H01j** *37/00*
U.S. Cl. 346—74 **4 Claims**



A device for controlling the contrast or density of characters produced by an electrostatic printing assembly formed with a plurality of printing electrodes and ionization initiation electrodes arranged adjacent to a backing electrode to define a gap through which a dielectric recording medium is passed. The printing contrast is a function of the electric field established in the gap and is controlled by varying the bias potential on the backing electrode with respect to the printing and initiation electrodes, without affecting the bias and information signal potentials applied between the printing and initiation electrodes. Additional switching circuitry is provided for reversing the electric field polarity to instantly extinguish electric charge deposition on the recording medium and thereby further improve printing contrast.

3,449,754
GRAPHICAL PLOTTER

Theo Stutz, Zollikerberg, Zurich, Switzerland, assignor to Contraves AG, Zurich, Switzerland
Filed May 29, 1967, Ser. No. 642,247
Claims priority, application Switzerland, May 31, 1966, 7,869/66
Int. Cl. G01d *9/26*
U.S. Cl. 346—29 **13 Claims**

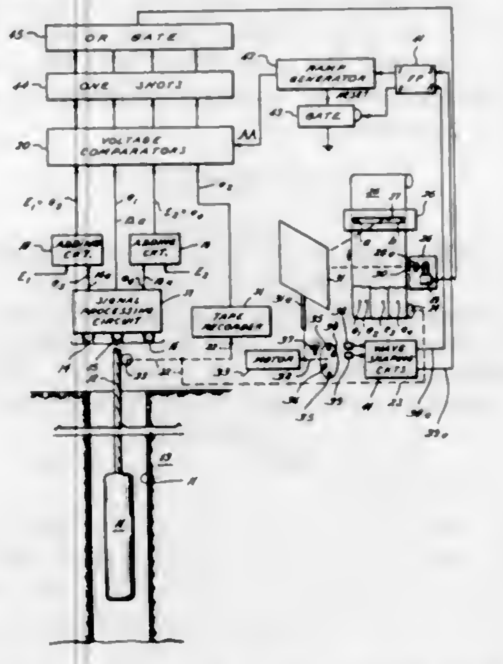


A graphical plotter having a movable carriage supporting a movable recording member. The carriage is movable along a set of orthogonal axes in the plane of the plotting surface of the plotter. The recording member is movable along a second set of orthogonal axes, with respect to the carriage member. The recording member and second set of orthogonal axes are mounted onto the carriage member. The absolute motion of the recording member is thus the sum of the motions of the carriage member and the motion of the recording member relative to the carriage member. Servo motors are provided for driving the carriage member as well as the recording member in relation to the carriage member. The carriage is a relatively slow moving member, but travels over a substantially long distance. The relative motion of the recording member with respect to the carriage, on the other hand, is a relatively rapid responsive motion over a considerably shorter range of distance than that travelled by the carriage.

3,449,755
APPARATUS FOR RECORDING WELL LOGGING SIGNALS

Gyula L. Samodai, Danbury, Conn., and John S. Smith, London, England, assignors to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Dec. 27, 1967, Ser. No. 693,894
Int. Cl. G01d *9/02*
U.S. Cl. 346—33 **11 Claims**

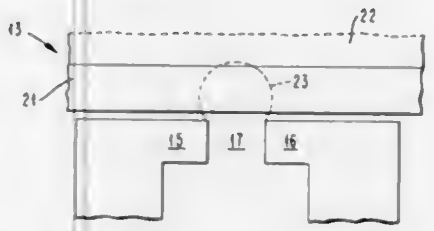
In accordance with an illustrative embodiment of the invention, a rotatable mirror is disposed relative to a recording medium and light source and adapted to sweep the light from the light source across the recording medium. A ramp voltage proportional to the rotation of the rotatable mirror, and thus to the position of the light on the recording medium if the light source were to be energized, is generated to be compared with a plurality of well logging signals. When the ramp voltage is equal in magnitude to each one of the well logging signals, the light source is energized to place a mark on the recording medium. Means are shown for coding these marks placed



on the recording medium for easy identification of the various well logging signals.

3,449,756
GAP LENGTH-LIMITED SATURATION DEPTH RECORDING

Raymond A. Barbeau, Poughkeepsie, Rex C. Bradford, Wappingers Falls, and Norman R. Fraim and Donald E. Lockett, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 10, 1965, Ser. No. 478,700
Int. Cl. G01d *15/12;* **G11b** *5/00*
U.S. Cl. 346—74 **4 Claims**

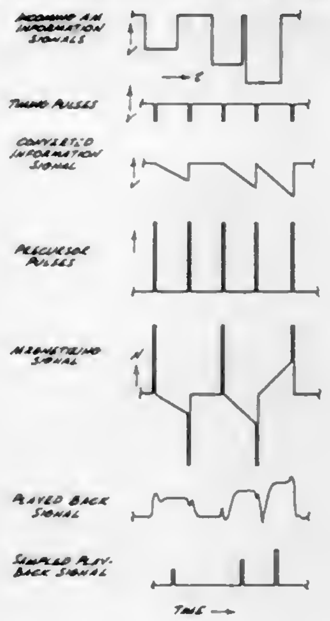


A system for recording binary coded digital information on a magnetic record medium at densities higher than that density which the medium is practicably capable of storing under full thickness saturation-type recording conditions. The apparatus includes a recording head having a transducing gap substantially smaller than the thickness of the recording surface and operable to limit the depth of saturation in the recording surface that currents supplied to the head are capable of producing, to a depth less than the full thickness of the recording surface. This gap length-limited saturation depth recording is accomplished with the recording head currents of the full magnitude necessary to provide a substantial maximum output signal during the playback.

3,449,757
MAGNETIC RECORDING OF A VARIABLE SLOPE PULSE MODULATED SIGNAL

Russell R. Law, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,253
Int. Cl. G01d *15/12*
U.S. Cl. 346—74 **4 Claims**

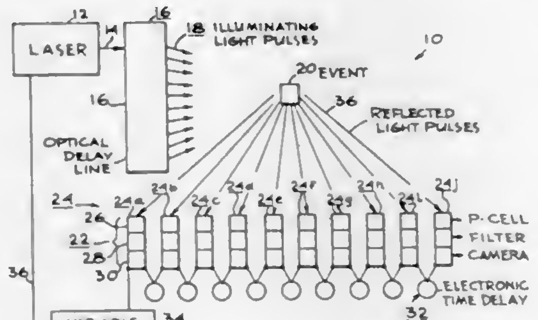
A magnetic recording circuit having a recording amplifier which converts a received amplitude signal of an AM pulse train for periodic input signals to ramp function pulses having slopes or constant rates of *dv/dt* which are proportional to the instantaneous amplitude V of a corresponding input signal. The ramp function signals which occur at a constant pulse repetition rate are applied to a magnetic recording head which generates a



magnetizing force H which is proportional to the corresponding ramp function. Magnetizing force H is applied to a magnetic medium of a magnetic tape in accordance with the magnetic transfer characteristics of the recording head and magnetic medium.

3.449,758
HIGH SPEED PHOTOGRAPHIC RECORDER

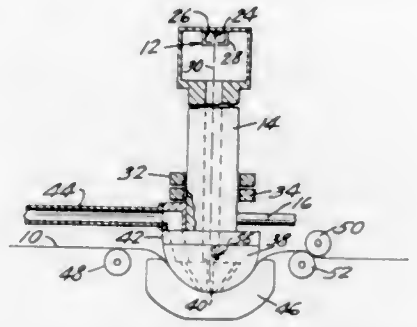
Arthur A. Lavine, 319 Palos Verdes Blvd., Apt. 212, Redondo Beach, Calif. 90277
Filed Oct. 9, 1967. Ser. No. 673,580
Int. Cl. G01d *9/42*
U.S. Cl. 346—107 **7 Claims**



There is described herein a photographic recording arrangement particularly adapted and suited extremely high speed operation. The high intensity highly monochromatic light from a pulsed laser is utilized to provide an output of electromagnetic radiation having a predetermined pulse duration. A pulse from the laser is directed into an optical delay line that provides a preselected path length for multiple reflections of the pulse in the optical delay line. At predetermined points within the optical delay line a portion of the pulse is reflected from the optical delay line and onto focusing mirrors which reflect the pulse portion sequentially onto the event to be photographed. By selecting the position of the points in the optical delay line where the pulse portion is reflected, different time delays and hence different time sequences may be selected at known intervals. The portions of the pulse are therefore sequentially directed by the focusing mirrors onto the event to be photographed and after being reflected from the event are sequentially and selectively recorded by a matching plurality of filtered, electronically, time sequence controlled receiving camera arrangements to provide a plurality of photographs of known exposure times and repetition times.

3,449,759
ELECTRON BEAM RECORDER HAVING SEALING MEANS

Jack K. Warren, Marine on St. Croix, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware.
Filed Feb. 27, 1967, Ser. No. 618,656
Int. Cl. G01d *9/42*
U.S. Cl. 346—110 **15 Claims**



Apparatus comprising in combination an evacuated chamber capable of being pumped to a partial vacuum and a sealing means, such as a valve, is disclosed. The chamber encloses means for generating and directing an energy or corpuscular beam, such as an electron beam, through an aperture in the chamber which under certain conditions is sealed by the sealing means. The sealing means is adapted for movment between an unsealing and sealing position to isolate and maintain the vacuum within the chamber.

3,449,760
EXTRACTION OF SAPOGENINS FROM VEGETABLE MATERIALS

Roland Hardman, Beeston, England, assignor to National Research Development Corporation, London, England
No Drawing. Filed Oct. 18, 1966, Ser. No. 587,432
Claims priority, application Great Britain, Oct. 22, 1965, 44,939/65
Int. Cl. C07c *173/06, 167/40*
U.S. Cl. 260—239.55 **11 Claims**

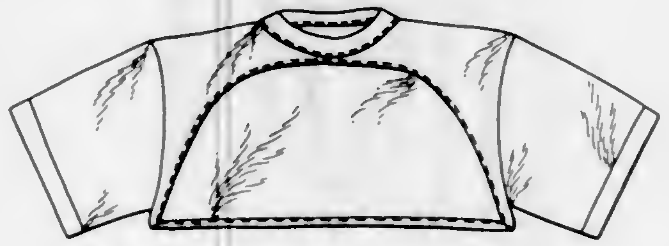
In the extraction of saponins and sapogenins from vegetable materials with a solvent, improved yields are obtained if the material, instead of being comminuted, is treated in uncomminated form and has a particle size not smalled than a No. 30 sieve, British Standard 410.

DESIGNS

JUNE 10, 1969

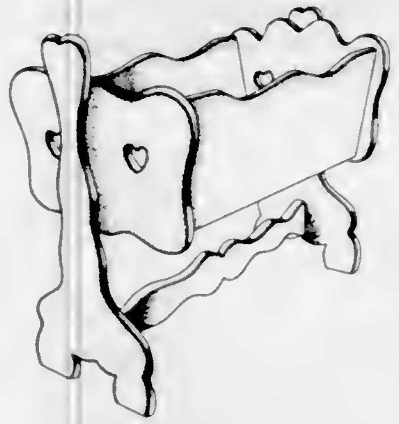
214,356
MAN'S SUN SHIRT
Harry M. Jarrett, 46 Corson Road,
Conshohocken, Pa. 19428
Filed May 8, 1967, Ser. No. 7,002
Term of patent 7 years
Int. Cl. D2—*01*

U.S. Cl. D2—208



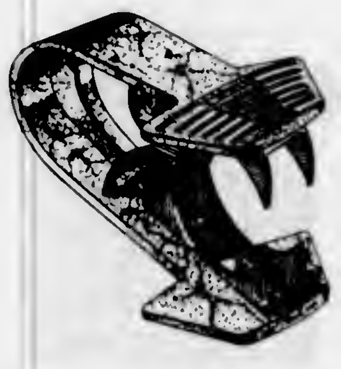
214,357
CRADLE
Herbert E. Spencer, 3852 Division Ave. SE.,
Grand Rapids, Mich. 49508
Filed Mar. 20, 1968, Ser. No. 11,065
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D5—5



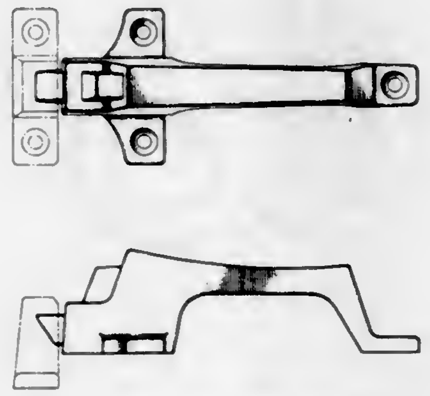
214,358
STAPLE REMOVER
Jack Fairchild Fleming, Boonton, N.J., assignor to Sterling Plastics Co., Mountainside, N.J., a corporation of New Jersey
Continuation-in-part of design application Ser. No. 7,543, June 21, 1967. This application Apr. 19, 1968, Ser. No. 11,532
Term of patent 14 years
Int. Cl. D8—*02*

U.S. Cl. D8—48



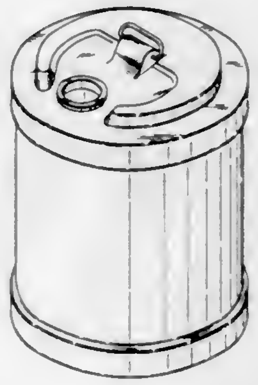
214,359
LATCH FOR DOORS, DRAWERS, WINDOWS OR THE LIKE
Morris De Lee, 2645 Yates Ave,
Los Angeles, Calif. 90022
Filed May 24, 1968, Ser. No. 12,079
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—109



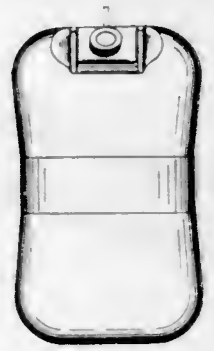
214,360
CONTAINER FOR LIQUID PRODUCTS
Norman J. Huber, Mount Lebanon, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 9,749
Term of patent 14 years
Int. Cl. D9—*03*

U.S. Cl. D9—175



214,361
CONTAINER FOR LIQUIDS
Eugene E. Goodrich, 819 South Western Ave., Park Ridge, Ill. 60068, and Paul J. Daniels, 880 Siesta Drive, Sarasota, Fla. 33581
Filed June 17, 1968, Ser. No. 12,392
Term of patent 14 years
Int. Cl. D9—*04*

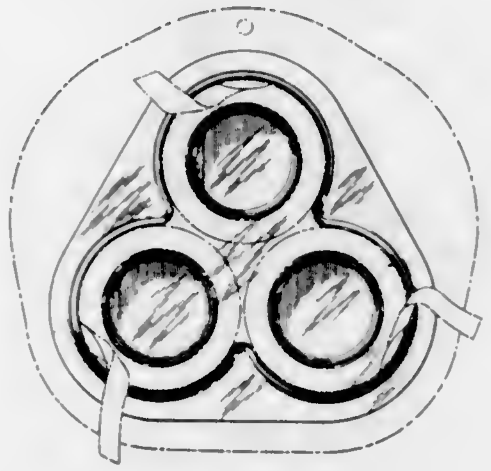
U.S. Cl. D9—175



214,362

COMBINED DISPLAY PACKAGE AND CORELESS ROLL DISPENSER

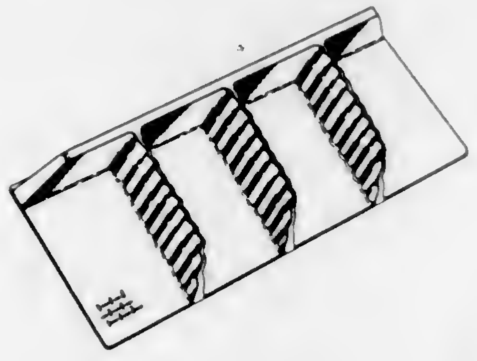
Myer Gorman, Fort Lee, N.J., assignor to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 19, 1968, Ser. No. 10,629
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—187



214,363

COMBINED FOOD PACKAGING AND DISPLAYING TRAY

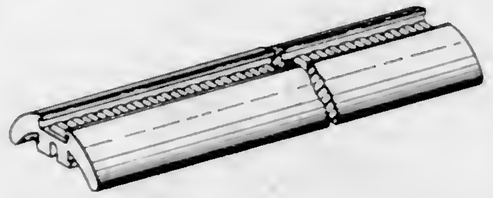
Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company of New York, Inc., New York, N.Y., a corporation of New York
Filed June 3, 1968, Ser. No. 12,186
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—187



214,364

BUNDLE TIE

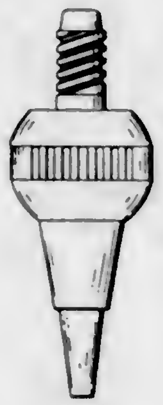
John Elmer Eberle, New Cumberland, and Norman Edwin Hoffman, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Apr. 10, 1968, Ser. No. 11,448
Term of patent 14 years
Int. Cl. D9—*08*
U.S. Cl. D9—252



214,365

DISPENSING NOZZLE FOR A COLLAPSIBLE TUBE OR THE LIKE

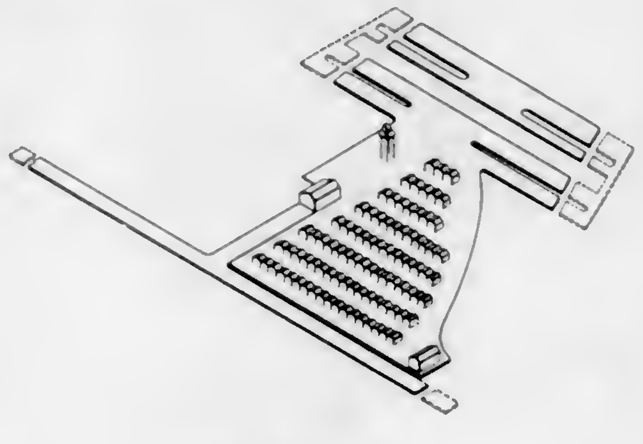
Henry Gerson, Fairlawn, N.J., assignor to Tri-Chem, Inc., Belleville, N.J., a corporation of Delaware
Filed Mar. 25, 1968, Ser. No. 11,110
Term of patent 14 years
Int. Cl. D9—*99, 02*
U.S. Cl. D9—275



214,366

AIRPORT TERMINAL

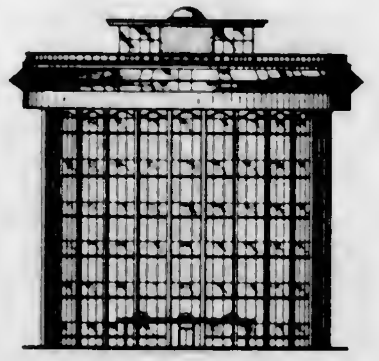
Milton H. Cohen, Houston, Tex., assignor of fifteen percent to Ralph E. Herz, fifteen percent to H. W. McCray, fifteen percent to Samuel Prince, and five percent to Andrew C. Brown, Houston, Tex.
Continuation-in-part of design application Ser. No. 4,340, Oct. 19, 1966. This application Oct. 5, 1967, Ser. No. 8,875
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



214,367

COMBINED OFFICE BUILDING STRUCTURE AND STANDPIPE

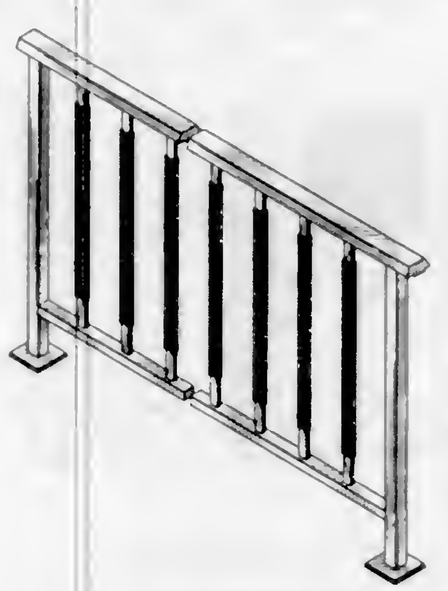
Howard D. Mills, Jr., Middletown, N.Y., and Thomas A. Federico, Passaic, N.J., assignors to Mills Heights, Inc., Middletown, N.Y., a corporation of New York
Filed Aug. 26, 1968, Ser. No. 13,268
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D13—1



214,368

HANDRAILING

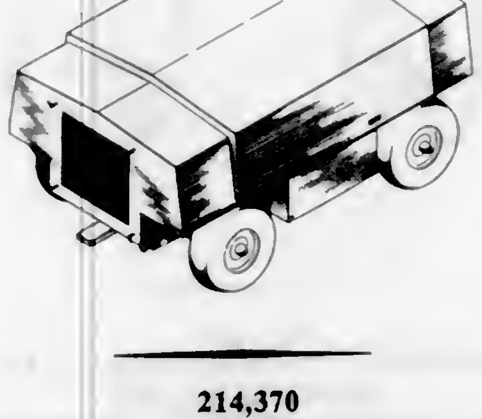
Wenzel W. Thom, P.O. Box 8106, Wichita, Kans. 67208
Filed Aug. 12, 1968, Ser. No. 13,092
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—7



214,369

AIRCRAFT GROUND SUPPORT CART

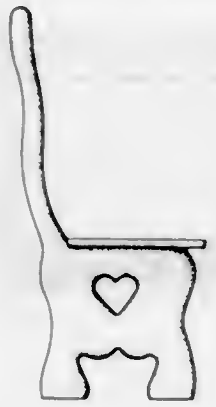
Joseph T. Abdo, Rolling Hills, Calif., assignor to The Rucker Company, a corporation
Filed Oct. 22, 1968, Ser. No. 14,111
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D14—3



214,370

CHAIR

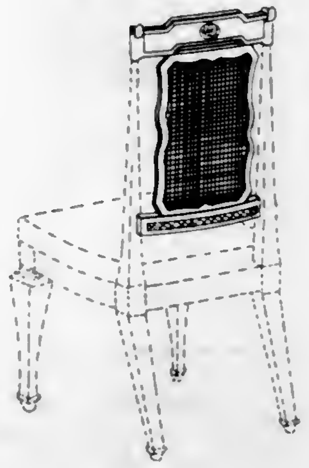
Herbert E. Spencer, 3852 Division Ave. SE., Grand Rapids, Mich. 49508
Filed Feb. 23, 1968, Ser. No. 10,694
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



214,371

CHAIR

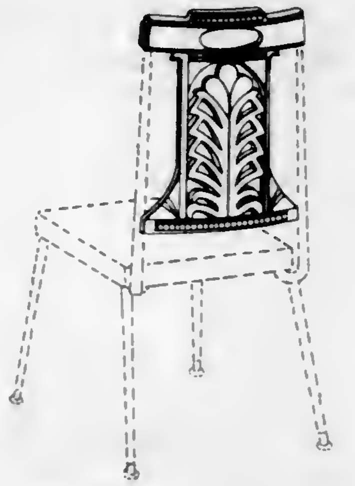
Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed Apr. 5, 1968, Ser. No. 11,334
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



214,372

CHAIR

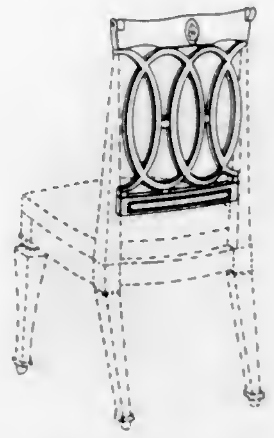
Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed Apr. 5, 1968, Ser. No. 11,335
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



214,373
CHAIR

Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed Apr. 5, 1968, Ser. No. 11,337
Term of patent 14 years
Int. Cl. D6—*01*

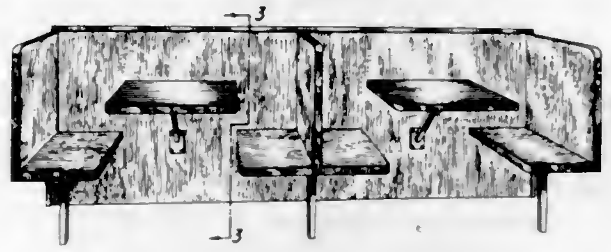
U.S. Cl. D15—1



214,374
RESTAURANT BOOTH UNIT OR SIMILAR ARTICLE

Ephraim Winer, Odenton, Md., assignor to National Industries, Inc., Odenton, Md., a corporation of Maryland
Filed Oct. 23, 1967, Ser. No. 9,122
Term of patent 14 years
Int. Cl. D6—*01*

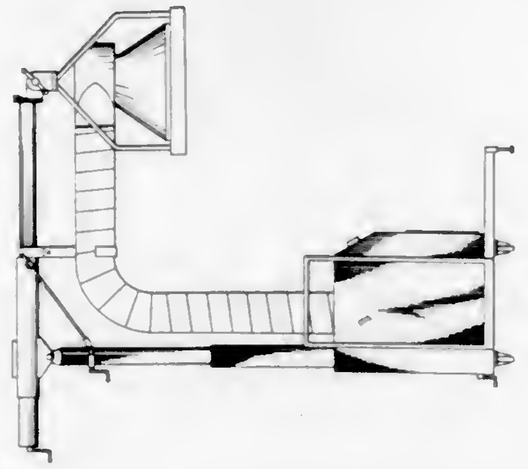
U.S. Cl. D15—8



214,375
PORTABLE AIR FILTRATION UNIT

James V. Knab, Grand Rapids, Mich., assignor to Weber Showcase & Fixture Co., Div. of Walter Kidde & Company, Inc., Grand Rapids, Mich., a corporation of New York
Filed Dec. 18, 1967, Ser. No. 9,813
Term of patent 14 years
Int. Cl. D23—*04*

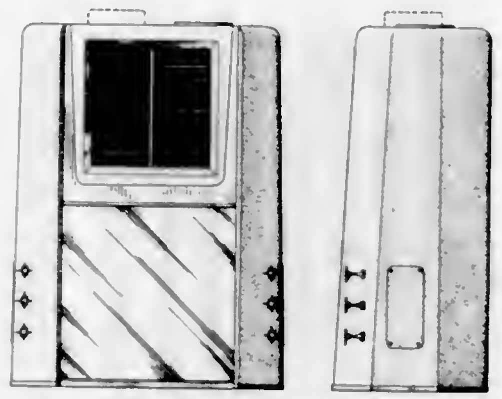
U.S. Cl. D23—149



214,376
LABORATORY FUME HOOD

Paul E. Sullivan, Independence, Mo., assignor to Labconco Corporation, Kansas City, Mo., a corporation of Missouri
Filed Mar. 13, 1968, Ser. No. 10,962
Term of patent 14 years
Int. Cl. D23—*04*

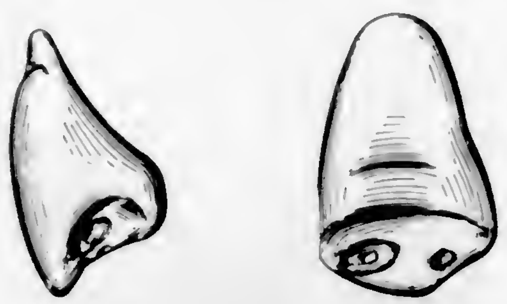
U.S. Cl. D23—151



214,377
ARTIFICIAL UPPER CUSPID TOOTH

Salvotore Charles Spinella, 61—26 Parsons Blvd., Flushing, N.Y. 11365
Filed Sept. 2, 1966, Ser. No. 3,701
Term of patent 14 years
Int. Cl. D24—*04*

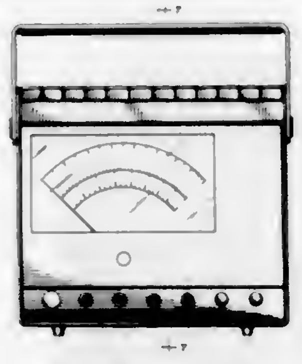
U.S. Cl. D24—1



214,378
COMBINED AMPERE, VOLT AND RESISTOR-METER

Yoshiharu Alan Shimasaki, 5–12, 3-chome Minami-Azaba, Minato-ku, Tokyo, Japan
Filed Nov. 14, 1967, Ser. No. 9,400
Term of patent 14 years
Int. Cl. D10—*10*

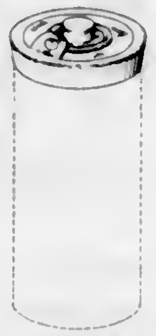
U.S. Cl. D26—1



214,379
BATTERY TERMINAL INSULATOR OR SIMILAR ARTICLE

Edward M. Wolf, Cranford, and Stanley J. Knoll, Keansburg, N.J., assignors to American Flange & Manufacturing Co. Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of design applications Ser. No. 1,590, Ser. No. 1,591, and Ser. No. 1,592, Mar. 22, 1966. This application Aug. 30, 1967, Ser. No. 8,436
Term of patent 14 years
Int. Cl. D13—*02*

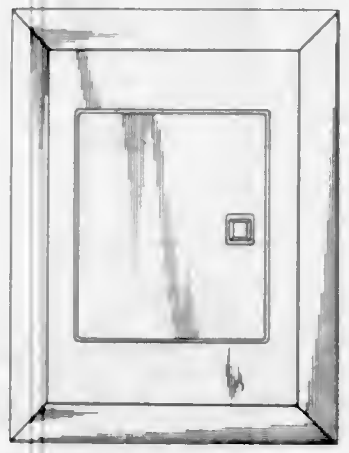
U.S. Cl. D26—6



214,380
PANELBOARD FRONT

Ernest W. Moodie, Downsview, Ontario, Canada, assignor, by mesne assignments, to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Feb. 5, 1968, Ser. No. 10,445
Claims priority, application Canada Nov. 22, 1967
Term of patent 14 years
Int. Cl. D13—*03*

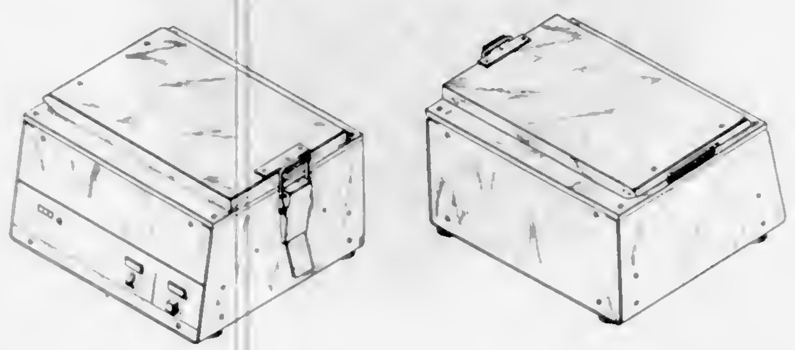
U.S. Cl. D26—13



214,381
SOUND RECORD TRANSFERRING APPARATUS

Ensei Rin, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed July 18, 1968, Ser. No. 12,810
Claims priority, application Japan Jan. 18, 1968
Term of patent 7 years
Int. Cl. D14—*01*

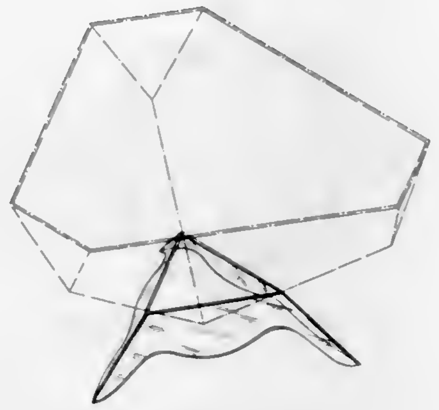
U.S. Cl. D26—14



214,382
AQUARIUM SUPPORT BASE

Aaron E. Gandy, 2613 W. Storey, Midland, Tex. 79701
Filed May 17, 1968, Ser. No. 11,993
Term of patent 14 years
Int. Cl. D30—*01*

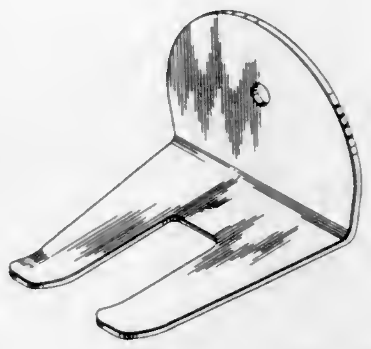
U.S. Cl. D30—12



214,383
FIREPLACE TOOL HANGER

William F. Johnson, 9 Roundabout Road, Smithtown, N.Y. 11787
Filed June 14, 1967, Ser. No. 7,475
Term of patent 14 years
Int. Cl. D8—*03*

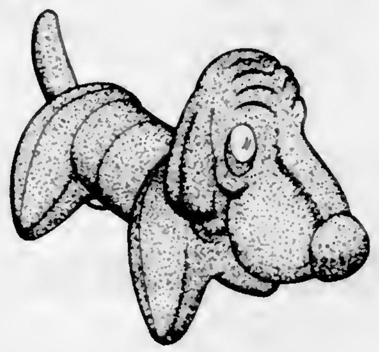
U.S. Cl. D33—17



214,384
TOY DOG OR THE LIKE

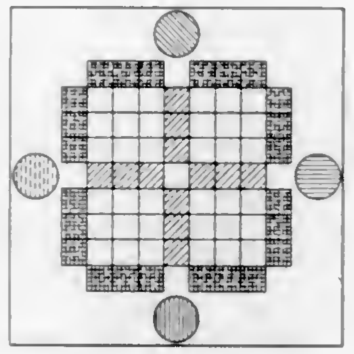
Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, Los Angeles, Calif.; said Allen and said Shaw assignors to said Klamer
Original design application July 13, 1967, Ser. No. 7,790. Divided and this application May 3, 1968, Ser. No. 11,764
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—2



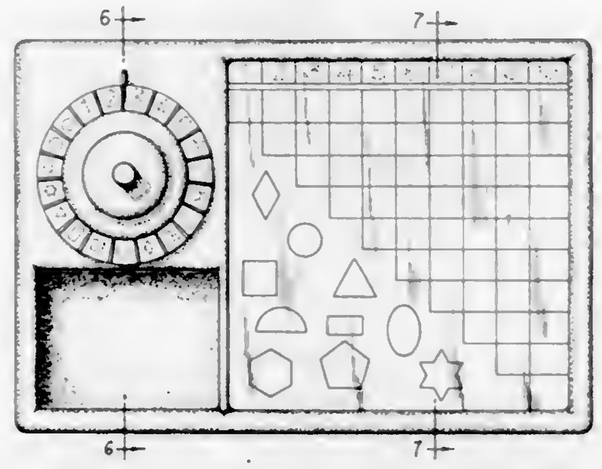
214,385
GAME BOARD

Theo M. Leonard, 8620 44th St., Lyons, Ill. 60534
Filed May 3, 1968, Ser. No. 11,780
Term of patent 7 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



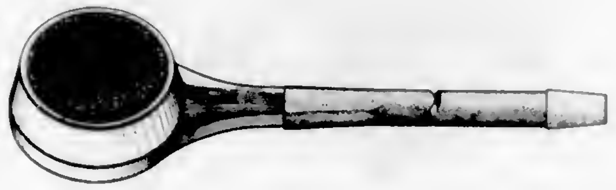
214,386
GAME BOARD

Claire C. Perruccio, 308 Maple Ave., and Gloria-Jean Bogue, 290 Maple Ave., both of Hartford, Conn. 06114
Continuation-in-part of design application Ser. No. 7,112, May 15, 1967. This application May 17, 1968, Ser. No. 11,991
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



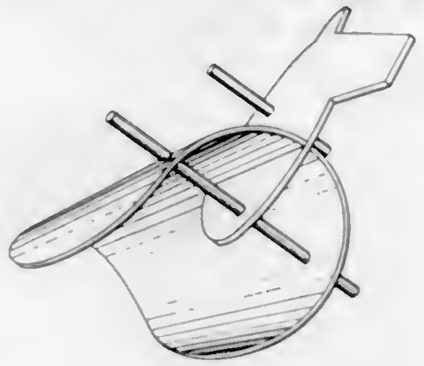
214,387
FOAM BUBBLE BLOWING TOY

Gordon W. Holt, Jr., Arcadia, Calif., assignor to Wham-O Mfg. Co., San Gabriel, Calif., a corporation of California
Filed May 20, 1968, Ser. No. 12,008
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



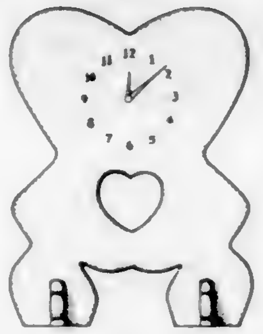
214,388
ROCKING TOY

Terry W. Johnson, 1528 Oxford, Apt. No. 2, Berkeley, Calif. 94709
Filed May 27, 1968, Ser. No. 12,085
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



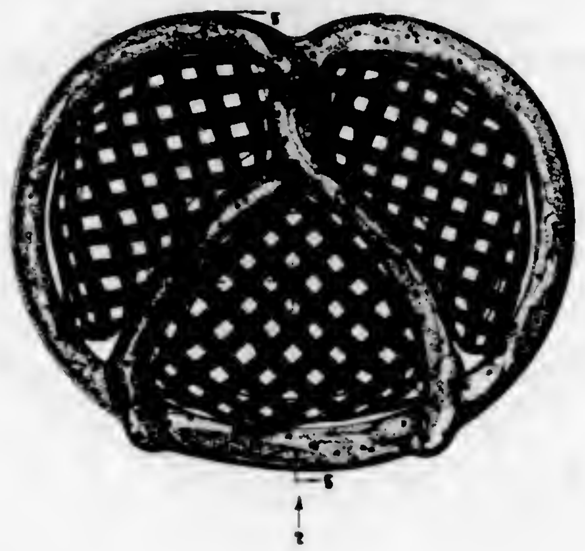
214,389
CLOCK

Herbert E. Spencer, 3852 Division Ave. SE., Grand Rapids, Mich. 49508
Filed June 20, 1968, Ser. No. 12,442
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



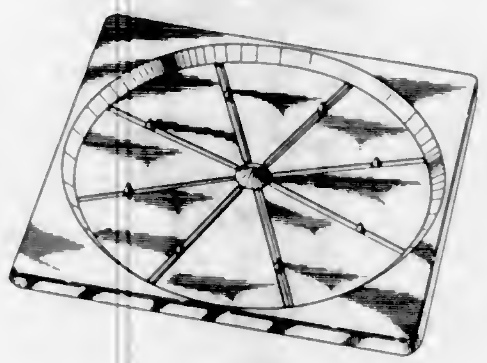
214,390
BOWL

Martin C. Poppe, 18 Glen Road, Garden City, N.Y. 11530, Marie E. Miller, 130 E. 31st St., New York, N.Y. 10016, Anthony N. D'Elia, R.F.D. 1, Wading River, N.Y. 11792, and Edward M. Stolarz, R.F.D. 2, Horton Drive, Yorktown Heights, N.Y. 10598
Filed July 15, 1968, Ser. No. 12,774
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



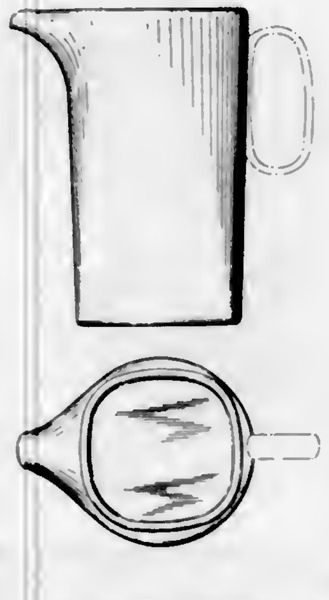
214,391
CAKE DISPLAY TRAY

Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company of New York, Inc., New York, N.Y., a corporation of New York
Filed July 26, 1968, Ser. No. 12,921
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—19



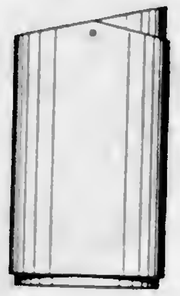
214,392
PITCHER

Gerald Gulotta, New York, N.Y., assignor to Block China Company, New York, N.Y., a partnership composed of Elizabeth Block, Jay L. Block and Robert C. Block
Filed Feb. 28, 1968, Ser. No. 10,771
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



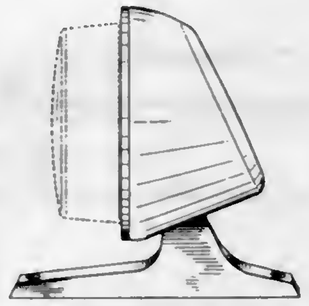
214,393
LIGHTER

Marcel Quercia, Paris, France, assignor to Flaminaire Marcel Quercia, Paris, France
Filed Dec. 22, 1967, Ser. No. 9,897
Claims priority, application France July 3, 1967
Term of patent 7 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



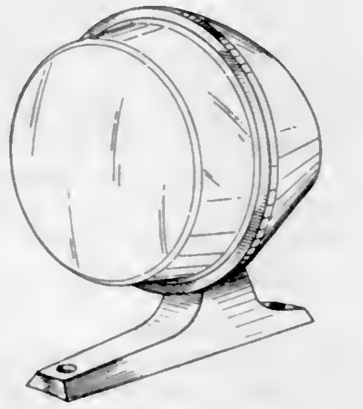
214,394
AUXILIARY VEHICLE LAMP HOUSING

Hugo Magi, Etobicoke, Ontario, Canada, assignor to Dominion Auto Accessories Limited, Toronto, Ontario, Canada
Filed July 15, 1968, Ser. No. 12,746
Claims priority, application Canada June 10, 1968
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—32



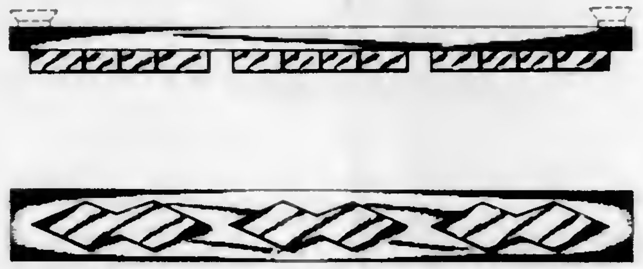
214,395
AUXILIARY VEHICLE LAMP

Hugo Magi, Etobicoke, Ontario, Canada, assignor to Dominion Auto Accessories Limited, Toronto, Ontario, Canada
Filed July 15, 1968, Ser. No. 12,754
Claims priority, application Canada June 8, 1968
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—32



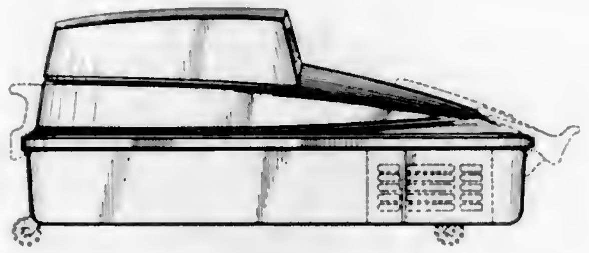
214,396
FLASHING LAMP DEVICE FOR ATTACHMENT TO A VEHICLE OR THE LIKE

Yiu Dak Chi, San Po Kong, Kowloon, Hong Kong, assignor to Forda Manufacturing Co., Ltd., San Po Kong, Kowloon, Hong Kong
Filed Oct. 15, 1968, Ser. No. 14,001
Term of patent 14 years
Int. Cl. D26—*99;* D12—*14, 99*
U.S. Cl. D48—32



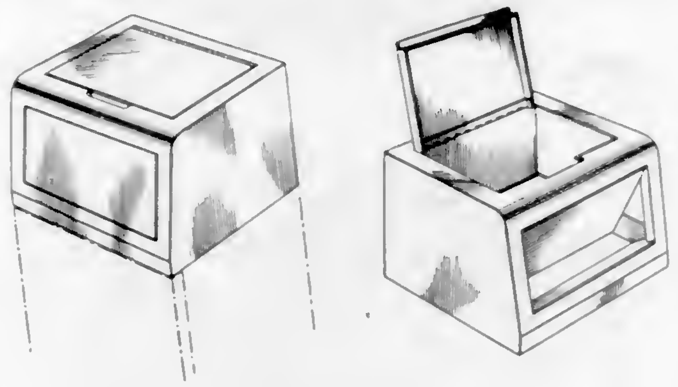
214,397
SUCTION CLEANER

Carroll M. Gantz, North Canton, Ohio, assignor, by mesne assignments, to The Hoover Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 22, 1968, Ser. No. 11,097
Term of patent 14 years
Int. Cl. D7—*06*; D15—*07*
U.S. Cl. D49—14.1



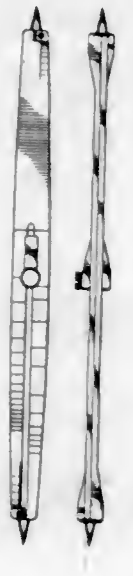
214,398
TRASH RECEPTACLE HOOD

Felice Pipolo, 270 Bellingham,
Williamsville, N.Y. 14221
Filed Sept. 23, 1968, Ser. No. 13,669
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—35



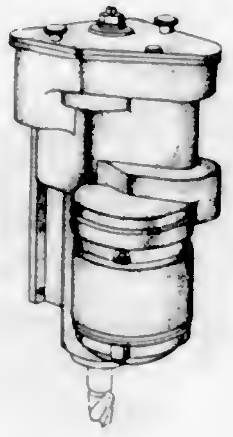
214,399
PROPORTIONAL DIVIDER

Ben W. Rau, 320 North Deere Park, West,
Highland Park, Ill. 60035
Filed Jan. 22, 1968, Ser. No. 10,262
Term of patent 14 years
Int. Cl. D10—*08*
U.S. Cl. D52—6



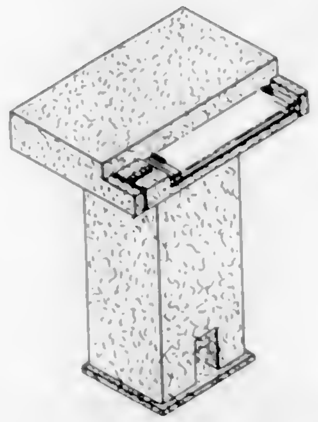
214,400
MILLING MACHINE HEAD

Zane H. Wright, Temple City, Calif., assignor of twenty percent to Sydney Bradpiece, and forty percent to Will H. West, Los Angeles County, Calif.
Filed May 15, 1968, Ser. No. 11,958
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D54—14



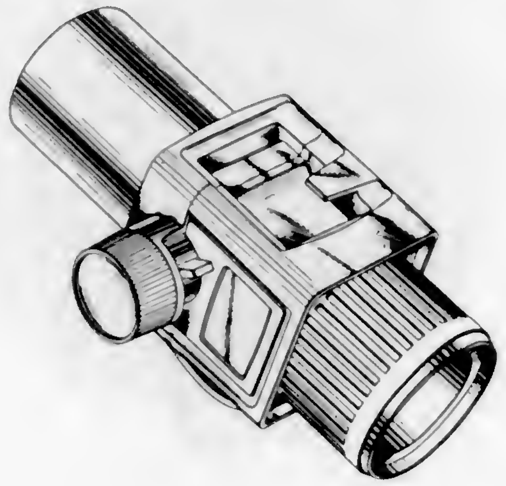
214,401
ELECTRONIC MUSICAL INSTRUMENT OF THE KEYBOARD TYPE

Robert H. Peters, Macungie, Pa., assignor to Allen Organ Company, Macungie, Pa., a corporation of Pennsylvania
Filed May 17, 1967, Ser. No. 7,157
Term of patent 7 years
Int. Cl. D17—*01*
U.S. Cl. D56—2



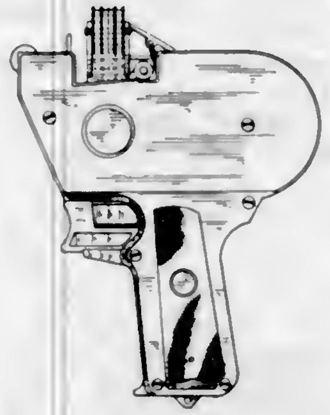
214,402
FILM STRIP ADAPTER OR SIMILAR ARTICLE

David E. Hansen, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 13, 1968, Ser. No. 11,899
Term of patent 14 years
Int. Cl. D16—*04*
U.S. Cl. D61—1



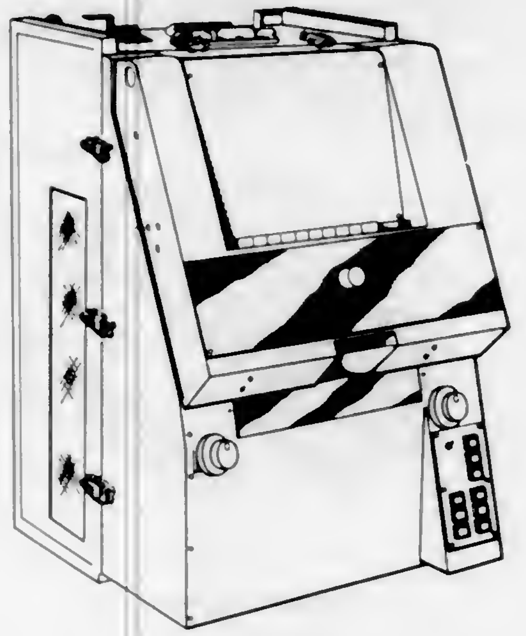
214,403
LABELING MACHINE

Irving Kaplan, Burlingame, Calif., assignor to Label-Matic, Inc., a corporation of California
Filed May 6, 1968, Ser. No. 11,805
Term of patent 14 years
Int. Cl. D18—*03*
U.S. Cl. D64—10



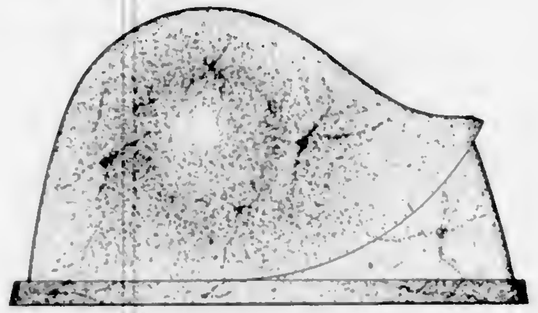
214,404
DATA PRINTER

James H. Edwards, Winchester, and Ralph A. Serra, Watertown, Mass., assignors to Mohawk Data Sciences Corporation, East Herkimer, N.Y., a corporation of New York
Filed July 1, 1968, Ser. No. 12,570
Term of patent 14 years
Int. Cl. D17—*02*
U.S. Cl. D64—11



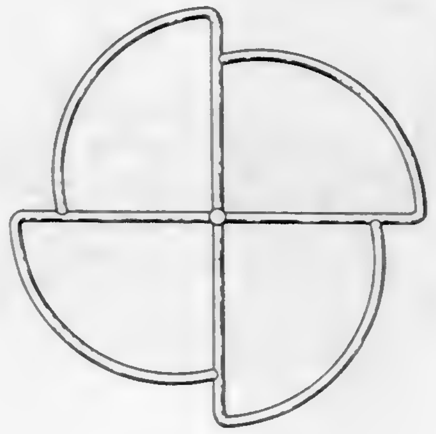
214,405
TAPE DISPENSER

Jack Fairchild Fleming, 28 Woodcrest Road,
Boonton, N.J. 07005
Filed Sept. 3, 1968, Ser. No. 13,363
Term of patent 14 years
Int. Cl. D19—*02*
U.S. Cl. D74—1



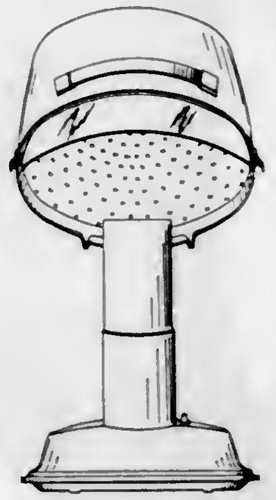
214,406
CLOTHES SUPPORTING ROD FOR A DISPLAY STAND

Arthur Garson, New York, N.Y., assignor to Wahl Associates, Inc., Long Island City, N.Y., a corporation of New York
Filed June 20, 1968, Ser. No. 12,459
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—10



214,407
HAIR DRYER

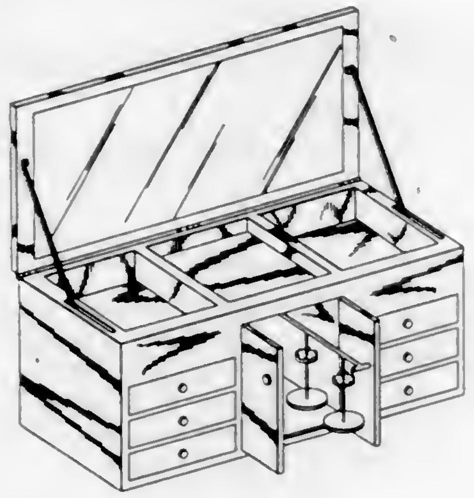
Carroll M. Gantz, North Canton, Ohio, Robert H. Hose, Mountainside, N.J., and Joseph T. Sestak, Canton, Ohio, assignors to The Hoover Company, North Canton, Ohio, a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 10,158
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—10



214,408
JEWEL BOX

Julia M. Pintea, 3838 Edinburg Drive,
Youngstown, Ohio 44511
Filed Feb. 8, 1968, Ser. No. 10,502
Term of patent 14 years
Int. Cl. D3—*99*

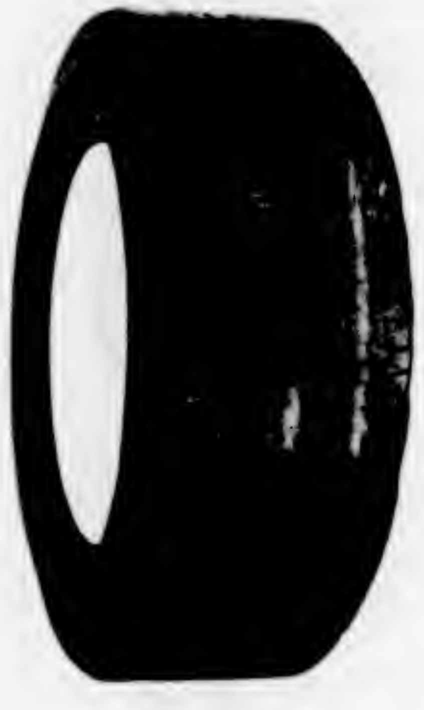
U.S. Cl. D87—1



214,409
TIRE

Iain Campbell Mills, Birmingham, England, assignor to The Dunlop Company Limited, Birmingham, England, a corporation of Great Britain
Filed Nov. 15, 1967, Ser. No. 9,412
Claims priority, application Great Britain July 13, 1967
Term of patent 14 years
Int. Cl. D12—*14*

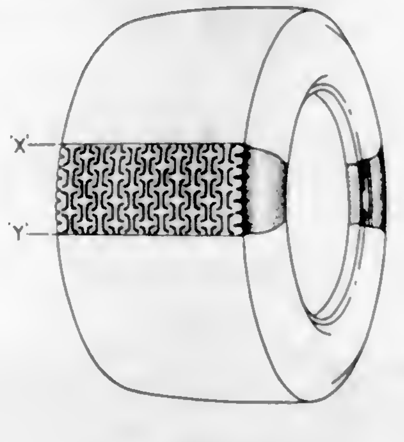
U.S. Cl. D90—20



214,410
TIRE

Horace Victor Barlow, deceased, late of Roma, Hampton on the Hill, near Warwick, England, by Beatrice Lilian Barlow, administratrix, Roma, Hampton on the Hill, near Warwick, England, assignor to The Dunlop Company Limited, Birmingham, England, a corporation of Great Britain
Continuation of design applications Ser. No. 8,021 and Ser. No. 8,023, July 27, 1967. This application Jan. 24, 1968, Ser. No. 10,781
Claims priority, application Great Britain Apr. 11, 1967
Term of patent 14 years
Int. Cl. D12—*14*

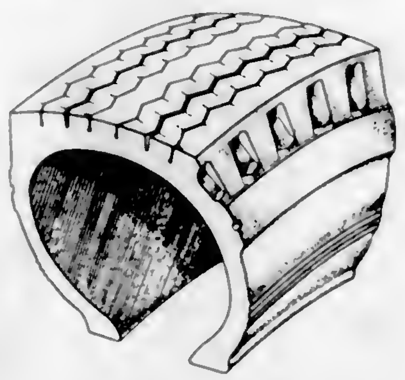
U.S. Cl. D90—20



214,411
TIRE

Eric Clifford Bartlett, Birmingham, England, assignor to The Dunlop Company Limited, Birmingham, England, a corporation of Great Britain
Filed Mar. 25, 1968, Ser. No. 11,131
Claims priority, application Great Britain Nov. 1, 1967
Term of Patent 14 years
Int. Cl. D12—*14*

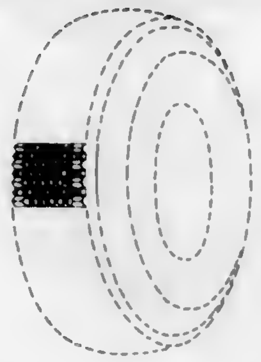
U.S. Cl. D90—20



214,412
TIRE

Charles A. Hammond, 328 W. Bond St.,
Hastings, Mich. 49058
Filed Sept. 3, 1968, Ser. No. 13,375
Term of patent 14 years
Int. Cl. D12—*14*

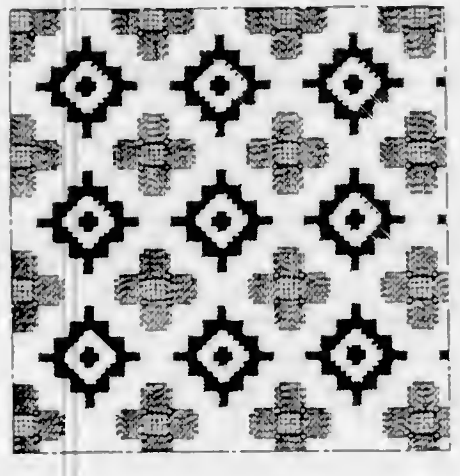
U.S. Cl. D90—20



214,413
CARPET OR SIMILAR ARTICLE

David Nightingale Hicks, 23 St. Leonard's Terrace,
London SW. 3, England
Filed May 2, 1968, Ser. No. 11,748
Term of patent 14 years
Int. Cl. D6—*04*

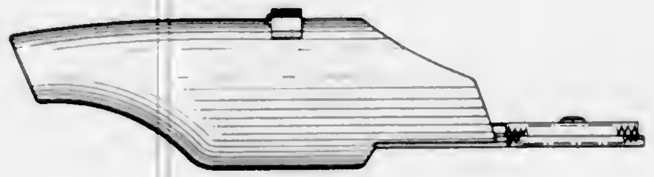
U.S. Cl. D92—4



214,414
HAIR CLIPPER

Alfred W. Madl, Glendale, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 29, 1968, Ser. No. 11,191
Term of patent 14 years
Int. Cl. D28—*03*

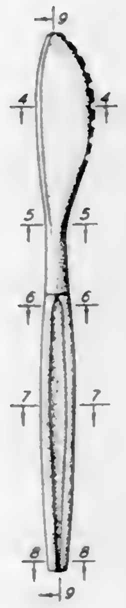
U.S. Cl. D95—3



214,415
KNIFE

Homer S. Lynn, 3379 Martin Road, Dublin, Ohio 43017, and Clifford W. Lynn, Bennington Township, Licking County, Ohio (Rte. 2, Centerburg, Ohio 43011)
Filed Apr. 18, 1968, Ser. No. 11,503
Term of patent 14 years
Int. Cl. D7—*03*

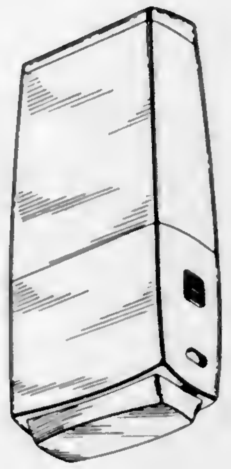
U.S. Cl. D95—3



214,416
ELECTRIC SHAVER TRAVEL CASE

William J. Rakocy, Clifton, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed May 15, 1968, Ser. No. 11,948
Term of patent 14 years
Int. Cl. D28—*03*

U.S. Cl. D95—3



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 10TH DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allen, Charles F. H., and D. M. Burness, to Eastman Kodak Co. Hardening of photographic gelatin layers. Re. 26,601, 6–10–69, Cl. 96—66.
Burness, Donald M. : *See*—
  Allen, Charles F. H., and Burness. Re. 25,601.
Cargill, Norman A., and T. D. Reader, to Sperry Rand Corp. Electro-sonic fluid amplifier. Re. 26,605, 6–10–69, Cl. 137—81.5.
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  Dunlap, Donald T. Re. 26,604.
Dodge, Peter W. Gymnastic apparatus. Re. 26,606, 6–10–69, Cl. 272—62.
Dunlap, Donald T., to Celanese Corp. Cigarette filter plug and process and apparatus for making same. Re. 26,604, 6–10–69, Cl. 131—267.
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Ohio Brass Co., The : *See*—
  Taylor, John J. Re. 26,602.
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  Cargill, Norman. A., and Reader. Re. 26,605.
Taylor, John J., to The Ohio Brass Co. Vibration damper for transmission line conductors. Re. 26,602, 6–10–69, Cl. 174—42.
Von Seggern, Henry E. : *See*—
  Von Seggern, Ernest A. and H. E. Re. 26,603.
Von Seggern, Ernest A. and H. E. Excess air cycle engine and air supply means and method of operating same. Re. 26,603, 6–10–69, Cl. 123—75.

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Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,894, 6–10–69, Cl. 41.
Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,895, 6–10–69, Cl. 41.
Bodley, Royden M. Rose plant. 2,893, 6–10–69, Cl. 27.
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  Johnson, Harold A., Jr. and Thomas. 2,892.
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Allen, Robert Y. : *See*—
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American Flange & Manufacturing Co., Inc. : *See*—
  Wolf Edward M., and Koll. 214,379.
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Gantz, Carroll M., R. H. Hose, and J. T. Sestak, to The Hoover Co. Hair dryer. 214,407, 6–10–69, Cl. D86—10.
Garson, Arthur, to Wahl Associates, Inc. Clothes supporting rod for a display stand. 214,406, 6–10–69, Cl. D80—10.
Gerson, Henry, to Tri-Chem, Inc. Dispensing nozzle for a collapsible tube or the like. 214,365, 6–10–69, Cl. D9—275
Goodrich, Eugene E., and P. J. Daniels. Container for liquids. 214,361, 6–10–69, Cl. D9—175.
Gorman, Myer, to Sun Chemical Corp. Combined display package and coreless roll dispenser. 214,362, 6–10–69, Cl. D9—187.
Gulotta, Gerald, to Block China Co. Pitcher. 214,392, 6–10–69, Cl. D44—21.
Hammond, Charles A. Tire. 214,412, 6–10–69, Cl. D90—20.
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Johnson, Terry W. Rocking toy. 214,388, 6–10–69, Cl. D34—15.
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Klamer, Reuben B., R. Y. Allen, and M. Shaw; said Allen and said Shaw assors. to said Klamer. Toy dog or the like. 214,384, 6–10–69, Cl. D34—2.

Knab, James V., to Weber Showcase & Fixture Co., Div. of Walter Kidde & Co., Inc. Portable air filtration unit. 214,375, 6–10–69, Cl. D23—149.
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Magi, Hugo, to Dominion Auto Accessories Limited. Auxiliary vehicle lamp housing. 214,394, 6–10–69, Cl. D48—32.
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Mills, Iain C., to The Dunlop Co., Ltd. Tire. 214,409, 6–10–69, D90—20.
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Perruccio, Claire C., and G.-J. Bogue. Game board. 214,386, 6–10–69, Cl. D34—5.
Peters, Robert H., to Allen Organ Co. Electronic musical instrument of the keyboard type. 214,401, 6–10–69, Cl. D56—2.
Pintea, Julia M. Jewel box. 214,408, 6–10–69, Cl. D87—1.
Pipolo, Felice. Trash receptacle hood. 214,398, 6–10–69, Cl. D49—35.
Poppe, Martin C., M. E. Miller, A. D'Elia, and E. M. Stolarz. Bowl. 214,390, 6–10–69, Cl. D44—15.
Quercia, Marcel, to Flaminaire Marcel Quercia. Lighter. 214,393, 6–10–69, Cl. D48—27.
Rakocy, William J., to Ronson Corp. Electric shaver travel case. 214,416, 6–10–69, Cl. D95—3.
Rau, Ben W. Proportional divider. 214,399, 6–10–69, Cl. D52—6.
Rin, Ensei, to Kabushiki Kaisha Ricoh. Sound record transferring apparatus. 214,381, 6–10–69, Cl. D26—14.
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Shaw, Melvin: *See—*
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Shimasaki, Yoshiharu A. Combined ampere volt and resistor-meter. 214,378, 6–10–69, Cl. D26—1.
Spencer, Herbert E. Cradle. 214,357, 6–10–69, Cl. D5—5.
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Stolarz, Edward M.: *See—*
  Poppe, Martin C., Miller, D'Elia, and Stolarz. 214,390.
Sullivan, Paul E., to Labconco Corp. Laboratory fume hood. 214,376, 6–10–69, Cl. D23—151.
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  Gorman, Myer. 214,362.
Thom, Wenzel W. Handrailing. 214,368, 6–10–69, Cl. D13—7.
Tri-Chem, Inc.: *See—*
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  Huber, Norman J. 214,360.
Wahl Associates, Inc.: *See—*
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Weber Showcase & Fixture Co., Div. of Walter Kidde & Co., Inc.: *See—*
  Knab, James V. 214,375.
Weiss, Hugh R., to The Pantasote Co. of New York. Combined food packaging and displaying tray. 214,363, 6–10–69, Cl. D9—187.
Weiss, Hugh R., to The Pantasote Co. of New York, Inc. Cake display tray. 214,391, 6–10–69, Cl. D44—19.
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  Wright, Zane H. 214,400.
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Winer, Ephraim, to National Industries, Inc. Restaurant booth unit or similar article. 214,374, 6–10–69, Cl. D15—8.
Wolf, Edward M., and S. J. Koll, to American Flange & Manufacturing Co., Inc. Battery terminal insulator or similar article. 214,379, 6–10–69, Cl. D26—6.
Wright, Zane H. 20% to Sidney Bradpiece and 40% to Will H. West. Milling machine head. 214,400, 6–10–69, Cl. D54—14.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 10TH DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Tetra Pak: *See—*
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Abell, Roy F., Jr., to Eaton Yale & Towne, Inc. Hydraulic valve lifter. 3,448,730, 06-10-69, Cl. 123-090.
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Amiard, Gaston, Nomine, Gerard, and Torelli, Vesperto, to Roussel-Uclaf. Total synthesis by steroids and novel steroid intermediates. 3,449,382, 06-10-69, Cl. 260-397.5
Amir, Emanuel M., Wadley, Edward F., and Wesselhoft, Robert D., to Esso Research and Engineering Company. Startup procedure for isomerizing polymethylbenzene. 3,449,456, 06-10-69, Cl. 260-668.
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- Anderson, David W., Mizzi, John V., and Sparacio, Francis J., to International Business Machines Corporation. Control system for interleave memory. 3,449,723, 06-10-69, Cl. 340-172.5
- Anderson, Donald J., to Chevron Research Company. Polyalkylene sulfides, sulfoxides and sulfones. 3,449,440, 06-10-69, Cl. 260-607.
- Anderson, William S., to Shell Oil Company. Lubricant compositions. 3,449,249, 06-10-69, Cl. 252-051.5
- Andersson, Kurt Allan: *See*—
  - Jakobsson, Rolf Elis, and Andersson, Kurt Allan 3,448,900.
- Andreas Stihl Maschinenfabrik: *See*—
  - Rauh, Albrecht, and Heermann, Richard, 3,448,829.
- Andress, Harry J., Jr., to Mobil Oil Corporation. Liquid hydrocarbon fuels containing amine salts of ethylene diamine tetra acetic acid as anti- static agents. 3,449,097, 06-10-69, Cl. 044-071.
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- Fraser, Grover D., to Ingersoll-Rand Company. Unloading system for compressors. 3,448,916, 06-10-69, Cl. 230-024.
- Frazier, David M. Energy controller. 3,448,691, 06-10-69, Cl. 103-271.
- Frederick, Arthur I.: *See—*
  - Pandjiris, Anthony K., and Frederick, Arthur I. 3,448,877.
- Fredriksson, Oke A., Fossati, F. Nicholas, and Roberts, F. Alexander. Helical antenna for irradiating an earth formation penetrated by a borehole and method of using same. 3,449,657, 06-10-69, Cl. 324-006.
- Freeman, Dennis B., and Burden, Peter, to Hooker Chemical Corporation. Metal coating process. 3,449,222, 06-10-69, Cl. 204-038.
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- Freeman, Mark Phillips, to American Cyanamid Company. Synthesis of finely divided oxide powders. 3,449,072, 06-10-69, Cl. 023-142.
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  - Olivier, James Peter, and Hickin, George K., 3,449,567.
- Frey, Karl A., and Simmons, Elmer C., to Mohawk Data Sciences Corporation. Positioning apparatus for a random access storage device using a dual-frequency reference track. 3,449,734, 06-10-69, Cl. 340-174.1
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- Friedman, Morris, to Master Appliances, Inc. Wig block support. 3,448,957, 06-10-69, Cl. 248-226.
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  - Smith, Willis R., Frielinghaus, Klaus H., and Wetmore, Arthur W. 3,449,717.
- Frielinghaus, Klaus H., and Smith, Willis R., to General Signal Corporation. Multiaperture core shift register. 3,449,729, 06-10-69, Cl. 340-174.

Friend, William H. Oven for baking. 3,448,699, 06-10-69, Cl. 107-055.

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Griesbaum, Karl, Oswald, Alexis A., and Hall, Daniel Noyes, to Esso Research and Engineering Company. O,O-diethyl-S-(methylthiopropyl) dithiophosphate. 3,449,474, 06-10-69, Cl. 260-948.

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Nedelec, Maurice, and Chaumont, Henri, to Compagnie de Saint-Gobain. Method and apparatus for supporting sheets on a gaseous bed. 3,449,102, 06-10-69, Cl. 065-025.

Needham, James C., to Welding Institute, The. Controlled arc welding. 3,449,544, 06-10-69, Cl. 219-131.

Neighbors, Ralph P., to Gulf Oil Corporation. Method of combating undesired plant growth with substituted carboxamidooxyalkanoic acids and salts thereof. 3,449,113, 06-10-69, Cl. 071-106.

Nelms, Thomas G. Center core for rolls of pressure-sensitive adhesive tape and methods of making same. 3,448,774, 06-10-69, Cl. 138-144.

Nelson, Robert E., to General Motors Corporation. Electrical control for automatic transmission. 3,448,640, 06-10-69, Cl. 074-866.

Nelson, Robert K., to Eaton Yale & Towne, Inc. Limited slip differential device. 3,448,635, 06-10-69, Cl. 074-710.5

Nettel, Frederick. Peak output production in steam turbine plants. 3,448,580, 06-10-69, Cl. 060-067.

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Neuman, Milton C., and Wiethoff, Roger H., to United States of America, Navy, mesne. Jettison mechanism for missile launcher system. 3,448,655, 06-10-69, Cl. 089-001.8

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Newstead, Charles, to Girling Limited. Spreading, spot-type disc brake. 3,448,831, 06-10-69, Cl. 188-073.

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Nichols, George M., to Du Pont de Nemours, E. I., and Company. Halide-modified phosphonitrilic chlorides. 3,449,091, 06-10-69, Cl. 023-357.

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Parks, Asbury S., to Dover Corporation. Method and device for releasing pressure of a pressurized system. 3,448,750, 06-10-69, Cl. 137-014.

Parks, Bert H., to Rogue Reels, Inc. Two speed fishing reel drive. 3,448,942, 06-10-69, Cl. 242-084.54

Parks, John W., to Union Tank Car Company. Cellular pump station structure. 3,448,885, 06-10-69, Cl. 220-005.

Parsons, Curtis P., to Dow Chemical Company, The. Vapor and droplet separator for ebullient-cooled engines. 3,448,729, 06-10-69, Cl. 123-041.2

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- Tischler, Edward J., to Union Tank Car Company. Timer. 3,448,625, 06-10-69, Cl. 074-003.5
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- Todd, Gordon, and Shields, Edward Francis, to Whessoe Limited. Storage tanks. 3,448,886, 06-10-69, Cl. 220-009.
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- Tokuzumi, Tadaichi: *See—*
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- Tomalia, Donald A., to Dow Chemical Company, The. Preparation of N-(2-chloroalkyl)sulfinylamines. 3,449,396, 06-10-69, Cl. 260-453.
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Design Patents

6 : 214,359
214,369
214,384
214,387
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9 : 214,386
17 : 214,361
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36 : 214,402
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42 : 214,356
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42 : 214,364
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48 : 214,366
214,382
51 : 214,371
214,372
214,373
55 : 214,414

Plant Patents

6 : 2,891
6 : 2,892
6 : 2,894
6 : 2,895
41 : 2,893
45 : 2,890

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
June 10, 1969 Volume 863 Number 2

TRADEMARKS

NOTICES

Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Tuesday, August 26, 1969.

With the exception of those former patent examiners for whom the examination is waived, all persons recognized for practice before the Patent Office in patent cases must, pursuant to the noted rule, pass the examination. Those passing the examination do not thereby qualify for recognition for practice before the Patent Office in trademark cases. Recognition for practice in trademark cases is governed by Rule 2.12 of the Trademark Rules of Practice, which does not require the passing of an examination.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be filed in the Patent Office together with a $35 fee not later than July 25, 1969.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Bldg. 3, 11th Floor, Room C16, Crystal Plaza or by mail directed to the attention of the Clerk of the Committee on Enrollment, U.S. Patent Office, Washington, D.C., 20231.

EDWIN L. REYNOLDS,
May 15, 1969. *Chairman, Committee on Enrollment.*

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Sunshine Farms, Inc., assignee of L. M. Tracy, d.b.a. Tracy-Waldron Company, Phoenix, Ariz., Reg. No. 523,430, Canc. No. 9286.

P.M. Products, Inc., assignee, by mesne assignment, of Cornel Drug Stores Inc., Long Island, N.Y., Reg. No. 254,639, Canc. No. 9287.

Waldo L. Contreras, d.b.a. Tico Taco Mexican Food Products Co., Scottsdale, Ariz., Reg. No. 589,542, Canc. No. 9291.

The Signet Corporation, Chicago, Ill., Reg. No. 759,774, Canc. No. 9296.

A. J. Logan Company, Pittsburgh, Pa., Reg. No. 540,017, Canc. No. 9313.

Hyde-Park Fashions, Inc., New York, N.Y., Reg. Nos. 522,193 and 532,733, Canc. No. 9314.

R. B. Martie Company, assignee of R. B. Martie, Inc., New York, N.Y., Reg. No. 297,206, Canc. No. 9321.

Auto-Magic Car Wash, Inc., New York, N.Y., Reg. Nos. 816,105 and 834,442, Canc. No. 9326.

Lester Piano Manufacturing Co., Inc., by change of name from and assignment of Lester Piano Company, Philadelphia, Pa., Reg. No. 330,979, Canc. No. 9330.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	11,860
Date of oldest new application	February 28, 1968
Date of oldest amended application (filing date)	March 4, 1966

C. M. WENDT, Director, Trademark Examining Operation **TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION**	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	11-18-68	5-10-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	8-22-68	3- 4-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11-18-68	9-22-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	2-28-68	8-25-66
Renewals (All Classes)	3-14-69	....
Sec. 12(c) Publications (All Classes)	4-2 -69	....

Applications filed during the month of April 1969—2,768

Registrations Issued	388—No. 870,693 to No. 871,080
Renewals Issued	150

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 186,822 (WESTON), Weston Electrical Instrument Company, Electrical measuring instruments; **Reg. No. 626,126,** same, Sensitive relays and electrical switch equipment controlled by relays, light sensitive cells, and transformers; **Reg. No. 626,181,** same, Electrical apparatus for testing electron tubes, bimetallic thermometers, light-measuring instruments, photographic analysers, electronic amplifiers and controllers, standard cells, electrical circuit analysers, tachometers and tachometer generators and resistor units; **Reg. No. 778,744** (WESTON AND DESIGN), Weston Instruments, Inc., Electrical measuring and indicating instruments; electronic counter and timer instruments; instruments and apparatus for determining humidity and the moisture content of materials; thermometers; light-measuring instruments; standard cells; electrical circuit analysers; tachometers, tachometer generators, A.C., D.C. and frequency generators, electrical resistors and potentiometers; electrical apparatus for testing radio and television equipment; and instrument calibrators; **Reg. No. 795,083** (WESTON) same, Electrical relays, meter relays, electrical switch equipment controlled by relays, light sensitive cells, transformers; electronic amplifiers and controllers; and electrolysis instruments; **Reg. No. 795,170,** same, Electrical measuring and indicating instruments; electronic counter and timer instruments; instruments and apparatus for determining humidity and the moisture content of materials; thermometers; light-measuring instruments; standard cells; electrical circuit analysers; tachometers, tachometer generators; A.C., D.C. and frequency generators, electrical resistors and potentiometers; electrical apparatus for testing radio and television equipment; and instrument calibrators; **Reg. No. 649,684** (WESTON MASTER III), Weston Electrical Instrument Corporation, Photographic exposure meters; **Reg. No. 833,301** (MASTER V), Weston Instruments, Inc., same, **filed** Nov. 6, 1967, D.C., S.D.N.Y., Doc. 67–C–4349, *Weston Instruments, Inc.* v. *47th Street Photo, Inc.* Consent judgment, Dec. 12, 1967.

Reg. No. 555,162 (GIFT-PAX), Gift-Pax, Medicinal and pharmaceutical preparations for new-born babies and their mothers—namely, laxatives, disinfectants, antiseptics, and medicated, external-use, baby powders and baby oils, **filed** Apr. 2, 1969, D.C., S.D. Calif. (San Diego), Doc. 69–98–K, *Gift-Pax, Inc.* v. *Vietnam Gift-Pac.*

Reg. No. 626,126. (See Reg. No. 186,822.)

Reg. No. 626,181. (See Reg. No. 186,822.)

Reg. No. 635,228 (POGO), Walt Kelly, Newspaper comic or cartoon strips, comic or cartoon magazines, and comic or cartoon books; **Reg. No. 638,377** (POGO MOBILE), same, Toy consisting of cardboard cutout figures from the comic strip "Pogo," designed for assembling as a mobile, **filed** Apr. 7, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–645–EC, *Walt Kelly* v. *Richard Furay et al.*

Reg. No. 638,377. (See Reg. No. 635,228.)

Reg. No. 649,684. (See Reg. No. 186,822.)

Reg. No. 675,226 (EXA), Ihagee Kamerawerk Aktiengesellschaft, Optical, photographic, and cinematographic apparatus and devices—namely, cameras of all kind, projectors, mounted and unmounted lenses of all kind including soft focus lenses, lens attachments, light filters, light tunnels, image inversion systems, stereo attachments, magnifiers, eye pieces, copying devices, reproducing devices, micro-photo devices, developing apparatus, films, and light-sensitive photographic materials and parts of and accessories for all these goods; **Reg. No. 675,227** (VX AND DESIGN), same, Cameras, **filed** Dec. 1, 1967, D.C., S.D.N.Y., Doc. 67–C–4740, *Ihagee Kamerawerk A.G. and Deutsche Kamera- und Orwo Filmexl* v. *Camera Specialty Co., Inc. and Exakta Camera Co., Inc.* Stipulation and order of discontinuance, Apr. 2, 1969.

Reg. No. 675,227. (See Reg. No. 675,226.)

Reg. No. 684,661 (T.L.C.), Polychem Corporation, Medicated emollient for topical application, **filed** Dec. 28, 1967, D.C., S.D.N.Y., Doc. 67–C–5068, *Polychem Corporation* v. *The Borden Company.* Stipulation and order of dismissal pursuant to Rule 41 with prejudice, Apr. 2, 1969.

Reg. No. 706,976 (JOURNAL OF NEUROPSYCHIATRY), Journal of Neuropsychiatry, Professional magazine, **filed** Apr. 30, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c785, *Journal of Neuropsychiatry, Inc.* v. *Abraham I. Jackman, M.D. et al.* Order of stipulation, cause dismissed with prejudice, Apr. 3, 1969.

Reg. No. 743,556 (PLUS WHITE AND DESIGN), Hazel Bishop, Inc., Dentifrice, **filed** Oct. 5, 1966, D.C., S.D.N.Y., Doc. 66–C–3242, *Hazel Bishop Inc.* v. *Cecilia Products Ltd.* Stipulation and order of dismissal of action and counterclaims with prejudice, Apr. 1, 1969.

Reg. No. 778,744. (See Reg. No. 186,822.)

Reg. No. 795,083. (See Reg. No. 186,822.)

Reg. No. 795,170. (See Reg. No. 186,822.)

Reg. No. 816,321 (MEDICENTER OF AMERICA), Medicenters of America, Inc., Medical and skilled nursing care services; **Reg. No. 816,743** (MEDICENTER OF AMERICA AND DESIGN), same, **filed** Sept. 24, 1968, D.C., S.D. Fla. (Miami), Doc. 68–1108–EC, *Medicenters of America, Inc.* v. *Good Samaritan, Inc.* Final judgment, defendant permanently enjoined, Mar. 18, 1969.

Reg. No. 816,743. (See Reg. No. 816,321.)

Reg. No. 833,301. (See Reg. No. 186,822.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 227,552. Brown, Boveri & Company Limited, Baden, Switzerland. Filed Sept. 10, 1965.

BBC
BROWN BOVERI

Priority claimed under Sec. 44(d) on Swiss Reg. No. 209,219, dated Mar. 12, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors; Steam, Hydro-, and Diesel-Driven Electrical Generators; Switchgear; Control Equipment for Electrical Generating Stations; Radio and Television Transmitting, Receiving and Relay Equipment; Antennas; Electronic Tubes; Non-Therapeutic Electric Foot Warmers; and Home Kitchen Food Blender-Mixers (Int. Cls. 7 and 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Steam and Gas Turbines (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Refrigerators and Deepfreezers (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electric Stoves, Space Heaters, Grills, Broilers, and Platewarmers; and Electric Welding Machines (Int. Cls. 7 and 11).

SN 241,894. Hassia-Verpackungsmaschinen G.m.b.H., Ranstadt, Germany. Filed Mar. 25, 1966.

Hassia
CART FORM

Owner of German Reg. No. 813,926, dated July 28, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machines for Manufacture of Packaging, Packaging Machines, Packing Machines, and Parts Therefor (Int. Cl. 7).

Class 37—Paper and Stationery

For Packaging Material of Paper, Paperboard, Cardboard; and Paper, Paperboard, Cardboard, All Both Printed and Unprinted (Int. Cl. 16).

Class 105—Transportation and Storage

For Services in Packaging and Packing for Transport and/or Storage (Int. Cl. 39).

SN 256,277. Fichtel & Sachs Aktiengesellschaft, Schweinfurt, Germany. Filed Oct. 12, 1966.

TETRAMATIC

Priority claimed under Sec. 44(d) on German application dated Apr. 28, 1966; Reg. No. 822,484, dated Aug. 1, 1966.

Class 19—Vehicles

For Bicycles and Parts Thereof (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Freewheel Hubs With and Without Brake and With and Without Transmission Gear (Int. Cl. 12).

SN 258,623. Viners Limited, Sheffield, England. Filed Nov. 14, 1966.

CHELSEA

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Holloware of Non-Precious Metal—Namely, Condiment Sets Consisting of Shakers and Dispensers of Salt and Pepper and the Like; and Holders for the Same (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Table Flatware of Non-Precious Metal (Int. Cl. 8).

First use in or about August 1960; in commerce August 1963.

Subj. to Intf. with SN 237,339.

SN 265,673. Kentile Floors Inc., Brooklyn, N.Y. Filed Mar. 1, 1967.

KENTILE

Class 4—Abrasives and Polishing Materials

For Floor Wax (Int. Cl. 3).
First use 1961.

Class 5—Adhesives

For Adhesives and Pastes, Particularly for Use in Laying Floor and Wall Tile (Int. Cl. 1).
First use 1947.

Class 12—Construction Materials

For Material Made in Whole or in Part of Vinyl Plastic in Tile and/or Sheet Form for Construction Purposes for Covering Floors and Walls, and for Covering Table Tops, Sink Tops, Counter Tops, the Tops of Furniture, Stair Treads, and Other Interior Surfaces of Buildings (Int. Cl. 19).
First use July 10, 1936.

Class 16—Protective and Decorative Coatings

For Asphalt Primer Coatings for Plastered Walls and for Concrete and Magnesite Floors, and Protective Floor Finish (Int. Cl. 2).
First use 1951.

Class 20—Linoleum and Oiled Cloth

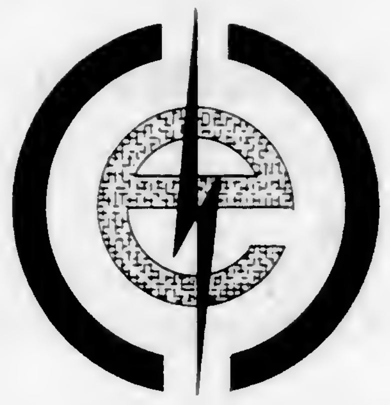
For Prepared Coverings in Tile, Roll and Sheet Form and Other Forms for Floors, Walls and Other Interior and Exterior Surfaces of Buildings (Int. Cl. 27).

First use July 10, 1936.

Class 52—Detergents and Soaps

For Floor Cleaner (Int. Cl. 3).
First use 1960.

SN 279,130. Electronic Control Corporation, Euless, Tex. Filed Aug. 28, 1967.



The mark comprises the stylized letters "ecc" and design in the form of a central letter "e" having a forward letter "c" and a backward letter "c" on opposed sides thereof enclosing same. The drawing is lined for the color gold.

Class 21—Electrical Apparatus, Machines, and Supplies

For Semiconductors Such as Bilateral Semiconductor Power Switches (Sometimes Referred to as Four Layer or Five Layer Semiconductor Devices) and Electronic Dimmer Circuits and Power Control Circuits Having Timing Circuits To Control the Conduction Angle for the Bilateral Switches in the Overall Dimmer and Power Control Circuits (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Fan Speed Control Units for Sale as Components of Heating and Ventilating Units, Such as Industrial Exhaust Fans and Ventilating Units, Whereby the Power (Hence Speed) of the Fans May Be Controlled (Int. Cl. 11).

First use July 8, 1964.

SN 279,971. Cobble Laboratory Co., Ltd., Shinjuku-ku, Tokyo, Japan. Filed Apr. 20, 1967.

TERMACOBB

Priority claimed under Sec. 44(d) on Japanese application filed Mar. 27, 1967; Reg. No. 806,973, dated Jan. 31, 1969.

Class 26—Measuring and Scientific Appliances

For Automatic Thermoanalyzer, Thermometric Cells and Digital Thermometers (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Furnace for Heating and Cooling Purposes and Microautoclave (Int. Cl. 11).

SN 283,358. John Y. Pun, d.b.a. Biological Electronics, El Cerrito, Calif. Filed Oct. 25, 1967.

BIONIX

Class 21—Electrical Apparatus, Machines, and Supplies

For Preamplifiers, Amplifiers, Transistorized Stimulator, Pressure Transducers, Powerpacks, Electrodes, Electric Cables and Switches (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Solid State Oscilloscopes, Oscilloscope-Recorder, Tachometer, Activity Monitor, Moist Nerve Chamber (Int. Cl. 9).

First use Sept. 1, 1967.

SN 284,102. Power Application & Mfg. Co., Denver, Colo. Filed Nov. 3, 1967.

PAMCO

Class 21—Electrical Apparatus, Machines, and Supplies

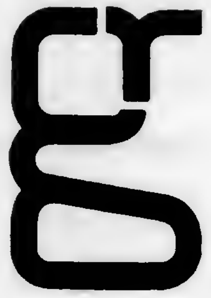
For Standby Generator Sets (Int. Cl. 7).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gas Compressor Units and Pump Units for Secondary Recovery in Oil Fields (Int. Cl. 7).

First use on or about Oct. 18, 1967.

SN 288,047. The Poly-Choke Company, Incorporated, East Hartford, Conn. Filed Jan. 4, 1968.



The mark consists of the letters "g" and "r."

Class 21—Electrical Apparatus, Machines, and Supplies

For Equalizers (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tone Arms for Phonographs (Int. Cl. 9).

First use in or about July of 1962.

SN 289,373. Harris Paint Company, Tampa, Fla. Filed Jan. 23, 1968.

Super-Lux

Class 6—Chemicals and Chemical Compositions

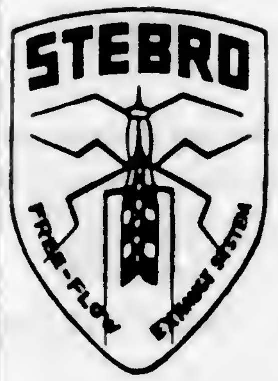
For Thinners for Industrial Uses (Int. Cl. 1).

Class 16—Protective and Decorative Coatings

For Paint and Enamel Latex Protective Coating for Cement and Stucco Surfaces (Int. Cl. 2).

First use in or about July 1953.

SN 290,547. Stebro Automotive Mfg. Ltd., Pointe Claire, Quebec, Canada. Filed Feb. 7, 1968.



Applicant disclaims the terms "Free-Flow" and "Exhaust System" apart from the mark as shown. Owner of Canadian Reg. No. 145,296, dated May 13, 1966.

Class 19—Vehicles

For Custom Made Automobiles and Racing Cars (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automotive Exhaust Systems—Namely, Mufflers, By-Pass Valves, Resonance Chambers, and Tail Pipes (Int. Cl. 12).

First use November 1959; in commerce at least as early as 1961.

SN 290,797. Thermotech Industries, Inc., Minneapolis, Minn. Filed Feb. 12, 1968.

thermotech

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Molded Plastic Winding Bobbins (Int. Cl. 7).

Class 106—Material Treatment

For Custom Plastic Molding Services for Others (Int. Cl. 40).

First use 1957.

SN 292,646. Western Imports Inc., St. Louis, Mo. Filed Mar. 6, 1968.

CENTENNIAL

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Receivers and High Fidelity Radio and Phonograph Combinations (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Phonographs and Stereo Phonographs (Int. Cl. 9).

First use Feb. 21, 1968.

SN 294,325. Morris Struhl, Inc., New York, N.Y. Filed Mar. 27, 1968.

Valiant

Owner of Reg. No. 712,093.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays (Int. Cl. 34).

Class 30—Crockery, Earthenware, and Porcelain

For Household Ceramic Ware—Namely, Salt and Pepper Shakers, Drinking Mugs and Bowls (Int. Cl. 21).

First use March 1962.

SN 297,930. TNT Communications, Inc., New York, N.Y. Filed May 13, 1968.

TiNT

Owner of Reg. Nos. 650,265 and 784,172.

Class 104—Communication

For Television Broadcasting Services (Int. Cl. 38).

Class 107—Education and Entertainment

For Production of Television Programs (Int. Cl. 41).

First use May 18, 1967.

SN 306,935. N.V. Nederlandsche Linoleumfabriek, Krommenie, Netherlands. Filed Sept. 9, 1968.

KROMMENIE

Owner of U.S. Reg. No. 273,416.

Class 20—Linoleum and Oiled Cloth

For Floor, Wall, Ceiling, and Furniture Covering Materials (Int. Cl. 27).

Class 50—Merchandise Not Otherwise Classified

For Cork Bulletin Boards (Int. Cl. 20).

First use Aug. 13, 1954; in commerce August 1955.

SN 308,248. Towlsaver, Inc., Los Angeles, Calif. Filed Sept. 26, 1968.

COVERMASTR

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Toilet Seat Cover Dispensers (Int. Cl. 21).

Class 37—Paper and Stationery

For Toilet Seat Covers (Int. Cl. 16).

First use Aug. 21, 1968.

SN 308,732. Noxell Corporation, Baltimore, Md. Filed Oct. 3, 1968.

IPANA

Class 18—Medicines and Pharmaceutical Preparations

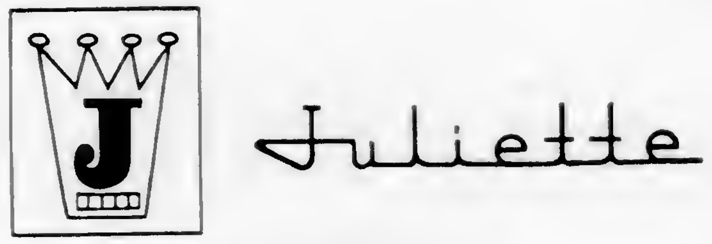
For Medicated Skin Cream (Int. Cl. 5).

Class 51—Cosmetics and Toilet Preparations

For Mouthwash (Int. Cl. 3).

First use Sept. 17, 1968.
Subj. to Intf. with SN 310,536, SN 310,632, and SN 310,633.

SN 308,840. Topp Import & Export, Inc., Miami, Fla. Filed Oct. 4, 1968.



Owner of Reg. Nos. 769,343 and 772,204.

Class 21—Electrical Apparatus, Machines, and Supplies

For Transceivers, Batteries, Amplifiers, and Microphones (Int. Cl. 9).
First use on or about Feb. 1, 1963.

Class 31—Filters and Refrigerators

For Refrigerators (Int. Cl. 11).
First use on or about Mar. 1, 1968.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electric Stoves (Int. Cl. 11).
First use on or about May 1, 1967.

Class 36—Musical Instruments and Supplies

For Phonographs (Int. Cl. 9).
First use on or about Mar. 1, 1962.

SN 309,926. Truth Incorporated, Owatonna, Minn. Filed Oct. 18, 1968.

TRUTH

Owner of Reg. Nos. 164,890 and 701,650.

Class 12—Construction Materials

For Window and Door Screens and Patio Doors (Int. Cl. 19).
First use February 1964.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Window Hardware—Namely, Operators, Hinges, and Locks (Int. Cl. 6).
First use September 1955.

SN 310,385. The Ion Company, Costa Mesa, Calif. Filed Oct. 24, 1968.

ION

Class 18—Medicines and Pharmaceutical Preparations

For Phosphate Fluoride Gels, Phosphate Fluoride Solutions, Stannous Fluoride and Desensitizing Fluid for Topical Application to the Teeth (Int. Cl. 5).
First use in or about January 1963.

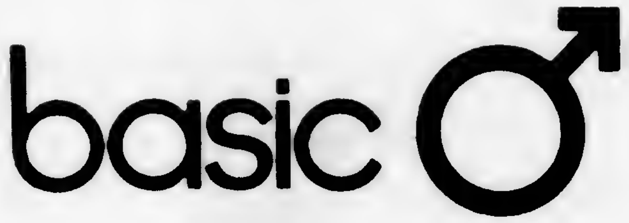
Class 29—Brooms, Brushes, and Dusters

For Toothbrushes (Int. Cl. 21).
First use on or about Nov. 15, 1960.

Class 44—Dental, Medical, and Surgical Appliances

For Temporary Crowns, Fluoridator Devices, Ionators, Matrix Strips and Dispensers Therefor (Int. Cl. 10).
First use in or about December 1963.

SN 313,476. Philip Morris Incorporated, d.b.a. American Safety Razor Company, New York, N.Y. Filed Dec. 3, 1968.



Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Razor Blades (Int. Cl. 8).

Class 51—Cosmetics and Toilet Preparations

For Men's Toiletries—Namely, After Shave Lotion (Int. Cl. 3).

First use Oct. 15, 1968.

SECTION 2

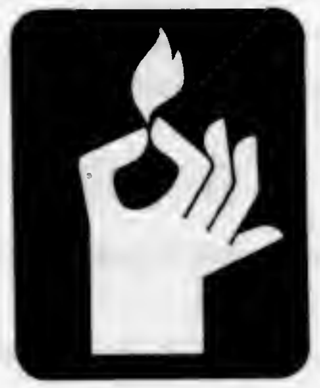
The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 257,078. Polaris Enterprises, Inc., Chicago, Ill. Filed Oct. 24, 1966.



For Charcoal (Int. Cl. 4).
First use July 11, 1966.

SN 288,550. Standard Industrial Minerals, Inc., Bishop, Calif. Filed Jan. 10, 1968.

ASTRACAL

For Micaceous Filler Used in the Protective Coatings, Plastics and Rubber Industries (Int. Cl. 17).
First use on or about Aug. 11, 1964.

SN 295,034. Kaman Corporation, Bloomfield, Conn. Filed Apr. 5, 1968.

K-RAMIC

For Finished Ceramic Materials Used for Bearings, Seals, and Similar Applications (Int. Cl. 21).
First use Jan. 26, 1968.

SN 296,268. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENCO

Owner of Reg. No. 712,985 and others.
For Synthetic Resins (Int. Cl. 1).
First use Oct. 13, 1967.

SN 298,005. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed May 13, 1968.

RUCON

For Synthetic Resins (Int. Cl. 1).
First use Mar. 5, 1968.

SN 298,394. American Cyanamid Company, Wayne, N.J. Filed May 17, 1968.

CYGLAS

Owner of Reg. No. 855,349.
For Synthetic Resin Molding Compound (Int. Cl. 1).
First use Apr. 19, 1968.

SN 302,395. Crown Rubber Company, Fremont, Ohio. Filed July 10, 1968.

X-SPAN

For Sheet Material Consisting of Polymer Film and Sponge for Use in Footwear and Shoe Findings as Uppers, Cushioning, Pads and Linings, and as Cushioning, Lining, Acoustical and Decorative Material for Automobile Interiors, Floor Coverings, Wall Coverings, Garments and Accessories (Int. Cl. 17).
First use June 25, 1968.

SN 302,964. Polyplastex United, Inc., Union, N.J. Filed July 17, 1968.

PANCOVE

For Flexible, Fabric-Backed Vinyl Laminate Sold for Covering Seats and Other Uses in Industrial Arts (Int. Cl. 17).
First use June 7, 1966.

SN 302,992. Uniroyal, Inc., New York, N.Y. Filed July 17, 1968.

ARYLON

For Synthetic Thermoplastic Resin for Molding and Forming (Int. Cl. 1).
First use July 5, 1968.

SN 303,011. Universal Oil Products Company, Des Plaines, Ill., assignee of Bostrom-Amalga Corporation, Menomonee Falls, Wis. Filed July 15, 1968.

AMALGON

For Plastic Tubing (Int. Cl. 17).
First use Apr. 26, 1967.

SN 303,346. Rainbow Mealworms, Cudahy, Calif. Filed July 22, 1968.

RAINBOW

For Live Mealworms (Int. Cl. 31).
First use in 1960.

SN 318,932. Fields Plastics & Chemicals, Inc., Lodi, N.J. Filed Feb. 12, 1969.

POROCINI

Owner of Reg. No. 793,506.
For Plastic Material for General Industrial Uses, i.e., Upholstery, Automobile Upholstery, Outerwear, Headwear, Footwear, and Other Wearing Apparel (Int. Cl. 17).
First use on or about Nov. 15, 1968.

Class 2 — Receptacles

SN 297,458. United Fruit Company, Boston, Mass. Filed May 6, 1968.

BANAVAC

Owner of Reg. No. 829,204.
For Fiberboard Boxes (Int. Cl. 20).
First use Apr. 11, 1968.

SN 307,763. Suburban Plastics, Inc., North Wilbraham, Mass. Filed Sept. 19, 1968.

WUNDERWATE

For Weighted Plastic Pet Feeding Dish (Int. Cl. 21).
First use Sept. 12, 1968.

SN 308,002. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Sept. 23, 1968.

FOAM-GLAZE

For Plastic Containers—Namely, Plates, Bowls, and Trays (Int. Cl. 21).
First use Sept. 5, 1968.

SN 312,316. Nalco Chemical Company, Chicago, Ill. Filed Nov. 15, 1968.

PORTA-FEED

For Distinctive Shipping Container for Special Shipments of Chemicals to Industry (Int. Cl. 20).
First use Aug. 23, 1968.

SN 315,345. George Volinn, d.b.a. Stat Products, Quincy, Mass. Filed Dec. 27, 1968.

MEDISPENSER

For Plastic Drug Dispenser (Int. Cl. 20).
First use Apr. 8, 1967.

SN 316,413. Comet Packaging Corporation, Bronx, N.Y. Filed Jan. 13, 1969.

HI-PAK

For Cellophane Bags (Int. Cl. 22).
First use prior to January 1953.

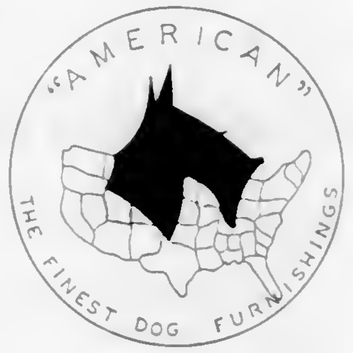
SN 316,909. Rocéd Manufacturers Inc., Fayetteville, N.Y. Filed Jan. 17, 1969.

ROCÉD

For Boot Trays and Cat Litter Trays Formed of Plastic Material (Int. Cl. 21).
First use Jan. 25, 1968.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 298,785. American Leather Specialties Corp., New York, N.Y. Filed May 22, 1968.



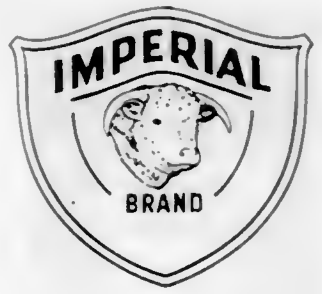
Applicant disclaims the phrase "The Finest Dog Furnishings" apart from the mark as shown.
For Animal Collars and Animal Harnesses (Int. Cl. 18).
First use in 1947.

SN 305,681. Samsonite Corporation, Denver, Colo. Filed Aug. 21, 1968.

SHERBROOKE

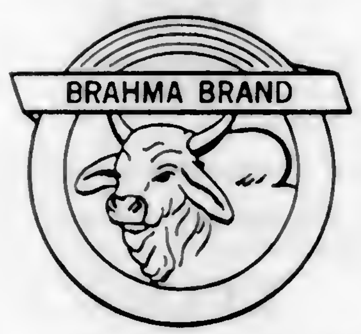
For Luggage (Int. Cl. 18).
First use Aug. 8, 1968.

SN 313,664. Tandy Corporation, d.b.a. Tex Tan Western Leather Co., Fort Worth, Tex. Filed Dec. 5, 1968.



For Saddles, Harnesses, and Replacement Parts Therefor (Int. Cl. 18).
First use October 1964.

SN 313,665. Tandy Corporation, d.b.a. Tex Tan Western Leather Co., Fort Worth, Tex. Filed Dec. 5, 1968.



For Saddles, Harnesses, and Replacement Parts Therefor (Int. Cl. 18).
First use in 1961.

Class 4 — Abrasives and Polishing Materials

SN 300,634. Alec Thornfield, d.b.a. Furmoto Chemical Company, London, England. Filed June 17, 1968.

SOLITAIRE

Owner of British Reg. No. 447,727, dated Apr. 25, 1924.
For Preparation for Cleaning and Polishing Boots, Shoes, and the Like (Int. Cl. 3).

SN 312,254. Thermo Cote Inc., Paterson, N.J. Filed Nov. 14. 1968.

BLUE MAGIC

For Burnishing Compounds and Deburring Compounds (Int. Cl. 3).
First use June 28, 1954.

SN 313,621. Turtle Wax, Inc., Chicago, Ill. Filed Dec. 4, 1968.

SWINGER

For Combination Package Containing a Car Wax and an Interior Cleaner (Int. Cl. 3).
First use Nov. 12, 1968.

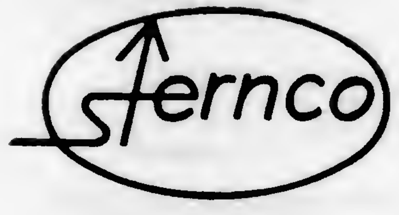
Class 5 — Adhesives

SN 278,330. Whitman Publishing Company, Racine, Wis. Filed Aug. 15, 1967.

WHITMAN

Owner of Reg. Nos. 697,472, 721,356, and others.
For Paste and Glue (Int. Cl. 1).
First use June 20, 1966.

SN 301,649. Sternco Industries, Inc., Harrison, N.J. Filed June 28, 1968.



Owner of Reg. No. 859,910 and others.
For Combination Adhesive Cement and Sealing Compound for Aquariums (Int. Cl. 1).
First use Apr. 22, 1968.

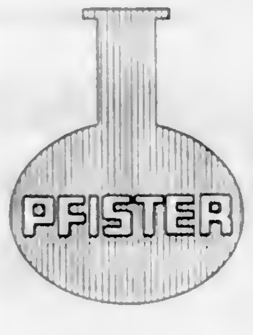
SN 311,446. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 6, 1968.

Scotch
BRAND
Magic Transparent Tape

Applicant claims no registration rights in the word "Brand," or in the words "Transparent Tape" as a name for the goods. Owner of Reg. No. 757,557.
For Adhesive Tape (Int. Cl. 16).
First use Aug. 30, 1965.

Class 6 — Chemicals and Chemical Compositions

SN 286,839. Pfister Chemical Inc., Ridgefield, N.J. Filed Dec. 13, 1967.



The drawing is lined for the color red, but no claim is made to color. Owner of Reg. No. 523,177.
For Dyestuffs, Intermediates for Dyestuffs, Pigments, Textile Treating Chemicals, and Photographic Chemicals (Int. Cls. 1 and 2).
First use on or about Jan. 15, 1966.

SN 291,929. Whink Products Company, Eldora, Iowa. Filed Feb. 26, 1968.

room fresh

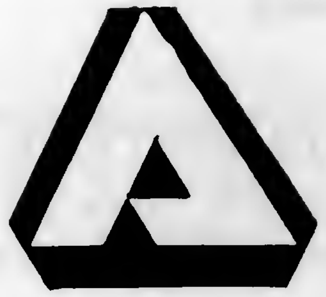
For Liquid Spray Deodorant Applicable to Air, Glass and Ceramic Surfaces (Int. Cl. 5).
First use Jan. 23, 1968.

SN 293,036. Hot Shot Quality Products, Inc., Memphis, Tenn. Filed Mar. 12, 1968.

PEST PATROL

Applicant disclaims "Pest" with reservation of all common law rights therein.
For Insecticide (Int. Cl. 5).
First use Feb. 13, 1968.

SN 293,892. Airwick Industries, Inc., Carlstadt, N.J. Filed Mar. 22, 1968.



For Disinfectant and Odor Counteractant Spray (Int. Cl. 5).
First use Feb. 21, 1968.

SN 294,331. Universal Oil Products Company, Des Plaines, Ill. Filed Mar. 27, 1968.

GOMODOR

For Essential Oils, Esters, Aldehydes and Ketones for Use in the Manufacture of Perfumes (Int. Cls. 1 and 3).
First use at least as early as May 21, 1959.

SN 296,270. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENCO

Owner of Reg. No. 713,000 and others.
For Defoliants (Int. Cl. 1).
First use Oct. 13, 1967.

SN 298,107. Cascade Industries, Inc., Edison, N.J. Filed May 14, 1968.

VINYLCHLOR

Owner of Reg. No. 856,831.
For Swimming Pool Additives—Namely, Chlorine Tablets for Bacteria and Algae Control; Soda Ash Pool pH Tablets; and Cyanuric Acid Tablets (Int. Cls. 1 and 5).
First use Apr. 7, 1967.

SN 299,402. Clairol Incorporated, New York, N.Y. Filed May 31, 1968.

CARMEN

For Chemical Water Softener (Int. Cl. 1).
First use Feb. 6, 1968.

SN 300,473. The Mitchell-Bradford Chemical Co., Milford, Conn. Filed June 14, 1968.

MI-PHOS

For Phosphate Chemical Compositions Used in the Production of Phosphate Conversion Coatings on Metals (Int. Cl. 1).
First use Nov. 21, 1963.

Class 7 — Cordage

SN 304,481. Martin, Black & Company (Wire Ropes) Limited, Coatbridge, Scotland. Filed Aug. 6, 1968.

DUOFLEX

For Flexible Wire Ropes (Int. Cl. 6).
First use December 1965; in commerce January 1967.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 318,059. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

BURGUNDY

Owner of Reg. No. 779,335.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,061. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

UNION LEADER

Owner of Reg. No. 501,106.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,065. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

OLD GOLD

Owner of Reg. Nos. 690,353, 679,039, and others.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,066. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

SPRING

Owner of Reg. Nos. 690,791 and 705,360.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,069. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

OMEGA

Owner of Reg. Nos. 501,104 and 781,965.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,071. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

BETWEEN THE ACTS

Owner of Reg. No. 501,532.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,072. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

CENTURY

Owner of Reg. Nos. 438,862 and 844,876.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 310,456. General Ordnance Equipment Corporation, Pittsburgh, Pa. Filed Oct. 24, 1968.

PEPPER FOG

The word "Fog" is disclaimed apart from its use with the mark.
For Generators for Producing Smoke of Tear Gas, and Parts Thereof (Int. Cl. 13).
First use July 26, 1968.

SN 312,418. Atlas Chemical Industries, Inc., Wilmington, Del. Filed Nov. 18, 1968.

AQUARAM

For Explosives for Blasting (Int. Cl. 13).
First use Oct. 2, 1968.

Class 10 — Fertilizers

SN 300,021. T.G. & Y. Stores Company, Oklahoma City, Okla. Filed June 7, 1968.

GOLDEN T

For Peat Moss (Int. Cl. 31).
First use Jan. 26, 1968.

SN 300,283. Ludlow Corporation, Needham Heights, Mass. Filed June 12, 1968.

PLANT SAVER

For Non-Woven Matting of Natural and Synthetic Fibers for Use as a Plant Mulch (Int. Cl. 31).
First use Mar. 22, 1968.

SN 308,533. Royster Company, Norfolk, Va. Filed Sept. 30, 1968.

Royster

Owner of Reg. Nos. 707,092, 718,082, and 718,083.
For Fertilizers (Int. Cl. 1).
First use July 15, 1968.

Class 12 — Construction Materials

SN 297,441. Sahr Corporation, Pittsburgh, Pa. Filed May 6, 1968.

Heritage Timbers

For the purposes of registration, no claim of exclusive right is made to "Timbers."
For Decorative and Utilitarian, Rigid Polyurethane Foam Plastic Beams, Paneling, Shingles, Wall Panels, Ceiling Panels, Doors, and Planks (Int. Cl. 19).
First use Mar. 18, 1968.

SN 300,340. De Soto, Inc., Des Plaines, Ill. Filed June 13, 1968.

HI-R-BORD

For Ceramic-Like Fibrous Insulating Material, in Sheet Form, Used Primarily for Fireproofing (Int. Cl. 17).
First use on or about Aug. 31, 1967.

SN 300,341. De Soto, Inc., Des Plaines, Ill. Filed June 13, 1968.

HI-R-FORM

For Ceramic-Like Fibrous Insulating Material in Block Shapes, Used Primarily for Fireproofing (Int. Cl. 17).
First use on or about Aug. 31, 1967.

SN 300,601. Martin Marietta Corporation, New York, N.Y. Filed June 17, 1968.

STANDARD STAMAG

For Magnesite Refractory Mix (Int. Cl. 19).
First use on or before Mar. 5, 1968.

SN 303,694. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed July 26, 1968.

3M

For Self-Lubricating Resin Composition for Use in Repairing Worn Ball Joints of Motor Vehicles (Int. Cl. 1).
First use Apr. 17, 1968.

SN 304,620. Resin Systems Inc., Woodside, N.Y. Filed Aug. 7, 1968.

CERAMIC CARPETING

Applicant disclaims the word "Ceramic" apart from the mark as shown.
For Seamless Epoxy Resin and Aggregate Floor Coatings Applied by Troweling (Int. Cl. 19).
First use June 1968.

SN 306,548. Borneo Sumatra Trading Company, Rutherford, N.J. Filed Sept. 4, 1968.

L U X O W O O D

No claim is made to the word "Wood" apart from the mark as shown. Owner of Reg. No. 845,281.
For Wooden Louver and Panel Doors, Wood Room Dividers, and Hewn Wooden Beams (Int. Cl. 19).
First use Aug. 19, 1968.

SN 307,142. Stress-Plus, Inc., St. Paul, Minn. Filed Sept. 11, 1968.

STRESS-PLUS

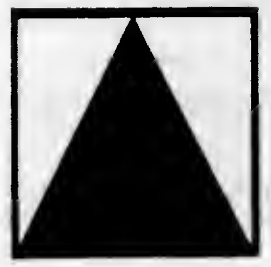
For Building Panels (Int. Cl. 19).
First use Sept. 2, 1968.

SN 309,093. Prime-O-Sash Corporation, Philadelphia, Pa. Filed Oct. 7, 1968.

PRIME-O-SASH

For Aluminum Windows (Int. Cl. 6).
First use about July 15, 1968.

SN 310,294. American Cyanamid Company, Wayne, N.J. Filed Oct. 23, 1968.



For Skylights (Int. Cl. 19).
First use January 1968.

SN 311,049. Marine Commuter Corporation, d.b.a. Western Insulfoam, Seattle, Wash. Filed Oct. 31, 1968.

TUFF ROOF

For Polystyrene Sheet Insulation (Int. Cl. 17).
First use July 15, 1964.

SN 311,257. Francis F. Giles, d.b.a. Giles & Kendall, Huntsville, Ala. Filed Nov. 4, 1968.

CEDARLINE

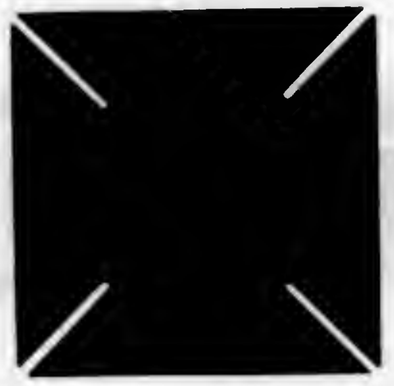
For Cedar Wall Paneling (Int. Cl. 19).
First use June 1, 1966.

SN 312,183. Darling & Company, Chicago, Ill. Filed Nov. 14, 1968.

TRI-DAR

For Compositions for Protectively Coating Concrete, Release Agents for Concrete and Admixture for the Internal Treatment of Concrete (Int. Cls. 1 and 19).
First use Oct. 22, 1968.

SN 312,597. Martin Marietta Corporation, New York, N.Y. Filed Nov. 19, 1968.



For Portland Type Cementitious Materials—Namely, Portland Cement; Masons' Cement; Air Entrained Portland Cement; High Early Portland Cement; High Early, Air Entrained Portland Cement; and Concrete Products Containing Portland Cement (Int. Cl. 19).

First use Oct. 18, 1968.

SN 313,216. Wilkinson & Son, Inc., Somerville, N.J. Filed Nov. 27, 1968.

WILK-STONE

For Matrix To Be Used With Aggregate To Form an Exposed Aggregate Surface (Int. Cl. 19).

First use on or before July 20, 1967.

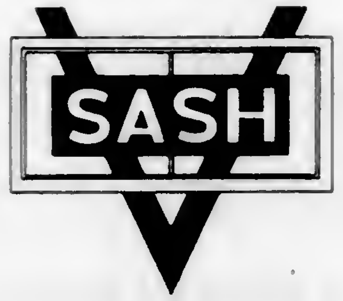
SN 313,286. Globe Linings, Inc., Long Beach, Calif. Filed Nov. 29, 1968.

ROOFLATE

For Air Inflatable Protective Structures and Components Thereof, To Cover or Enclose Reservoirs for Protection of the Reservoir Contents From Evaporation and Contamination (Int. Cl. 19).

First use on or about Sept. 15, 1961.

SN 313,497. Joe Edmonston & Associates, Inc., Irwin, Pa. Filed Dec. 3, 1968.



The word "Sash" is disclaimed apart from the mark as shown.

For Replacement Window Assemblies and Component Parts—Namely, Replacement Windows, Sash, Screens, and Sill Covers (Int. Cl. 19).

First use about July 26, 1968.

SN 313,961. Nawn Enterprises, Inc., Holden, Mass. Filed Dec. 9, 1968.

AQUASTEP

For Portable Stairs for Water Use (Int. Cl. 19).

First use Apr. 26, 1961.

SN 314,069. Griffolyn Co., Inc., Houston, Tex. Filed Dec. 10, 1968.

WINTER WONDER

For Reinforced Plastic Sheeting Used for Winter Building Enclosures (Int. Cl. 19).

First use at least as early as Nov. 13, 1968.

SN 315,546. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Jan. 2, 1969.

FABRIDAM

Owner of Reg. No. 689,281.

For Inflatable Gate for Impounding and Controlling the Flow of Water (Int. Cl. 19).

First use June 9, 1960.

SN 315,590. Phillips Petroleum Company, Bartlesville, Okla. Filed Jan. 2, 1969.

PETROMAT

For Non-Woven Fabric for Construction Purposes (Int. Cl. 19).

First use Nov. 20, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 276,623. Allied Chemical Corporation, New York, N.Y. Filed July 24, 1967.

DIAL-A-FLOW

For Liquid Vapor Valve for Dispensing Refrigerant Gases From Pressurized Containers (Int. Cl. 6).

First use Oct. 26, 1966.

SN 289,173. Delta Prime Water Conditioner Co., Mountain View, Calif. Filed Jan. 19, 1968.

DELTA-PRIME

For Water Softening Equipment and Accessories Therefor (Int. Cl. 11).

First use Sept. 21, 1967.

SN 293,600. Swish Products Limited, Tamworth, Stafford, England. Filed Mar. 18, 1968.

Swish

FURNI-GLYDE

Priority claimed under Sec. 44(d) on British Reg. No. 917,210, dated Nov. 15, 1967. Owner of U.S. Reg. Nos. 611,670, 806,259, and 855,405.

For Devices for Mounting or Guiding Doors, Windows and Furniture Components; Catches; Curtain Suspension Systems; and Parts of These Goods; All Being Goods Made Wholly or Principally of Synthetic Plastic (Int. Cl. 20).

SN 296,170. Irvinware, Long Island City, N.Y. Filed Apr. 22, 1968.

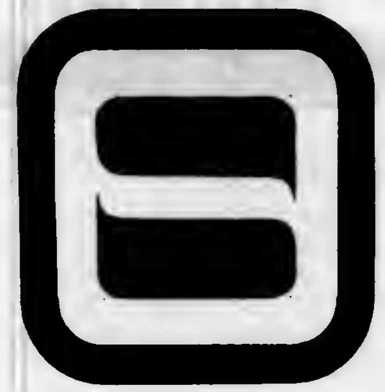
IRVINWARE

Owner of Reg. No. 809,777.

For Stainless Steel Gift Ware, Hollow Ware, Bar Accessories and Kitchen Utensils, e.g., Lemon and Lime Squeezer, Container Opener, Cocktail Strainer, Bar Spoon, Ice Tongs, Double Jigger, Cork Screw, Bottle Pourer, Mixing Glass, Cocktail Set, Cocktail Shaker, Bar Caddy, Ice Crushers, and Relish Fork (Int. Cls. 8 and 21).

First use at least as early as May 24, 1965.

SN 304,405. Standard Manufacturing Company, Inc., Chicago, Ill. Filed Aug. 5, 1968.



For Handles for Various Types of Equipment and Fittings for Connecting Such Handles to the Equipment (Int. Cl. 6).

First use on or about Dec. 21, 1967.

SN 311,312. Sunroc Corporation, Chicago, Ill. Filed Nov. 4, 1968.

JACOBUS

For Air Valves (Int. Cl. 6).

First use at least as early as 1922.

SN 311,333. The King Valve Co., Alpena, Mich. Filed Nov. 5, 1968.

KING

For Air Valves for Controlling Servo Cylinders (Int. Cl. 6).

First use Oct. 28, 1967.

Class 16—Protective and Decorative Coatings

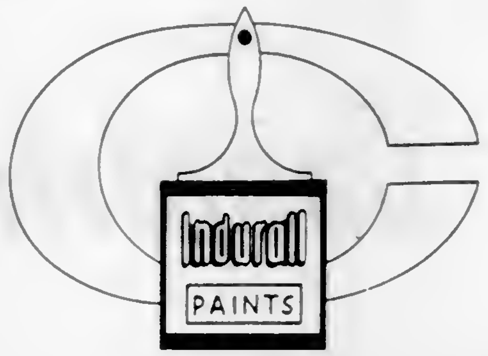
SN 296,255. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Rust Preventing, Corrosion Inhibiting and Decorative Surface Coatings (Int. Cl. 2).

First use Nov. 13, 1967.

SN 314,972. Indurall Coatings, Inc., Birmingham, Ala. Filed Dec. 20, 1968.



The word "Paints" and representation of a brush are disclaimed apart from the mark as shown. Owner of Reg. No. 606,926.

For Paint, Varnish, Lacquer, and Thinner (Int. Cl. 2).

First use May 15, 1966.

Class 17—Tobacco Products

SN 302,520. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed July 11, 1968.

AUGUSTE RODIN

The mark consists of the name of the noted nineteenth century French sculptor.

For Cigarettes (Int. Cl. 34).

First use Mar. 5, 1968; in commerce Mar. 5, 1968.

SN 305,078. St. Regis Tobacco Corporation Limited, Zurich, Switzerland. Filed Aug. 13, 1968.

COUNT PUSHKIN

The mark consists of the name of the famous nineteenth century Russian poet.

For Cigarettes (Int. Cl. 34).

First use May 23, 1968; in commerce May 23, 1968.

SN 314,487. The American Tobacco Company, New York, N.Y. Filed Dec. 16, 1968.

VERVE

For Cigarettes (Int. Cl. 34).

First use Dec. 4, 1968.

SN 316,925. The American Tobacco Company, New York, N.Y. Filed Jan. 21, 1969.

TARA

For Cigarettes (Int. Cl. 34).

First use Jan. 7, 1969.

Class 18 — Medicines and Pharmaceutical Preparations

SN 283,871. Churchill Laboratories, Ltd., Brooklyn, N.Y. Filed Nov. 1, 1967.

faspirin

For Candy Coated Aspirin (Int. Cl. 5).
First use Aug. 21, 1967.

SN 284,038. Rohto Pharmaceutical Co., Ltd., Ikuno-ku, Osaka, Japan. Filed Nov. 2, 1967.

ROHTO

Owner of Japanese Reg. No. 34,402, dated Dec. 5, 1908.
For Ophthalmological Drug (Int. Cl. 5).

SN 284,410. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Nov. 8, 1967.

EXPEED

For Antacid Tablets (Int. Cl. 5).
First use Oct. 17, 1967.

SN 286,529. Immuno (Canada) Ltd., Montreal, Quebec, Canada. Filed Dec. 8, 1967.

PERBULLIN

Owner of Canadian Reg. No. 135,406, dated Apr. 17, 1964.
For Blood Fraction, the Generic Name of Which Is Pertussis Hyperimmune Globulin (Int. Cl. 5).

SN 296,260. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Pharmaceutical Grade Petrolatum (Int. Cl. 5).
First use Nov. 14, 1967.

SN 297,665. C. B. Fleet Company, Inc., Lynchburg, Va. Filed May 8, 1968.

SPARKA-LAX

For Laxative Preparations (Int. Cl. 5).
First use Apr. 22, 1968.

SN 297,838. Beecham Inc., Clifton, N.J. Filed May 10, 1968.

CARPEN

For Antibiotics (Int. Cl. 5).
First use Apr. 30, 1968.

SN 297,958. Bristol-Myers Company, New York, N.Y. Filed May 13, 1968.

HETACIL

For Antibiotic Preparation (Int. Cl. 5).
First use Apr. 5, 1968.

SN 297,959. Bristol-Myers Company, New York, N.Y. Filed May 13, 1968.

HETACIN

For Antibiotic Preparation (Int. Cl. 5).
First use Apr. 5, 1968.

SN 298,945. Lucky Stores, Inc., Milan, Ill. Filed May 23, 1968.

MEDI-GUARD

Owner of Reg. No. 839,887.
For Aspirin (Int. Cl. 5).
First use on or about June 14, 1967.

SN 302,873. The Vitarine Co., Inc., Springfield Gardens, N.Y. Filed July 16, 1968.

STP

For Sustained Action Caffeine Capsules (Int. Cl. 5).
First use June 26, 1968.

SN 303,179. Merck & Co., Inc., Rahway, N.J. Filed July 19, 1968.

AMBITROPE

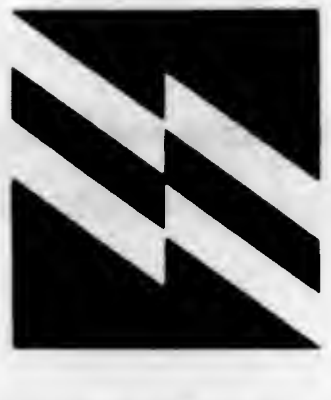
For Anabolic Agent (Int. Cl. 5).
First use June 19, 1968.

SN 303,180. Merck & Co., Inc., Rahway, N.J. Filed July 19, 1968.

VIVAPAM

For Medicinal Preparation for Use as a Psychotherapeutic Agent (Int. Cl. 5).
First use June 19, 1968.

SN 303,451. E. R. Squibb & Sons, Inc., New York, N.Y. Filed July 23, 1968.



For Radiopharmaceuticals (Int. Cl. 5).
First use May 10, 1968.

SN 309,525. Syntex Laboratories, Inc., Palto Alto, Calif. Filed Oct. 14, 1968.

MONOCORTIN

For Steroid Hormone Preparation (Int. Cl. 5).
First use Sept. 26, 1968.

SN 315,780. Osto Pharmaceutical Company, Elizabeth, N.J. Filed Jan. 3, 1969.

OSTOCLOR

For Antihistamine Tablets (Int. Cl. 5).
First use Dec. 12, 1968.

SN 315,783. Osto Pharmaceutical Company, Elizabeth, N.J. Filed Jan. 3, 1969.

OSTOMIN

For Stimulant (Int. Cl. 5).
First use Dec. 12, 1968.

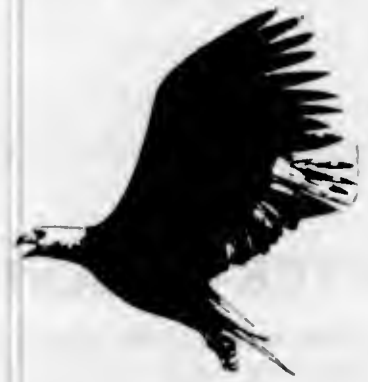
SN 315,979. Vitaminerals, Inc., Glendale, Calif. Filed Jan. 7, 1969.

VITAMINERALS

Owner of Reg. Nos. 301,529, 393,059, and 506,435.
For Analgesic Balm, Anesthetic Ointment, Astringent Preparation, Benzocaine, Bile Salts, Bone Meal for Use as a Source of Calcium and Phosphorus, Calcium Preparations, Chlorophyll, Colloidal Sulphur, Digestive Enzymes, Extract of Ox Bile, Garlic Extracts, Iodine Preparations, Iron Preparations, Iron Sulphate Preparations, Kelp Extracts, Laxatives, Liver Preparations, Mineral Concentrate Preparations, Mineral Ointments, Multiple Vitamin Preparations, Pancreatin, Papain, Phosphorus Preparations, Vitamins A, B-Complex, C, D, E, and F, Antitussive-Expectorant, Citrus Bioflavonoids, Counter Irritant, Digestive Preparations, Glutomic Acid Hydrochloride, High Protein Preparation, Nasal Spray, Poly-Mineral Suspensions, Topical Analgesic and Topical Anesthetic (Int. Cl. 5).
First use Aug. 1, 1933.

Class 19 — Vehicles

SN 292,413. North American Rockwell Corporation, Pittsburgh, Pa. Filed Mar. 4, 1968.



For Aircraft and Parts Thereof (Int. Cl. 12).
First use Nov. 15, 1967.

SN 297,430. Miskin Scraper Works, Inc., Ucon, Idaho. Filed May 6, 1968.

STACKMASTER

For Motor Truck Load Decks Constructed To Tip at Least 90° for Unloading Bales in Stacked Condition (Int. Cl. 12).
First use November 1963.

Class 20 — Linoleum and Oiled Cloth

SN 307,365. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Sept. 13, 1968.

HEUGA

For Carpeting in the Form of Regular Geometric Shapes for Use as Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce November-December 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 287,872. Audio Dynamics Corporation, New Milford, Conn. Filed Jan. 2, 1968.

AUDIO DYNAMICS

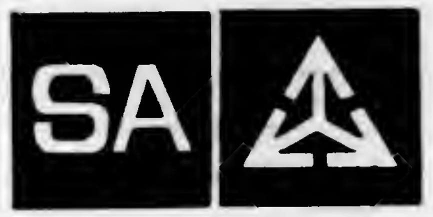
For Stereo Cartridges, Loudspeakers, Electronic Amplifiers, Tuners, and FM Receivers (Int. Cl. 9).
First use Sept. 15, 1960.

SN 288,276. Bridgeland Wholesale Parts & Appliances Limited, Toronto, Ontario, Canada. Filed Jan. 8, 1968.

VISUTROL

Owner of Canadian Reg. No. 154,265, dated Nov. 17, 1967.
For Racks and Panels for Plug-In Modules; Electrical Indicator and Control Panels, Cabinets and Consoles for Centralized Indication and Control in a Hotel, Motel or the Like of the Conditions in the Guest Rooms and the Equipment Therein; Electrical Burglar, Fire and Unauthorized Entry Alarms and Electric Alarms Responsive to Malfunctioning in Other Systems; Flush Mounting Electrical Room Units for Communicating the Conditions in the Guest Rooms of a Hotel, Motel or the Like to a Centralized Indicator Panel, Cabinet or Console, for Communicating Wake-Up, Alarm and Message Signals to the Occupants of the Rooms, and for the Reproduction of Sound Electrically Distributed From Centralized Radio Receiver Equipment; Sound Amplifiers; Radio and Television Frequency Amplifiers; Tuners; Power Supplies; Intercom Units; Wall Boxes; Wall Plates for Television and Intercom; Intercom Amplifiers; and Tone Generators (Int. Cl. 9).

SN 288,450. Sanders Associates, Inc., Nashua, N.H. Filed Jan. 9, 1968.



Owner of Reg. Nos. 610,301 and 621,611.
For Antennas, Printed Circuit Boards, Oscillators, Switches, and Video Detectors (Int. Cl. 9).
First use May 31, 1967.

SN 300,246. Belden Corporation, Chicago, Ill. Filed June 12, 1968.

The mark is the corporate family emblem consisting of a highly stylized abstraction of the letter "b" in lowercase.
For Electrical Wire and Cable, Plugs, Connectors, Terminals and Insulation for Electrical Wire and Cable (Int. Cls. 9 and 17).
First use Sept. 22, 1967.

SN 306,753. The Chase-Shawmut Company, Newburyport, Mass. Filed Sept. 6, 1968.

MARGIN FOR SAFETY

Owner of Reg. No. 796,566.
For Fuses, Current-Limiting Fuses, and Accessories for Fuses (Int. Cl. 9).
First use January 1962.

SN 308,315. Radio Llamada, Sociedad Anonima Comercial e Industrial, Buenos Aires, Argentina. Filed Sept. 26, 1968.

RADARSON

Owner of Argentine Reg. No. 540,158, dated Oct. 15, 1964.
For Communications System Comprising a Central Radio Transmitter and Individual Receivers (Int. Cl. 9).

SN 309,180. Optonetics, Inc., Teterboro, N.J. Filed Oct. 8, 1968.

SOLIDSCAN

For Electronic Image Scanner (Int. Cl. 9).
First use Sept. 16, 1968.

SN 309,188. Sigri Elektrographit GmbH, Meitingen, near Augsburg, Germany. Filed Oct. 8, 1968.

SILIT

For Forming Bodies for Heating Conductors Comprised of Sintered Powder Masses; Electrical Conducting and Resistance Bodies; and Heating Rods and Elements of Silicon Carbide (Int. Cl. 9).
First use August 1908; in commerce August 1908.

SN 309,235. Chromalloy American Corporation, West Nyack, N.Y. Filed Oct. 9, 1968.

PUROGEN

For Electrically Operated Ozone Generators (Int. Cl. 7).
First use August 1968.

SN 309,236. Chromalloy American Corporation, West Nyack, N.Y. Filed Oct. 9, 1968.

For Electrically Operated Ozone Generators (Int. Cl. 7).
First use August 1968.

SN 309,284. Neoweld Electric Inc., Cornwall Bridge, Conn. Filed Oct. 9, 1968.

KAOPAK

For Electrical Power Distribution Cables and Electrical Connectors (Int. Cl. 9).
First use Feb. 10, 1966.

SN 309,678. Instrument Specialties Company, Inc., West Paterson, N.J. Filed Oct. 15, 1968.

STICKY FINGERS

For Shielding Gaskets for Electrical Equipment (Int. Cl. 17).
First use Aug. 21, 1968.

SN 310,863. Chomerics, Inc., Arlington, Mass. Filed Oct. 30, 1968.

CHO-WELT

Owner of Reg. Nos. 845,337 and others.
For Electromagnetic Interference Shielding and Gasketing Consisting of Foam in Strip Form Wrapped With a Conductive Elastomer (Int. Cl. 17).
First use Mar. 27, 1968.

SN 311,545. Zenith Radio Corporation, Chicago, Ill. Filed Nov. 6, 1968.

INTER-OCEANIC

For Radio Receivers (Int. Cl. 9).
First use at least as early as Oct. 15, 1968.

SN 312,081. Vesely Company, Lapeer, Mich. Filed Nov. 13, 1968.

CHEATER-TWEETER

Owner of Reg. No. 673,431.
For Electrical Ground Fault Detectors (Int. Cl. 9).
First use Apr. 19, 1968.

SN 317,495. Fedtro, Inc., Rockville Centre, N.Y. Filed Jan. 27, 1969.

"FEDTRO...the proven sound of champions"

Owner of Reg. Nos. 789,621 and 847,311.
For Communication Equipment—Namely, Electric Amplifiers, Megaphones, Microphones, Speakers, Intercom Sets Consisting of Transmitting and Receiving Units, and Marine Hailer Sets (Int. Cl. 9).
First use in or about December 1965.

Class 22 — Games, Toys, and Sporting Goods

SN 288,827. Jad Tool Company, Cleveland, Ohio. Filed Jan. 15, 1968.

GIGGLE-WHIRL

For Hand Bar Having Revolvable Elements for Performing Isotonic Exercises (Int. Cl. 28).
First use on or about Dec. 29, 1967.

SN 288,828. Jad Tool Company, Cleveland, Ohio. Filed Jan. 15, 1968.

VIGOR-WHIRL

For Hand Bar Having Revolvable Elements for Performing Isotonic Exercises (Int. Cl. 28).
First use on or about Dec. 29, 1967.

SN 293,470. C & F Products of San Francisco Inc., San Francisco, Calif. Filed Mar. 18, 1968.

PSYCHEDELIC SPECKS

The word "Specks" is disclaimed apart from the mark as shown.
For Toy or Amusement Type Spectacles With Kaleidoscopic Lens (Int. Cl. 28).
First use June 20, 1967.

SN 295,563. Spring Bloc Corporation of America, New York, N.Y. Filed Apr. 12, 1968.

Touring Pro

For Golf Clubs (Int. Cl. 28).
First use Feb. 15, 1966.

SN 296,131. Empire Plastic Corp., New York, N.Y. Filed Apr. 22, 1968.

POLYSTRIPE

For Toy Boats, Sandboxes, and Children's Portable Swimming and Wading Pools (Int. Cl. 28).
First use Jan. 8, 1968.

SN 296,517. Milton Bradley Company, East Longmeadow, Mass. Filed Apr. 25, 1968.

BUCKET of FUN

For Equipment for Playing an Action-Type Game Comprising a Container, a Plurality of Balls, and Means Within the Container for Ejecting the Balls (Int. Cl. 28).
First use Mar. 1, 1968.

SN 297,299. West Town Archery, Inc., Wauwatosa, Wis., assignee of West Town Archery, Wauwatosa, Wis. Filed May 3, 1968.

TORQUE MASTER

For Archery Accessories (Int. Cl. 28).
First use Apr. 1, 1968.

SN 303,598. Denison-Johnson, Inc., Mankato, Minn. Filed July 25, 1968.

COMMANDER
150

For Fishing Reels (Int. Cl. 28).
First use June 17, 1968.

SN 303,599. Denison-Johnson, Inc., Mankato, Minn. Filed July 25, 1968.

Accu·cast

For Fishing Reels (Int. Cl. 28).
First use June 17, 1968.

SN 303,941. Uneeda Doll Co., Inc., Brooklyn, N.Y. Filed July 30, 1968.

PET-T-FOURS

For Dolls and Doll Accessories (Int. Cl. 28).
First use on or about June 21, 1968.

SN 304,726. Wilson Sporting Goods Co., River Grove, Ill. Filed Aug. 8, 1968.

POINTMAKER

For Inflated Balls—Namely, Basketballs (Int. Cl. 28).
First use June 19, 1968.

SN 305,010. Water Gremlin Company, White Bear Lake, Minn. Filed Aug. 12, 1968.

RUBBERCOR

For Sinkers for Fishing Lines (Int. Cl. 28).
First use June 1949.

SN 310,212. Diversified Products Corporation, Opelika, Ala. Filed Oct. 22, 1968.

DYNA-SLATE

For Beds for Pool Tables (Int. Cl. 28).
First use on or about Aug. 1, 1968.

SN 311,029. The Greyhound Corporation, Chicago, Ill. Filed Oct. 31, 1968.

GREYHOUND

Owner of Reg. Nos. 541,197, 541,198, and others.
For Toy Busses (Int. Cl. 28).
First use in or about 1949.

SN 314,117. Shield Mfg., Inc., Buffalo, N.Y. Filed Dec. 10, 1968.

GUARDIAN

For Protective Mouth Guards for All Contact Sports (Int. Cl. 28).
First use on or about Nov. 12, 1968.

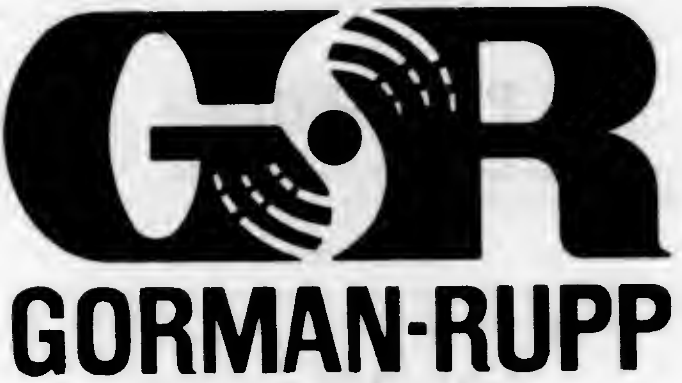
SN 316,370. Continental Promotions, Inc., Minneapolis, Minn. Filed Jan. 13, 1969.

STAR QUEST

For Equipment for Playing a Parlor-Type Game (Int. Cl. 28).
First use Oct. 21, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 248,130. The Gorman-Rupp Company, Mansfield, Ohio. Filed June 15, 1966.



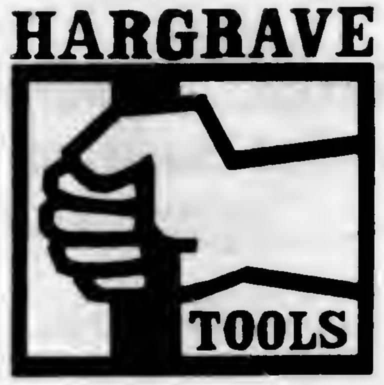
For Industrial Pumps, Pumping Apparatus, Accessories Therefor, and Parts Thereof (Int. Cl. 7).
First use Apr. 15, 1966.

SN 263,178. David C. Gray, Seattle, Wash. Filed Jan. 24, 1967.

CHLOROMATIC

For Chlorinating Unit for Swimming Pools (Int. Cl. 11).
First use April 1958.

SN 269,588. Warren Tool Corporation, Warren, Ohio. Filed Apr. 19, 1967.



The word "Tools" is disclaimed apart from the mark as shown.
For C-Clamps, Chisels, and Punches (Int. Cl. 8).
First use Apr. 6, 1967.

SN 274,487. The Bauer Bros. Co., Springfield, Ohio. Filed June 22, 1967.

BAUERVAC

For Pneumatic Control System Comprising Apparatus Such as Vacuum Receiver, Vacuum Pump, Liquid Level Transmitter Including Diaphragm Operated Signal Converter, Differential Pressure Cells, Gauges, and Butterfly Valves, for Use in Pulp Processing Installations (Int. Cl. 7).
First use 1962.

SN 280,494. Vernon Devices, Inc., Mount Vernon, N.Y. Filed Sept. 15, 1967.

GRIT-BIT

Owner of Reg. No. 664,360.
For Tools of Sintered Carbide Mounted on Handles Used for Dressing Up and Sharpening Carbide and High Speed Steel Tools (Int. Cl. 8).
First use early August 1967.

SN 281,211. Mixing Equipment Company, Inc., Rochester, N.Y. Filed Sept. 26, 1967.

LINE BLENDER

Applicant disclaims the word "Blender" apart from the mark as shown. Owner of Reg. No. 768,031.
For Continuous In-Line Mixers (Int. Cl. 7).
First use at least as early as Oct. 11, 1961.

SN 285,130. Gudebrod Bros. Silk Co., Inc., Philadelphia, Pa. Filed Nov. 17, 1967.

GUDE-SNIPS

For Heavy Duty Hand-Operated Shears (Int. Cl. 8).
First use Nov. 6, 1967.

SN 285,141. Paul Mueller Company, Springfield, Mo. Filed Nov. 17, 1967.

MUELLER MATIC

For Automatic Bulk Tank Spray Washer (Int. Cl. 7).
First use January 1962.

SN 286,446. Polyquip, Inc., Cincinnati, Ohio. Filed Dec. 7, 1967.

POLYQUIP

For Polyurethane Foam Processing Machinery (Int. Cl. 7).
First use Nov. 27, 1967.

SN 289,270. Brunswick Corporation, Chicago, Ill. Filed Jan. 22, 1968.

TYPHOON

For Marine Propulsion Devices—Namely, Outboard Motors (Int. Cl. 7).
First use on or about Oct. 6, 1967.

SN 292,514. Sherman Car Wash Equipment Co., Palmyra, N.J. Filed Mar. 5, 1968.

THERM-O-CLEANER

For Industrial Liquid-Vapor and Steam Cleaning Machines, and Parts Thereof (Int. Cl. 7).
First use Mar. 23, 1967.

SN 293,044. The Moreland Corporation, Willow Grove, Pa. Filed Mar. 12, 1968.

MOR-LON

For Rubber Covered Rollers for a Variety of Uses Including Use in Printing Presses, in Embossing Operations, in Extruding Operations, in Connection With Conveyor Rolls, in the Hot Sealing of Plastic Films, Bags, etc., and in Paper Making (Int. Cl. 7).
First use on or about Oct. 2, 1967.

SN 294,914. The E. W. Buschman Company, Cincinnati, Ohio. Filed Apr. 4, 1968.

UniCom

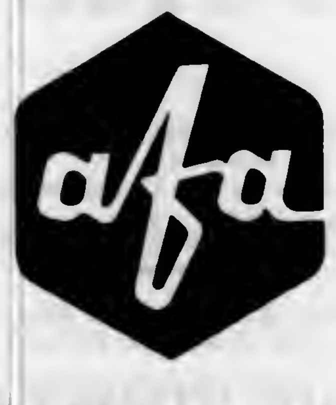
For Conveyors of the Belt and Roller Type in Which the Article Rests Upon the Conveyor, and Components for Such Conveyors (Int. Cl. 7).
First use Oct. 17, 1967.

SN 299,239. R. G. Letourneau, Inc., Longview, Tex. Filed May 28, 1968.

OMNI-SYNC

For Steering Control Apparatus for Self-Propelled Ground Traversing Steerable Gantry Cranes (Int. Cl. 7).
First use Mar. 7, 1968.

SN 303,971. The AFA Corporation of Florida, Miami, Fla. Filed July 31, 1968.



For Liquid Spraying Devices—Namely, Manually Pressurized Hand Sprayers and Motor Driven Foggers and Sprayers (Int. Cls. 7 and 8).
First use Dec. 20, 1967.

SN 306,781. Kalman Floor Company Inc., White Plains, N.Y. Filed Sept. 6, 1968.

VIBRA-TROWEL

For Vibratory Concrete Floor Floating and/or Troweling Machine (Int. Cl. 7).
First use Jan. 1, 1968.

SN 307,776. White Machine Co., Kenilworth, N.J. Filed Sept. 19, 1968.

BIN-U-VEYOR

Owner of Reg. Nos. 646,771, 812,110, and others.
For Conveyors of the Up and Down Type for Packages and Bundles and Other Articles (Int. Cl. 7).
First use March 1965.

SN 308,186. Butler Manufacturing Company, Kansas City, Mo. Filed Sept. 25, 1968.

ROOF RUNNER

For Power Operated Machine for Seaming Metal Sheets (Int. Cl. 7).
First use Aug. 20, 1968.

SN 308,479. Fort Wayne Tool & Die, Inc., Fort Wayne, Ind. Filed Sept. 30, 1968.

FORT WAYNE

Owner of Reg. No. 738,221.
For Machines for Inserting Coils in Dynamoelectric Machine Stator Core Members; Coil Winding Machines; and Electromagnetic Coil Developing Machines (Int. Cl. 7).
First use Oct. 4, 1965.

SN 308,576. Philip Morris Incorporated, d.b.a. American Safety Razor Company, New York, N.Y. Filed Oct. 1, 1968.

EVERLASTING

For Razor Blades (Int. Cl. 8).
First use Sept. 18, 1968.

SN 309,029. Didde-Glaser, Inc., Emporia, Kans. Filed Oct. 7, 1968.

Apollo

For Roll Fed Offset Duplicator (Int. Cl. 16).
First use Aug. 28, 1968.

SN 309,156. Beloit Corporation, Beloit, Wis. Filed Oct. 8, 1968.

BELOIT
CONVERFLO
HEADBOX

No registration rights are claimed for the words "Beloit" and "Headbox" shown on the drawing. Owner of Reg. No. 614,351 and others.
For Headboxes for Paper Making Machinery (Int. Cl. 7).
First use June 28, 1968.

SN 309,491. Super Mold Corporation, Lodi, Calif. Filed Oct. 11, 1968.

MIXMATIC

For Tire Retreading Apparatus—Namely, a Machine To Initially Form, by Extruding Rubber Stock, and to Thereafter Directly Apply a New Tread to a Worn Tire Preparatory to Retread Vulcanization Thereof (Int. Cl. 7).
First use Sept. 23, 1968.

SN 310,618. Stop-Motion Devices Corporation, Plainview, N.Y. Filed Oct. 28, 1968.

VISU-LITE

For Stop Motion Mechanisms for Knitting Machines, Sewing Machines and Looms, Hole-Detecting Mechanisms for Detecting Holes, Runs and Other Defects in Knitted and Woven Fabrics, Said Hole-Detecting Mechanisms Being Used on Knitting Machines and Looms, and Yarn-Detecting Mechanisms for Detecting Yarn Ends, Broken Yarn, Loose Yarn, Yarn Knots, Slubs and Press-Offs, Said Yarn-Detecting Mechanisms Being Used on Knitting Machines, Sewing Machines and Looms (Int. Cl. 7).
First use 1964.

SN 310,698. The Salvajor Company, Kansas City, Mo. Filed Oct. 28, 1968.

TROUGH-VEYOR

For Water Recirculating Waste Conveyors (Int. Cl. 7).
First use June 30, 1961.

SN 311,231. Bethlehem Corporation, Detroit, Mich. Filed Nov. 4, 1968.

DISC-O-FEED

For Bar Stock Feeding Machinery (Int. Cl. 7).
First use Oct. 22, 1968.

SN 312,893. Kvernelands Fabrikk A/S, Kvernaland, Norway. Filed Nov. 22, 1968.

HYDREIN

For Tractor Ploughs, Disc Harrows, Spring Tooth Harrows, Haysweeps, Buckrakes, Scrapers and Planers, Grubber (Chisel Ploughs), Seed Drills, and Sparts Part for the Above (Int. Cl. 7).
First use 1952 ; in commerce 1966.

SN 313,039. Utica Tool Company, Inc., Orangeburg, S.C. Filed Nov. 25, 1968.

STRIPWRIGHT

For Wire Stripping Tools (Int. Cl. 8).
First use Sept. 26, 1960.

SN 316,371. Eversharp, Inc., Milford, Conn. Filed Jan. 13, 1969.

THE FLOATER

Owner of Reg. No. 825,677.
For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).
First use Dec. 12, 1968.

SN 317,916. Montrose Oil and Belting Co. Inc., d.b.a. Montrose Supply & Equipment Co., Brooklyn, N.Y. Filed Jan. 30, 1969.

MAUSER

Owner of Reg. No. 861,507.
First use Dec. 18, 1961.

Class 26—Measuring and Scientific Appliances

SN 292,260. Cloroben Chemical Corporation, Kearny, N.J. Filed Mar. 1, 1968.

CLORO-DOSER

For Automatic Dispensing Unit for Injecting Chemicals Into Waste Disposal and Drain Systems To Clear and Prevent Clogging of Such Systems (Int. Cl. 9).
First use August 1967.

SN 303,113. J. Ulano & Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

HI-FI GREEN

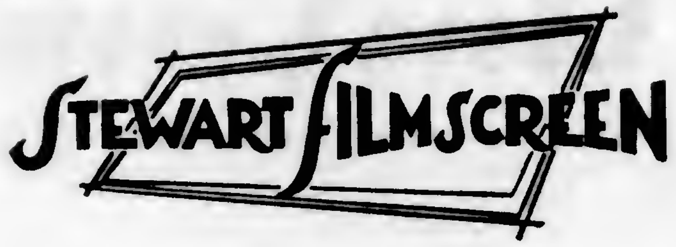
Applicant disclaims the term "Green" apart from the mark as shown.
For Presensitized Film (Int. Cl. 1).
First use in or about 1957.

SN 303,761. Athana Corporation, Hight Point, N.C. Filed July 29, 1968.

ATHANA

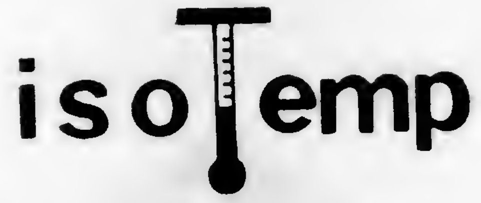
For Receptacles for Storage of Discs for Computer Systems (Int. Cl. 9).
First use May 7, 1968.

SN 304,262. Stewart Filmscreen Corp., Torrance, Calif. Filed Aug. 2, 1968.



For Projection Screens, Projection Screen Frames, and Cases and Containers for Containing Such Frames and Screens (Int. Cl. 9).
First use Aug. 1, 1963.

SN 306,310. Neotek Associates, Miami, Fla. Filed Aug. 30, 1968.



Applicant disclaims the representation of the thermometer apart from the mark as shown.
For Thermometers for Use in Aquariums (Int. Cl. 9).
First use June 4, 1968.

SN 307,341. John M. McGoldrick, d.b.a. J. M. McGoldrick Co., Hingham, Mass. Filed Sept. 13, 1968.

MAGIK STIMULATOR

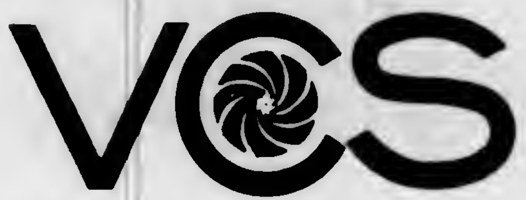
For Electric Teaching Aids (Int. Cl. 9).
First use at least as early as Aug. 16, 1968.

SN 312,664. William J. Eisler, Jr., d.b.a. Eisler Engineering Company, Hinsdale, Ill. Filed Nov. 20, 1968.

NEPHELOSTAT

For Instruments for Maintaining Specified Population of Micro-Organisms (Int. Cl. 9).
First use on or about Oct. 26, 1968.

SN 312,826. Visual Control Systems, Inc., Buffalo, N.Y. Filed Nov. 21, 1968.



For Closed Circuit TV Cameras and TV Camera Scanner Supports (Int. Cl. 9).
First use on or about Oct. 10, 1968.

SN 312,982. Chieftain-Uniworld Corp., Corona, N.Y. Filed Nov. 25, 1968.

P.C.L.

For Tire Gauges for Pneumatic Tires (Int. Cl. 9).
First use 1957.

SN 313,522. Robertshaw Controls Company, Richmond, Va. Filed Dec. 3, 1968.

VIBRASWITCH

For Vibration Detectors (Int. Cl. 9).
First use Aug. 23, 1954.

SN 314,017. Automation Devices, Inc., Fairview, Pa. Filed Dec. 10, 1968.

ADI

Owner of Reg. No. 858,219.
For Detector, Actuated Photoelectrically, for Sensing the Presence of Objects by Direct or Reflected Light Causing the Actuation of a Relay Preselected To Respond to the Absence or Presence of Such Object, and Parts Thereof ; Capacitance Variance Detector Unit and Relay Control Circuit Designed To Produce an Electrical Signal Responsive to the Position or Absence of a Part ; and an Air Flow Detector Unit, Comprising a Pneumatic Snap Action Control Switch Designed To Produce an Electric Signal When an Object Interrupts the Flow of Air Across an Opening (Int. Cl. 9).
First use July 19, 1961.

SN 315,065. Eugene Dietzgen Co., Chicago, Ill. Filed Dec. 23, 1968.

LANCER

For Copying Machines (Int. Cl. 16).
First use in or about 1955.

Class 27—Horological Instruments

SN 293,557. Montres Rolex S.A., Geneva, Switzerland. Filed Mar. 18, 1968.

MILGAUSS

Owner of Swiss Reg. No. 153,700, dated Nov. 26, 1954.
For Watches and Clocks, and Parts Thereof (Int. Cl. 14).
First use 1959 ; in commerce August 1959.

Class 28—Jewelry and Precious-Metal Ware

SN 313,842. Sunderland's Inc., Seattle, Wash. Filed Dec. 6, 1968.

BLACK VELVET

For Jewelry (Int. Cl. 14).
First use June 1968.

SN 314,600. Oneida Ltd., Oneida, N.Y. Filed Dec. 16, 1968. Owner of Reg. No. 717,842.

REPOSE

For Flatware Made of, or Coated With, Precious Metal (Int. Cl. 8).
First use Sept. 20, 1968.

SN 314,601. Oneida Ltd., Oneida, N.Y. Filed Dec. 16, 1968. Owner of Reg. No. 744,743.

STARDOM

For Flatware Made of, or Coated With, Precious Metal (Int. Cl. 8).
First use Dec. 21, 1967.

SN 314,892. Kinsman Ring Co., Inc., New York, N.Y. Filed Dec. 19, 1968.

KINSMAN

For Finger Rings (Int. Cl. 14).
First use Nov. 11, 1968.

Class 30—Crockery, Earthenware, and Porcelain

SN 293,693. Interpace Corporation, Parsippany, N.J., assignee of Castleton China, Inc., New Castle, Pa. Filed Mar. 20, 1968.

NOUVELLE

For China Dinnerware (Int. Cl. 21).
First use Jan. 15, 1967.

SN 293,695. Interpace Corporation, Parsippany, N.J., assignee of Castleton China, Inc., New Castle, Pa. Filed Mar. 20, 1968.

BAROQUE SCROLL

Owner of Reg. Nos. 756,041 and 827,862.
For China Dinnerware (Int. Cl. 21).
First use Jan. 15, 1967.

SN 314,402. American Home Products Corporation, New York, N.Y. Filed Dec. 13, 1968.

PRUDENCE

For China Dinnerware (Int. Cl. 21).
First use on or about Jan. 2, 1968.

Class 32 — Furniture and Upholstery

SN 288,279. Canterbury House, Inc., Peru, Ind. Filed Jan. 8, 1968.

FREDERICK

For Upholstered Furniture—Namely, Sofas, Chairs, Loveseats, Ottomans, Couches, and Sectional Pieces (Int. Cl. 20).
First use on or about Dec. 16, 1966.

SN 308,383. S. S. Kresge Company, Detroit, Mich. Filed Sept. 27, 1968.

Kmart

For Picture Frames (Int. Cl. 20).
First use in or before May 1968.

SN 312,645. A/S Raaco Storage Systems, Nykobing Falster, Denmark. Filed Nov. 20, 1968.

RAACO

For Storage and Utility Cabinets Made From Steel With Plastic Drawers (Int. Cl. 20).
First use in 1958; in commerce in May 1965.

SN 312,649. Aurora Corporation, Miami, Fla. Filed Nov. 20, 1968.

GAZELLE

For Typewriter Stands (Int. Cl. 16).
First use Nov. 8, 1968.

SN 313,193. Overman AB, Tranas, Sweden. Filed Nov. 27, 1968.

OVERMAN

For Upholstered Furniture—Namely, Upholstered Chairs and Sofas (Int. Cl. 20).
First use in or about January 1968; in commerce in or about January 1968.

SN 313,337. Seiz Corporation, d.b.a. Warehouse Storage Systems Co., Perkasie, Pa. Filed Nov. 29, 1968.

POWER-LOCK

For Merchandise Storage Racks for Warehousing (Int. Cl. 20).
First use Nov. 18, 1968.

SN 313,942. Kroehler Mfg. Co., Naperville, Ill. Filed Dec. 9, 1968.

CASA ROYALE

For Living Room, Dining Room, Bedroom and Occasional Living Room Wood Furniture (Int. Cl. 20).
First use on or about Oct. 1, 1968.

SN 314,486. American Steel Building Company, Inc., Houston, Tex. Filed Dec. 16, 1968.

AMER-RACK

For Industrial Storage Racks for Plants, Warehouses, and the Like (Int. Cl. 20).
First use at least as early as Mar. 28, 1968.

SN 315,725. Argo Products Corp., St. Louis, Mo. Filed Jan. 3, 1969.

TOBY RACK

The word "Rack" is disclaimed apart from the mark as shown.
For Neck-Tie Racks (Int. Cl. 20).
First use Sept. 20, 1968.

SN 317,256. George Oksman, d.b.a. Oxford House, Brooklyn, N.Y. Filed Jan. 22, 1969.

OXFORD HOUSE

For Bedroom, Dining Room, Living Room, and Occasional Furniture (Int. Cl. 20).
First use February 1937.

Class 33 — Glassware

SN 307,961. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Sept. 23, 1968.

FIRE-QUEEN

Owner of Reg. Nos. 388,452, 522,575, and 526,017.
For Glass Ovenware (Int. Cl. 21).
First use on or about July 29, 1968.

SN 319,107. American Saint Gobain Corporation, Kingsport, Tenn. Filed Feb. 14, 1969.

TRU-TEMP

For Flat and Sheet Glass (Int. Cl. 21).
First use Jan. 22, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 300,335. Crescent Metal Products, Inc., Cleveland, Ohio. Filed June 13, 1968.

CRES-COR

Owner of Reg. Nos. 606,950 and 619,930.
For Electrical Infrared Generators for Thawing Frozen Foods and for Heating and Warming Food (Int. Cl. 11).
First use Dec. 19, 1955.

SN 301,737. Foster Wheeler Corporation, Livingston, N.J. Filed July 1, 1968.

FOSTER FW WHEELER

For Steam Generators and Parts Thereof (Int. Cl. 11).
First use as early as 1927.

SN 308,172. C. Cretors & Co., Chicago, Ill. Filed Sept. 25, 1968.

FLO THRU

For Commercial Machines for Popping Corn (Int. Cl. 11).
First use on or about Aug. 12, 1968.

SN 312,043. Hydronic Industries, Inc., Pelham Manor, N.Y. Filed Nov. 13, 1968.

UNI-BASE

For Baseboard Heating and Ventilating Apparatus (Int. Cl. 11).
First use June 15, 1968.

SN 312,704. Societe Lyonnaise des Applications Catalytiques S.L.A.C., Caluire (Rhone), France. Filed Nov. 20, 1968.

THERM'X

For Catalytic Portable Space Heaters (Int. Cl. 11).
First use Jan. 4, 1924; in commerce May 1957.

Class 36 — Musical Instruments and Supplies

SN 267,203. Thomas Organ Company, Sepulveda, Calif. Filed Mar. 20, 1967.

MRB

For Tone Control Component for Electronic Musical Instruments and Amplifiers Therefor—Namely, Organs, Stringed Instruments, and Wind Instruments (Int. Cl. 15).
First use July 15, 1966.

SN 304,628. The Spoken Word, Inc., New York, N.Y. Filed Aug. 7, 1968.

The Spoken WORD

Applicant disclaims "The Spoken Word" apart from the mark as shown.
For Phonograph Record Albums (Int. Cl. 9).
First use Apr. 2, 1968.

SN 319,719. Musical Instrument Corporation of America, Syosset, N.Y. Filed Feb. 20, 1969.

MICA-MATIC

Owner of Reg. No. 863,536.
For Mouthpieces for Woodwind and Brass Instruments (Int. Cl. 15).
First use Oct. 1, 1958.

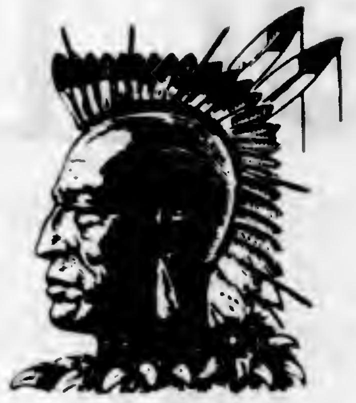
SN 319,720. Musical Instrument Corporation of America, Syosset, N.Y. Filed Feb. 20, 1969.

MICA-SONIC

Owner of Reg. No. 863,536.
For Drums and Percussion Instruments (Int. Cl. 15).
First use May 1, 1968.

Class 37 — Paper and Stationery

SN 303,330. Mohawk Paper Mills, Inc., Cohoes, N.Y. Filed July 22, 1968.



The Indian shown in the drawing is fictitious.
For Paper and Paper Board, Both Coated and Uncoated—Namely, All Kinds of Writing Papers and Paper Specialties Including Papers Made With Special Characteristics and Properties To Adapt Them to Special Uses Such as Drawing and Printing Paper, Ledger Paper, Construction Paper, Poster Paper, Tag Stock, Bond Paper, Wedding Paper, Typewriter Paper, Book Paper, Manuscript Cover Paper, Text Paper, Cover Paper, Box Cover Paper, Detail Paper, Duplicator and Mimeograph and Copy Paper, Bristol Paper, Papeterie Paper, Special Finish Paper, Vellum Paper, Opaque Vellum Paper, Opaque Smooth Paper, Envelope Paper, and Announcement Paper (Int. Cl. 16).
First use July 1, 1946.

SN 305,600. Avery Products Corporation, d.b.a. Astro Products, San Marino, Calif. Filed Aug. 21, 1968.

ASTRO

For Plastic Label Tapes (Int. Cl. 16).
First use July 1965.

SN 310,804. Riveto Manufacturing Company, Orange, Mass. Filed Oct. 29, 1968.

MARKSMAN

For Marking Pens (Int. Cl. 16).
First use April 1964.

SN 312,205. Kimberly-Clark Corporation, Neenah, Wis. Filed Nov. 14, 1968.

MENDOTA

For Printing and Writing Paper (Int. Cl. 16).
First use Apr. 2, 1964.

SN 312,454. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed Nov. 18, 1968.

COUNTESS COLLECTION

For Gift Wrapping Paper (Int. Cl. 16).
First use December 1966.

SN 312,602. The Price Company Limited, Quebec, Quebec, Canada. Filed Nov. 19, 1968.

LITHONEWS

For Newsprint Type Paper Made and/or Selected To Give Minimum Linting When Printed, for the Production of Newspapers, Books and Other Printed Matter by the Offset Process (Int. Cl. 16).

First use 1963; in commerce at least as early as 1963.

SN 312,730. Addressograph-Multigraph Corporation, Cleveland, Ohio. Filed Nov. 21, 1968.

AM CD

For Printing and Duplicating Paper (Int. Cl. 16).

First use June 17, 1968.

SN 313,308. Kimberly-Clark Corporation, Neenah, Wis. Filed Nov. 29, 1968.

CASCAY

For Printing Paper (Int. Cl. 16).

First use Sept. 11, 1953.

SN 317,182. GAF Corporation, New York, N.Y. Filed Jan. 22, 1969.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.

For Paper Business Forms and Envelopes, Business Form Covers, Desk Pads, and Sales Books (Int. Cl. 16).

First use Oct. 10, 1968.

SN 317,184. GAF Corporation, New York, N.Y. Filed Jan. 22, 1969.

gaf

Owner of Reg. Nos. 509,124, 837,005, and others.

For Paper Business Forms and Envelopes, Business Form Covers, Desk Pads, and Sales Books (Int. Cl. 16).

First use Oct. 10, 1968.

SN 317,797. GAF Corporation, New York, N.Y. Filed Jan. 29, 1969.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.

For Reproducing Materials, Especially Tracing Vellum, Tracing Cloth and Matte Surfaced and Translucent Sheet Material for Tracing; Transparent Sheet Material Used for Preparing Translucent Originals for Transparencies, Translucent Typing, Writing, Printing, Bond Paper; Mounts for Photographic Pictures, Slides, and Transparencies; and Photographic Albums (Int. Cl. 16).

First use January 1965.

Class 38 — Prints and Publications

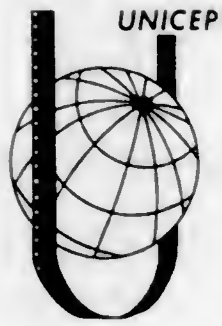
SN 281,577. Horizon House-Microwave, Inc., Dedham, Mass. Filed Oct. 2, 1967.

TELECOMMUNICATIONS

For Magazine Published Periodically (Int. Cl. 16).

First use June 12, 1967.

SN 284,123. Cameron John Yerian, d.b.a. Unicept Film Libraries, Ann Arbor, Mich. Filed Nov. 3, 1967.



For Series of Films Organized by Subject Matter, and Indexes, Lesson Plans, and Teachers' Guides for Use Therewith (Int. Cl. 9).

First use Aug. 1, 1967.

SN 288,453. Societe Anonyme Delphire, Paris, France. Filed Jan. 9, 1968.

MULTIBOM

Priority claimed under Sec. 44(d) on French Reg. No. 727,540, dated July 12, 1967.

For Books (Int. Cl. 16).

SN 290,008. PHP Institute, Inc., Kyoto-shi, Japan. Filed Jan. 31, 1968.

PHP

For Monthly Magazine for the Study of Human Endeavor (Int. Cl. 16).

First use April 1947; in commerce April 1966.

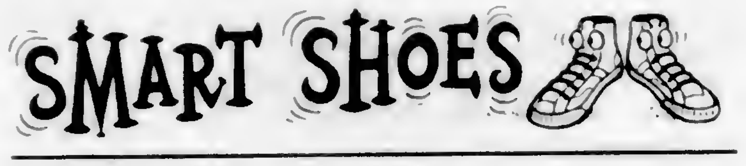
SN 303,512. Dispensers, Inc., d.b.a. Dripcut Starline Corporation, Goleta, Calif. Filed July 24, 1968.

TOP PEDDLER

For Column Appearing Bi-Weekly or Monthly in Restaurant Trade Publications (Int. Cl. 16).

First use Jan. 2, 1967.

SN 307,759. Southern Railway Company, Richmond, Va. Filed Sept. 19, 1968.



For Safety Posters (Int. Cl. 16).

First use Aug. 8, 1968.

SN 311,489. Hunting World, Incorporated, New York, N.Y. Filed Nov. 6, 1968.

HUNTING WORLD

For Catalog in Booklet Form (Int. Cl. 16).

First use Oct. 15, 1965.

SN 315,637. Pride Publications, Philadelphia, Pa. Filed Dec. 26, 1968.

PRIDE

For News Magazine (Int. Cl. 16).

First use Sept. 26, 1967.

SN 315,894. George Dubow, d.b.a. Fillers for Publications, Los Angeles, Calif. Filed Jan. 6, 1969.

FILLERS FOR PUBLICATIONS

For Periodic Newsletter Directed Primarily to Editors of Periodicals (Int. Cl. 16).

First use at least as early as 1959.

SN 316,023. Norcross, Inc., New York, N.Y. Filed Jan. 7, 1969.

TULIP TIME

For Greeting Cards (Int. Cl. 16).

First use Aug. 21, 1947.

SN 316,025. Norcross, Inc., New York, N.Y. Filed Jan. 7, 1969.

CURLY TOP

For Greeting Cards (Int. Cl. 16).

First use Nov. 29, 1938.

SN 318,135. Plastichrome Greetings, Inc., d.b.a. Marbury Art, Jamaica Plain, Mass. Filed Feb. 3, 1969.

MARBURY ART

For Greeting Cards (Int. Cl. 16).

First use at least as early as Aug. 16, 1968.

Class 39 — Clothing

SN 290,629. Manuel Atan, Lanus, Argentina. Filed Feb. 8, 1968.

DIGNOS

Owner of Argentine Reg. No. 556,754, dated July 23, 1965.

For Brassieres, Panties, Suspenders, Slips, Stockings, Petticoats, Corsets, Girdles, and Bath Dresses (Int. Cl. 25).

SN 291,419. Phillips-Van Heusen Corporation, New York, N.Y. Filed Feb. 19, 1968.

VANTRON

Owner of Reg. No. 545,995.

For Men's and Boys' Shirts, Cuffs, Collars, Pajamas, Sports Shirts, Underwear, Knit Shirts, Slacks, and Sweaters (Int. Cl. 25).

First use Jan. 15, 1968.

SN 299,909. E.K. Helmet Mfg. Co., Westminster, Calif. Filed June 6, 1968.

E K PREMIER

For Rigid Protective Helmets for Persons Driving or Riding in Motorcycles, Automobiles, Boats, and Other Vehicles (Int. Cl. 9).

First use in or about September 1967.

SN 303,812. J. E. Morgan Knitting Mills, Inc., Tamaqua, Pa. Filed July 29, 1968.

TOMMY TUCKER

The name "Tommy Tucker" is the name of a well-known nursery rhyme character.

For Boys' Underwear, Pajamas, Sport Shirts, Sweaters, Sweatshirts, and Slacks (Int. Cl. 25).

First use Feb. 10, 1920.

SN 305,895. Mattel, Inc., Hawthorne, Calif. Filed Aug. 26, 1968.

MAJOR MATT MASON

The mark is fanciful and fictitious and is not known to refer to any particular individual.

For Costumes (Int. Cl. 25).

First use Jan. 26, 1968.

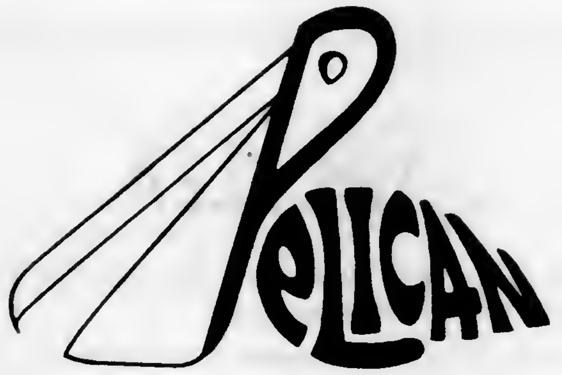
SN 306,507. Pelican Harbor, Inc., Hialeah, Fla. Filed Sept. 3, 1968.

PELICAN Harbor

For Shifts, Jump Suits, Pantsuits, Pantdresses, Shirts and Tops; Boys' and Girls' Pants, Tights, Boys' and Girls' Shirts, Boys' and Girls' Jackets, Boys' and Girls' Swim Suits, Boys' Trunks, Boys' and Girls' Beach Coats, Dresses, Hats, and Boys' and Girls' Sandals (Int. Cl. 25).

First use Feb. 9, 1968.

SN 306,508. Pelican Harbor, Inc., Hialeah, Fla. Filed Sept. 3, 1968.



For Shifts, Jump Suits, Pantsuits, Pantdresses, Shirts and Tops; Boys' and Girls' Pants, Tights, Boys' and Girls' Shirts, Boys' and Girls' Jackets, Boys' and Girls' Swim Suits, Boys' Trunks, Boys' and Girls' Beach Coats, Dresses, Hats, and Boys' and Girls' Sandals (Int. Cl. 25).

First use Feb. 9, 1968.

SN 308,100. Draper Products, Inc., Appleton, Wis. Filed Sept. 24, 1968.

down-pat

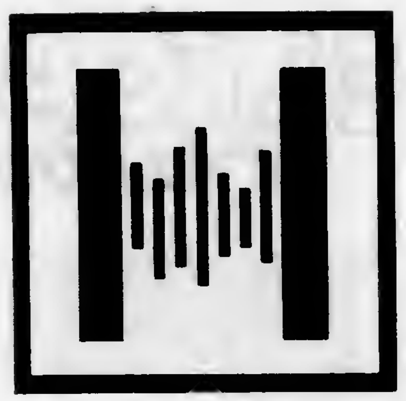
For Disposable Diapers (Int. Cl. 25).
First use Feb. 6, 1968.

SN 310,064. Character Suburbanwear, Inc., New York, N.Y. Filed Oct. 21, 1968.

Swingles

For Children's, Girls' and Ladies' Coats, Car Coats, Jackets, Raincoats, Dresses, Blouses, Slacks, Pants, Skirts, and Sweaters (Int. Cl. 25).
First use Sept. 16, 1968.

SN 310,893. Hammond Corporation, Deerfield, Ill. Filed Oct. 30, 1968.



Owner of Reg. No. 857,499.
For Gloves (Int. Cl. 25).
First use Jan. 19, 1968.

SN 312,231. Shoe Corporation of America, Columbus, Ohio. Filed Nov. 14, 1968.

THE FLEA

For Shoes for Men, Women, and Children (Int. Cl. 25).
First use Oct. 8, 1968.

SN 312,655. Benham Corporation, New York, N.Y. Filed Nov. 20, 1968.

BENHAM BANTAMS

For Men's, Boys' and Ladies' Underwear Made of Woven and Knit Fabrics (Int. Cl. 25).
First use Oct. 23, 1968.

SN 312,821. Sullcraft Manufacturing Company, Inc., New York, N.Y. Filed Nov. 21, 1968.

GOLDEN BOY

For Infants' and Children's Pajamas, Robes, Sleeping Gowns; and Sportswear—Namely, Trousers With Coordinated Tops and Shirts (Int. Cl. 25).
First use Apr. 5, 1968.

SN 313,934. House of Worsted-Tex, Inc., Philadelphia, Pa. Filed Dec. 9, 1968.

WORSTED-TEX VIBRA

Owner of Reg. Nos. 218,057, 856,613, and others.
For Men's and Young Men's Suits (Int. Cl. 25).
First use on or about Sept. 1, 1967.

SN 313,992. Levi Strauss & Co., San Francisco, Calif. Filed Dec. 9, 1968.

LITTLE LEVI'S

Owner of Reg Nos. 250,265, 796,016, and others.
For Garments, Particularly Trousers (Int. Cl. 25).
First use Sept. 1, 1963; Apr. 14, 1927, as to "Levi's."

SN 315,245. Miss Pennsylvania, Inc., Pottsville, Pa. Filed Dec. 26, 1968.

THE ELEGANT LADY

For Ladies' Dresses and Skirts (Int. Cl. 25).
First use Dec. 9, 1968.

SN 315,609. Topaz Hosiery Mills, Inc., New York, N.Y. Filed Jan. 2, 1969.

NEW 'n EASY

For Two-Way Stretch Top Hosiery (Int. Cl. 25).
First use Nov. 24, 1968.

SN 316,116. The Stuart McGuire Company, Inc., Salem, Va. Filed Jan. 8, 1969.

DINOSAURS

For Children's Shoes (Int. Cl. 25).
First use Jan. 15, 1964.

SN 316,477. Sheffield Industries, Inc., Miami, Fla. Filed Jan. 13, 1969.

STRONGAIRE

For Ladies' Hosiery, Panty Hose, and Leisure Slippers (Int. Cl. 25).
First use Aug. 8, 1968.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 309,007. Jerome Alexander, Inc., New York, N.Y. Filed Oct. 7, 1968.

COMFORT

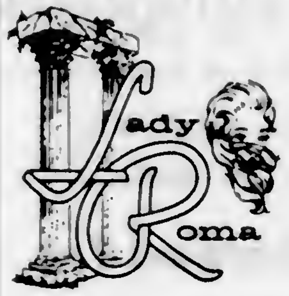
For Wigs (Int. Cl. 26).
First use Sept. 25, 1968.

SN 309,382. Helene Curtis Industries, Inc., Chicago, Ill. Filed Oct. 10, 1968.

NATURLON

For Wigs (Int. Cl. 26).
First use on or about Sept. 29, 1968.

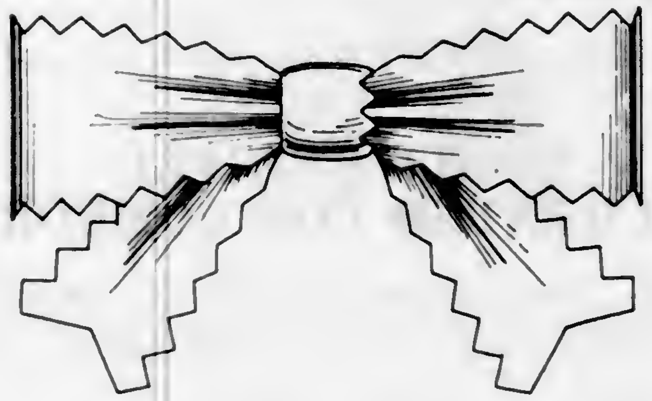
SN 309,593. Lloyds Import & Export Co., d.b.a. Lloyds International Co., Santa Monica, Calif. Filed Oct. 14, 1968.



For Ladies' Fashion Wigs and Other Hair Pieces Made of Human Hair (Int. Cl. 26).
First use Feb. 15, 1968.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 281,095. Novel Ideas, Inc., Oklahoma City, Okla. Filed Sept. 25, 1967.



For Fabric Covers for Miscellaneous Items Used in Bathrooms, Including Containers for Waste Baskets, Clothes Hampers, Toilet Tissue Rolls, Facial Tissue Boxes, Toilet Brush Boxes, and Talcum Powder Cans (Int. Cl. 24).
First use Dec. 28, 1963.

SN 298,314. J. C. Best, Inc., Braintree, Mass. Filed May 16, 1968.

J. C. BEST

For Carpets and Rugs (Int. Cl. 27).
First use August 1963.

SN 298,315. J. C. Best, Inc., Braintree, Mass. Filed May 16, 1968.

J.C.Best CARPET CENTERS

For Carpets and Rugs (Int. Cl. 27).
First use October 1967.

SN 300,915. Dyersburg Cotton Products, Inc., Dyersburg, Tenn. Filed June 20, 1968.

Shearlite

For Knitted Pile Fabric (Int. Cl. 24).
First use in or about February 1966.

SN 301,766. Reliable Textile Company, Inc., New York, N.Y. Filed July 1, 1968.

ICEBOUND

For Textile Piece Goods for All Apparel for Children's Wear, Women's Wear and Men's Wear Trades (Int. Cl. 24).
First use July 15, 1949.

SN 302,386. Bingham F. Burner, d.b.a. B. F. Burner & Co., Arlington, Va. Filed July 10, 1968.

SILVA-SLIP
"CREATED FOR COMFORT"

The wording "Created for Comfort" is disclaimed apart from the mark shown.
For Pillow Cases (Int. Cl. 24).
First use Mar. 12, 1968.

SN 302,387. Bingham F. Burner, d.b.a. B. F. Burner & Co., Arlington, Va. Filed July 10, 1968.

SILVA-SLEEPER
"CREATED FOR COMFORT"

The wording "Created for Comfort" is disclaimed apart from the mark shown.
For Bed Pads for Use Beneath a Bed Sheet, and Bed Sheets (Int. Cl. 24).
First use Mar. 12, 1968.

SN 307,821. Anglo Fabrics Company, Inc., New York, N.Y. Filed Sept. 20, 1968.

ANGLOBURN

Owner of Reg. Nos. 636,015 and 689,163.
For Piece Goods of Natural Fibers and Mixtures Thereof, Which Piece Goods Are Usable for Men's Coats, Suits, Trousers, and Jackets (Int. Cl. 24).
First use February 1966.

SN 307,829. Dick & Goldschmidt, Inc., New York, N.Y. Filed Sept. 20, 1968.

DIGOLOOM

For Piece Goods Made of Wool, Cotton, Silk, Rayon, and Other Synthetic Material (Int. Cl. 24).
First use July 19, 1963.

SN 309,018. Berkshire-Hathaway, Inc., New Bedford, Mass. Filed Oct. 7, 1968.

SUNLINER

For Textile Fabrics Made of Synthetic Fibers Used for Linings, Including Drapery Linings (Int. Cl. 24).
First use Sept. 12, 1968.

SN 309,092. Henry Pollak Inc., New York, N.Y. Filed Oct. 7, 1968.

FOXIMILIE

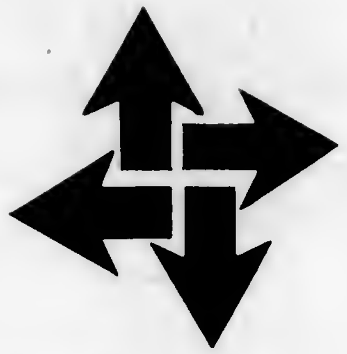
For Pile Fabric Piece Goods (Int. Cl. 24).
First use Aug. 28, 1968.

SN 309,308. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 9, 1968.

BEAUTI-DAMASK

Owner of Reg. Nos. 287,585, 790,780, and others.
For Table Napery of Cotton or Synthetic Fibers or Cellulosic Fibers or Blends of the Foregoing (Int. Cl. 24).
First use Sept. 23, 1968.

SN 309,998. Sponge-Cushion, Inc., Morris, Ill. Filed Oct. 18, 1968.



For Carpets (Int. Cl. 27).
First use Nov. 1, 1967.

SN 310,020. Cone Mills Corporation, Greensboro, N.C., assignee of Cone Mills Inc., New York, N.Y. Filed Oct. 21, 1968.

Go Free

For Knitted Fabrics for Making Into Slacks, Shirts, Suits, Jackets, and the Like (Int. Cl. 24).
First use Oct. 1, 1968.

SN 310,065. William Cherkezian & Son, New York, N.Y. Filed Oct. 21, 1968.

ROYAL SHAROG

The word "Sharog" is disclaimed apart from the mark as shown.
For Oriental Rugs (Int. Cl. 27).
First use on or about July 1, 1966.

SN 310,638. Cannon Mills Company, Kannapolis, N.C. Filed Oct. 28, 1968.

ROYAL HOUSEHOLD

Owner of Reg. Nos. 540,383 and 854,718.
For Table Cloths, Napkins, Sheets, Pillow Cases, Towels, Bedspreads, and Blankets (Int. Cl. 24).
First use as early as Jan. 1, 1906.

SN 311,027. Fieldcrest Mills, Inc., Eden, N.C. Filed Oct. 31, 1968.

MERITEAU

For Textile Rugs and Carpeting (Int. Cl. 27).
First use Aug. 15, 1968.

SN 316,563. Heidenberg Textile Fabrics Co., Inc., New York, N.Y. Filed Jan. 15, 1969.

SUPERLON

For Window Curtains, Draperies, and Furniture Throws (Int. Cl. 24).
First use at least as early as 1959.

Class 43 – Thread and Yarn

SN 271,681. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed May 17, 1967.

PEWLON

Priority claimed under Sec. 44(d) on Japanese application filed Mar. 27, 1967; Reg. No. 800,597, dated Dec. 12, 1968.
For Thread and Yarn (Int. Cl. 23).

Class 44 – Dental, Medical, and Surgical Appliances

SN 302,388. Bingham F. Burner, d.b.a. B. F. Burner & Co., Arlington, Va. Filed July 10, 1968.

SILVA-SHIELD "CREATED FOR COMFORT"

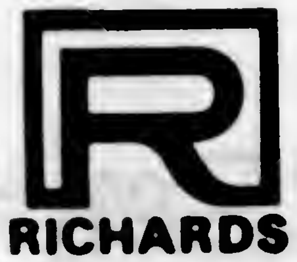
The wording "Created for Comfort" is disclaimed apart from the mark shown.
For Shields for Use Over Areas of Discomfort of the Human Body (Int. Cl. 10).
First use Mar. 12, 1968.

SN 313,280. Graham B. Ely, d.b.a. Barns-Ely Company, Chicago, Ill. Filed Nov. 29, 1968.

DECUBEX

For Bed Pads (Int. Cl. 5).
First use Apr. 12, 1968.

SN 318,100. Richards Manufacturing Company, Memphis, Tenn. Filed Jan. 31, 1969.



For Orthopedic Instruments and Implants, Otological Instruments and Implants, Splint and Fracture Supplies, and Cardio-Vascular Surgical Products (Int. Cl. 10).
First use Dec. 20, 1968.

SN 318,989. The Songrand Corporation, Kansas City, Mo. Filed Feb. 12, 1969.

DELIGHTFUL

For Electrical Hair Curling Kit, Consisting of Self-Heating Curler Rollers, Clips, and a Case Therefor With Lighted Mirror (Int. Cl. 11).
First use on or about Jan. 11, 1969.

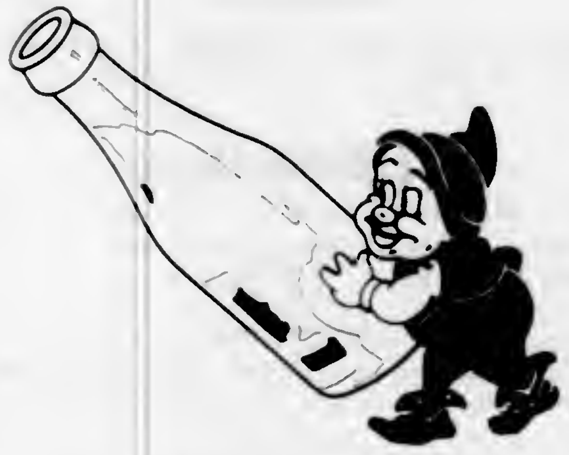
Class 45 – Soft Drinks and Carbonated Waters

SN 294,381. Drake Food Products, Inc., Cincinnati, Ohio. Filed Mar. 28, 1968.

GAY 90

For Non-Alcoholic Additives for Mixed Drinks—Namely, Citrus Flavorings, and Foaming Agents (Int. Cl. 32).
First use at least as early as July 1, 1961.

SN 298,921. The Brownie Company, Richmond, Va. Filed May 23, 1968.



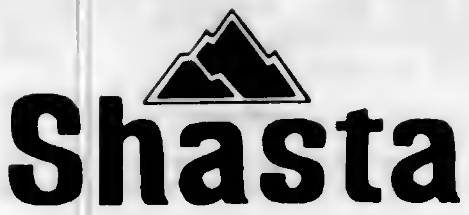
Applicant disclaims the representation of a soft drink bottle separate and apart from the mark as shown. Owner of Reg. No. 421,133.
For Soft Drinks (Int. Cl. 32).
First use Mar. 28, 1945.

SN 312,150. The Coca-Cola Company, Atlanta, Ga. Filed Nov. 14, 1968.

SANTIBA

For Club Soda (Int. Cl. 32).
First use Oct. 14, 1968.

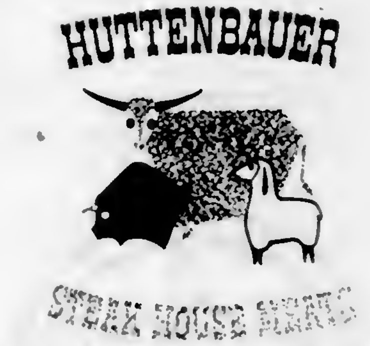
SN 314,135. Consolidated Foods Corporation, d.b.a. Shasta Beverages, Chicago, Ill. Filed Dec. 11, 1968.



Owner of Reg. Nos. 210,723, 584,883, and others.
For Carbonated Soft Drinks and Non-Alcoholic Mixers and Non-Carbonated Fruit Juice Drinks Containing Water (Int. Cl. 32).
First use Feb. 1, 1968; 1899 as to "Shasta."

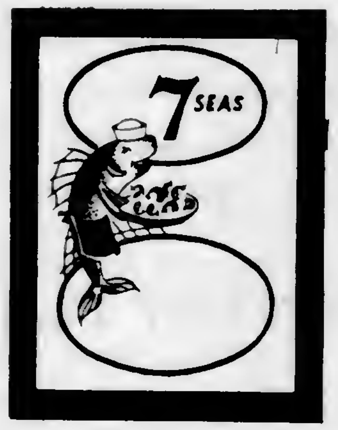
Class 46 – Foods and Ingredients of Foods

SN 235,982. E. Huttenbauer & Sons, Inc., Cincinnati, Ohio. Filed Jan. 7, 1966.



The wording "Steak House Meats" is disclaimed. The drawing is lined for gold.
For Fresh Meats (Int. Cl. 29).
First use December 1965.

SN 249,684. Seven Seas Fisheries Corp., New York, N.Y. Filed July 6, 1966.



Applicant disclaims the representation of the shrimp.
For Frozen Shellfish (Int. Cl. 29).
First use Jan. 3, 1966.

SN 273,933. Bud H. Adams, Wichita, Kans. Filed June 15, 1967.

BUDDY ROOSTER

The name "Buddy Rooster" does not represent any particular living individual.
For Dry Flour Mix (Int. Cl. 30).
First use Nov. 12, 1965.

SN 282,040. Gerald G. Balch, d.b.a. Balch Flavor Products, International, Pittsburgh, Pa. Filed Oct. 9, 1967.

SPREAD-AWAY

For Butter Substitue Containing Milk Solids and Butter (Int. Cl. 29).
First use Sept. 18, 1967.

SN 284,996. Shibli S. Damus, d.b.a. United Citrus Growers, Redlands, Calif. Filed Nov. 16, 1967.

JUNE

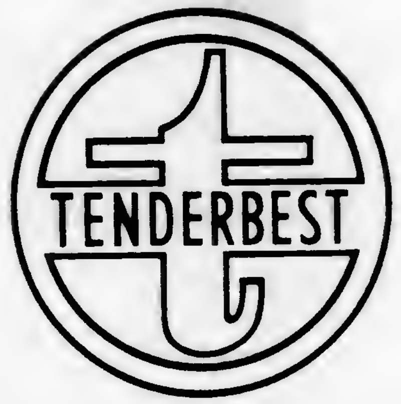
For Fresh Citrus Fruits (Int. Cl. 31).
First use Oct. 16, 1967.

SN 286,707. Austin E. Myers, Denver, Colo. Filed Dec. 11, 1967.

BOX CAR

For Prepared Foods—Namely, Shrimp, Chicken, Fish, and Hamburgers (Int. Cl. 29).
First use November 1959.

SN 287,769. Tenderbest Corporation, Cleveland, Ohio. Filed Dec. 28, 1967.



Owner of Reg. Nos. 787,344, 787,345, and 791,969.
For Fresh, Frozen and Smoked Meats, Fresh and Frozen Dressed Poultry, Fresh, Frozen and Canned Fish, and Canned Meats (Int. Cl. 29).
First use Oct. 25, 1962.

SN 288,112. National Starch and Chemical Corporation, New York, N.Y. Filed Jan. 4, 1968.

INSTANT PLUS

For Pregelatinized Dry Blend of a Modified Starch and a Sugar for Use as a Major Component or Thickening Agent in Instant Pudding Mixes, Instant Sauce and Gravy Mixes, Soups, Icings, and Pie Fillings (Int. Cl. 30).
First use Oct. 10, 1967.

SN 291,067. The Grand Union Company, East Paterson, N.J. Filed Feb. 14, 1968.

FRESHBAKE

Owner of Reg. Nos. 547,372, 625,577, and 635,293.
For Bread (Int. Cl. 30).
First use at least as early as July 31, 1931.

SN 292,445. Koninklijke Fabrieken C. J. Van Houten & Zoon N.V., Weesp, Netherlands. Filed Feb. 16, 1968.

DISCUS

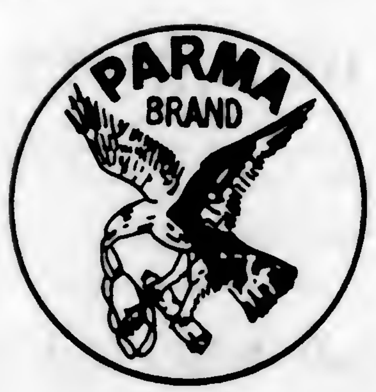
Owner of Dutch Reg. No. 152,913, dated Feb. 24, 1965.
For Candy (Int. Cl. 30).

SN 294,203. Henry H. Ottens Mfg. Co., Inc., Philadelphia, Pa. Filed Mar. 26, 1968.

MADERIA

For Food Flavoring Concentrate (Int. Cl. 30).
First use Apr. 20, 1940.

SN 294,653. Parma Sausage Products, Inc., Pittsburgh, Pa. Filed Apr. 1, 1968.



The word "Brand" is disclaimed apart from the mark as shown.
For Meat Products—Namely, Sausage, Salami, Capicollo, Prosciutto, and Lunch Meats (Int. Cl. 29).
First use Oct. 1, 1955.

SN 295,448. Matlow Bros., Inc., Hoboken, N.J. Filed Apr. 11, 1968.

SUNSQUASH

For Candy (Int. Cl. 30).
First use on or about Feb. 15, 1968.

SN 295,727. Fisher Cheese Company, Wapakoneta, Ohio. Filed Apr. 16, 1968.

CHEEZ-OLA

For Cheese and Process Cheese (Int. Cl. 29).
First use July 1, 1967.

SN 296,809. Chicken Delight, Inc., Des Plaines, Ill. Filed Apr. 29, 1968.

CHERRY COBBLER DELIGHT

No claim is made to the words "Cherry Cobbler" apart from the mark as shown. Owner of Reg. Nos. 568,388, 831,915, and others.
For Ready-To-Eat Food Products—Namely, a Cherry or Cherry-Flavored Dessert of a Pastry Character (Int. Cl. 30).
First use July 1, 1967.

SN 297,630. Micro Tracers, Inc., San Francisco, Calif. Filed May 8, 1968.

MICROTRACER

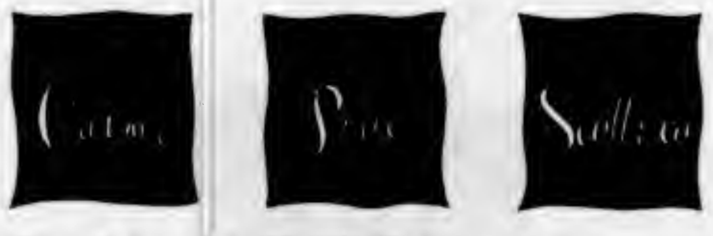
For Tracer Compounds (Combinations of Graphite or Salt and Certified Food Color) for Use in the Quality Control of Mixed Animal Feeds (Int. Cl. 31).
First use Oct. 20, 1965.

SN 298,320. Harry and David, Medford, Oregon, assignee of Dial-A-Gift Inc., Newport Beach, Calif. Filed May 16, 1968.

TELEFRUIT

For Fresh Fruit, Cakes, and Candy (Int. Cls. 30 and 31).
First use at least as early as February 1968.

SN 299,648. Carson Pirie Scott & Co., Chicago, Ill. Filed June 4, 1968.



Owner of Reg. Nos. 797,906, 831,911, and others.
For Candies; Fruit Cake; Bakery Goods—Namely, Pies and Cakes; Tea; Assorted Shelled Nuts; and Rum Sauce for Desserts (Int. Cls. 29 and 30).
First use on or about Aug. 18, 1946.

SN 299,992. Meyer's Bakeries, Little Rock, Ark. Filed June 7, 1968.

BISCTREATS

For Bread Rolls and Biscuits (Int. Cl. 30).
First use Apr. 17, 1968.

SN 300,638. Compania de Conservas Casera, Inc., Manati, Puerto Rico. Filed June 13, 1968.

CASERA

The English translation of the Spanish word "Casera" is "homelike."
For Soups, Tomato Sauce, and Canned Nectars and Fruit Juices (Int. Cls. 29, 30, and 32).
First use Jan. 15, 1966.

SN 303,153. Food Technology, Inc., Chicago, Ill. Filed July 19, 1968.

FTI

For Food Ingredient Comprising Hydoxylated Lecithin for Use as an Emulsifier (Int. Cl. 1).
First use on or about Aug. 24, 1954.

SN 303,475. General Mills, Inc., Minneapolis, Minn. Filed July 24, 1968.

TWELVE-BITE-BREAKFAST

The word "Breakfast" is disclaimed apart from the mark as shown.
For Animal and Vegetable, Protein Based, Ready-To-Eat Breakfast Product (Int. Cl. 30).
First use on or prior to Aug. 9, 1967.

SN 305,835. Levin Bros. Poultry Co., Inc., Wellston, Mo. Filed Aug. 23, 1968.

For Dressed Poultry (Int. Cl. 29).
First use Aug. 7, 1967.

SN 306,512. Reese Finer Foods, Inc., Chicago, Ill. Filed Sept. 3, 1968.

CHEESONING

For Dry Cheese Flavored Food Seasoning (Int. Cl. 30).
First use June 19, 1968.

SN 307,594. South Florida Growers Association, Inc., Goulds, Fla. Filed Sept. 17, 1968.

KAMPONG

For Fresh Tropical and Citrus Fruits Including Limes, Lemons, Avocados, Mangos, and Guavas; Natural Strength and Concentrated Frozen and Unfrozen Citrus and Tropical Fruit Juices; and Citrus Oils, Citric Acid, and Pectin, All Used as Ingredients of Foods (Int. Cls. 29, 31, and 32).
First use on or about July 28, 1967.

SN 308,040. The Smithfield Packing Company, Incorporated, Smithfield, Va. Filed Sept. 23, 1968.

JAMESTOWN

For Cured and Smoked Ham, Slab and Sliced Bacon, Fresh and Smoked Sausage, Bologna and Frankfurters (Int. Cl. 29).
First use 1951.

SN 308,505. The Nestle Company, Inc., White Plains, N.Y. Filed Sept. 30, 1968.

NESTEA

Owner of Reg. Nos. 11,710, 762,828, and others.
For Prepared Tea (Int. Cl. 30).
First use Aug. 27, 1968.

SN 308,659. Mead Johnson & Company, Evansville, Ind. Filed Oct. 2, 1968.

FLITE

Owner of Reg. Nos. 753,784 and 844,708.
For Dietary Product for Use in Weight Control (Int. Cl. 5).
First use on or prior to Sept. 18, 1968.

SN 309,034. General Foods Corporation, White Plains, N.Y. Filed Oct. 7, 1968.

TOASTERRIFICS

For Frozen Food Product, Doughlike in Nature, With or Without a Fruit Filling, To Be Prepared in a Toaster (Int. Cl. 30).
First use Sept. 9, 1968.

SN 309,264. Kraft Foods Limited, Victoria, Australia. Filed Oct. 9, 1968.

BONOX

Owner of Australian Reg. No. A22,735, dated Feb. 26, 1918.
For Meat Extracts (Int. Cl. 29).

SN 309,780. National Dairy Products Corporation, Chicago, Ill. Filed Oct. 16, 1968.

TEND-R-KAY

Owner of Reg. No. 854,776.
For Doughnut Mixes (Int. Cl. 30).
First use June 24, 1968.

SN 309,781. National Dairy Products Corporation, Chicago, Ill. Filed Oct. 16, 1968.

THRIF-T-KAY

Owner of Reg. No. 854,776.
For Doughnut Mixes (Int. Cl. 30).
First use July 18, 1968.

SN 310,000. Steffen Dairy Foods Company, Inc., d.b.a. Peter Pan Ice Cream Stores, Wichita, Kans. Filed Oct. 18, 1968.

PeterPan

For Dairy Products, i.e., Ice Cream, Fresh Milk, Buttermilk, and Cottage Cheese (Int. Cls. 29 and 30).
First use May 1, 1953.

SN 310,293. American Beauty Macaroni Company, Kansas City, Kans. Filed Oct. 23, 1968.

SpOghetti DINNER

Applicant disclaims the exclusive right to "Spoghetti Dinner," insofar as said words may be interpreted to be "Spaghetti Dinner," apart from the mark as shown, reserving unto itself, however, any common law rights that it may possess. Owner of Reg. Nos. 88,250 and 575,642.
For Packaged Spaghetti Dinners (Int. Cl. 30).
First use Sept. 25, 1967.

SN 310,303. H. C. Brill Company, Inc., Cedar Grove, N.J. Filed Oct. 23, 1968.

POLAR FROST

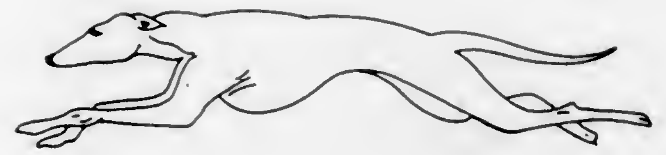
Owner of Reg. No. 613,992.
For Base for Making Icings and Fillings for Bakery Products (Int. Cl. 30).
First use Sept. 15, 1952.

SN 310,791. Lawrence Foods, Inc., Elk Grove Village, Ill. Filed Oct. 29, 1968.

DIVINITY

For Base for Making Icing for Cakes (Int. Cl. 30).
First use 1933.

SN 311,138. The Greyhound Corporation, Chicago, Ill. Filed Nov. 1, 1968.



Owner of Reg. Nos. 541,197, 839,755, and others.
For Candy (Int. Cl. 30).
First use in or about June 1959.

SN 312,408. Tri-Valley Growers, San Francisco, Calif. Filed Nov. 18, 1968.

No claim is made to the word "Growers" apart from the mark as shown. Owner of Reg. Nos. 535,718, 844,711, and others.
For Canned Fruits, Berries, Vegetables, Fruit Nectars, Vegetable Juices, Olives, Pizza Sauce, Tomato Catsup, Tomato Paste, Tomato Sauce; Fruits and Vegetables in Powder Form (Int. Cls. 29, 30, and 32).
First use July 26, 1963.

SN 315,715. Doughboy Industries, Inc., New Richmond, Wis. Filed Jan. 3, 1969.

DOBOY

Owner of Reg. Nos. 131,551, 842,953, and others.
For Pet Food (Int. Cl. 31).
First use Dec. 19, 1968.

SN 316,566. Lever Brothers Company, New York, N.Y. Filed Jan. 15, 1969.

VIGOR

For Margarine (Int. Cl. 29).
First use Jan. 7, 1969.

SN 316,567. Lever Brothers Company, New York, N.Y. Filed Jan. 15, 1969.

VIM

For Margarine (Int. Cl. 29).
First use Jan. 7, 1969.

SN 316,749. Lever Brothers Company, New York, N.Y. Filed Jan. 16, 1969.

MOD

For Margarine (Int. Cl. 29).
First use Jan. 7, 1969.

SN 316,750. Lever Brothers Company, New York, N.Y. Filed Jan. 16, 1969.

LEVER KITCHEN

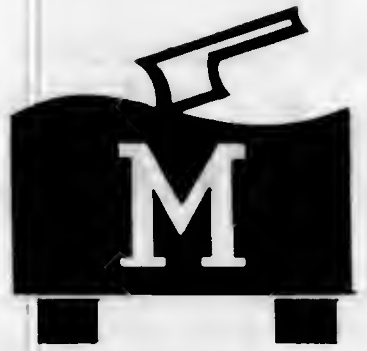
For Margarine (Int. Cl. 29).
First use Jan. 7, 1969.

SN 316,751. Lever Brothers Company, New York, N.Y. Filed Jan. 16, 1969.

LEVER FARMS

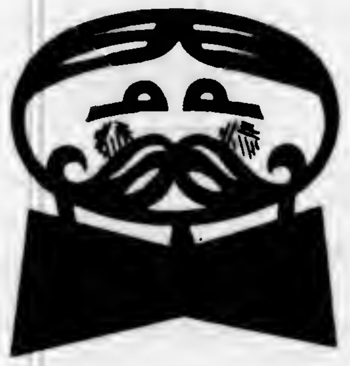
For Margarine (Int. Cl. 29).
First use Jan. 7, 1969.

SN 317,674. Martin Meat Company, Inc., Denver, Colo. Filed Oct. 28, 1968.



For Fresh and Frozen Meat and Meat Products—Namely, Steaks, Chops, Roasts and Chopped and Formed Products of Each of Beef, Lamb, Pork and Veal (Int. Cl. 29).
First use June 15, 1964.

SN 318,138. The Procter & Gamble Company, Cincinnati, Ohio. Filed Feb. 3, 1969.



For Snack Foods—Namely, Potato Chips (Int. Cl. 29).
First use Sept. 9, 1968.

SN 318,359. Castroville Artichoke Association, d.b.a. Castroville Artichoke Assn., Castroville, Calif. Filed Feb. 5, 1969.

TOPform

For Fresh Vegetables (Int. Cl. 31).
First use 1953.

Class 47 — Wines

SN 289,494. Etablissements Vinicoles de Gironde, Gironde, France. Filed Jan. 24, 1968.

Priority claimed under Sec. 44(d) on French Reg. No. 725,380, dated July 24, 1967. Applicant disclaims the word "Gironde" apart from the mark as shown.
For Wines (Int. Cl. 33).

SN 295,641. Goncalves Monteiro & Filhos, Limitada, Vila Nova de Gaia, Portugal. Filed Apr. 15, 1968.

Owner of Portuguese Reg. No. 138,490, dated Dec. 13, 1967.
For Wines and Vermouths (Int. Cl. 33).

SN 314,750. James B. Beam Import Corp., New York, N.Y. Filed Dec. 18, 1968.

BEAMEISTER

For Light Rhine Wine (Int. Cl. 33).
First use Jan. 10, 1967.

SN 316,051. E. & J. Gallo Winery, Modesto, Calif. Filed Jan. 8, 1969.

Flamenco Dancer

For Wines (Int. Cl. 33).
First use Dec. 13, 1968.

Class 48 — Malt Beverages and Liquors

SN 168,666. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed May 13, 1963.

BUSCH BAVARIAN

No claim is made to the word "Bavarian" apart from the mark as shown. Applicant claims use for all of the United States except Northern Kentucky, Southeastern Indiana, and Southern Ohio. Concurrent use with International Breweries, Inc., a Michigan corporation. Owner of Reg. Nos. 220,901, 621,424, and others.
For Beer (Int. Cl. 32).
First use August 1955; April 1928 as to "Busch."

SN 307,875. Takara Shuzo Co., Ltd., Shimogyoku, Kyoto, Japan. Filed Sept. 20, 1968.

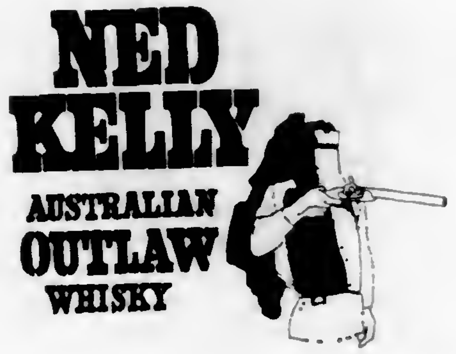
SHOCHIKUBAI

松 竹 梅

The design of the mark is Chinese characters having the sound "Shochikubai," which in the Japanese language means "pine, bamboo, and plum."
For Malt Beverage—Namely, Sake (Int. Cl. 32).
First use April 1933; in commerce 1934.

Class 49 — Distilled Alcoholic Liquors

SN 280,586. Gilbeys Australia Proprietary Limited, Southwark, South Australia, Australia. Filed Sept. 18, 1967.



Priority claimed under Sec. 44(d) on Australian Reg. No. A212,038, dated July 26, 1967. No claim is made to the words "Australian" and "Whisky" separately and apart from the mark as shown. The name "Ned Kelly" refers to the name of a notorious bush ranger who lived in Australia during the early pioneering and gold rush days.

For Whiskey (Int. Cl. 33).

SN 303,426. Medley Distilling Co., d.b.a. The Harvest Time Distilling Co., Owensboro, Ky. Filed July 23, 1968.

HARVEST TIME

Owner of Reg. No. 336,212.
For Whiskey (Int. Cl. 33).
First use Dec. 10, 1935.

SN 309,358. Jules Berman & Associates, Inc., Los Angeles, Calif. Filed Oct. 10, 1968.

ARANDAS

Owner of Reg. No. 656,627.
For Tequila and Prepared Margarita Cocktail (Int. Cl. 33).
First use Sept. 9, 1955.

Class 50 — Merchandise Not Otherwise Classified

SN 302,804. Wood Flong Corporation, Hoosick Falls, N.Y. Filed July 9, 1968.

Applicant disclaims the terms "Super," "Flong," and "Rop" apart from the mark as shown. Owner of Reg. Nos. 508,453, 705,042, and others.

For Dry Mats for Stereotyping Purposes (Int. Cl. 16).
First use July 19, 1960.

SN 304,720. Vanguard Studios, Inc., Chatsworth, Calif. Filed Aug. 8, 1968.

VANATHANE

For Plastic Decorative Castings (Int. Cl. 20).
First use January 1968.

SN 306,815. Spartan Plastics, Inc., Holt, Mich. Filed Sept. 6, 1968.

Trimbrite

The lining on the drawing is a feature of the mark and does not indicate color. Owner of Reg. No. 730,906.

For Metallized Plastic Decorating Tape on Rolls, With Adhesive Backing (Int. Cl. 20).
First use June 6, 1958.

SN 311,831. The Colonial Plastic Mfg. Co., Cleveland, Ohio. Filed Nov. 12, 1968.

KLEEN-KAN

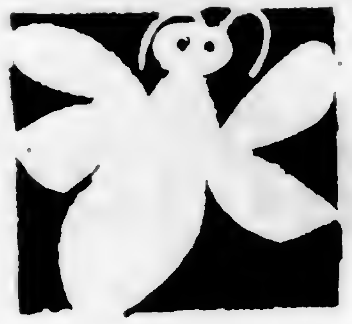
For Combined Brush Holder and Edge Cover for Open Paint Cans (Int. Cl. 21).
First use at least as early as Oct. 22, 1968.

SN 311,841. Continental Can Company, Inc., New York, N.Y. Filed Nov. 12, 1968.

VERI-SEAL

For Metal Closures for Bottles and Jars (Int. Cl. 6).
First use Oct. 10, 1968.

SN 311,919. Pictorial Productions, Inc., Mount Vernon, N.Y. Filed Nov. 12, 1968.



For Luminescent Tape and Film (Int. Cl. 20).
First use June 28, 1968.

SN 313,188. The Navarre Corporation, Chattanooga, Tenn. Filed Nov. 27, 1968

BURFREE

For Bottle Caps (Int. Cl. 20).
First use Oct. 22, 1968.

Class 51 — Cosmetics and Toilet Preparations

SN 270,584. Lady Bronze Cosmetics, Inc., New Orleans, La. Filed May 3, 1967.

LADY BRONZE

The word "Bronze" is disclaimed apart from the mark as shown. Owner of Reg. No. 544,404.

For Powder, Nail Polish, Cake Make-Up, Liquid Foundation Make-Up, Face Cream, Lipstick, and Eyeshadow (Int. Cl. 3).
First use Nov. 18, 1966.

SN 284,738. Schieffelin & Co., New York, N.Y. Filed Nov. 13, 1967.

DEEP MIST

For Moisture Creams, Cosmetic Cleansing Creams, Night Creams and Toning Lotions (Int. Cl. 3).
First use June 1957.

SN 285,542. Guerlain, Inc., New York, N.Y. Filed Nov. 24, 1967.

MAGISTRALE

The word "Magistrale" is a French word meaning "magisterial," "authoritative," etc.

For Cosmetic Skin Creams (Int. Cl. 3).
First use Nov. 1, 1967.

SN 287,633. Clairol Incorporated, New York, N.Y. Filed Dec. 27, 1967.

INNOCENT BREATH

Owner of Reg. No. 789,228.
For Mouthwash (Int. Cl. 5).
First use Nov. 29, 1967.

SN 287,981. Yardley of London, Inc., Totowa, N.J. Filed Jan. 2, 1968.

POETRY COLLECTION

For Cologne, Lipstick, Lip Polish, Mascara, Face Powder, Skin Freshener, and Hair Conditioner (Int. Cl. 3).
First use July 11, 1967.

SN 291,159. Houbigant, Inc., New York, N.Y. Filed Feb. 15, 1968.

BOUQUET ROUGE

The English translation of "Bouquet Rouge" is "red bouquet."

For Perfume, Cologne, Toilet Water, Moisturizing Lotion, Bath Oil, Talcum Powder, Bubble Bath, Skin Sachet, Foam Milk Bath, Hand Lotion, Face Lotion, Lipstick, Rouge, Face Powder, Face Cream, Skin Cream, Brilliantine, Hair Spray, and Personal Deodorant (Int. Cls. 3 and 5).
First use Jan. 22, 1968.

SN 291,160. Houbigant, Inc., New York, N.Y. Filed Feb. 15, 1968.

BOUQUET NOIR

The English translation of "Bouquet Noir" is "black bouquet."

For Perfume, Cologne, Toilet Water, Moisturizing Lotion, Bath Oil, Talcum Powder, Bubble Bath, Skin Sachet, Foam Milk Bath, Hand Lotion, Face Lotion, Lipstick, Rouge, Face Powder, Face Cream, Skin Cream, Brilliantine, Hair Spray, and Personal Deodorant (Int. Cls. 3 and 5).
First use Jan. 22, 1968.

SN 291,161. Houbigant, Inc., New York, N.Y. Filed Feb. 15, 1968.

BOUQUET BLEU

The English translation of "Bouquet Bleu" is "blue bouquet."

For Perfume, Cologne, Toilet Water, Moisturizing Lotion, Bath Oil, Talcum Powder, Bubble Bath, Skin Sachet, Foam Milk Bath, Hand Lotion, Face Lotion, Lipstick, Rouge, Face Powder, Face Cream, Skin Cream, Brilliantine, Hair Spray, and Personal Deodorant (Int. Cls. 3 and 5).
First use Jan. 22, 1968.

SN 293,641. Paula Payne Products Company, Inc., Charlotte, N.C. Filed Mar. 19, 1968.

JET JEL

Applicant disclaims the word "Jel" apart from the mark as shown.

For Hair Styling Cream (Int. Cl. 3).
First use Feb. 22, 1968.

SN 296,715. Rack Rite Distributors, Inc., Harrisburg, Pa. Filed Apr. 26, 1968.

RITE
AID

For Mouthwash; Toothpaste; Denture Cleanser; Baby Oil; Personal Deodorant; Cream Hair Rinse; Glycerin and Rose Water; Bath Oil; Hair Tonic; Pre-Electric Shave Lotion; After-Shave Lotion; and Witch Hazel (Int. Cls. 3 and 5).
First use at least as early as Jan. 3, 1967.

SN 297,957. Block Drug Company, Inc., Jersey City, N.J. Filed May 14, 1968.

SENSODYNE

Owner of Reg. No. 716,963.

For Toothpaste and Mouthwash for Sensitive Teeth (Int. Cl. 3).
First use Sept. 29, 1960.

SN 298,346. Ovation Cosmetics, Inc., Chatsworth, Calif. Filed May 16, 1968.

MAN-O-VATION

Owner of Reg. Nos. 802,844 and 802,845.

For Cosmetic Cleansing Cream, Freshener, and Skin Moisturizer (Int. Cl. 3).
First use June 1967.

SN 298,458. Steven Lewis, d.b.a. The Steven Lewis Company, Los Angeles, Calif. Filed May 17, 1968.

DA VINCI

For Men's Cologne (Int. Cl. 3).
First use Dec. 29, 1966.

SN 301,861. Adele Simpson, Inc., New York, N.Y. Filed July 2, 1968.

POUF OF
Collage

No claim is made to the words "Pouf of" apart from the mark as shown.

For Perfumes and Colognes (Int. Cl. 3).
First use June 17, 1968.

SN 302,936. Golden Door Cosmetics, Inc., San Diego, Calif. Filed July 17, 1968.

SKIN SENSE

The word "Skin" is disclaimed apart from the mark as shown.

For Cream Moisturizer (Int. Cl. 3).

First use July 1, 1968.

SN 304,766. Cosmetically Yours, Inc., Yonkers, N.Y. Filed Aug. 9, 1968.

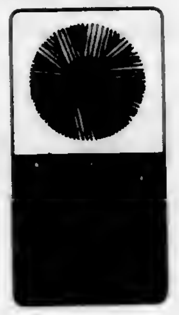
GIRL TALK

For Compact Makeup, Liquid Rouge, Liquid Eyeliner, Liquid Makeup, Nail Polish, Eye Shadow, Eyebrow and Liner Pencil, Eyebrow makeup, and Lipstick (Int. Cl. 3).

First use July 25, 1968.

Subj. to Intf. with SN 316,857.

SN 305,342. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Aug. 16, 1968.



For Nail Enamel Fixative (Int. Cl. 3).

First use May 22, 1968.

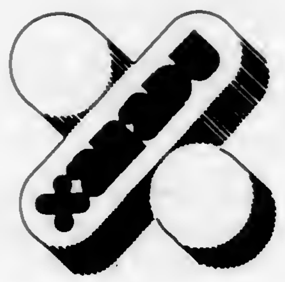
SN 307,671. Revlon, Inc., New York, N.Y. Filed Sept. 18, 1968.

PATINA

For Eye Shadow (Int. Cl. 3).

First use March 1967.

SN 308,193. Faberge, Inc., New York, N.Y. Filed Sept. 25, 1968.

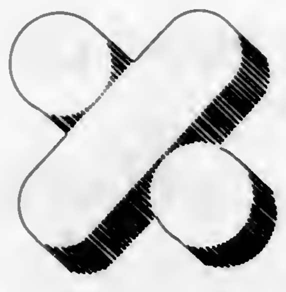


Owner of Reg. No. 762,434.

For Bath Oil, Face Cleanser Lotion, Skin Freshener, and Cologne (Int. Cl. 3).

First use July 23, 1968; Dec. 1, 1962, as to "Xanadu."

SN 308,194. Faberge, Inc., New York, N.Y. Filed Sept. 25, 1968.



For Bath Oil, Face Cleanser Lotion, Skin Freshener, and Cologne (Int. Cl. 3).

First use July 23, 1968.

SN 311,336. Posner Laboratories, Inc., Corona, N.Y. Filed Nov. 5, 1968.

EBONIQUE

Owner of Reg. No. 703,330.

For Liquid Face Make-Up, Lipsticks, Pressed Powder, Face and Body Softening and Conditioning Creams, Face and Body Conditioning Lotions, Astringents, Rouge, Hair Conditioners, Hair Dressings, and Face and Body Powder (Int. Cl 3).

First use Sept. 29, 1968.

SN 312,151. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 14, 1968.

MFP

Owner of Reg. No. 777,973.

For Sodium Monofluorophosphate Incorporated as an Ingredient in Dentifrice (Int. Cl. 3).

First use Aug. 7, 1967.

SN 313,931. Helene Curtis Industries, Inc., Chicago, Ill. Filed Dec. 9, 1968.

LONG LOVELY SUMMER

For Facial Moisturizing Lotion (Int. Cl. 3).

First use on or about Nov. 13, 1968.

SN 314,000. United Chemical Company, Dallas, Tex. Filed Dec. 9, 1968.

GAMETYME

For Hair Control Spray for Men (Int. Cl. 3).

First use on or about Sept. 12, 1968.

SN 315,808. Clairol Incorporated, New York, N.Y. Filed Dec. 31, 1968.

BIG SURF

For Men's Cologne, Pre-Shave Lotion, After-Shave Lotion, Sun Tan Lotion, and Men's Skin Conditioner (Int. Cl. 3).

First use Nov. 26, 1968.

SN 315,971. Barberini, Ltd., New York, N.Y. Filed Jan. 7, 1969.

BARBARELLA

For Perfumes and Cologne Water (Int. Cl. 3).

First use on or about Dec. 9, 1968.

SN 317,500. The Gillette Company, Boston, Mass. Filed Jan. 27, 1969.

LIKE DRY

Applicant disclaims the word "Dry" apart from the mark as shown.

For Hair Grooming Preparation (Int. Cl. 3).

First use Jan. 15, 1969.

SN 318,835. Adele Simpson, Inc., New York, N.Y. Filed Feb. 10, 1969.

COLLAGE

Owner of Reg. No. 864,016.

For Perfume, Cologne, Body Oil, and Talcum Powder (Int. Cl. 3).

First use June 1967.

SN 318,928. American Home Products Corporation, New York, N.Y. Filed Feb. 14, 1969.

DRY-GARD

For Anti-Perspirant Deodorant (Int. Cl. 5).

First use Jan. 21, 1969.

Class 52—Detergents and Soaps

SN 293,101. Amway Corporation, Ada, Mich. Filed Mar. 13, 1968.

HOME-CARE KNOW-HOW . . . AT YOUR DOORSTEP

For Cleaning Composition—Namely, Automobile Cleaners, Tire Cleaners, Plastic and Leather Cleaners (Int. Cl. 3).

First use on or about Mar. 8, 1963.

SN 295,311. Cleveland Technical Center, Inc., Cleveland, Ohio. Filed Apr. 10, 1968.

CLEVE-TEK

Owner of Reg. Nos. 787,402, 787,646, and 787,940.

For Cleaner for Floors and Transportation Vehicle Undercarriages (Int. Cl. 3).

First use Feb. 1, 1968.

SN 296,556. Harlan J. Mulkern, d.b.a. Putting Pal, St. Paul, Minn. Filed Apr. 25, 1968.

BAG-RAG

For Cleaner in the form of a chemically treated Cloth for Golf Balls, Golf Clubs, and the Like (Int. Cl. 21).

First use Mar. 12, 1968.

SN 302,048. Coastal Chemical Company, Incorporated, Savannah, Ga. Filed July 5, 1968.

UMP

For Laundry Detergent (Int. Cl. 3).

First use Aug. 4, 1967.

SN 302,166. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed July 5, 1968.

TUMULT

For Cleaning Composition Especially Adapted for the Food Serving Industry (Int. Cl. 1).

First use Mar. 29, 1968.

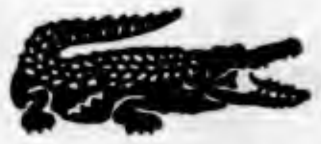
SN 302,310. Edwards Creative Products, Incorporated, Cherry Hill, N.J. Filed July 9, 1968.

SPOTSTIK

For Detergent Stick (Int. Cl. 3).

First use July 3, 1968.

SN 303,174. La Chemise Lacoste, Paris, France. Filed July 19, 1968.



Priority claimed under Sec. 44(d) on French Reg. No. 734,277, dated Feb. 14, 1968.

For Toilet Soaps (Int. Cl. 3).

SN 303,659. Cummins Pharmaceutical Company, Inc., Beaumont, Tex. Filed July 26, 1968.

Xseb

For Personal Cleansing Preparation for Use Both as a Hair Shampoo and Face Cleanser (Int. Cl. 3).

First use June 11, 1968.

SN 309,381. Helene Curtis Industries, Inc., Chicago, Ill. Filed Oct. 10, 1968.

SHAMPLUS

For Hair Shampoo (Int. Cl. 3).

First use on or about Sept. 26, 1968.

SN 309,464. Walter G. Legge Company, Inc., New York, N.Y. Filed Oct. 11, 1968.

CARPETERG

For Rug Shampoo (Int. Cl. 3).

SN 309,670. Eltar Laboratories, Inc., Van Nuys, Calif. Filed Oct. 15, 1968.

RIX

For All-Purpose Detergent and Cleaners, and Specialized Cleaners for Electronic Parts, Ultrasonic, and Aerospace Equipment (Int. Cl. 3).

First use prior to Aug. 14, 1963.

SN 317,686. Inner Cities Chemical Products Inc., Jamaica, N.Y. Filed Jan. 28, 1969.

SOUL MAGIC

For Glass Cleaner and a Metal Cleaner (Int. Cl. 3).

First use Jan. 10, 1969.

SN 318,500. American Home Products Corporation, New York, N.Y. Filed Feb. 6, 1969.

SUDDEN POWER

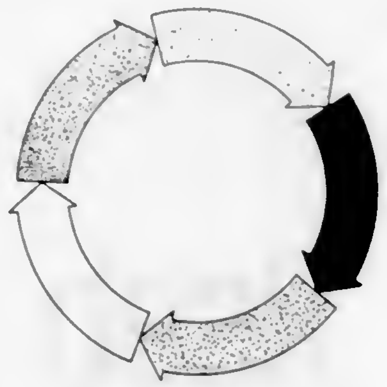
For Household Cleaner, Oven Cleaner, and Drain Opener (Int. Cl. 3).

First use Aug. 16, 1968, on household cleaner and oven cleaner.

SERVICE MARKS

Class 100 — Miscellaneous

SN 270,914. Garlock Inc., Palmyra, N.Y. Filed May 8, 1967.



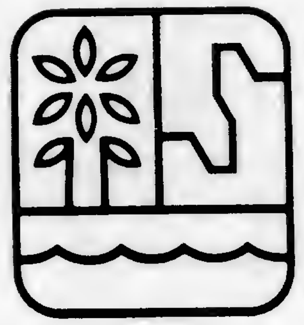
For Design, Engineering and Manufacture of Products Involving a Combination of Two or More Materials and/or Manufacturing Processes (Int. Cl. 42).
First use Nov. 23, 1964.

SN 277,433. The Budd Company, Philadelphia, Pa. Filed Aug. 3, 1967.

THE PEOPLE MOVERS

For Planning, Designing and Testing Transportation Facilities for Others (Int. Cl. 42).
First use Apr. 18, 1967.
Subj. to Intf. with SN 285,775.

SN 280,537. Kenneth R. Anderson Company, Inc., Roseville, Calif. Filed Sept. 18, 1967.



For City and Regional Planning Services; Landscape Architectural Services (Int. Cl. 42).
First use Apr. 2, 1962.

SN 297,369. Barshop Motel Enterprises, Inc., San Antonio, Tex. Filed May 6, 1968.

La Quinta

The wording "La Quinta" means "the country house" in English.
For Motel Services (Int. Cl. 42).
First use Apr. 5, 1968.

SN 299,388. Vaquero Enterprises, Tulsa, Okla. Filed May 29, 1968.

VAQUERO INN

Without waiver of applicant's common law rights with respect to the combination of words constituting applicant's service mark, applicant disclaims any right to the word "Inn" except as a part of the mark as shown.
For Motel Services (Int. Cl. 42).
First use Apr. 22, 1968.

SN 301,969. Sadie Schwartz and Mercantile National Bank of Miami Beach, co-executors of the estate of Sam Schwartz, d.b.a. Wolfie's, Miami Beach, Fla. Filed July 3, 1968.

WOLFIE'S

For Restaurant Services (Int. Cl. 42).
First use on or about Feb. 13, 1948.

SN 306,917. Joseph S. Kanter, Miami, Fla. Filed Sept. 9, 1968.

DAN-DAN'S

For Restaurant and Drive-In Restaurant Services (Int. Cl. 42).
First use July 23, 1968.

SN 308,278. Ronald L. Downing, d.b.a. Mr. Dream Merchant, Raytown, Mo. Filed Sept. 26, 1968.

MR. DREAM MERCHANT

For Computerized Dating Services (Int. Cl. 42).
First use Sept. 23, 1968.

SN 308,847. Gingiss Formalwear, Inc., Chicago, Ill. Filed Oct. 4, 1968.

gingiss

For Rental of Men's Formal Wear, Uniforms, and Accessories Therefor (Int. Cl. 35).
First use in or about January 1966; 1936 as to "Gingiss."

SN 308,848. Gingiss Formalwear, Inc., Chicago, Ill. Filed Oct. 4, 1968.

GINGISS

For Rental of Men's Formal Wear, Uniforms, and Accessories Therefor (Int. Cl. 35).
First use in 1936.

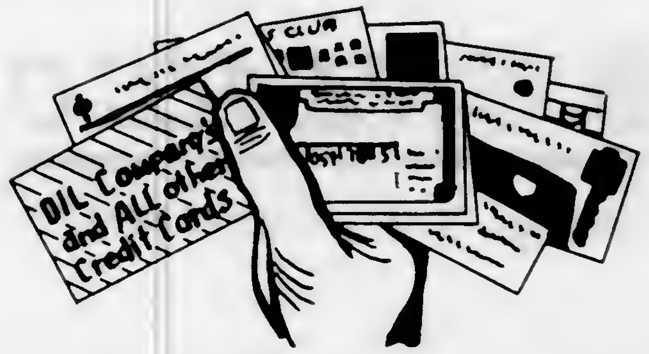
Class 101 — Advertising and Business

SN 274,469. Technical Marketing, Inc., Chicago, Ill. Filed June 21, 1967.

TECHNICAL TIPS

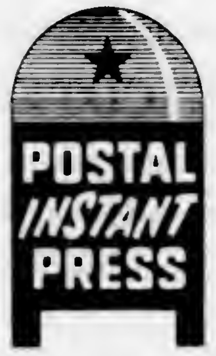
For Arranging for the Display of Products and/or Services. Providing Personnel To Describe the Uses, Functions and Theory of the Components, Mechanics, Instrumentation and Systems Displayed, Gathering Together Technically Competent Sales Representatives, Sales Agencies and Distributors (Int. Cl. 35).
First use Sept. 8, 1966.

SN 280,212. Credit Clearing Corp. of America, Inc., Jacksonville, Fla. Filed Sept. 13, 1967.


Oil Company's and All other Credit Cards
CLUB

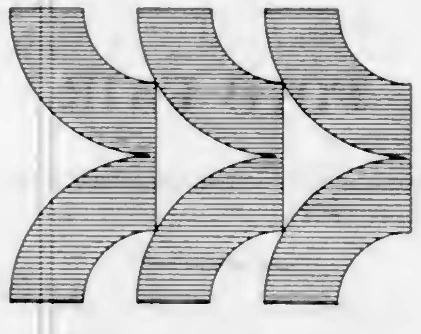
The wording "Oil Company's and All Other Credit Cards" is disclaimed apart from the mark as shown.
For Personal and Retail Credit Services (Int. Cl. 35).
First use on or about July 13, 1967.

SN 290,521. Postal Press, Los Angeles, Calif. Filed Feb. 7, 1968.



Without prejudice to its common law rights, applicant disclaims the word "Press" apart from the mark as shown.
For Printing Services (Int. Cl. 35).
First use at least as early as Jan. 2, 1967.

SN 295,622. Dayton Corporation, Minneapolis, Minn. Filed Apr. 15, 1968.



The drawing is lined for blue, but color is not a feature of the mark.
For Retail Department Store, Jewelry Store, and Bookstore Services (Int. Cl. 35).
First use on or about Sept. 19, 1967.

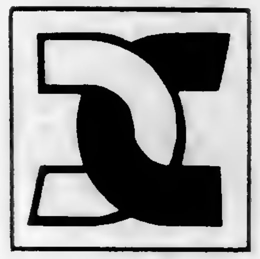
SN 298,313. J. C. Best, Inc., Braintree, Mass. Filed May 16, 1968.

J.C. Best CARPET CENTERS

For Retail Carpet and Rug Store Services (Int. Cl. 35).
First use October 1967.

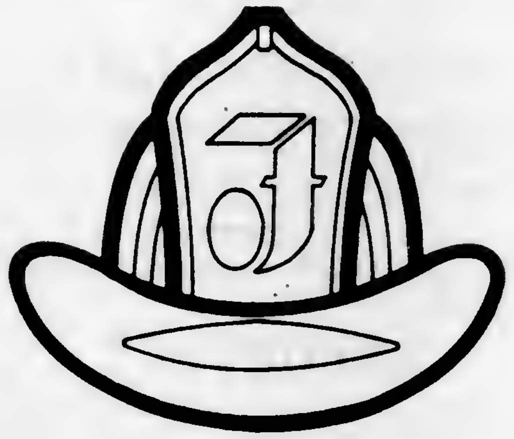
Class 102 — Insurance and Financial

SN 293,114. Competitive Capital Corporation, San Francisco, Calif. Filed Mar. 13, 1968.



For Mutual Fund Management Services (Int. Cl. 36).
First use Jan. 29, 1968.

SN 293,118. Amex Holding Corporation, New York, N.Y., assignee of The Fund American Companies, San Francisco, Calif. Filed Mar. 13, 1968.



Owner of Reg. Nos. 794,199, 841,026, and others.
For Underwriting Insurance (Int. Cl. 36).
First use on or about Mar. 4, 1966.

SN 297,394. The Equitable Life Assurance Society of the United States, New York, N.Y. Filed May 6, 1968.

LIVING INSURANCE

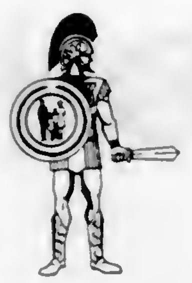
Applicant disclaims the term "Insurance" apart from the mark as shown.
For Underwriting Individual and Group Life and Sickness and Accident Insurance Protection and Annuities (Int. Cl. 36).
First use September 1954.

SN 305,435. Founders Mutual Depositor Corporation, Denver, Colo. Filed Aug. 19, 1968.

FOUNDERS

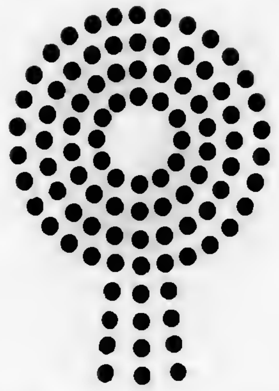
For Operating a Mutual Fund (Int. Cl. 36).
First use during 1938.

SN 306,775. Holland-America Insurance Company, Kansas City, Mo. Filed Sept. 6, 1968.



Owner of Reg. No. 674,327.
For Underwriting of Automobile Insurance (Int. Cl. 36).
First use May 15, 1968.

SN 307,179. Aid Association for Lutherans, Appleton, Wis. Filed Sept. 12, 1968.



For Providing Death, Disability, Annuity and Endowment Insurance Benefits (Int. Cl. 36).
First use Mar. 1, 1968.

SN 307,180. Aid Association for Lutherans, Appleton, Wis. Filed Sept. 12, 1968.

FRATERNALIFE

For Providing Death, Disability, Annuity and Endowment Insurance Benefits (Int. Cl. 36).
First use Mar. 1, 1968.

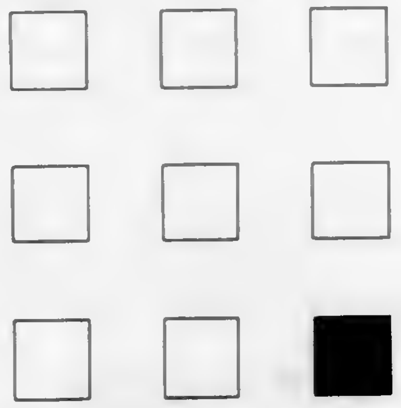
SN 309,801. United States National Bank of Oregon, Portland, Oreg. Filed Oct. 16, 1968.

EXPORTECT

For Financial Services, Specifically, Providing Protection to Exporters Against Financial Loss Arising From Non-Payment on Sales to Foreign Buyers (Int. Cl. 36).
First use on or about Oct. 4, 1968.

Class 103 — Construction and Repair

SN 294,826. The Displayers, Inc., New York, N.Y. Filed Apr. 3, 1968.



For Designing, Constructing, and Erecting Exhibits and Displays (Int. Cl. 37).
First use on or about Jan. 1, 1967.

Class 104 — Communication

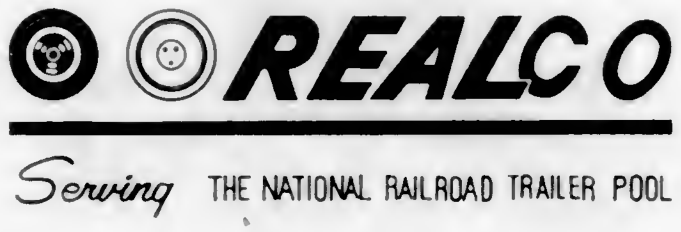
SN 312,167. The Transceiver Corporation, Dallas, Tex. Filed Nov. 14, 1968.

TRANSFAX

For Transmitting and Receiving Graphic Copies of Business Messages and Documents by Means of a Telecommunication System (Int. Cl. 38).
First use Sept. 4, 1968.

Class 105 — Transportation and Storage

SN 299,249. Rea Leasing Corporation, New York, N.Y. Filed May 28, 1968.


REALCO
Serving THE NATIONAL RAILROAD TRAILER POOL

Owner of Reg. No. 813,178.
For Furnishing of Piggyback Trailers and Containers on a Per Diem Basis to Railroads and Users of Piggyback (Int. Cl. 39).
First use on or about Mar. 1, 1967; Mar. 7, 1961, as to "Realco—The National Railroad Trailer Pool."

Class 106 — Material Treatment

SN 290,265. Electrofilm, Inc., North Hollywood, Calif. Filed Feb. 5, 1968.

TICOTE

For Treating Titanium Surfaces by Means of the Electrolytic Conversion of the Surface of Titanium and Titanium Alloys for the Purpose of Developing a Wear and Gall Resisting Surface, and To Provide a Base for Other Protective Coating and Solid Film Lubricants (Int. Cl. 40).
First use Nov. 1, 1967.

SN 303,881. American Bindery, Inc., Topeka, Kans. Filed July 30, 1968.

PBS

For Periodical Binding Services (Int. Cl. 40).
First use Jan. 15, 1966.

SN 318,867. Tru-Foto, Inc., Dayton, Ohio. Filed Dec. 16, 1968.

FOTO FAIR

For Photographic Processing Services (Int. Cl. 40).
First use Dec. 8, 1967.

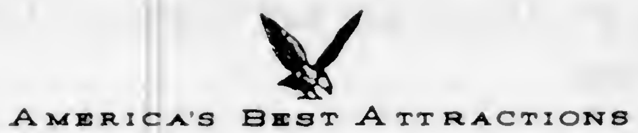
SN 318,869. Tru-Foto, Inc., Dayton, Ohio. Filed Dec. 16, 1968.

WHITE GLOVE

For Photographic Processing Services (Int. Cl. 40).
First use Aug. 16, 1966.

Class 107 — Education and Entertainment

SN 284,985. Allan H. Bell, d.b.a. America's Best Attractions, North Kansas City, Mo. Filed Nov. 16, 1967.



The words "Best Attractions" are disclaimed apart from the mark as shown.
For Theatrical Agency Services (Int. Cl. 41).
First use during October 1963.

SN 288,902. Westinghouse Broadcasting Co., Inc., Pittsburgh, Pa. Filed Jan. 15, 1968.

EYEWITNESS NEWS

For Title of a Television and Radio Program—Namely, a News Reporting Program (Int. Cl. 41).
First use on or about Dec. 31, 1960.

SN 291,386. HMH Publishing Co. Inc., Chicago, Ill. Filed Feb. 19, 1968.

PLAYBOY

For Theatre Services (Int. Cl. 41).
First use on or about Sept. 29, 1964.

SN 308,636. Spa International, Inc., Houston, Tex. Filed Oct. 1, 1968.

SPA

For Instructional Services in Body Care and Body Health, Including Physical Fitness, Weight Reduction and Control, Therapeutic Treatment, and Including Treatments for Enhancing Facial Beauty and Figure Contour (Int. Cl. 41).
First use in or about July 1961.
Subj. to Intf. with SN 259,332.

SN 315,522. Hockey Club of Pittsburgh, Pittsburgh, Pa. Filed Jan. 2, 1969.

PENGUINS

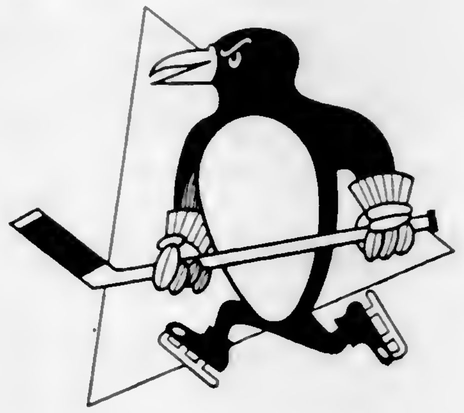
For Professional Ice Hockey Contests (Int. Cl. 41).
First use March 1967.

SN 316,857. ABC Films, Inc., New York, N.Y. Filed Jan. 17, 1969.

GIRL TALK

For Television Program in the Nature of a Distaff Panel Discussion (Int. Cl. 41).
Filed September 1962.
Subj. to Intf. with SN 304,766.

SN 316,864. Hockey Club of Pittsburgh, Pittsburgh, Pa. Filed Jan. 17, 1969.



For Professional Ice Hockey Contests (Int. Cl. 41).
First use August 1968.

SN 317,800. Universal Systems Institute, Inc., New York, N.Y. Filed Jan. 29, 1969.

UNIVERSAL SYSTEMS INSTITUTE

For Teaching of Data Processing and Computer Programming, and Placement Service on Completion of Course Training (Int. Cl. 41).
First use Feb. 9, 1967.

CERTIFICATION MARKS

Class B — Services

SN 282,293. National Aeronautic Association, Washington, D.C. Filed Oct. 11, 1967.

NATIONAL AIR RACES

The mark certifies that the air races are sanctioned by applicant in accordance with the rules and regulations prescribed by applicant as to safety and equipment.
For Holding of Air Races at Various Locations in the United States.
First use 1923.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

870,693. VI-PLY. Reiss Associates, Inc. SN 260,585. Pub. 9-24-68. Filed 12-12-66.

870,694. TUFT-SET. Uniroyal, Inc. SN 289,933. Pub. 3-25-69. Filed 1-30-68.

870,695. LUSTRATUF. Reichhold Chemicals, Inc. SN 295,461. Pub. 3-25-69. Filed 4-11-68.

870,696. PANFLEX. Polyplastex United, Inc. SN 302,959. Pub. 3-25-69. Filed 7-17-68.

870,697. PANSHADE. Polyplastex United, Inc. SN 302,965. Pub. 3-25-69. Filed 7-17-68.

870,698. PANSKYN. Polyplastex United, Inc. SN 302,967. Pub. 3-25-69. Filed 7-17-68.

870,699. MIONITE. Mineral Products Corporation. SN 304,008. Pub. 3-25-69. Filed 7-31-68.

870,700. SATINTONE. Engelhard Minerals & Chemicals Corporation. SN 304,906. Pub. 3-25-69. Filed 8-12-68.

Class 2 — Receptacles

870,701. TERNI AND DESIGN. Terni Societa per l'Industria e l'Elettricita S.p.A. MULTIPLE CLASS (Classes 2, 13, 14, 26, and 34). SN 240,362. Pub. 3-25-69. Filed 3-7-66.

870,702. KLEEN-WELD. Cellu-Craft Inc. SN 286,501. Pub. 3-25-69. Filed 12-8-67.

870,703. LINBIN. Linvar Limited. MULTIPLE CLASS (Classes 2 and 19). SN 287,564. Pub. 3-25-69. Filed 12-26-67.

870,704. SOUTHERN CONTAINER AND DESIGN. Southern Container Corporation. SN 295,774. Pub. 3-25-69. Filed 4-16-68.

870,705. CRATOR AND DESIGN. Pyramid International, Inc. SN 296,451. Pub. 3-25-69. Filed 4-24-68.

870,706. MPI AND DESIGN. Medical Plastics, Inc. SN 297,205. Pub. 3-25-69. Filed 5-2-68.

870,707. TRASHKET. Comet Packaging Corporation. SN 297,974. Pub. 3-25-69. Filed 5-13-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

870,708. ANSCOMATIC. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 281,978. Pub. 3-25-69. Filed 10-6-67.

870,709. MALEBAGS. Swank, Inc. SN 301,101. Pub. 3-25-69. Filed 6-21-68.

Class 4 — Abrasives and Polishing Materials

870,710. PANEL AWARD. U.S. Plywood-Champion Papers Inc. SN 308,666. Pub. 3-25-69. Filed 10-2-68.

Class 5 — Adhesives

870,711. CONYBOND. Gisuke Konishi & Company, Limited. SN 262,787. Pub. 3-25-69. Filed 1-18-67.

870,712. CHIPSTRIP. General Gummed Products, Inc. SN 285,324. Pub. 3-25-69. Filed 11-21-67.

Class 6 — Chemicals and Chemical Compositions

870,713. LIQUID PAPER AND DESIGN. Mistake Out Company. SN 272,510. Pub. 3-25-69. Filed 5-26-67.

870,714. HI-SOLV. Hess Oil & Chemical Corporation. SN 272,833. Pub. 2-27-68. Filed 6-1-67.

870,715. BIG 10 DRILLERS SALT. International Salt Company. SN 286,530. Pub. 3-25-69. Filed 12-8-67.

870,716. TERRACOTE. Foseco International Limited. SN 288,947. Pub. 3-25-69. Filed 1-16-68.

870,717. REALM. Wyandotte Chemicals Corporation. SN 292,036. Pub. 3-25-69. Filed 2-27-68.

Class 7 — Cordage

870,718. NA. Nichols Aluminum Company, by change of name from Nichols Wire & Aluminum Co. MULTIPLE CLASS (Classes 7 and 14). SN 255,115. Pub. 3-25-69. Filed 9-26-66.

Class 8 — Smokers' Articles, Not Including Tobacco Products

870,719. WHATCHAMACALLITS. The C. M. Paula Company. MULTIPLE CLASS (Classes 8, 37, and 50). SN 282,475. Pub. 3-25-69. Filed 10-13-67.

870,720. PIPEMASTER. Lane Limited. SN 297,423. Pub. 3-25-69. Filed 5-6-68.

870,721. ARMETALE. Wilton Brass Company. SN 304,527. Pub. 3-25-69. Filed 8-6-68.

870,722. KILIMANJARO. Tanganyika Meerschaum Corporation, Ltd. SN 308,407. Pub. 3-25-69. Filed 9-27-68.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

870,723. THE PREVENTOR. Defensive Instruments, Inc. SN 299,833. Pub. 3-25-69. Filed 6-6-68.

Class 10 — Fertilizers

870,724. SLF. Allied Chemical Corporation. SN 283,497. Pub. 3-25-69. Filed 10-27-67.

870,725. SEAFOREST. American Forest Industries Ltd. SN 291,337. Pub. 3-25-69. Filed 2-19-68.

870,726. NORKEM. Kem Manufacturing Corporation. SN 297,786. Pub. 3-25-69. Filed 5-9-68.

870,727. MOLY-CO-FIX. W. R. Grace & Co. SN 300,354. Pub. 3-25-69. Filed 6-13-68.

Class 11 — Inks and Inking Materials

870,728. REMINGTON. Sperry Rand Corporation. SN 288,361. Pub. 3-25-69. Filed 1-8-68.

Class 12 — Construction Materials

870,729. HY-PLY. Reiss Associates, Inc. SN 260,588. Pub. 9-24-68. Filed 12-12-66.

870,730. PANA. Matsushita Electric Industrial Co. Ltd. MULTIPLE CLASS (Classes 12, 19, 21, 23, 24, 27, 31, 32, 34, 36, and 44). SN 262,537-A. Pub. 4-30-68. Filed 1-16-67.

870,731. BSN. Boussois-Souchon-Neuvesel Societe Anonyme. MULTIPLE CLASS (Classes 12, 32, and 33). SN 285,815. Pub. 3-25-69. Filed 11-29-67.

870,732. LIVING WALL. Masonite Corporation. SN 300,602. Pub. 3-25-69. Filed 6-17-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

870,701. (See Class 2 for this trademark.)

870,733. MAGA. Maga Rubinetterie S.p.A. SN 264,840. Pub. 3-25-69. Filed 2-16-67.

870,734. RC AND DESIGN. Precision Products & Controls, Inc. SN 277,067. Pub. 3-25-69. Filed 7-28-67.

870,735. NAIL-ALL. Eric Muller. SN 283,810. Pub. 3-25-69. Filed 10-31-67.

870,736. LIGNE CHARME AND DESIGN. Aubecq-Auxi (Societe Anonyme). SN 291,340. Pub. 3-25-69. Filed 2-19-68.

870,737. V (DESIGN). Verifio Corporation. MULTIPLE CLASS (Classes 13, 23, 34, and 44). SN 293,879. Pub. 3-25-69. Filed 3-22-68.

870,738. IF (DESIGN). Instock Fasteners, Inc. SN 294,936. Pub. 3-25-69. Filed 4-4-68.

Class 14 — Metals and Metal Castings and Forgings

870,701. (See Class 2 for this trademark.)

870,718. (See Class 7 for this trademark.)

Class 15 — Oils and Greases

870,739. SKY AND DESIGN. Sky Distributing Company, d.b.a. Sky Corporation and Sky. MULTIPLE CLASS (Classes 15, 23, and 31). SN 272,992. Pub. 3-25-69. Filed 6-5-67.

870,740. GOLDEN T. T.G. & Y. Stores Company. SN 302,650. Pub. 3-25-69. Filed 7-12-68.

Class 16 — Protective and Decorative Coatings

870,741. RINOL AND DESIGN. Giordano & Rüedi. SN 266,223. Pub. 3-25-69. Filed 3-8-67.

870,742. KURAMIC. Kurfees Paint Co. SN 295,651. Pub. 3-25-69. Filed 4-15-68.

870,743. CELCON. Celanese Corporation. SN 299,753. Pub. 3-25-69. Filed 6-5-68.

870,744. FLUORINO. Plaza Playthings, Inc. SN 303,441. Pub. 3-25-69. Filed 7-23-68.

870,745. FLOQUIL AND DESIGN. Floquil Products, Inc. SN 308,281. Pub. 3-25-69. Filed 9-26-68.

Class 17 — Tobacco Products

870,746. TOWN & COUNTRY. Skandinavisk Tobakskompagni A/S. SN 292,624. Pub. 3-25-69. Filed 3-6-68

870,747. PIPE PAL. Write Shops, Inc. SN 306,405. Pub. 3-25-69. Filed 8-30-68.

Class 18 — Medicines and Pharmaceutical Preparations

870,748. MEDI-LUBE. L. T. York Company, d.b.a. Medi-Kay Pharmacal Co. SN 281,840. Pub. 3-25-69. Filed 10-4-67.

870,749. MEDI-SWIPE. L. T. York Company, d.b.a. Medi-Kay Pharmacal Co. SN 281,842. Pub. 3-25-69. Filed 10-4-67.

870,750. APORVITE. Oak Ridge Pharmaceuticals, Inc. SN 282,610. Pub. 3-25-69. Filed 10-16-67.

870,751. HISTOR-D. Oak Ridge Pharmaceuticals, Inc. SN 282,613. Pub. 3-25-69. Filed 10-16-67.

870,752. VITORMELTS-F. Oak Ridge Pharmaceuticals, Inc. SN 282,618. Pub. 3-25-69. Filed 10-16-67.

870,753. SUCRETS. Merck & Co., Inc. SN 285,036. Pub. 3-25-69. Filed 11-16-67.

870,754. PATHMARK. Supermarkets General Corporation, by change of name and assignment from Louket Markets, Inc. SN 295,832. Pub. 3-25-69. Filed 4-17-68.

870,755. FEMALT. Carter-Wallace, Inc., assignee of Lambert-Kay, Inc. SN 297,297. Pub. 3-25-69. Filed 5-3-68.

870,756. ALTERNIN. Bristol-Myers Company. SN 299,214. Pub. 3-25-69. Filed 5-28-68.

870,757. VANAIR. Carter-Wallace, Inc. SN 299,400. Pub. 3-25-69. Filed 5-31-68.

870,758. PECTALMATO. Sigma-Tau Industrie Farmaceutiche Rinunite S.p.A. SN 299,500. Pub. 3-25-69. Filed 5-31-68.

870,759. BUCAGEL. The Purdue Frederick Company. SN 299,586. Pub. 3-25-69. Filed 6-3-68.

870,760. XERUMENEX. The Purdue Frederick Company. SN 299,587. Pub. 3-25-69. Filed 6-3-68.

870,761. VERSUS. Aziende Chimiche Riunite Angelini Francesco. SN 299,749. Pub. 3-25-69. Filed 6-5-68.

870,762. BUMEL. USV Pharmaceutical Corporation. SN 300,141. Pub. 3-25-69. Filed 6-10-68.

870,763. NILSTAT. American Cyanamid Company. SN 300,242. Pub. 3-25-69. Filed 6-12-68.

870,764. IMMU-TETANUS. Parke, Davis & Company. SN 306,858. Pub. 3-25-69. Filed 9-9-68.

870,765. CLEAR-M. Richardson-Merrell Inc. SN 307,173. Pub. 3-25-69. Filed 9-12-68.

870,766. CLEAR-DOWN. Richardson-Merrell Inc. SN 307,174. Pub. 3-25-69. Filed 9-12-68.

870,767. ESTROVIS. Warner-Lambert Research Institute. SN 307,400. Pub. 3-25-69. Filed 9-16-68.

870,768. AMIGOS. Mead Johnson & Company. SN 307,714. Pub. 3-25-69. Filed 9-19-68.

870,769. VEE MIST. Carter-Wallace, Inc. SN 307,917. Pub. 3-25-69. Filed 9-23-68.

870,770. CLINICARE. Chas. Pfizer & Co., Inc. SN 311,211. Pub. 3-25-69. Filed 11-4-68.

870,771. MASTABAN. Chas. Pfizer & Co., Inc. SN 311,212. Pub. 3-25-69. Filed 11-4-68.

870,772. POSIPEN. Beecham Inc. SN 311,765. Pub. 3-25-69. Filed 11-12-68.

870,773. YP YOUNGS AND DESIGN. Youngs Drug Products Corporation (New Jersey corporation), assignee of Youngs Drug Products Corporation (New York corporation). SN 311,800. Pub. 3-25-69. Filed 11-12-68.

870,774. DILANTIN-30. Parke, Davis & Company. SN 313,064. Pub. 3-25-69. Filed 11-26-68.

Class 19 — Vehicles

870,703. (See Class 2 for this trademark.)

870,730. (See Class 12 for this trademark.)

870,775. I'M IRV AND DESIGN. Indiana Recreational Vehicle Parts and Service, Inc. SN 273,642. Pub. 3-25-69. Filed 6-12-67.

870,776. WREN. Wren Aircraft Corporation. SN 280,663. Pub. 3-25-69. Filed 9-18-67.

870,777. HORSE DESIGN. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse. SN 286,255. Pub. 3-25-69. Filed 12-5-67.

870,778. COSMO. Toyo Kogyo Company Limited. SN 287,049. Pub. 3-25-69. Filed 12-15-67.

870,779. ALPINE. Bombardier Limited. SN 289,000. Pub. 3-25-69. Filed 1-17-68.

870,780. WESTCOASTER. Universal Oil Products Company, d.b.a. UOP Bostrom Division. SN 291,453. Pub. 3-25-69. Filed 2-19-68.

870,781. SANLANDO. Southern Fiber Glass Products, Inc. SN 295,184. Pub. 3-25-69. Filed 4-8-68.

870,782. CUTLASS. Southern Fiber Glass Products, Inc. SN 295,186. Pub. 3-25-69. Filed 4-8-68.

870,783. ANNABELLA. Guido Carnielli. SN 298,106. Pub. 3-25-69. Filed 5-14-68.

Class 20 — Linoleum and Oiled Cloth

870,784. THE KID-CUSHIONED FLOOR AND DESIGN. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 298,705. Pub. 3-25-69. Filed 5-21-68.

870,785. THE KID-PROOF FLOOR AND DESIGN. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 298,707. Pub. 3-25-69. Filed 5-21-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

870,730. (See Class 12 for this trademark.)

870,786. BALL. Ball Brothers Company Incorporated. SN 263,246. Pub. 3-25-69. Filed 1-25-67.

870,787. CHRONDEK. Chrondek Electronics, Inc. SN 267,728. Pub. 3-25-69. Filed 3-28-67.

870,788. AMERICAN TIME PRODUCTS. Bulova Watch Company, Inc. MULTIPLE CLASS (Classes 21, 26, and 27). SN 281,252. Pub. 3-25-69. Filed 9-27-67.

870,789. CINCH-NULINE. United-Carr Incorporated, assignee, by mesne assignment, of United-Carr Incorporated. MULTIPLE CLASS (Classes 21 and 23). SN 281,656. Pub. 3-25-69. Filed 10-3-67.

870,790. ARMORED POLYTHERMALEZE. Phelps Dodge Magnet Wire Corporation. SN 282,815. Pub. 3-25-69. Filed 10-18-67.

870,791. A.P. BONDEZE. Phelps Dodge Magnet Wire Corporation. SN 282,816. Pub. 3-25-69. Filed 10-18-67.

870,792. HALT. United Co-Operatives, Inc. SN 283,044. Pub. 3-25-69. Filed 10-20-67.

870,793. SHIBADEN AND S DESIGN. Shibaden Corporation of America. SN 283,464. Pub. 3-25-69. Filed 10-26-67.

870,794. EDWARDS POWER DOOR AND DESIGN. Edwards Power Door Co., Inc. SN 283,645. Pub. 3-25-69. Filed 10-30-67.

870,795. AURALUME AND DESIGN. Aura-Lite Mfg. Co. SN 285,517. Pub. 3-25-69. Filed 11-24-67.

870,796. HUBBELL DESIGNERLINE. Harvey Hubbell, Incorporated. SN 286,669. Pub. 3-25-69. Filed 12-11-67.

870,797. LO-VO-LITE. Republic Tool & Manufacturing Corp. SN 286,721. Pub. 3-25-69. Filed 12-11-67.

870,798. SENSOR TECH AND DESIGN. Sensor Technology, Inc. SN 289,368. Pub. 3-25-69. Filed 12-20-67.

870,799. CRYPTEL. Standard Telefon og Kabelfabrik A/S. SN 293,749. Pub. 3-25-69. Filed 3-20-68.

870,800. GANG-WAY. Tek Bearing Company, Inc., d.b.a. Auto Safety Equipment Company. SN 300,136. Pub. 3-25-69. Filed 6-10-68.

870,801. H (DESIGN). Holophane Company, Inc. MULTIPLE CLASS (Classes 21 and 34). SN 302,813. Pub. 3-25-69. Filed 7-16-68.

870,802. AS AND DESIGN. "Automatic" Sprinkler Corporation of America, d.b.a. Automatic Protection Systems. SN 306,296. Pub. 3-25-69. Filed 8-30-68.

870,803. MISCELLANEOUS DESIGN. Nanbu Industrial Co., Ltd. SN 306,617. Pub. 3-25-69. Filed 9-5-68.

Class 22 — Games, Toys, and Sporting Goods

870,804. PLAYSCAPE. Playground Corporation of America. SN 260,677. Pub. 4-23-68. Filed 12-13-66.

870,805. THE AMAZING REBEL MINNOW AND DESIGN. Plastics Research and Development Corporation. SN 272,207. Pub. 3-25-69. Filed 5-23-67.

870,806. LOONY LOOP. Clinton R. Sutton, d.b.a. The Loony Loop Company. SN 291,912. Pub. 3-25-69. Filed 2-26-68.

870,807. 1ST TEE. Pete Uram Sales, Inc. SN 291,919. Pub. 3-25-69. Filed 2-26-68.

870,808. SKIRMISH. KMS Industries, Inc. SN 292,206. Pub. 3-25-69. Filed 2-29-68.

870,809. HAPPY FACE. Milton Bradley Company. SN 293,548. Pub. 3-25-69. Filed 3-18-68.

870,810. MB MILTON BRADLEY AND DESIGN. Milton Bradley Company. SN 293,550. Pub. 3-25-69. Filed 3-18-68.

870,811. UP. The H. L. Leonard Rod Co. SN 294,196. Pub. 3-25-69. Filed 3-26-68.

870,812. EX-R-KING AND DESIGN. Glen E. Henson, d.b.a. Robar. SN 294,627. Pub. 3-25-69. Filed 4-1-68.

870,813. PAR-RITE. S. S. Kresge Company. SN 295,650. Pub. 3-25-69. Filed 4-15-68.

870,814. DOODLE LITE. The Ohio Art Company. SN 295,760. Pub. 3-25-69. Filed 4-16-68.

870,815. TNT. Mary Ann Haasl. SN 296,425. Pub. 3-25-69. Filed 4-24-68.

870,816. FOOTSEE. Twinpak Ltd. SN 297,618. Pub. 3-25-69. Filed 5-7-68.

870,817. PATHMARK. Supermarkets General Corporation, by change of name and assignment from Louket Markets, Inc. SN 297,685. Pub. 3-25-69. Filed 5-8-68.

870,818. CLIFFORD AND DESIGN. F. Levy & Co. Ltd. SN 298,340. Pub. 3-25-69. Filed 5-16-68.

870,819. PLAYFUL TRAILS. CO-5 Company, Inc. SN 299,425. Pub. 3-25-69. Filed 5-31-68.

870,820. MARLIN. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 300,482. Pub. 3-25-69. Filed 6-14-68.

870,821. SUNMASTER. Blazon, Inc. SN 300,679. Pub. 3-25-69. Filed 6-18-68.

870,822. A NOVA ACADEMIC GAME. Nova Learning Corporation. SN 300,730. Pub. 3-25-69. Filed 6-18-68.

870,823. BEAM. Bridgestone Tire Company Limited. SN 303,565. Pub. 3-25-69. Filed 7-25-68.

870,824. GAZELLE. Bridgestone Tire Company Limited. SN 303,566. Pub. 3-25-69. Filed 7-25-68.

870,825. BLUE SKY. Bridgestone Tire Company Limited. SN 303,567. Pub. 3-25-69. Filed 7-25-68.

870,826. SPARK. Bridgestone Tire Company Limited. SN 303,568. Pub. 3-25-69. Filed 7-25-68.

870,827. ZIP ZAP. Wham-O Mfg. Co. SN 305,383. Pub. 3-25-69. Filed 8-19-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

870,730. (See Class 12 for this trademark.)

870,737. (See Class 13 for this trademark.)

870,739. (See Class 15 for this trademark.)

870,789. (See Class 21 for this trademark.)

870,828. JET-X. PDR Manufacturing Corporation. SN 269,922. Pub. 2-27-68. Filed 4-24-67.

870,829. AIR-O-TRIM. The Reece Corporation, assignee of General Automated Machinery Corporation. SN 275,254. Pub. 3-25-69. Filed 7-3-67.

870,830. GENBEARCO. General Bearing Co. SN 277,160. Pub. 3-25-69. Filed 7-31-67.

870,831. GENBEARCO AND DESIGN. General Bearing Co. SN 277,161. Pub. 3-25-69. Filed 7-31-67.

870,832. WORLD BAZAAR. Atlantic Company. SN 278,569. Pub. 3-25-69. Filed 8-18-67.

870,833. BLAZER. Commercial Mechanisms, Inc. SN 279,810. Pub. 3-25-69. Filed 9-7-67.

870,834. FORTE. The Cincinnati-Forte Company, assignee of Forte Equipment Company, Incorporated. SN 282,363. Pub. 3-25-69. Filed 10-12-67.

870,835. TONDRA. Pivot Punch Corporation. SN 283,030. Pub. 3-25-69. Filed 10-20-67.

870,836. EAGLE DESIGN. Cascade Corporation. SN 283,768. Pub. 3-25-69. Filed 10-31-67.

870,837. CAMBELT. The Eimco Corporation. SN 284,299. Pub. 3-25-69. Filed 11-7-67.

870,838. ACCU-DRAFT. Whitin Machine Works, Inc. SN 284,773. Pub. 3-25-69. Filed 11-13-67.

870,839. SPIRA-MATIC. Baker Equipment Engineering Company, Inc. SN 285,383. Pub. 3-25-69. Filed 11-22-67.

870,840. LARMET. Thomas R. Larrison, d.b.a. Larmet Company. SN 287,924. Pub. 3-25-69. Filed 1-2-68.

870,841. BLACKWELL. Blackwell Burner Company. MULTIPLE CLASS (Classes 23 and 34). SN 288,153. Pub. 3-25-69. Filed 1-5-68.

870,842. LOADSTER. Nasco Equipment Company. SN 288,710. Pub. 3-25-69. Filed 1-12-68.

870,843. PUMA. Puma-Werk Lauterjung & Sohn. SN 291,521. Pub. 3-25-69. Filed 2-20-68.

870,844. EDITOR. Ing. C. Olivetti & C., S.p.A. SN 292,495. Pub. 3-25-69. Filed 3-5-68.

870,845. CLASSIC. Tuthill Pump Company. SN 293,961. Pub. 3-25-69. Filed 3-22-68.

870,846. LADY MARIAN. Premium Corporation of America, Inc. SN 295,166. Pub. 3-25-69. Filed 4-8-68.

870,847. BEE-LINE AND DESIGN. Campbell Manufacturing Co. SN 295,483. Pub. 3-25-69. Filed 4-12-68.

870,848. THE VISIONETTE. Tannie C. Craighead, d.b.a. Products of Elegance. SN 295,621. Pub. 3-25-69. Filed 4-15-68.

870,849. UDICO. Udico Corporation. SN 298,369. Pub. 3-25-69. Filed 5-16-68.

870,850. RT AND DESIGN. Ralmike's Tool-A-Rama. MULTIPLE CLASS (Classes 23 and 26). SN 298,379. Pub. 3-25-69. Filed 5-17-68.

870,851. TOOL-A-RAMA. Ralmike's Tool-A-Rama. MULTIPLE CLASS (Classes 23 and 26). SN 298,381. Pub. 3-25-69. Filed 5-17-68.

870,852. FORM-LOCK. Formsprag Company. SN 300,575. Pub. 3-25-69. Filed 6-17-68.

870,853. DUB-L-DUTY. Hamilton Float & Trowel Limited. SN 301,424. Pub. 3-25-69. Filed 6-26-68.

870,854. NF AND DESIGN. National Fleetwash Systems, Incorporated. SN 303,229. Pub. 3-25-69. Filed 7-22-68.

870,855. CHROMEINITE-H. American Hoist & Derrick Company. SN 307,800. Pub. 3-25-69. Filed 9-20-68.

870,856. MINI-SEW. Mini-Sew Sales Ltd. SN 307,935. Pub. 3-25-69. Filed 9-23-68.

Class 24 — Laundry Appliances and Machines

870,730. (See Class 12 for this trademark.)

Class 26 — Measuring and Scientific Appliances

870,701. (See Class 2 for this trademark.)

870,788. (See Class 21 for this trademark.)

870,850. (See Class 23 for this trademark.)

870,851. (See Class 23 for this trademark.)

870,857. ICON. Icon Corporation. SN 279,831. Pub. 3-25-69. Filed 9-7-67.

870,858. ASTROFLUX. E. J. Ward Limited. SN 282,500. Pub. 3-25-69. Filed 10-13-67.

870,859. OHAUS. Ohaus Scale Corporation. SN 282,716. Pub. 3-25-69. Filed 10-17-67.

870,860. PIXIE POT AND DESIGN. Duncan Electronics, Inc. SN 282,787. Pub. 3-25-69. Filed 10-18-67.

870,861. DYNA-SENSE. Scientific Instruments, Inc. SN 283,721. Pub. 3-25-69. Filed 10-30-67.

870,862. BISSETT BERMAN AND DESIGN. The Bissett-Berman Corporation. SN 285,191. Pub. 3-25-69. Filed 11-20-67.

870,863. ORWO COLOR. VEB Filmfabrik Wolfen. SN 285,601. Pub. 3-25-69. Filed 11-24-67.

870,864. COMPU-THERM. RDF Corporation. SN 292,129. Pub. 3-25-69. Filed 2-28-68.

870,865. PLANALOG AND DESIGN. Planalog, Inc. MULTIPLE CLASS (Classes 26 and 107). SN 292,650. Pub. 1-28-69. Filed 3-7-68.

870,866. SPLIT-O-MATIC. Gilson Screen Company. SN 294,040. Pub. 3-25-69. Filed 3-25-68.

870,867. PORTA-FLOW. Flow Pharmaceuticals, Inc. (Nevada corporation), assignee of Flow Pharmaceuticals, Inc. (Delaware corporation). SN 299,277. Pub. 3-25-69. Filed 5-29-68.

870,868. RAPIDFRAME. Tracor, Inc. SN 299,502. Pub. 3-25-69. Filed 5-31-68.

870,869. DISTRAN. Ranging, Inc. SN 299,714. Pub. 3-25-69. Filed 5-31-68.

870,870. ABBEY DIGIPRINTER. Abbey Electronics Corp. SN 299,922. Pub. 3-25-69. Filed 6-7-68.

870,871. DAKOTA. Textron Inc. SN 304,412. Pub. 3-25-69. Filed 8-5-68.

870,872. GENERAL ELECTRIC AND GE DESIGN. General Electric Company. SN 309,249. Pub. 3-25-69. Filed 10-9-68.

870,873. INDENTOPOINT AND DESIGN. J. K. Smit & Sons, Inc. SN 312,547. Pub. 3-25-69. Filed 11-19-68.

870,874. AQUARATOR. Precision Scientific Company. SN 312,959. Pub. 3-25-69. Filed 11-25-68.

Class 27 — Horological Instruments

870,730. (See Class 12 for this trademark.)

870,788. (See Class 21 for this trademark.)

870,875. PASSEPORT. Telmont Corporation, by change of name from World Toy House, Inc. SN 301,291. Pub. 3-25-69. Filed 6-24-68.

Class 28 — Jewelry and Precious-Metal Ware

870,876. AL (DESIGN). A. L. Meadows, d.b.a. Nugget Jewelry Manufacturing. SN 283,684. Pub. 8-6-68. Filed 10-30-67.

Class 31 — Filters and Refrigerators

870,730. (See Class 12 for this trademark.)

870,739. (See Class 15 for this trademark.)

870,877. CENTRIMAZE. North American Rockwell Corporation. SN 295,278. Pub. 3-25-69. Filed 4-10-68.

870,878. FREEZ KING. Tastee Freez Industries, Inc. SN 302,694. Pub. 3-25-69. Filed 7-15-68.

Class 32 — Furniture and Upholstery

870,730. (See Class 12 for this trademark.)

870,731. (See Class 12 for this trademark.)

870,879. MAJESTIC. United States Rubber Company. SN 265,129. Pub. 12-19-67. Filed 2-20-67.

870,880. K (DESIGN). Krueger Metal Products, Inc. SN 285,667. Pub. 5-14-68. Filed 11-27-67.

870,881. MISCELLANEOUS DESIGN. The Spring Air Company. SN 287,384. Pub. 3-25-69. Filed 12-21-67.

870,882. GF (DESIGN). The General Fireproofing Company. SN 293,031. Pub. 3-25-60. Filed 3-12-68.

870,883. LIVORNO. Drexel Enterprises, Inc. SN 303,149. Pub. 3-25-69. Filed 7-19-68.

Class 33 — Glassware

870,731. (See Class 12 for this trademark.)

870,884. HP. Verreries Pochet et du Courval S.a.r.l. SN 256,396. Pub. 3-25-69. Filed 10-13-66.

Class 34 — Heating, Lighting, and Ventilating Apparatus

870,701. (See Class 2 for this trademark.)

870,730. (See Class 12 for this trademark.)

870,737. (See Class 13 for this trademark.)

870,801. (See Class 21 for this trademark.)

870,841. (See Class 23 for this trademark.)

870,885. PLASMAGRAPH. Air Reduction Company, Incorporated. SN 274,166. Pub. 3-25-69. Filed 6-19-67.

870,886. ASTRO-ARC. Astro-Arc Co. SN 279,355. Pub. 3-25-69. Filed 8-30-67.

870,887. ROTO-SAVE. Munters Corporation. SN 291,887. Pub. 3-25-69. Filed 2-26-68.

870,888. WEATHERPACK. Addison Products Company. SN 293,209. Pub. 3-25-69. Filed 3-14-68.

870,889. CHAR-KROME. The Tappan Company. SN 293,324. Pub. 3-25-69. Filed 3-14-68.

870,890. ARMETALE. Wilton Brass Company. SN 304,525. Pub. 3-25-69. Filed 8-6-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

870,891. A (DESIGN). The Armstrong Rubber Company. SN 304,569. Pub. 3-25-69. Filed 8-7-68.

Class 36 — Musical Instruments and Supplies

870,730. (See Class 12 for this trademark.)

870,892. MININOME. Robert D. Veech. SN 269,131. Pub. 3-25-69. Filed 4-13-67.

870,893. CHILD WORLD. Child World, Inc., assignee of Synthetic Plastics Company. SN 280,350. Pub. 6-18-68. Filed 9-14-67.

870,894. INSTA-TUNE. Technological Products Incorporated. SN 289,047. Pub. 3-25-69. Filed 1-17-68.

870,895. BENGE. Donald E. Benge. SN 298,999. Pub. 3-25-69. Filed 5-24-68.

870,896. QUALITON AND DESIGN. National Gramophon Works Corporation. SN 300,211. Pub. 3-25-69. Filed 6-11-68.

870,897. PLAYMATE. Thomas Organ Co. SN 307,252. Pub. 3-25-69. Filed 9-12-68.

870,898. FENWICK AND DESIGN. Fenwick Industries, Inc. MULTIPLE CLASS (Classes 36 and 38). SN 307,704. Pub. 3-25-69. Filed 9-19-68.

870,899. AUTODYNE. Robert H. Foley, d.b.a. Autodyne. SN 312,955. Pub. 3-25-69. Filed 11-25-68.

870,900. CREED. Nashboro Record Co., Inc. SN 313,324. Pub. 3-25-69. Filed 11-29-68.

Class 37 — Paper and Stationery

870,719. (See Class 8 for this trademark.)

870,901. FACELLE AND DESIGN. Facelle Company Limited. SN 232,201. Pub. 1-23-68. Filed 11-5-65.

870,902. FACELLE. Facelle Company Limited. SN 233,294. Pub. 1-23-68. Filed 11-26-65.

870,903. B1 HOSTESS AND DESIGN. Beatrice J. Kent, d.b.a. B1 Hostess Products. SN 280,785. Pub. 3-25-69. Filed 9-20-67.

870,904. MED-O-MATIC. Albert W. Trtanj, D.D.S. SN 282,151. Pub. 3-25-69. Filed 10-9-67.

870,905. ZIP-VELOPE. The Automated Packaging Corporation. SN 282,667. Pub. 3-25-69. Filed 10-17-67.

870,906. CREDIT SAVERS'. Frederick William Dobert, d.b.a. Credit Savers'. SN 292,189. Pub. 3-25-69. Filed 2-29-68.

870,907. BANAVAC. United Fruit Company. SN 297,459. Pub. 3-4-69. Filed 5-6-68.

870,908. MAJOR MATT MASON. Mattel, Inc. SN 300,405. Pub. 3-25-69. Filed 6-14-68.

870,909. POLY-WHITE. Rolar, Inc. SN 301,768. Pub. 3-25-69. Filed 7-1-68.

Class 38 — Prints and Publications

870,898. (See Class 36 for this trademark.)

870,910. EC. Horizon House-Microwave, Inc. SN 260,156. Pub. 7-9-68. Filed 12-6-66.

870,911. SILENT EDUCATOR. Scientific Film Company. SN 263,295. Pub. 3-25-69. Filed 1-25-67.

870,912. ECN AND DESIGN. Chilton Company. SN 277,262. Pub. 7-9-68. Filed 8-1-67.

870,913. OYEZ. Robert L. Hawley, d.b.a. Oyez. SN 278,531. Pub. 3-25-69. Filed 8-17-67.

870,914. SEIKYO TIMES. Sokagakkai Religious Corporation. SN 280,730. Pub. 3-25-69. Filed 9-19-67.

870,915. THE SLIM GLUTTON. Joy Ubina. SN 282,735. Pub. 3-25-69. Filed 10-17-67.

870,916. ABA "GREEN SHEET." Allan H. Bell, d.b.a. America's Best Attractions. SN 284,984. Pub. 3-25-69. Filed 11-16-67.

870,917. FOR-AGAINST AND DESIGN. Imprimerie et Librairie Berger-Levrault. SN 285,550. Pub. 3-25-69. Filed 11-24-67.

870,918. A TOWER BOOK AND DESIGN. Augsburg Publishing House. SN 286,494. Pub. 3-25-69. Filed 12-8-67.

870,919. ACTIBOM. Societe Anonyme Delpire. SN 288,452. Pub. 3-25-69. Filed 1-9-68.

870,920. FUN-WAY. Fun-Way Publications, Inc. SN 289,092. Pub. 3-25-69. Filed 1-18-68.

870,921. THE THIRD EYE. The Third Eye, Inc. SN 289,753. Pub. 3-25-69. Filed 1-29-68.

870,922. PIT STOP. David W. Lupton, assignee of Contact Marketing, Inc. SN 289,974. Pub. 3-25-69. Filed 1-31-68.

870,923. THE WEDNESDAY MAGAZINE. Alpha N. Brown. SN 293,221. Pub. 3-25-69. Filed 3-14-68.

870,924. ML AND DESIGN. Random House, Inc. SN 295,373. Pub. 3-25-69. Filed 4-10-68.

870,925. SILLIGISMS. John Beach. SN 301,401. Pub. 3-25-69. Filed 6-26-68.

870,926. SHOTS-IN-THE-DARK AND DESIGN. Gibson Greeting Cards, Inc. SN 301,929. Pub. 3-25-69. Filed 7-3-68.

870,927. FUN N' GAMES. Gibson Greeting Cards, Inc. SN 301,930. Pub. 3-25-69. Filed 7-3-68.

870,928. HAPPY-GO-LIGHTLY AND DESIGN. Gibson Greeting Cards, Inc. SN 301,932. Pub. 3-25-69. Filed 7-3-68.

870,929. TRAFFIC STOPPERS. Traffic Stoppers Company. SN 302,353. Pub. 3-25-69. Filed 7-9-68.

870,930. BUSINESS AUTOMATION. Business Press International, Inc. SN 302,587. Pub. 3-25-69. Filed 7-12-68.

870,931. DEBONAIRE AND DESIGN. Hallmark Cards, Incorporated. SN 303,674. Pub. 3-25-69. Filed 7-26-68.

870,932. BIG TABLE. Follett Publishing Company. SN 303,904. Pub. 3-25-69. Filed 7-30-68.

870,933. THE WORLD TODAY SERIES. Stryker-Post Publications. SN 305,188. Pub. 3-25-69. Filed 8-15-68.

870,934. MEDLEY. Radio Corporation of America. SN 312,719. Pub. 3-25-69. Filed 11-21-68.

870,935. LANCER. Lancer Books, Inc. SN 313,543. Pub. 3-25-69. Filed 12-4-68.

Class 39 — Clothing

870,936. CANOR PLAREX. Canor Plarex Inc. SN 251,513. Pub. 3-25-69. Filed 8-2-66.

870,937. NORRIS. Norris Manufacturing Company. SN 274,452. Pub. 3-25-69. Filed 6-21-67.

870,938. ZODYS ROYAL SUPREME AND DESIGN. Hartfield-Zodys, Inc. SN 278,595. Pub. 3-25-69. Filed 8-18-67.

870,939. DI LEON. Di Leon Ltd., by change of name from Shoes by Leonardo, Ltd. SN 280,977. Pub. 3-25-69. Filed 9-22-67.

870,940. ENGLISH ENTRIES. English Entries, Ltd. SN 282,276. Pub. 3-25-69. Filed 10-11-67.

870,941. BLUE JAY. Imperial Reading Corporation. SN 283,253. Pub. 3-25-69. Filed 10-24-67.

870,942. ASPEN TRAIL FINDERS. Trans-World Shoe Import Co., Inc. SN 284,951. Pub. 3-25-69. Filed 11-15-67.

870,043. MISCELLANEOUS DESIGN. Colfax Industries. SN 288,605. Pub. 3-25-69. Filed 1-11-68.

870,944. PLUS 50. G. B. Britton & Sons (Holdings) Limited. SN 291,831. Pub. 3-25-69. Filed 2-26-68.

870,945. OLD TOWN AND DESIGN. The Salem Company, Inc. SN 293,307. Pub. 3-25-69. Filed 3-13-68.

870,946. DESIGNER SHOWCASE. J. Schoeneman, Inc. SN 299,498. Pub. 3-25-69. Filed 5-31-68.

870,947. RICINNI. H. Childs & Co., Inc. SN 303,274. Pub. 3-25-69. Filed 7-22-68.

870,948. LORELEI. Skaggs Drug Centers, Inc. SN 303,933. Pub. 3-25-69. Filed 7-30-68.

870,949. THE BRASS ASS AND DESIGN. Brass Ass, Inc. SN 305,625. Pub. 3-25-69. Filed 8-21-68.

870,950. GFC (DESIGN). George Frost Company. SN 306,236. Pub. 3-25-60. Filed 8-29-68.

870,951. JAY HART ORIGINALS. Jack Hartley, d.b.a. Jay Hart Originals. SN 306,613. Pub. 3-25-69. Filed 9-5-68.

870,952. INVISI-FILL. The Lovable Company. SN 310,966. Pub. 3-25-69. Filed 10-31-68.

870,953. SHAPE-MATES. Maidenform, Inc. SN 310,967. Pub. 3-25-69. Filed 10-31-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

870,954. LADY MADISON. Lady Madison, Inc. SN 265,641. Pub. 3-25-69. Filed 2-28-67.

870,955. THE BLANKET BEAUTIFUL. Independent Associated Distributors, Inc. SN 300,933. Pub. 3-25-69. Filed 6-20-68.

870,956. ZODIAC. J. P. Stevens & Co., Inc. SN 302,982. Pub. 3-25-69. Filed 7-17-68.

Class 44 — Dental, Medical, and Surgical Appliances

870,730. (See Class 12 for this trademark.)

870,737. (See Class 13 for this trademark.)

870,957. DOTTER LUKAS. United States Catheter & Instrument Corporation (Delaware corporation), assignee of United States Catheter & Instrument Corporation (New York corporation). SN 220,602. Pub. 3-25-69. Filed 6-7-65.

870,958. TOMAC. American Hospital Supply Corporation. SN 258,658. Pub. 3-25-69. Filed 11-15-66.

870,959. AMNIHOOK. Hollister Incorporated. SN 301,750. Pub. 3-25-69. Filed 7-1-68.

Class 45 — Soft Drinks and Carbonated Waters

870,960. CHERRI MERRI. Lawrence W. Patterson, d.b.a. General Bottling Company. SN 272,400. Pub. 3-25-69. Filed 5-25-67.

870,961. ROYALINE FOODS AND DESIGN. Royal Castle System, Inc., d.b.a. Royaline Foods. MULTIPLE CLASS (Classes 45 and 46). SN 287,476. Pub. 3-25-69. Filed 12-26-67.

870,962. SUN·VI 1+3. Sun-Vi Products, Inc., by change of name from Vita Sun Fruit Juices, Inc. SN 291,653. Pub. 3-25-69. Filed 2-21-68.

870,963. CALCUTTA. Bohemian Distributing Company, d.b.a. Calcutta Products Company. SN 295,717. Pub. 3-25-69. Filed 4-16-68.

870,964. CARQUE NATURAL FOODS OF CALIFORNIA AND DESIGN. Kahan & Lessin Co., d.b.a. Natural Brands Co. SN 308,853. Pub. 3-25-69. Filed 10-4-68.

Class 46 — Foods and Ingredients of Foods

870,961. (See Class 45 for this trademark.)

870,965. OLD DUTCH. Old Dutch Foods, Inc., assignee of Vernon O. Aanenson, d.b.a. Old Dutch Foods. SN 265,255. Pub. 3-25-69. Filed 2-23-67.

870,966. GROOVY. Creative Programs, Incorporated. SN 281,039. Pub. 3-25-69. Filed 9-25-67.

870,967. KIBUN. Kabushiki Kaisha Kibun, d.b.a. Kibun Co., Ltd. SN 288,436. Pub. 3-25-69. Filed 1-9-68.

870,968. SUPREME D' ARPEGE. Societe des Laboratoires Jean-Pierre Daul. SN 288,982. Pub. 3-25-69. Filed 1-16-68.

870,969. STEM. Cream Products Company, Inc. SN 292,355. Pub. 3-25-69. Filed 3-4-68.

870,970. FAMILJE BAGERIET AND DESIGN. AB A. Pahlssons Bageri. SN 297,933. Pub. 3-25-69. Filed 5-13-68.

870,971. PAGENS FAMILJE BAGERI AND DESIGN. Pagens Familjebageri AB. SN 298,035. Pub. 3-25-69. Filed 5-13-68.

870,972. MOUNT PALOMAR "THE PEAK OF QUALITY" AND DESIGN. San Diego Products Co., d.b.a. Palomar Foods and Palomar Foods Company. SN 298,906. Pub. 3-25-69. Filed 5-23-68.

870,973. BIO-FACTURED. Better Foods Foundation Co-operative, Assn., d.b.a. Better Foods Co-Op, Assoc. SN 299,095. Pub. 3-25-69. Filed 5-27-68.

870,974. PEPPERADOS. Tak-A-Taco, Inc. SN 300,386. Pub. 3-25-69. Filed 6-13-68.

870,975. OLD MEISTER. Schweigert Meat Co. SN 300,626. Pub. 3-25-69. Filed 6-17-68.

870,976. ISN'T IT A PLEASURE TO EAT OUT! AND DESIGN. National Institutional Food Distributor Associates, Inc. SN 300,725. Pub. 3-25-69. Filed 6-18-68.

870,977. AC'CENT. International Minerals & Chemical Corporation, d.b.a. Ac'cent International. SN 300,783. Pub. 3-25-69. Filed 6-19-68.

870,978. DOTS-A-POPPIN. Mason, Au & Magenheimer Confy. Mfg. Co., Inc. SN 303,425. Pub. 3-25-69. Filed 7-23-68.

870,979. MAHATMA. Riviana Foods Inc. SN 303,707. Pub. 3-25-69. Filed 7-26-68.

870,980. WICK'S. Wick's Pies, Inc. SN 304,723. Pub. 3-25-69. Filed 8-8-68.

870,981. LOOK-FIT. The Great Atlantic & Pacific Tea Company, Inc. SN 304,779. Pub. 3-25-69. Filed 8-9-68.

870,982. TAWNY. Carnation Company. SN 304,886. Pub. 3-25-69. Filed 8-12-68.

870,983. TOPIC. Carnation Company. SN 304,887. Pub. 3-25-69. Filed 8-12-68.

870,984. MG-100. Breddo Food Products Corporation, Inc. SN 308,250. Pub. 3-25-69. Filed 9-26-68.

Class 47 — Wines

870,985. VP. Vine Products, Limited. SN 275,485. Pub. 3-25-69. Filed 11-29-68.

870,986. BULLY HILL. Ellen K. Taylor, d.b.a. The Lake Keuka Wine Co. SN 284,844. Pub. 3-25-69. Filed 11-14-67.

870,987. LUGANA FOLONARI AND DESIGN. Societa per Azioni Fratelli Folonari. SN 290,345. Pub. 3-25-69. Filed 2-5-68.

870,988. 410. London Winery Limited. SN 293,286. Pub. 3-25-69. Filed 3-14-68.

870,989. LW AND OVAL DESIGN. London Winery Limited. SN 295,445. Pub. 3-25-69. Filed 4-11-68.

870,990. CIAO-CIAO. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines. SN 297,573. Pub. 3-25-69. Filed 5-7-68.

Class 48 — Malt Beverages and Liquors

870,991. HARP. Arthur Guinness Son & Company Limited. SN 291,957. Pub. 3-25-69. Filed 2-27-68.

Class 49 — Distilled Alcoholic Liquors

870,992. ZUISS CREAMS. E. Delatour & Cie., Sosiete Anonime. SN 277,898. Pub. 3-25-69. Filed 8-9-67.

Class 50 — Merchandise Not Otherwise Classified

870,719. (See Class 8 for this trademark.)

870,993. BRINNCO. Brinn's China and Glassware Co. SN 257,456. Pub. 3-25-69. Filed 10-28-66.

870,994. PERRY SCAFFOLD POSITIVE ENGAGEMENT AND DESIGN. Perry Manufacturing, Inc. SN 259,464. Pub. 3-25-69. Filed 11-25-66.

870,995. DESIGN OF A CAT. Pictorial Spot-Lite, Inc. SN 274,339. Pub. 3-25-69. Filed 6-20-67.

870,996. WING-MASTER. Wingmaster Company, Inc. SN 284,413. Pub. 3-25-69. Filed 11-8-67.

870,997. THE FRANK SLACKS FORM. Frank S. Sander. SN 286,448. Pub. 3-25-69. Filed 12-7-67.

870,998. PLASTIFLEX. National Soda Straw Company. SN 290,873. Pub. 3-25-69. Filed 2-12-68.

870,999. TRU-SIZE. Roberts and Porter, Inc. SN 292,294. Pub. 3-25-69. Filed 3-1-68.

871,000. KRAZY STRAW. F & J Enterprises, Inc., assignee of F and J Enterprises. SN 298,118. Pub. 3-25-69. Filed 5-14-68.

871,001. MACCABEE. Dra-Dell Inc. SN 298,209. Pub. 3-25-69. Filed 5-15-68.

871,002. VISUALITE. Bevelite Mfg. Company. SN 299,750. Pub. 3-25-69. Filed 6-5-68.

871,003. PROGPRO. National Electrotype Company, Inc. SN 300,477. Pub. 3-25-69. Filed 6-14-68.

871,004. WEATHERCASTER. National Educational Aids, Inc. SN 300,954. Pub. 3-25-69. Filed 6-20-68.

871,005. BASIC BUDDY AND DESIGN. Basic Buddy Products. SN 302,791. Pub. 3-25-69. Filed 5-10-68.

871,006. SPIN-PROOF. R. D. Werner Co., Inc. SN 306,006. Pub. 3-25-69. Filed 8-26-68.

Class 51 — Cosmetics and Toilet Preparations

871,007. BLONDES REALLY DO HAVE MORE FUN. Clairol Incorporated. SN 281,769. Pub. 3-25-69. Filed 10-4-67.

871,008. BLONDES HAVE MORE FUN. Clairol Incorporated. SN 281,770. Pub. 3-25-69. Filed 10-4-67.

871,009. GET STRAIGHT. Nutrine, Ltd. SN 282,918. Pub. 3-25-69. Filed 10-19-67.

871,010. NUTRI-LAC. Nutrine, Ltd. SN 282,919. Pub. 3-25-69. Filed 10-19-67.

871,011. NUTRINE AND DESIGN. Nutrine, Ltd. SN 282,920. Pub. 3-25-69. Filed 10-19-67.

871,012. SIBOLEY. Eiichi Kimura. SN 285,026. Pub. 3-25-69. Filed 11-16-67.

871,013. KHADINE. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 285,966. Pub. 8-27-68. Filed 11-29-67.

871,014. BALAFRE. Lancôme S.A. SN 290,737. Pub. 3-25-69. Filed 2-9-68.

871,015. DEBUTANTE INTERNATIONAL. Daggett & Ramsdell International Corp. SN 291,142. Pub. 3-25-69. Filed 2-15-68.

871,016. LUMBERJACK LOTION. White Cross Stores, Inc. SN 292,232. Pub. 3-25-69. Filed 2-29-68.

871,017. OSTER. John Oster Manufacturing Co. SN 293,526. Pub. 3-25-69. Filed 3-18-68.

871,018. SEA WILLOW. Avon Products, Inc. SN 299,301. Pub. 2-18-69. Filed 5-29-68.

871,019. SURE THING. Helene Curtis Industries, Inc. SN 311,241. Pub. 3-25-69. Filed 11-4-68.

871,020. EL LEON. The Gillette Company. SN 312,385. Pub. 3-25-69. Filed 11-18-68.

871,021. SHADES O' SUMMER. The Gillette Company. SN 312,956. Pub. 3-25-69. Filed 11-25-68.

871,022. RIGHT AFTER. The Gillette Company. SN 313,061. Pub. 3-25-69. Filed 11-26-68.

Class 52 — Detergents and Soaps

871,013. (See Class 51 for this trademark.)

871,023. MB (DESIGN). Martin-Brower Corporation. SN 268,971. Pub. 3-25-69. Filed 4-12-67.

871,024. C-EM-CLEAN. St. Lawrence Chemical Company, Inc. SN 274,352. Pub. 3-25-69. Filed 6-20-67.

871,025. DRAIN SPARKLE AND DESIGN. Dun Win Company. SN 290,589. Pub. 3-25-69. Filed 2-8-68.

871,026. SURGI-SPUNG. The Purdue Frederick Company. SN 293,570. Pub. 3-25-69. Filed 3-18-68.

871,027. SURGI-SPONGE. The Purdue Frederick Company. SN 293,571. Pub. 3-25-69. Filed 3-18-68.

871,028. FANTASTIK AND DESIGN. Texize Chemicals, Inc. SN 298,057. Pub. 3-25-69. Filed 5-13-68.

871,029. SKY LANTERNS. Avon Products, Inc. SN 299,315. Pub. 2-18-69. Filed 5-29-68.

871,030. LANO-CEL. Radiator Specialty Company. SN 300,290. Pub. 3-25-69. Filed 6-12-68.

871,031. DIVO. The Diversey Corporation. SN 300,913. Pub. 3-25-69. Filed 6-20-68.

871,032. NIP-AN-TUCK. Huntington Laboratories, Inc. SN 301,075. Pub. 3-25-69. Filed 6-21-68.

871,033. DESIGN OF MAN'S HEAD. Sudzy's, Inc. SN 301,466. Pub. 3-25-69. Filed 6-26-68.

871,034. OLD MISSION AND DESIGN. A. I. Root Co. of Texas, Inc., d.b.a. A. I. Root Company. SN 307,262. Pub. 3-25-69. Filed 9-13-68.

871,035. ANYTHING GOES! Purex Corporation, Ltd. SN 307,936. Pub. 3-25-69. Filed 9-23-68.

871,036. POWER-KLENE. Montrose Oil and Belting Co., Inc., d.b.a. Montrose Supply & Equipment Co. SN 311,792. Pub. 3-25-69. Filed 11-12-68.

Service Marks

Class 100 — Miscellaneous

871,037. DESIGN OF A BUILDING HAVING A CURVED ROOF. Arby's, Inc. SN 258,474. Pub. 3-25-69. Filed 11-14-66.

871,038. THE INTERNATIONAL SIGN SERVICE. Cummings & Co. Inc. MULTIPLE CLASS (Classes 100, 101, and 103). SN 268,162. Pub. 3-25-69. Filed 4-3-67.

871,039. ON GUARD AGAINST AIR POLLUTION AND DESIGN. The Johnson-March Corporation, d.b.a. Johnson-March Corporation. SN 275,529. Pub. 3-25-69. Filed 7-7-67.

871,040. A CARTOON FIGURE. McDonald's Corporation. SN 279,843. Pub. 3-25-69. Filed 9-7-67.

871,041. TECHCRETE. Carl Koch & Associates, Inc. SN 283,670. Pub. 3-25-69. Filed 10-30-67.

871,042. NPC. National Personnel Consultants. SN 291,517. Pub. 3-25-69. Filed 2-20-68.

871,043. CHRYSANTHEMUM CAPITAL OF THE WORLD ETC. AND DESIGN. Lubbock Chamber of Commerce. SN 295,151. Pub. 3-25-69. Filed 4-8-68.

871,044. DIETRONICS. Enzyme Process Company, Inc. SN 297,546. Pub. 3-25-69. Filed 5-7-68.

Class 101 — Advertising and Business

871,038. (See Class 100 for this trademark.)

871,045. SPORT HOUSE. Scientific Associates, Inc. SN 269,798. Pub. 3-25-69. Filed 4-21-67.

871,046. MISCELLANEOUS DESIGN. Societe Fermiere des Colonnes Affiches. SN 283,285. Pub. 1-21-69. Filed 10-24-67.

871,047. MONEY CIRCLE. Glendinning Companies, Inc. SN 288,014. Pub. 3-25-69. Filed 1-3-68.

871,048. CHEMISTRIBUTORS. Central Solvents and Chemicals Company. SN 294,372. Pub. 3-25-69. Filed 3-28-68.

Class 102 — Insurance and Financial

871,049. MICHIGAN FARMER. Home State Insurance Agency, Inc. SN 261,925. Pub. 3-25-69. Filed 1-4-67.

871,050. PENNSYLVANIA FARMER. Home State Insurance Agency, Inc. SN 261,926. Pub. 3-25-69. Filed 1-4-67.

871,051. MISCELLANEOUS DESIGN. The Timeplan Corporation. SN 283,289. Pub. 3-25-69. Filed 10-24-67.

Class 103 — Construction and Repair

871,038. (See Class 100 for this trademark.)

871,052. THE NATION'S GRAIN GUARDIANS. Harvestall Industries, Inc. SN 274,064. Pub. 3-25-69. Filed 6-16-67.

871,053. MARK OF QUALITY MA AND DESIGN. Milford Automatics, Inc. SN 278,122. Pub. 3-25-69. Filed 8-11-67.

871,054. GRIFFIN AND DESIGN. Deep Steam Extraction Ltd. SN 283,995. Pub. 3-25-69. Filed 11-2-67.

Class 105 — Transportation and Storage

871,055. PICK-A-TOUR. Deutsche Lufthansa Aktiengesellschaft. SN 287,527. Pub. 3-25-69. Filed 12-26-67.

871,056. KINCAR. Kinney National Service, Inc. SN 313,005. Pub. 3-25-69. Filed 11-25-68.

Class 107 — Education and Entertainment

870,865. (See Class 26 for this trademark.)

871,057. THE LOLLIPOP PRINCESS. Lin Folk. SN 229,423. Pub. 3-25-69. Filed 10-6-65.

871,058. WASHINGTON STATE UNIVERSITY AND DESIGN. Washington State University. SN 270,989. Pub. 3-25-69. Filed 5-8-67.

871,059. CROSS/FLAG (DESIGN). Charles T. Evans, d.b.a. Safety Motivations. SN 295,793. Pub. 3-25-69. Filed 4-17-68.

871,060. PRINTIQUES. Eastman Kodak Company. SN 297,179. Pub. 3-25-69. Filed 5-2-68.

Certification Mark

Class A — Goods

871,061. KENBLUE KENTUCKY BLUEGRASS AND DESIGN. Kentucky Seed Improvement Association, Inc. SN 298,729. Pub. 3-25-69. Filed 5-21-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 – Receptacles

871,062. Mallory Randall Corporation, Brooklyn, N.Y. SN 261,860. Filed P.R. 1-3-67; Am. S.R. 2-18-69.

SEAL-TITE

For Bowl Lids Which Snap on or Off (Int. Cl. 20).
First use Dec. 6, 1966.

Class 4 – Abrasives and Polishing Materials

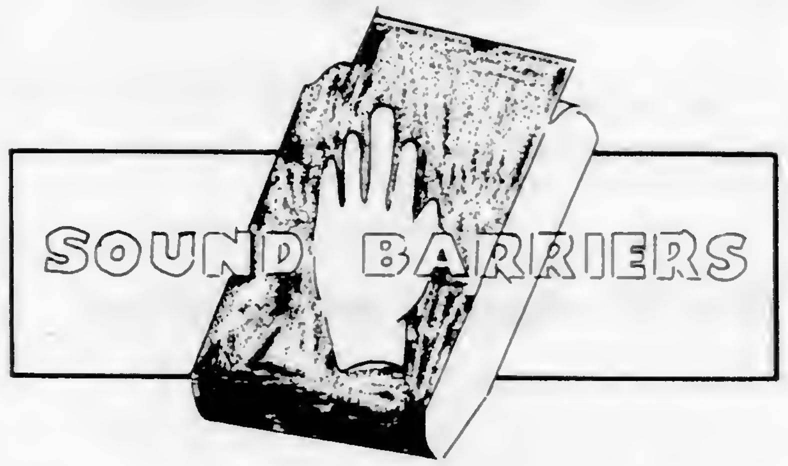
871,063. Reckitt & Colman (Overseas) Limited, Hull, England. SN 311,927. Filed 11-12-68.

PADAWAX

Owner of British Reg. No. B834,968, dated May 23, 1962.
For Wax Polishing and Wax Cleaning Preparations for Use on Leather and Artificial Leather Products (Int. Cl. 3).

Class 12 – Construction Materials

871,064. Birma Products Corporation, Sayreville, N.J. SN 258,888. Filed P.R. 11-17-66; Am. S.R. 1-10-69.



For Acoustical Products—Namely, for Sound Absorptive Materials Made of Combinations of Asbestos, Aluminum and Fiberglass and Employed in Building Duct Work and the Like for Thermal, Acoustical and Vibration Attenuation (Int. Cl. 17).
First use April 1961.

Class 36 – Musical Instruments and Supplies

871,065. Hallmark Cards, Incorporated, Kansas City, Mo. SN 278,206. Filed P.R. 8-14-67; Am. S.R. 7-29-68.

LISTEN AND PLAY STORY

For Phonograph Records (Int. Cl. 9).
First use July 14, 1967.

Class 37 – Paper and Stationery

871,066. Boise Cascade Corporation, Boise, Idaho. SN 257,032. Filed P.R. 10-24-66; Am. S.R. 3-3-69.

STATIONERS

For Paper—Namely, Bond Paper, Mimeograph Paper, Mimeo-Bond Paper, and Duplicator Paper (Int. Cl. 16).
First use Aug. 17, 1966.

871,067. Shachihata Industrial Co., Ltd., Nishi-ku, Nagoya, Japan. SN 277,478. Filed P.R. 8-3-67; Am. S.R. 1-9-69.

ARTLINE

For Stationery—Namely, Felt Pen and Ink Cartridges Therefor (Int. Cl. 16).
First use at least as early as June 4, 1967; in commerce June 4, 1967.

Class 38 – Prints and Publications

871,068. Warner-Artex, Inc., New York, N.Y. SN 275,713. Filed P.R. 7-10-67; Am. S.R. 8-9-68.

FRAYPRUF

For Woven Labels (Int. Cl. 16).
First use May 4, 1967.

871,069. The William/Lawrence Corporation, Sierra Madre, Calif. SN 287,472. Filed P.R. 12-22-67; Am. S.R. 3-14-69.

MOTORCYCLE DEALER NEWS

For Periodical Magazine (Int. Cl. 16).
First use at least as early as June 1965.

871,070. Communications Technology, Inc., Greenville, N.H. SN 292,040. Filed P.R. 2-26-68; Am. S.R. 3-5-69.

HAM RADIO

For Magazine (Int. Cl. 16).
First use Feb. 15, 1968.

871,071. The Kentucky Trust Company, Louisville, Ky. SN 309,263. Filed 10-9-68.

THE KENTUCKY TRUST JOURNAL

For Bulletins Relating to Trusts, Estates and Taxes (Int. Cl. 16).
First use July 15, 1967.

871,072. Harrison-Blaine of New Jersey, Inc., Washington, D.C. SN 310,097. Filed 10-21-68.

T.R.B.

For News Column (Int. Cl. 16).
First use during 1943.

871,073. The New Yorker Magazine, Inc., New York, N.Y. SN 310,582. Filed 10-25-68.

U.S. LETTER:

For Column in a Weekly Magazine (Int. Cl. 16).
First use Oct. 14, 1967.

871,074. The New Yorker Magazine, Inc., New York, N.Y. SN 311,287. Filed 11-4-68.

MOST FASCINATING NEWS STORY OF THE WEEK

For Column in a Weekly Magazine (Int. Cl. 16).
First use Jan. 9, 1943.

Class 39 – Clothing

871,075. Erlee Manufacturing Company, Passaic, N.J. SN 284,458. Filed P.R. 11-9-67; Am. S.R. 10-1-68.

DRI-EDGE

For Plastic Covered Rubber Waist and Legbands Sold as a Component Part of Baby Pants (Int. Cl. 25).
First use Apr. 17, 1967.

Class 42 – Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

871,076. Lanneau Tapijt-En Fluweelweverij N.V., Harelbeke (Kortrijk), Belgium. SN 298,132. Filed P.R. 5-14-68; Am. S.R. 3-10-69.

ANKARA

For Carpets (Int. Cl. 27).
First use 1963; in commerce 1963.

871,077. Adept Sales & Mfg. Co. Inc., Flushing, N.Y. SN 299,536. Filed P.R. 6-3-68; Am. S.R. 3-10-69.

STAY-SET

For Pillow Cases and Pillow Covers (Int. Cl. 24).
First use Dec. 15, 1967.

Class 46 – Foods and Ingredients of Foods

871,078. General Foods Corporation, White Plains, N.Y. SN 289,673. Filed P.R. 1-26-68; Am. S.R. 1-14-69.

PLASTIC·KAN

For Plastic Film Pouch Containing Coffee (Int. Cl. 30).
First use Jan. 8, 1968.

Service Marks

Class 101 – Advertising and Business

871,079. Volume Builders, Inc., Philadelphia, Pa. SN 286,739. Filed P.R. 12-11-67; Am. S.R. 12-5-68.

DOUBLE MATCH FOR MONEY

For Promoting the Sale of Goods or Services of Others Through Providing Materials and Advertising Matter Designed for a Promotional Contest (Int. Cl. 35).
First use Dec. 4, 1967.

Class 106 – Material Treatment

871,080. Film Corporation of America, Philadelphia, Pa. SN 254,926. Filed P.R. 9-22-66; Am. S.R. 2-27-69.

TRIPLE-PRINT

For Photographic Film Developing, Processing and Printing Service (Int. Cl. 40).
First use on or about Sept. 1, 1965.

TRADEMARK REGISTRATIONS RENEWED

73,101. REPRESENTATION OF MASK. Cl. 46 (Int. Cl. 30). 3-16-09.
74,451. BAILEY'S. Cl. 46 (Int. Cl. 30). 7-13-09.
252,070. REYNOCO. Cl. 37 (Int. Cl. 16). 1-22-29.
253,611. RED BAND ON PENCIL. Cl. 37 (Int. Cl. 16). 3-5-29.
254,253. EVINRUDE. Cl. 23 (Int. Cl. 7). 3-12-29.
254,896. "B.G.C. CHURN BRAND" AND DESIGN. Cl. 46 (Int. Cl. 31). 4-2-29.
254,908. "THE QUALITY KIND" AND SEAL DESIGN. Cl. 32 (Int. Cl. 20). 4-2-29.
255,807. SIMPLEX. Cl. 23 (Int. Cl. 7). 4-30-29.
257,832. GILT-EDGE. Cl. 46 (Int. Cl. 31). 6-18-29.
259,467. KORN KIST. Cl. 46 (Int. Cl. 29). 7-30-29.
260,024. TRUE TEMPER. Cl. 23 (Int. Cls. 7 and 8). 8-13-29.
260,128. PHOENIX. Cl. 39 (Int. Cl. 25). 8-20-29.
260,196. BUTTERFINGER. Cl. 46 (Int. Cl. 30). 8-20-29.
260,241. LA CHOY. Cl. 46 (Int. Cl. 29). 8-20-29.
260,656. MASTERSEAL. Cl. 12 (Int. Cl. 1). 8-27-29.
260,739. USG. Cl. 12 (Int. Cl. 19). 8-27-29).
260,980. REPRESENTATION OF CAMEL. Cl. 4 (Int. Cl. 21). 9-3-29.
261,086. FLEXMORE. Cl. 35 (Int. Cl. 7). 9-3-29.
261,105. BONDTRU. Cl. 23 (Int. Cl. 7). 9-3-29.
441,621. OLD AMERICAN WEATHERCOTE. Cl. 12 (Int. Cl. 19). 12-21-48.
441,838. HYDRAMINE. Cl. 1 (Int. Cl. 1). 1-18-49.
442,306. OPTRON. Cl. 26 (Int. Cl. 9). 3-22-49.
442,330. TEXNIKOAOP. Cl. 26 (Int. Cl. 9). 3-22-49.
442,350. SKINTIMATES. Cl. 39 (Int. Cl. 25). 3-29-49.
442,428. GOLD STRIPE (DESIGN). Cl. 13 (Int. Cl. 6). 4-12-49.
442,476. SACON. Cl. 23 (Int. Cl. 7). 4-12-49.
442,477. UNIT. Cl. 23 (Int. Cl. 7). 4-12-49.
442,487. LOX. Cl. 5 (Int. Cl. 1). 4-19-49.
442,491. STAK-A-BYE. Cl. 32 (Int. Cl. 20). 4-19-49.
442,548. PENTOSUL. Cl. 15 (Int. Cl. 4). 4-26-49.
442,558. SAMSON AS STRONG AS THE NAME. Cl. 39 (Int. Cl. 25). 4-26-49.
442,640. REX. Cl. 46 (Int. Cl. 30). 5-3-49.
442,726. SANISHEEN. Cl. 4 (Int. Cl. 3). 5-24-49.
442,858. JFS. Cl. 23 (Int. Cl. 7). 6-7-49.
442,973. AMPCO. Cl. 21 (Int. Cl. 9). 6-28-49.
443,021. AMERICAN BEAUTY. Cl. 38 (Int. Cl. 16). 7-5-49.
443,058. FAIRBANKS MORSE AND DESIGN. Cl. 26 (Int. Cl. 9). 7-12-49.
443,210. ADLER. Cl. 39 (Int. Cl. 25). 8-9-49.

443,213. WEAR-WORTHY. Cl. 39 (Int. Cl. 25). 8–16–49.
504,026. HILLMAN. Cl. 19 (Int. Cl. 12). 11–16–48.
504,027. MINX. Cl. 19 (Int. Cl. 12). 11–16–48.
504,920. SPENSOL. Cl. 6 (Int. Cl. 1). 12–21–48.
505,009. SEA MAGIC. Cl. 46 (Int. Cl. 29). 12–21–48.
505,434. BLU-COLD. Cl. 31 (Int. Cl. 11). 1–4–49.
506,472. L (SYMBOL). Cl. 21 (Int. Cl. 11). 2–8–49.
506,615. DOROTHY REED. Cl. 51 (Int. Cl. 3). 2–15–49.
506,771. GCT IN A CIRCLE. Cl. 18 (Int. Cl. 5). 2–15–49.
506,868. 314. Cl. 46 (Int. Cl. 29). 2–22–49.
506,981. REZNOR. Cl. 34 (Int. Cl. 11). 2–22–49.
507,130. REPRESENTATION OF STAR. Cl. 42 (Int. Cl. 24). 3–1–49.
507,137. TRUNDLE BUNDLE. Cl. 39 (Int. Cl. 20). 3–1–49.
507,165. ALAMO. Cl. 39 (Int. Cl. 25). 3–1–49.
507,243. CARE. Cl. 50 (Int. Cl. 21). 3–1–49.
507,317. LANGRALL'S QUALITY. Cl. 46 (Int. Cl. 29). 3–1–49.
507,355. STAYLASTIC. Cl. 40 (Int. Cl. 26). 3–8–49.
507,356. STAYLASTIC AND DESIGN. Cl. 40 (Int. Cl. 26). 3–8–49.
507,411. CIRFLEX. Cl. 14 (Int. Cl. 6). 3–8–49.
507,412. MORFLEX. Cl. 14 (Int. Cl. 6). 3–8–49.
507,413. SAFLEX. Cl. 14 (Int. Cl. 6). 3–8–49.
507,568. NO DRIP. Cl. 12 (Int. Cl. 17). 3–15–49.
507,581. ANN PAGE. Cl. 46 (Int. Cls. 29 and 30). 3–15–49.
507,584. CELFOR AND DESIGN. Cl. 23 (Int. Cl. 7). 3–15–49.
507,790. TABEROC. Cl. 18 (Int. Cl. 5). 3–22–49.
507,800. VICTAWET. Cl. 6 (Int. Cl. 1). 3–22–49.
507,821. MOUNTAIN LAUREL. Cl. 46 (Int. Cl. 29). 3–22–49.
507,876. OLD VIENNA. Cl. 46 (Int. Cl. 29). 3–22–49.
508,003. STAR IN CIRCLE. Cl. 34 (Int. Cl. 11). 3–22–49.
508,035. BLOU-SLIP. Cl. 39 (Int. Cl. 25). 3–29–49.
508,041. MERCKENS. Cl. 46 (Int. Cl. 30). 3–29–49.
508,045. MAXWELL. Cl. 39 (Int. Cl. 25). 3–29–49.
508,067. DRIFTED SNOW. Cl. 46 (Int. Cl. 30). 3–29–49.
508,184. BLAST FURNACE & STEEL PLANT. Cl. 38 (Int. Cl. 16). 4–5–49.
508,213. BURBERRY. Cl. 42 (Int. Cl. 24). 4–5–49.
508,289. FOOD WORLD. Cl. 38 (Int. Cl. 16). 4–5–49.
508,344. BERNA. Cl. 27 (Int. Cl. 14). 4–12–49.
508,466. VARNISH FOOD. Cl. 16 (Int. Cl. 3). 4–12–49.
508,471. SYLON. Cl. 24 (Int. Cl. 7). 4–12–49.
508,497. BEC. Cl. 12 (Int. Cl. 19). 4–12–49.
508,500. CAP'N AND DESIGN. Cl. 46 (Int. Cl. 31). 4–12–49.
508,501. CAP'N. Cl. 46 (Int. Cl. 31). 4–12–49.
508,711. SILVER FROST. Cl. 46 (Int. Cl. 29). 4–19–49.
508,726. ST. REGIS. Cl. 7 (Int. Cl. 6). 4–19–49.
508,907. DETRICK. Cl. 12 (Int. Cls. 17 and 19). 4–26–49.
509,309. LIBSON HOSIERY AND DESIGN. Cl. 39 (Int. Cl. 25). 5–3–49.
509,598. CAPITOLA. Cl. 46 (Int. Cl. 30). 5–10–49.
509,692. BRIJ. Cl. 6 (Int. Cl. 1). 5–10–49.
509,820. GRIPON. Cl. 21 (Int. Cl. 11). 5–17–49.
510,115. NETBEST. Cl. 16 (Int. Cl. 2). 5–24–49.
510,172. THATCHER. Cl. 34 (Int. Cl. 11). 5–31–49.
510,207. KENSINGTON. Cl. 52 (Int. Cl. 3). 5–31–49.
510,507. CAT IN BAG (DESIGN). Cl. 2 (Int. Cls. 16 and and 22). 6–7–49.
510,612. BOOTY. Cl. 46 (Int. Cl. 31). 6–7–49.
510,638. REIMERS. Cl. 21 (Int. Cls. 9 and 11). 6–7–49.
510,743. ABITOL. Cl. 6 (Int. Cl. 1). 6–7–49.
510,865. FAULTLESS. Cl. 44 (Int. Cl. 10). 6–14–49.
510,947. METSO AND DESIGN. Cl. 52 (Int. Cl. 3). 6–14–49.
511,008. SUSAN BATES. Cl. 40 (Int. Cl. 26). 6–14–49.
511,009. CHESTER. Cl. 40 (Int. Cl. 26). 6–14–49.
511,031. ACOUSTICON. Cl. 44 (Int. Cl. 10). 6–14–49.
511,038. DUOMERSE. Cl. 52 (Int. Cl. 3). 6–14–49.
511,322. COUPLER. Cl. 39 (Int. Cl. 25). 6–21–49.
511,409. O-G DRURY LANES. Cl. 39 (Int. Cl. 25). 6–21–49.
511,647. BRIGHTWOOD. Cl. 23 (Int. Cl. 7). 6–28–49.
511,678. DETREX. Cl. 34 (Int. Cl. 11). 6–28–49.
511,748. TRACO. Cl. 13 (Int. Cl. 20). 7–5–49.
511,905. TRIAD. Cl. 6 (Int. Cls. 1 and 3). 7–5–49.
511,914. QO AND DESIGN. Cl. 6 (Int. Cl. 1). 7–5–49.
512,028. YOURS TRULY AND DESIGN. Cl. 39 (Int. Cl. 25). 7–12–49.
512,131. MAYTAG. Cl. 15 (Int. Cl. 4). 7–12–49.
512,393. CHANNELDRAIN. Cl. 12 (Int. Cl. 6). 7–19–49.
512,490. TRU-TREAD. Cl. 12 (Int. Cl. 19). 7–19–49.
512,494. RAYLINKS. Cl. 13 (Int. Cl. 12). 7–19–49.
512,753. AMERIKORN AND DESIGN. Cl. 46 (Int. Cl. 30). 7–26–49.
512,770. MAYTAG. Cl. 24 (Int. Cl. 7). 7–26–49.
512,841. DETREX. Cl. 16 (Int. Cls. 2 and 3). 7–26–49.
512,854. VARISOL. Cl. 18 (Int. Cl. 5). 7–26–49.
513,010. LAYKOLD. Cl. 12 (Int. Cl. 19). 8–2–49.
513,209. IRIGLOW. Cl. 42 (Int. Cl. 24). 8–2–49.
513,282. BIDCO BRAND CORDAGE AND DESIGN. Cl. 7 (Int. Cl. 22). 8–9–49.
513,364. BULOVA. Cl. 27 (Int. Cl. 14). 8–9–49.
513,403. WEATHERBIRD (DESIGN). Cl. 38 (Int. Cl. 16). 8–9–49.
513,452. CONTINENTAL. Cl. 13 (Int. Cl. 6). 8–9–49.
513,464. EVERGREEN. Cl. 29 (Int. Cl. 21). 8–9–49.
513,465. MARIGOLD. Cl. 29 (Int. Cl. 21). 8–9–49.
513,548. MAINSTAY. Cl. 43 (Int. Cl. 23). 8–16–49.
513,565. FANTA. Cl. 45 (Int. Cl. 32). 8–16–49.
513,576. HUDSON. Cl. 21 (Int. Cls. 7 and 11). 8–16–49.
513,604. HIPPURAN. Cl. 18 (Int. Cl. 18). 8–16–49.
513,725. WEST-OVER. Cl. 46 (Int. Cls. 29, 30, and 32). 8–16–49.
513,749. WONDERCORD BY DAVID CRYSTAL. Cl. 39 (Int. Cl. 25). 8–16–49.
513,802. TYTON. Cl. 37 (Int. Cl. 16). 8–16–49.
513,805. WORCESTER TELEGRAM. Cl. 38 (Int. Cl. 16). 8–16–49.
513,806. THE EVENING GAZETTE. Cl. 38 (Int. Cl. 16). 8–16–49.
513,937. BREWED TO THE TASTE OF THE NATION. Cl. 48 (Int. Cl. 32). 8–16–49.
513,981. HAMPTON'S HOME SPUN. Cl. 17 (Int. Cl. 34). 8–23–49.
513,982. AXTON'S NATURAL LEAF. Cl. 17 (Int. Cl. 34). 8–23–49.
513,983. OSTER LATHERSERVICE. Cl. 21 (Int. Cl. 7). 8–23–49.
514,069. MISCELLANEOUS DESIGN. Cl. 42 (Int. Cl. 24). 8–23–49.
514,124. OROSI. Cl. 46 (Int. Cl. 31). 8–23–49.
514,151. MULTIROL. Cl. 23 (Int. Cl. 7). 8–23–49.
514,207. HYKINONE. Cl. 18 (Int. Cl. 5). 8–23–49.
514,244. BURMILAIRE. Cl. 42 (Int. Cl. 24). 8–23–49.
514,380. FULL CREAM. Cl. 46 (Int. Cl. 30). 8–30–49.
514,410. TRIANGLE (DESIGN). Cl. 39 (Int. Cl. 25). 8–30–49.
514,411. BUR-MIL. Cl. 39 (Int. Cl. 25). 8–30–49.
514,453. FIDO. Cl. 46 (Int. Cl. 31). 8–30–49.
514,508. SUNDAY TELEGRAM. Cl. 38 (Int. Cl. 16). 8–30–49.
514,819. AMPCO AND DESIGN. Cl. 23 (Int. Cl. 7). 9–6–49.
514,823. ORTHOPHOS. Cl. 6 (Int. Cl. 5). 9–6–49.
515,122. LIGNOSITE. Cl. 6 (Int. Cl. 1). 9–13–49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

744,260. CANADA. Cl. 39. 1–22–63.
745,008. KANGA. Cl. 1. 2–12–63.
745,124. REBEL. Cl. 23. 2–12–63.
745,125. DIXIE. Cl. 23. 2–12–63.
747,579. ISIS. Cl. 26. 4–2–63.
748,065. KEMFAST. Cl. 16. 4–16–63.

The following registrations issued Apr. 23, 1963

748,272. DIOSACKS. Cl. 2.
748,273. SPACE KING. Cl. 3.
748,274. SPACE QUEEN. Cl. 3.
748,279. STAT-O-RUS. Cl. 4.
748,282. PERMAFLEX. Cl. 5.
748,285. PRC. Cl. 6.

748,289. WAVERLY. Cl. 10.
748,294. ATOMIZED. Cl. 12.
748,299. TEKURA. Cl. 12.
748,300. UNI-TILT. Cl. 12.
748,304. NAV-HULL. Cl. 12.
748,305. NORTHWESTERN. Cl. 12.
748,306. FLEX-TITE. Cl. 12.
748,310. ZI-CHROM. Cl. 13.
748,313. SAFE-N-SOFT. Cl. 13.
748,317. P AND DESIGN. Cl. 14.
748,318. GRANULOY. Cl. 14.
748,326. HUD-TANE. Cl. 15.
748,329. AEROLUBE. Cl. 15.
748,339. AEROFOAM. Cl. 18.
748,341. SINBAD. Cl. 19.
748,342. RYAN FLEX BEE AND DESIGN. Cl. 19.
748,347. VINATUFT. Cl. 20.
748,348. ITT A WORLD OF PRODUCTS FOR A WORLD OF PROGRESS AND DESIGN. Cl. 21.
748,352. ROYAL CREST. Cl. 21.
748,354. HAFAG AND DESIGN. Cl. 21.
748,357. ELECTROTONE AND DESIGN. Cl. 21.
748,359. SOCIALITE. Cl. 21.
748,364. SWEPE (SCRIPT FORM). Cl. 21.
748,365. SWEPE. Cl. 21.
748,366. VIDEO KING. Cl. 21.
748,367. TOP GUY. Cl. 21.
748,370. QUOTEMASTER. Cl. 21.
748,371. HANDEE. Cl. 21.
748,372. SPACE GUN. Cl. 21.
748,377. CESI. Cl. 21.
748,381. GOLF-IT. Cl. 22.
748,383. SAN-DEE HATRACK AND DESIGN. Cl. 22.
748,384. ALPINE-PRIMA. Cl. 22.
748,390. HYDROTOR AND DESIGN. Cl. 23.
748,391. GRANBULL. Cl. 23.
748,394. SOLEMASTER. Cl. 23.
748,399. MITE AND DESIGN. Cl. 23.
748,405. DUALLOY AND DESIGN. Cl. 23.
748,406. PRE-O-FORM. Cl. 23.
748,407. MASTER BLEND. Cl. 23.
748,410. NEWS VEND. Cl. 23.
748,412. PENGUIN. Cl. 23.
748,413. VERS-A-VAC. Cl. 23.
748,417. HOWE WEIGHTOGRAPH. Cl. 26.
748,418. CORNET. Cl. 26.
748,422. CPI. Cl. 26.
748,426. TORUN. Cl. 28.
748,427. DB AND DESIGN. Cl. 28.
748,437. FAF AND DESIGN. Cl. 28.
748,440. LICHT. Cl. 28.
748,444. DEVO. Cl. 28.
748,447. MJC AND DESIGN. Cl. 28.
748,456. HEATHER BIRCH. Cl. 32.
748,459. HEIRLOOM QUALITY. Cl. 32.
748,460. STACK MATES. Cl. 32.
748,461. GOLDEN HEALTH. Cl. 32.
748,463. BUDGET KING. Cl. 32.
748,466. FLAIR-PAC. Cl. 34.
748,470. MRSCO. Cl. 35.
748,471. RILSAN AND DESIGN. Cl. 35.
748,477. P.T. AND DESIGN. Cl. 35.
748,478. AD AND DESIGN. Cl. 35.
748,483. KENO. Cl. 36.
748,484. TOWN & COUNTRY. Cl. 36.
748,487. WESTERFIELD. Cl. 36.
748,488. GLOBE (DESIGN). Cl. 36.
748,489. TRUWEB. Cl. 37.
748,494. STUDY-BUDDY. Cl. 37.
748,495. TAB-KOTE. Cl. 37.
748,496. SNAP-A-LOPE. Cl. 37.
748,497. BURFI. Cl. 38.
748,498. THE GOOD COMPANIONS. Cl. 38.
748,499. BUSINESS TRAVELER. Cl. 38.
748,501. LIQUNA. Cl. 39.
748,502. RAMPANT LIDS. Cl. 39.
748,505. CLEAR-N-DRI. Cl. 39.
748,512. WISP O'VEIL. Cl. 39.
748,515. SALLY JACQUE. Cl. 39.
748,518. RUTHE ROBBIN. Cl. 39.
748,520. CEIL CIZES. Cl. 39.
748,527. DANEEL. Cl. 39.
748,529. SEW-EZE. Cl. 40.
748,534. SARBACANE. Cl. 42.
748,536. MARCEAU. Cl. 42.
748,538. STRAW-TEX. Cl. 42.
748,547. ORTHOLIFT. Cl. 44.
748,548. FIZZIES AND DESIGN. Cl. 45.
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Errata

In the Official Gazette of May 6, 1969, at page TM 47, "747,608" should be *747,068;* in 747,057 the mark should be *THE VOICE OF FM.*

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

515,546. KIDDE. Cls. 2, 6, 21, 23, and 26. 9–27–49. Walter Kidde & Company, Inc., Belleville, N.J. Amended: In the statement, column 1, lines 16 through 22, the description of goods is deleted and *carbon dioxide and oxygen* is inserted.

763,624. MR. BLUE LAKE AND DESIGN. Cl. 46. 1–21–64. Associated Blue Lake Green Bean Canners, Inc., Portland, Oreg. Corrected: In the statement, column 1, line 2, "association" should be deleted and *corporation* should be inserted.

804,345. PHARMACOIL. Cl. 44. 2–22–66. Parke, Davis & Company, Detroit, Mich. Amended: In the statement, column 2, line 1, after "cotton" *and rayon* is inserted.

823,228. NORGAS AND DESIGN. Cl. 6. 1–31–67. Northern Propane Gas Company, Omaha, Nebr. Corrected: In the statement, column 1, line 1, "Nebraska" should be deleted and *Delaware* should be inserted.

848,756. CASINO ROYALE. Cl. 51. 5–7–68. Daggett & Ramsdell International Corp., New York, N.Y. Corrected: In the statement, column 1, line 1, "Daggett and Ramsdell International Corporation" should be deleted and *Daggett & Ramsdell International Corp.* should be inserted.

849,040. LITE A LINE. Cl. 26. 5–14–68. American Vitrified Products Company, Cleveland, Ohio. Amended: In the statement, column 1, line 1, after "Company" *, now by change of name Amvit Corporation* is inserted.

865,881. SIERRA GRANDE. Cl. 46. 3–4–69. Fairmont Foods Company, Omaha, Nebr. Corrected: In the statement, column 2, after line 3, *The literal English translation for the Spanish expression "Sierra Grande" constituting the mark is "grand mountain range."* should be inserted.

865,981. "SAFOM." Cl. 1. 3-11-69. The Firestone Tire & Rubber Company, Akron, Ohio. Corrected: In the statement, column 2, line 2, "filter" should be deleted and *filler* should be inserted.

866,302. GOLD MEDAL G.M. AND DESIGN. Cl. 27. 3-11-69. Gold Medal Jewelry Inc., New York, N.Y. Corrected: In the statement, column 1, line 2, "27th" should be deleted and *47th* should be inserted.

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Duncan Electronics, Inc., Costa Mesa, Calif. 870,860, pub. 3–25–69. Cl. 26.
Dutchess Underwear Corp., New York, N.Y. 442,350, ren. 6–10–69. Cl. 39.
E-Z Buckle Inc., New York, N.Y. 748,529, canc. Cl. 40.
Eagle Pencil Co., New York, N.Y., to Berol Corp., Danbury, Conn. 253,611, ren. 6–10–69. Cl. 37.
Eastman Kodak Co., Rochester, N.Y. 871,060, pub. 3–25–69. Cl. 107.
Edwards Power Door Co., Inc., Mount Vernon, N.Y. 870,794, pub. 3–25–69. Cl. 21.
Eiichi Kimura, Fukushima-ku, Osaka-shi, Japan. 871,012, pub. 3–25–69. Cl. 51.
Eimco Corp., The, Salt Lake City, Utah. 870,837, pub. 3–25–69. Cl. 23.
Electrotone Laboratories, Inc., Chicago, Ill. 748,357, canc. Cl. 21.
Elliott Bay Mill Co., Seattle, Wash. 748,299, canc. Cl. 12.
Engelhard Minerals & Chemicals Corp.: *See*—
  Wilson, H. A., Co., The.
Engelhard Minerals & Chemicals Corp., Edison, N.J. 870,700, pub. 3–25–69. Cl. 1.
English Entries, Ltd., New York, N.Y. 870,940, pub. 3–25–69. Cl. 39.
Enzyme Process Co., Inc., Van Nuys, Calif. 871,044, pub. 3–25–69. Cl. 100.
Erlee Mfg. Co., Passaic, N.J. 871,075. Cl. 39.
Essex Wire Corp., Fort Wayne, from Precision Fittings, Inc., Andrews, Ind. 748,317, canc. Cl. 14.
Evans, Charles T., d.b.a. Safety Motivations, Newtown, Pa. 871,059, pub. 3–25–69. Cl. 107.
Evinrude Motor Co., Milwaukee, Wis., to Outboard Marine Corp., Waukegan, Ill. 254,253, ren. 6–10–69. Cl. 23.
Exotic Electronics Corp., North Hollywood, Calif. 748,313, canc. Cl. 13.
F and J Enterprises: *See*—
  F & J Enterprises, Inc.
F & J Enterprises, Inc., from F and J Enterprises, Willoughby, Ohio. 871,000, pub. 3–25–69. Cl. 50.
Fabrica de Calzado Canada, Sociedad Anonima, Guadalajara, Jalisco, Mexico. 744,260, canc. Cl. 39.
Facelle Co. Ltd., Toronto, Ontario, Canada. 870,901–2, pub. 1–23–68. Cl. 37.
Fairbanks, Morse & Co., Chicago, Ill., to Fairbanks Morse Inc., New York, N.Y. 443,058, ren. 6–10–69. Cl. 26.
Fairbanks Morse Inc.: *See*—
  Fairbanks, Morse & Co.
Fairmont Foods Co., Omaha, Nebr. 865,881, cor. Cl. 46.
Fast-Fix, Inc.: *See*—
  Global Construction Devices, Inc.
Faultless Rubber Co., The, Ashland, Ohio, to Abbott Laboratories, North Chicago, Ill. 510,865, ren. 6–10–69. Cl. 44.
Fenwick Industries, Inc., Leawood, Kans. 870,898, pub. 3–25–69. Multiple Class (Classes 36 and 38).
Ferrari Soc. P. Az. Esercizio Fabbriche Automobili e Corse, Modena, Italy. 870,777, pub. 3–25–69. Cl. 19.
Fieldcrest Mills, Inc., Spray, N.C. 748,536, canc. Cl. 42.
Film Corp. of America, Philadelphia, Pa. 871,080. Cl. 106.
Firestone Tire & Rubber Co., The, Akron, Ohio. 442,487, ren. 6–10–69. Cl. 5.
Firestone Tire & Rubber Co., The, Akron, Ohio. 748,306, canc. Cl. 12.
Firestone Tire & Rubber Co., The, Akron, Ohio. 865,981, cor. Cl. 1.
Flair Mfg. Corp., Hauppage, N.Y. 748,466, canc. Cl. 34.
Floquil Products, Inc., Cobleskill, N.Y. 870,745, pub. 3–25–69. Cl. 16.
Flow Pharmaceuticals, Inc., from Flow Pharmaceuticals, Inc., Mountain View, Calif. 870,867, pub. 3–25–69. Cl. 26.
Foley, Robert H., d.b.a. Autodyne, Rockville, Md. 870,899, pub. 3–25–69. Cl. 36.
Follett Publishing Co., Chicago, Ill. 870,932, pub. 3–25–69. Cl. 38.
Formsprag Co., Warren, Mich. 870,852, pub. 3–25–69. Cl. 23.
Forte Equipment Co., Inc.: *See*—
  Cincinnati-Forte Co., The.
Foseco International Ltd., Birmingham, England. 870,716, pub. 3–25–69. Cl. 6.
Frederick, Purdue, Co., The, Yonkers, N.Y. 870,759–60, pub. 3–25–69. Cl. 18.
Fries & Fries, Inc., Cincinnati, Ohio. 747,706–7, canc. Cl. 46.
Frost, George, Co., Shirley, Mass. 870,950, pub. 3–25–69. Cl. 39.
Frostie Foods, Inc., Lebanon, Pa. 852,002, canc. Cl. 46.
Fun-Way Publications, Inc., New York, N.Y. 870,920, pub. 3–25–69. Cl. 38.
GAF Corp.: *See*—
  American Asphalt Roof Corp.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 870,708, pub. 3–25–69. Cl. 3.
General Aniline & Film Corp.: *See*—
  GAF Corp.
General Automated Machinery Corp.: *See*—
  Reece Corp., The.
General Bearing Co., West Nyack, N.Y. 870,830–1, pub. 3–25–69. Cl. 23.
General Bottling Co.: *See*—
  Patterson, Lawrence W.
General Electric Co., Schenectady, N.Y. 870,872, pub. 3–25–69. Cl. 26.
General Fireproofing Co., The, Youngstown, Ohio. 870,882, pub. 3–25–69. Cl. 32.
General Foods Corp., White Plains, N.Y. 871,078. Cl. 46.
General Gummed Products, Inc., Linden, N.J. 870,712, pub. 3–25–69. Cl. 5.
General Mills, Inc., Minneapolis, Minn. 508,067, ren. 6–10–69. Cl. 46.
Georgia-Pacific Corp.: *See*—
  Puget Sound Pulp & Timber Co.
Gibson Greeting Cards, Inc., Cincinnati, Ohio. 870,926–8, pub. 3–25–69. Cl. 38.
Gillette Co., The, Boston, Mass. 871,020–22, pub. 3–25–69. Cl. 51.
Gilman, Sarah D., to Bailey's of Boston, Inc., Boston, Mass. 74,451, ren. 6–10–69. Cl. 46.
Gilson Screen Co., Malinta, Ohio. 870,866, pub. 3–25–69. Cl. 26.
Giordano & Ruedi, Zurich, Switzerland. 870,741, pub. 3–25–69. Cl. 16.
Gisuke Konishi & Co., Ltd., Osaka, Japan. 870,711, pub. 3–25–69. Cl. 5.
Glen Pace, Albuquerque, N. Mex. 748,483, canc. Cl. 36.
Glendinning Companies, Inc., Westport, Conn. 871,047, pub. 3–25–69. Cl. 101.
Global Construction Devices, Inc., from Fast-Fix, Inc., Fort Lee, N.J. 748,569, canc. Cl. 12.
Gold Medal Jewelry Inc., New York, N.Y. 866,302, cor. Cl. 27.
Goldsmith, Louis, Inc., Philadelphia, Pa. 511,322, ren. 6–10–69. Cl. 39.
Good Eatin' Dog Food Co.: *See*—
  Rosenberg, Pearl.
Goodrich, B. F., Co., The, Akron, Ohio. 748,477–8, canc. Cl. 35.
Grace, W. R., & Co., New York, N.Y. 870,727, pub. 3–25–69. Cl. 10.
Great Atlantic & Pacific Tea Co., Inc., The: *See*—
  Quaker Maid Co., Inc., The.
Great Atlantic & Pacific Tea Co., Inc., The, New York, N.Y. 870,981, pub. 3–25–69. Cl. 46.
Grove Laboratories, Inc., The, Wilmington, Del., to Bristol-Myers Co., New York, N.Y. 506,771, ren. 6–10–69. Cl. 18.
Guinness, Arthur, Son & Co. Ltd., London, England. 870,991, pub. 3–25–69. Cl. 48.
Gulf Oil Corp.: *See*—
  Spencer Chemical Co.
Hallmark Cards, Inc., Kansas City, Mo. 870,931, pub. 3–25–69. Cl. 38.
Hallmark Cards, Inc., Kansas City, Mo. 871,065. Cl. 36.
Hamilton Float & Trowel Ltd., Hamilton, Ontario, Canada. 870,853, pub. 3–25–69. Cl. 23.
Harrison-Blaine of New Jersey, Inc., Washington, D.C. 871,072. Cl. 38.
Hartfield-Zody's Inc., New York, N.Y. 870,938, pub. 3–25–69. Cl. 39.
Hartley, Jack, d.b.a. Jay Hart Originals, Miami, Fla. 870,951, pub. 3–25–69. Cl. 39.
Harvestall Industries, Inc., New Hampton, Iowa. 871,052, pub. 3–25–69. Cl. 103.
Hassl, Mary A., Downey, Calif. 870,815, pub. 3–25–69. Cl. 22.
Hawley, Robert L., d.b.a. Oyez, Berkeley, Calif. 870,913, pub. 3–25–69. Cl. 38.
Helene Originals: *See*—
  Wilson, Helene L.
Henson, Glen E., d.b.a. Robar, Independence, Mo. 870,812, pub. 3–25–69. Cl. 22.
Hercules Inc.: *See*—
  Hercules Powder Co.
Hercules Powder Co., to Hercules Inc., Wilmington, Del. 510,743, ren. 6–10–69. Cl. 6.
Hess Oil & Chemical Corp., Perth Amboy, N.J. 870,714, pub. 2–27–68. Cl. 6.
Hewitt Soap Co., Inc., The, Dayton, Ohio. 510,207, ren. 6–10–69. Cl. 52.
Hillman Motor Car Co. Ltd., Coventry, to Rootes Motors Ltd., London, England. 504,027, ren. 6–10–69. Cl. 19.
Hollenbach, Chas., Inc., Chicago, Ill. 506,868, ren. 6–10–69. Cl. 46.
Hollister Inc., Chicago, Ill. 870,959, pub. 3–25–69. Cl. 44.
Holophane Co., Inc., New York, N.Y. 870,801, pub. 3–25–69. Multiple Class (Classes 21 and 34).
Home State Insurance Agency, Inc., Cleveland, Ohio. 871,049–50, pub. 3–25–69. Cl. 102.
Horizon House-Microwave, Inc., Dedham, Mass. 870,910, pub. 7–9–68. Cl. 38.
Howe Scale Co., The: *See*—
  Richardson, Howe Scale Co.
Hubbell, Harvey, Inc., Bridgeport, Conn. 870,796, pub. 3–25–69. Cl. 21.
Hudson, H. D., Mfg. Co., Chicago, Ill. 513,576, ren. 6–10–69. Cl. 21.
Hudson Oil Co., Kansas City, Kans. 748,326, canc. Cl. 15.
Huntington Laboratories, Inc., Huntington, Ind. 871,032, pub. 3–25–69. Cl. 52.
Icon Corp., Cambridge, Mass. 870,857, pub. 3–25–69. Cl. 26.
Imperial Reading Corp., New York, N.Y. 870,941, pub. 3–25–69. Cl. 39.

Imprimerie et Librairie Berger-Levrault, Nancy (Meurthe-et-Moselle), France. 870,917, pub. 3–25–69. Cl. 38.
Independent Associated Distributors, Inc., New York, N.Y. 870,955, pub. 3–25–69. Cl. 42.
Indiana Recreational Vehicle Parts & Service, Inc., Elkhart, Ind. 870,775, pub. 3–25–69. Cl. 19.
Instock Fasteners, Inc., Cleveland, Ohio. 870,738, pub. 3–25–69. Cl. 13.
International Minerals & Chemical Corp., d.b.a. Ac'Cent International, Skokie, Ill. 870,977, pub. 3–25–69. Cl. 46.
International Salt Co., Clarks Summit, Pa. 870,715, pub. 3–25–69. Cl. 6.
International Steel Co., Evansville, Ind. 748,547, canc. Cl. 44.
International Telephone & Telegraph Corp.: *See—*
    Reznor Mfg. Co.
International Telephone and Telegraph Corp., New York, N.Y. 748,348, canc. Cl. 21.
Jay Hart Originals: *See—*
    Hartley, Jack.
Johnson & Johnson, New Brunswick, N.J. 748,564, canc. Cl. 51.
Johnson March Corp.: *See—*
    Johnson-March Corp., The.
Johnson-March Corp., The, d.b.a. Johnson March Corp., Philadelphia, Pa. 871,039, pub. 3–25–69. Cl. 100.
KMS Industries, Inc., Ann Arbor, Mich. 870,808, pub. 3–25–69. Cl. 22.
Kabushiki Kaisha Kibun Co., d.b.a. Kibun Co., Ltd., Tokyo-to, Japan. 870,967, pub. 3–25–69. Cl. 46.
Kahan & Lessin Co., d.b.a. Natural Brands Co., Los Angeles, Calif. 870,964, pub. 3–25–69. Cl. 45.
Kayser-Roth Corp.: *See—*
    Oppenheimer-Straus Co., The.
Kem Mfg. Corp., Tucker, Ga. 870,726, pub. 3–25–69. Cl. 10.
Kemp & Beatley, Inc., New York, N.Y. 748,538, canc. Cl. 42.
Kent, Beatrice J., d.b.a. B1 Hostess Products, St. Louis, Mo. 870,903, pub. 3–25–69. Cl. 37.
Kentucky Seed Improvement Assn., Inc., Lexington, Ky. 871,061, pub. 3–25–69. Cl. A.
Kentucky Trust Co., The, Louisville, Ky. 871,071. Cl. 38.
Kibun Co., Ltd.: *See—*
    Kabushiki Kaisha Kibun Co.
Kidde, Walter, & Co., Inc., Belleville, N.J. 515,546. Am. 7(d). Multiple Class (Classes 2, 6, 21, 23, and 26).
Kimberly-Clark, Neenah, Wis. 748,489, canc. Cl. 37.
Kinney National Service, Inc., New York, N.Y. 871,056, pub. 3–25–69. Cl. 105.
Koch, Carl, & Associates, Inc., Boston, Mass. 871,041, pub. 3–25–69. Cl. 100.
Kozak Auto Drywash, Inc.: *See—*
    Kozak, Inc.
Kozak, Inc., to Kozak Auto Drywash, Inc., Batavia, N.Y. 260,980, ren. 6–10–69. Cl. 4.
Krause, Chas. A., Milling Co., to Krause Milling Co., Milwaukee, Wis. 512,753, ren. 6–10–69. Cl. 46.
Krause Milling Co.: *See—*
    Krause, Chas. A., Milling Co.
Kreiss Corp., Los Angeles, Calif. 748,484, canc. Cl. 36.
Kresge, S. S., Co., Detroit, Mich. 870,813, pub. 3–25–69. Cl. 22.
Krueger Metal Products, Inc., Green Bay, Wis. 870,880, pub. 5–14–68. Cl. 32.
Kurfees Paint Co., Louisville, Ky. 870,742, pub. 3–25–69. Cl. 16.
La Choy Food Products, Inc., Detroit, Mich., to Beatrice Foods Co., Chicago, Ill. 260 241, ren. 6–10–69. Cl. 46.
Lactona Inc., St. Paul, Minn. 444,810, canc. Cl. 29.
Lady Madison, Inc., New York, N.Y. 870,954, pub. 3–25–69. Cl. 42.
Lake Keuka Wine Co., The: *See—*
    Taylor, Ellen K.
Lambert-Kay, Inc.: *See—*
    Carter-Wallace, Inc.
Lamour, Dorothy, Enterprises Ltd., Brooklandville, Md. 748,566, canc. Cl. 52.
Lancer Books, Inc., New York, N.Y. 870,935, pub. 3–25–69. Cl. 38.
Lancome S.A., Paris, France. 871,014, pub. 3–25–69. Cl. 51.
Lander Co., Inc.: *See—*
    Lander Co., Inc., The.
Lander Co., Inc., The, to Lander Co., Inc., New York, N.Y. 506,615, ren. 6–10–69. Cl. 51.
Lane Ltd., New York, N.Y. 870,720, pub. 3–25–69. Cl. 8.
Langrall, J., & Bro., Inc., Baltimore, Md. 507,317, ren. 6–10–69. Cl. 46.
Lanneau Tapijt-En Fluweelweverij N.V., Zuidstraat-Harelbeke (Kortrijk), Belgium. 871,076. Cl. 42.
Larmet Co.: *See—*
    Larrison, Thomas R.
Larrison, Thomas R., d.b.a. Larmet Co., Griffith, Ind. 870,840, pub. 3–25–69. Cl. 23.
Lehigh Foundries, Inc., to Lehigh, Inc., Easton, Pa. 505,434, ren. 6–10–69. Cl. 31.
Lehigh, Inc.: *See—*
    Lehigh Foundries, Inc.
Leonard, H. L., Rod Co., The, Central Valley, N.Y. 870,811, pub. 3–25–69. Cl. 22.
Levy, F., & Co. Ltd., London, England. 870,818, pub. 3–25–69. Cl. 22.
Libson Shops, Inc.: *See—*
    Libson Shops Management Corp.
Libson Shops Management Corp., to Libson Shops, Inc., St. Louis, Mo. 509,309, ren. 6–10–69. Cl. 39.
Lichtman Jewelry Mfg. Co. Inc., New York, N.Y. 748,440, canc. Cl. 28.
Lightolier, Inc., New York, N.Y., to Lightolier Inc., Jersey City, N.J. 506,472, ren. 6–10–69. Cl. 21.
Lilly, Eli, and Co., Indianapolis, Ind. 748,339, canc. Cl. 18.
Lin Folk, Nashville, Tenn. 871,057, pub. 3–25–69. Cl. 107.
Linvar Ltd., Leicester, England. 870,703, pub. 3–25–69. Multiple Class (Classes 2 and 19).
London Winery Ltd., London, Ontario, Canada. 870,988–9, pub. 3–25–69. Cl. 47.
Loony Loop Co., The: *See—*
    Sutton, Clinton R.
Louket Markets, Inc.: *See—*
    Supermarkets General Corp.
Lovable Co., The, Atlanta, Ga. 870,952, pub. 3–25–69. Cl. 39.
Lubbock Chamber of Commerce, Lubbock, Tex. 871,043, pub. 3–25–69. Cl. 100.
Lupton, David W., from Contact Marketing, Inc., New York, N.Y. 870,922, pub. 3–25–69. Cl. 38.
Maga Rubinetterie S.p.A., Milano, Italy. 870,733, pub. 3–25–69. Cl. 13.
Maidenform, Inc., New York, N.Y. 870,953, pub. 3–25–69. Cl. 39.
Main Street Fashions, Inc., New York, N.Y. 748,501, canc. Cl. 39.
Major Mfg. Co., Chicago, Ill. 748,494, canc. Cl. 37.
Mallinckrodt Chemical Works, St. Louis, Mo. 513,604, ren. 6–10–69. Cl. 18.
Marathon Corp., Menasha, Wis., to American Can Co., New York, N.Y. 513,802, ren. 6–10–69. Cl. 37.
Martin Marietta Corp.: *See—*
    Master Builders Co., The.
Martin-Brower Corp., Chicago, Ill. 871,023, pub. 3–25–69. Cl. 52.
Masclet, Francesca: *See—*
    Masclet, Marie, Francoise, Jeanne.
Masclet, Marie, Francoise, Jeanne, d.b.a. Masclet, Francesca, Paris, France. 748,565, canc. Cl. 51.
Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. 870,978 pub. 3–25–69. Cl. 46.
Masonite Corp., Chicago, Ill. 870,732, pub. 3–25–69. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, to Martin Marietta Corp., Chicago, Ill. 260,656, ren. 6–10–69. Cl. 12.
Matsushita Electric Industrial Co. Ltd., Osaka Prefecture, Japan. 870,730, pub. 4–30–68. Multiple Class (Classes 12, 19, 21, 23, 24, 27, 31, 32, 34, 36, and 44).
Mattel, Inc., Hawthorne, Calif. 870,908, pub. 3–25–69. Cl. 37.
Mattress Specialists, Inc., New York, N.Y. 748,461, canc. Cl. 32.
Mavest Inc., to Mavest, Inc., New York, N.Y. 443,213, ren. 6–10–69. Cl. 39.
Maytag Co., The, Newton, Iowa. 512,131, ren. 6–10–69. Cl. 15.
Maytag Co., The, Newton, Iowa. 512,770, ren. 6–10–69. Cl. 24.
McDonald's Corp., Chicago, Ill. 871,040, pub. 3–25–69. Cl. 100.
McDougall-Butler Co., Inc., Buffalo, to Bisonite Co., Inc., Tonawanda, N.Y. 508,466, ren. 6–10–69. Cl. 16.
McGill Mfg. Co., Inc., Valparaiso, Ind. 509,820, ren. 6–10–69. Cl. 21.
McGill Mfg. Co., Inc., Valparaiso, Ind. 514,151, ren. 6–10–69. Cl. 23.
McGraw-Edison Co.: *See—*
    American Laundry Machinery Co., The.
Mead Johnson & Co., Evansville, Ind. 870,768, pub. 3–25–69. Cl. 18.
Meadows, A. L., d.b.a. Nuggett Jewelry Mfg., Colorado Springs, Colo. 870,876, pub. 8–6–68. Cl. 28.
Medical Plastics, Inc., Minneapolis, Minn. 870,706, pub. 3–25–69. Cl. 2.
Medi-Kay Pharmacal Co.: *See—*
    York, L. T., Co.
Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. 870,990, pub. 3–25–69. Cl. 47.
Mediterranean Wines: *See—*
    Mediterranean Importing Co., Inc.
Memphis Rubber & Supply Co., Memphis, Tenn. 748,470, canc. Cl. 35.
Mennen Co., The, Morristown, N.J. 733,544, canc. Cl. 52.
Mercantile Stores Co., Inc., Wilmington, Del. 748,463, canc. Cl. 32.
Merck & Co., Inc., Rahway, N.J. 870,753, pub. 3–25–69. Cl. 18.
Merckens Chocolate Co., Buffalo, to National Biscuit Co., New York, N.Y. 508,041, ren. 6–10–69. Cl. 46.
Mero, Peter G. S., Chicago, Ill. 748,370, canc. Cl. 21.
Metal Box Co., Ltd., The, London, England. 748,272, canc. Cl. 2.
Metall-Walz-und Platherwerke, Handrichs-Auffermann A.G., Wuppertal-Oberbarmen, Germany. 748,354, canc. Cl. 21.
Michaels Jewelry Co., New York, N.Y. 748,447, canc. Cl. 28.
Micro-Sine Enterprises, Detroit, Mich. 748,412, canc. Cl. 23.
Milford Automatics, Inc., Milford, Conn. 871,053, pub. 3–25–69. Cl. 103.
Miller Printing Machinery Co., Pittsburgh, Pa. 255,807, ren. 6–10–69. Cl. 23.
Mineral Products Corp., Cleveland Heights, Ohio. 870,699, pub. 3–25–69. Cl. 1.
Mini-Sew Sales Ltd., Vancouver, British Columbia, Canada. 870,856, pub. 3–25–69. Cl. 23.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 748,359, canc. Cl. 21.
Mistake Out Co., Dallas, Tex. 870,713, pub. 3–25–69. Cl. 6.
Mite Pipe Ram Co., Inc., Orange, Calif. 748,399, canc. Cl. 23.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 511,038, ren. 6–10–69. Cl. 52.
Monsanto Co.: *See—*
    Monsanto Chemical Co.
Montrose Oil & Belting Co., Inc., d.b.a. Montrose Supply & Equipment Co., Brooklyn, N.Y. 871,036, pub. 3–25–69. Cl. 52.

Montrose Supply & Equipment Co.: *See—*
    Montrose Oil & Belting Co., Inc.
Mortell, J. W., Co., Kankakee, Ill. 507,568, ren. 6–10–69. Cl. 12.
Muller, Eric, Chicago, Ill. 870,735, pub. 3–25–69. Cl. 13.
Munters Corp., Fort Myers, Fla. 870,887, pub. 3–25–69. Cl. 34.
Murphy Oil Co., d.b.a. Murphy Ranch, Whittier, Calif. 320,353, canc. Cl. 46.
Murphy Ranch: *See—*
    Murphy Oil Co.
N.V. Nederlandsche Coca-Cola Maatschappij, The: *See—*
    Coca-Cola Export Corp., The.
Nanbu Industrial Co., Ltd., Shizuoka-Prefecture, Japan. 870,803, pub. 3–25–69. Cl. 21.
Nasco Equipment Co., Elba, Ala. 870,842, pub. 3–25–69. Cl. 23.
Nashboro Record Co., Inc., Nashville, Tenn. 870,900, pub. 3–25–69. Cl. 36.
Nassau Filtration Corp., Akron, Ohio. 748,577, canc. Cl. 42.
National Biscuit Co.: *See—*
    Merckens Chocolate Co.
National Dairy Products Corp., Chicago, Ill. 854,262, canc. Cl. 46.
National Educational Aids, Inc., Abilene, Tex. 871,004, pub. 3–25–69. Cl. 50.
National Electrotype Co., Inc., New York, N.Y. 871,003, pub. 3–25–69. Cl. 50.
National Fleetwash Systems, Inc., Plainfield, N.J. 870,854, pub. 3–25–69. Cl. 23.
National Gramophon Works Corp., Mount Kisco, N.Y. 870,896, pub. 3–25–69. Cl. 36.
National Institutional Food Distributor Associates, Inc., Atlanta, Ga. 870,976, pub. 3–25–69. Cl. 46.
National Personnel Consultants, Detroit, Mich. 871,042, pub. 3–25–69. Cl. 100.
National Soda Straw Co., Chicago, Ill. 870,998, pub. 3–25–69. Cl. 50.
Natural Brands Co.: *See—*
    Kahan & Lessin Co.
Nettles, Walter E., d.b.a. Radio Products Sales Co., Denver, Colo. 748,372, canc. Cl. 21.
New Orleans Import Co., Ltd., New Orleans, La. 442,640, ren. 6–10–69. Cl. 46.
New Yorker Magazine, Inc., The, New York, N.Y. 871,073–4. Cl. 38.
Nichols Aluminum Co., from Nichols Wire & Aluminum Co., Davenport, Iowa. 870,718, pub. 3–25–69. Multiple Class (Classes 7 and 14).
Nichols Wire & Aluminum Co.: *See—*
    Nichols Aluminum Co.
Non-Tox Chemical Corp., Mamaroneck, N.Y. 748,279, canc. Cl. 4.
Norcross, to Norcross, Inc., New York, N.Y. 443,021, ren. 6–10–69. Cl. 38.
Norcross, Inc.: *See—*
    Norcross.
Norris Mfg. Co., Taylors, S.C. 870,937, pub. 3–25–69. Cl. 39.
North American Rockwell Corp., Pittsburgh, Pa. 870,877, pub. 3–25–69. Cl. 31.
North Shore Mfg. Co.: *See—*
    Trundle Bundle Inc.
North Star Woolen Mill Co., Minneapolis, Minn., to Chatham Mfg. Co., Elkin, N.C. 507,130, ren. 6–10–69. Cl. 42.
Northern Propane Gas Co., Omaha, Nebr. 823,228, cor. Cl. 6.
Nova Learning Corp., Miami, Fla. 870,822, pub. 3–25–69. Cl. 22.
Nuggett Jewelry Mfg.: *See—*
    Meadows, A. L.
Nutrine, Ltd., Brooklyn, N.Y. 871,009–11, pub. 3–25–69. Cl. 51.
Oak Ridge Pharmaceuticals, Inc., Columbia, S.C. 870,750–2, pub. 3–25–69. Cl. 18.
O'Connor & Goldberg, Chicago, Ill. 511,409, ren. 6–10–69. Cl. 39.
Ohaus Scale Corp., Union, N.J. 870,859, pub. 3–25–69. Cl. 26.
Ohio Art Co., The, Bryan, Ohio. 870,814, pub. 3–25–69. Cl. 22.
Old Dutch Foods: *See—*
    Old Dutch Foods, Inc.
Old Dutch Foods, Inc., from Vernon O. Aanenson, d.b.a. Old Dutch Foods, Minneapolis, Minn. 870,965, pub. 3–25–69. Cl. 46.
Old Vienna Products Co., St. Louis, Mo., to Sunshine Biscuits, Inc., New York, N.Y. 507,876, ren. 6–10–69. Cl. 46.
Olivetti, Ing. C., & C., S.p.A., Ivrea, Italy. 870,844, pub. 3–25–69. Cl. 23.
Oppenheimer-Straus Co., The, Cincinnati, Ohio, to Kayser-Roth Corp., New York, N.Y. 260,128, ren. 6–10–69. Cl. 39.
Optron Laboratory, Union, Ohio. 442,306, ren. 6–10–69. Cl. 26.
Organico, Societe Anonyme, Paris, France. 748,471, canc. Cl. 35.
Orosi Foothill Citrus Association, Orosi, Calif. 514,124, ren. 6–10–69. Cl. 46.
Orosi Foothill Citrus Association, Orosi, Calif. 514,453, ren. 6–10–69. Cl. 46.
Osborn Mfg. Co., The, Cleveland, Ohio. 748,407, canc. Cl. 23.
Oster, John, Mfg. Co., Milwaukee, Wis. 513,983, ren. 6–10–69. Cl. 21.
Oster, John, Mfg. Co., Milwaukee, Wis. 871,017, pub. 3–25–69. Cl. 51.
Outboard Marine Corp.: *See—*
    Evinrude Motor Co.
Owen, R. C., Co., Gallatin, Tenn. 513,981–2, ren. 6–10–69. Cl. 17.
Oyez: *See—*
    Hawley, Robert L.
PDR Mfg. Corp., Denver, Colo. 870,828, pub. 2–27–68. Cl. 23.
Pagens Familjebageri AB, Malmo, Sweden. 870,971, pub. 3–25–69. Cl. 46.
Pall Corp., Glen Cove, N.Y. 748,304, canc. Cl. 12.
Palomar Foods: *See—*
    San Diego Products Co.
Palomar Foods Co.: *See—*
    San Diego Products Co.
Parke, Davis & Co., Detroit, Mich. 804,345. Am. 7(d). Cl. 44.
Parke, Davis & Co., Detroit, Mich. 870,764, pub. 3–25–69. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 870,774, pub. 3–25–69. Cl. 18.
Patterson, Lawrence W., d.b.a. General Bottling Co., Santa Ana, Calif. 870,960, pub. 3–25–69. Cl. 45.
Paula, C. M., Co., The, Cincinnati, Ohio. 870,719, pub. 3–25–69. Multiple Class (Classes 8, 37, and 50).
Pennsalt Chemicals Corp.: *See—*
    Sharples Chemicals Inc.
Perry Mfg., Inc., Indianapolis, Ind. 870,994, pub. 3–25–69. Cl. 50.
Pfizer, Chas., & Co., Inc., New York, N.Y. 870,770–1, pub. 3–25–69. Cl. 18.
Phelps Dodge Magnet Wire Corp., Fort Wayne, Ind. 870,790–1, pub. 3–25–69. Cl. 21.
Philadelphia Quartz Co., Philadelphia, Pa. 510,947, ren. 6–10–69. Cl. 52.
Pictorial Spot-Lite, Inc., Mount Vernon, N.Y. 870,995, pub. 3–25–69. Cl. 50.
Pincus Brothers, Inc., to Pincus Bros., Inc., Philadelphia, Pa. 508,045, ren. 6–10–69. Cl. 39.
Pivot Punch Corp., North Tonawanda, N.Y. 870,835, pub. 3–25–69. Cl. 23.
Plain, John, & Co., Chicago, Ill. 748,289, canc. Cl. 10.
Planalog, Inc., Philadelphia, Pa. 870,865, pub. 1–28–69. Multiple Class (Classes 26 and 107).
Plastics Research & Development Corp., Fort Smith, Ark. 870,805, pub. 3–25–69. Cl. 22.
Playground Corp. of America, Long Island City, N.Y. 870,804, pub. 4–23–68. Cl. 22.
Plaza Playthings, Inc., Trenton, N.J. 870,744, pub. 3–25–69. Cl. 16.
Polyplastex United, Inc., Union, N.J. 870,696–8, pub. 3–25–69. Cl. 1.
Precision Fittings, Inc.: *See—*
    Essex Wire Corp.
Precision Products & Controls, Inc., Tulsa, Okla. 870,734, pub. 3–25–69. Cl. 13.
Precision Radiation Instruments, Inc., Los Angeles, Calif. 748,487, canc. Cl. 36.
Precision Scientific Co., Chicago, Ill. 870,874, pub. 3–25–69. Cl. 26.
Premium Corp. of America, Inc., Minneapolis, Minn. 870,846, pub. 3–25–69. Cl. 23.
Pre-O-Form Corp., Warsaw, Ind. 748,406, canc. Cl. 23.
Procter & Gamble Co., The, Cincinnati, Ohio. 508,711, ren. 6–10–69. Cl. 46.
Products of Elegance: *See—*
    Craighead, Tannie C.
Products Research Co., Burbank, Calif. 748,285, canc. Cl. 6.
Puget Sound Pulp & Timber Co., Bellingham, Wash., to Georgia-Pacific Corp., Portland, Oreg. 515,122, ren. 6–10–69. Cl. 6.
Pulitzer Publishing Co., The, St. Louis, Mo. 513,403, ren. 6–10–69. Cl. 38.
Puma-Werk Lauterjung & Sohn, Solingen, Germany. 870,843, pub. 3–25–69. Cl. 23.
Purdue Frederick Co., The, Yonkers, N.Y. 871,026–7, pub. 3–25–69. Cl. 52.
Purex Corp., Ltd., Lakewood, Calif. 871,035, pub. 3–25–69. Cl. 52.
Pyramid International, Inc., Ravenna, Ohio. 870,705, pub. 3–25–69. Cl. 2.
Quaker Maid Co., Inc., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 507,581, ren. 6–10–69. Cl. 46.
Quaker Oats Co., The, Chicago, Ill. 511,914, ren. 6–10–69. Cl. 6.
RDF Corp., Hudson, N.H. 870,864, pub. 3–25–69. Cl. 26.
Radiator Specialty Co., Charlotte, N.C. 871,030, pub. 3–25–69. Cl. 52.
Radio Corp. of America, New York, N.Y. 870,934, pub. 3–25–69. Cl. 38.
Radio Products Sales Co.: *See—*
    Nettles, Walter E.
Ralmike's Tool-A-Rama, Springfield, N.J. 870,850–1, pub. 3–25–69. Multiple Class (Classes 23 and 26).
Randall, Mallory, Corp., Brooklyn, N.Y. 871,062. Cl. 2.
Random House, Inc., New York, N.Y. 870,924, pub. 3–25–69. Cl. 38.
Ranging, Inc., East Rochester, N.Y. 870,869, pub. 3–25–69. Cl. 26.
Reckitt & Colman (Overseas) Ltd., Hull, Yorkshire, England. 871,063. Cl. 4.
Reece Corp., The, Waltham, Mass., from General Automated Machinery Corp., Camp Hill, Pa. 870,829, pub. 3–25–69. Cl. 23.
Reeder, Oliver, & Son, Inc., Baltimore, Md. 510,115, ren. 6–10–69. Cl. 16.
Reichhold Chemicals, Inc., White Plains, N.Y. 870,695, pub. 3–25–69. Cl. 1.
Reimers Electric Appliance Co., Inc., West New York, N.J., to Reimers Electra Steam, Inc., Clearbrook, Va. 510,638, ren. 6–10–69. Cl. 21.

Reimers Electric Steam, Inc. : *See—*
  Reimers Electric Appliance Co., Inc.
Reiner Industries, Inc., Los Angeles, Calif. 748,364–5, canc. Cl. 21.
Reiss Associates, Inc., Lowell, Mass. 870,693, pub. 9–24–68. Cl. 1.
Reiss Associates, Inc., Lowell, Mass. 870,729, pub. 9–24–68. Cl. 12.
Republic Tool & Mfg. Corp., Century City, Calif. 870,797, pub. 3–25–69. Cl. 21.
Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 870,820, pub. 3–25–69. Cl. 22.
Rexbilt Leather Goods, Inc., New York, N.Y. 748,273–4, canc. Cl. 3.
Reynolds & Reynolds Co., The, Dayton, Ohio. 252,070, ren. 6–10–69. Cl. 37.
Reznor Mfg. Co., Mercer, Pa., to International Telephone & Telegraph Corp., New York, N.Y. 506,981, ren. 6–10–69. Cl. 34.
Richardson, Howe Scale Co., from The Howe Scale Co., Rutland, Vt. 748,417, canc. Cl. 26.
Richardson-Merrell Inc., New York, N.Y. 870,765–6, pub. 3–25–69. Cl. 18.
Rico Products, Hollywood, Calif. 748,488, canc. Cl. 36.
Riviana Foods Inc., Houston, Tex. 870,979, pub. 3–25–69. Cl. 46.
Robar : *See—*
  Henson, Glen E..
Roberts & Porter, Inc., Chicago, Ill. 870,999, pub. 3–25–69. Cl. 50.
Roe, Eldon P., d.b.a. Roe Stores, Cleveland, Ohio. 748,515, canc. Cl. 39.
Roe Stores : *See—*
  Roe, Eldon P.
Rolar, Inc., Williamsport, Pa. 870,909, pub. 3–25–69. Cl. 37.
Root, A. I., Co. : *See—*
  Root, A. I., Co. of Texas, Inc.
Root, A. I., Co. of Texas, Inc., d.b.a. A. I. Root Co., San Antonio, Tex. 871,034, pub. 3–25–69. Cl. 52.
Rootes Motors Ltd. : *See—*
  Hillman Motor Car Co. Ltd.
Rosenberg, Pearl, d.b.a. Good Eatin' Dog Food Co., to Thrivo Co., Inc., Philadelphia, Pa. 508,500–1, ren. 6–10–69. Cl. 46.
Roy, Milton, Co., Philadelphia, Pa. 748,413, canc. Cl. 23.
Royal Castle Systems, Inc., d.b.a. Royaline Foods, Miami, Fla. 870,961, pub. 3–25–69. Multiple Class (Classes 45 and 46).
Royaline Foods : *See—*
  Royal Castle System, Inc.
Ryan Aeronautical Co., The, San Diego, Calif. 748,342, canc. Cl. 19.
Safety Motivations : *See—*
  Evans, Charles T.
Safeway Stores, Inc., Oakland, Calif. 513,464–5, ren. 6–10–69. Cl. 29.
St. Lawrence Chemical Co., Inc., Ogdensburg, N.Y. 871,024, pub. 3–25–69. Cl. 52.
St. Lawrence Sales Inc., Birmingham, Mich. 748,384, canc. Cl. 22.
St. Regis Paper Co., New York, N.Y. 508,726, ren. 6–10–69. Cl. 7.
Salem Co., Inc., The, Winston-Salem, N.C. 870,945, pub. 3–25–69. Cl. 39.
Sales Development Corp., Beverly Hills, Calif. 748,518, canc. Cl. 39.
Samson Bros., Inc., Rochester, N.Y. 442,558, ren. 6–10–69. Cl. 39.
San Diego Products Co., d.b.a. Palomar Foods, and Palomar Foods Co., San Diego, Calif. 870,972, pub. 3–25–69. Cl. 46.
San-Dee Productions, New York, N.Y. 748,383, canc. Cl. 22.
Sander, Frank S., Stamford, Conn. 870,997, pub. 3–25–69. Cl. 50.
Sanitek Products Co., to Sanitek Products, Inc., to Sanitek Products Inc., Los Angeles, Calif. 442,726, ren. 6–10–69. Cl. 4.
Sanitek Products, Inc. : *See—*
  Sanitek Products Co.
Scheirich, H. J., Co., Louisville, Ky. 748,456, canc. Cl. 22.
Schmidt and Haensch, Berlin-Schoneberg, Germany. 747,579, canc. Cl. 26.
Schoeneman, J., Inc., Owings Mills, Md. 870,946, pub. 3–25–69. Cl. 39.
Schweigert Meat Co., Minneapolis, Minn. 870,975, pub. 3–25–69. Cl. 46.
Scientific Associates, Inc., Concord, Mass. 871,045, pub. 3–25–69. Cl. 101.
Scientific Film Co., La Grange Park, Ill. 870,911, pub. 3–25–69. Cl. 38.
Scientific Instruments, Inc., Skokie, Ill. 870,861, pub. 3–25–69. Cl. 26.
Seamless Rubber Co., The : *See—*
  Rexall Drug & Chemical Co.
Sebel, D., & Co., Ltd., Kent, England. 442,491, ren. 6–10–69. Cl. 32.
Sensor Technology, Inc., Van Nuys, Calif. 870,798, pub. 3–25–69. Cl. 21.
Shachihata Industrial Co., Ltd., Nagoya, Japan. 871,067. Cl. 37.
Shainberg, Sam, Co., Memphis, Tenn. 748,527, canc. Cl. 39.
Sharples Chemicals Inc., to Pennsalt Chemicals Corp., Philadelphia, Pa. 441,838, ren. 6–10–69. Cl. 1.
Sherwin-Williams Co., The, Cleveland, Ohio. 748,065, canc. Cl. 16.
Shibaden Corp. of America, Woodside, N.Y. 870,793, pub. 3–25–69. Cl. 21.
Shoes by Leonardo, Ltd. : *See—*
  Di Leon Ltd.
Sigma-Tau Industrie Farmaceutiche Riunite S.p.A., Rome, Italy. 870,758, pub. 3–25–69. Cl. 18.
Skaggs Drug Centers, Inc., Salt Lake City, Utah. 870,948, pub. 3–25–69. Cl. 39.
Skandinavisk Tobakskompagni A/S, Rodovre, Denmark. 870,746, pub. 3–25–69. Cl. 17.
Sky : *See—*
  Sky Distributing Co.
Sky Corp. : *See—*
  Sky Distributing Co.
Sky Distributing Co., d.b.a. Sky Corp., and Sky, Stockton, Calif. 870,739, pub. 3–25–69. Multiple Class (Classes 15, 23, and 31).
Smit, J. K., & Sons, Inc., Murray Hill, N.J. 870,873, pub. 3–25–69. Cl. 26.
Societa per Azioni Fratelli Folonari, Brescia, Italy. 829,218, canc. Cl. 47.
Societa per Azioni Fratelli Folonari, Brescia, Italy. 870,987, pub. 3–25–69. Cl. 47.
Societe Anonyme Delpire, Paris, France. 870,919, pub. 3–25–69. Cl. 38.
Societe des Laboratoires Jean-Pierre Daul, (Meurthe-et-Moselle), France. 870,968, pub. 3–25–69. Cl. 46.
Societe Fermiere des Colonnes Affiches, Paris, France. 871,046, pub. 1–21–69. Cl. 101.
Sokagakkai Religious Corp., Tokyo, Japan. 870,914, pub. 3–25–69. Cl. 38.
Southern Container Corp., Deer Park, N.Y. 870,704, pub. 3–25–69. Cl. 2.
Southern Fiber Glass Products, Inc., Sanford, Fla. 870,781–[illegible], pub. 3–25–69. Cl. 19.
Spencer Chemical Co., Kansas City, Mo., to Gulf Oil Corp., Pittsburgh, Pa. 504,920, ren. 6–10–69. Cl. 6.
Sperry Rand Corp., New York, N.Y. 870,728, pub. 3–25–69. Cl. 11.
Spring Air Co., The, Chicago, Ill. 870,881, pub. 3–25–69. Cl. 32.
Spring Hill Fuel Co., d.b.a. Aluminum Detail Products, Seattle, Wash. 748,305, canc. Cl. 12.
Standard Oil Co., The, Cleveland, Ohio. 442,548, ren. 6–10–69. Cl. 15.
Standard Telefon Og Kabelfabrik A/S, Oslo, Norway. 870,799, pub. 3–25–69. Cl. 21.
Staron Inc., New York, N.Y. 748,534, canc. Cl. 42.
Stauffer Chemical Co. : *See—*
  Victor Chemical Works.
Staylastic-Smith, Inc. : *See—*
  Continental Elastic Corp., The.
Steel Publications, Inc., Pittsburgh, Pa. 508,184, ren. 6–10–69. Cl. 38.
Stegmaier Brewing Co., Wilkes-Barre, Pa. 513,937, ren. 6–10–69. Cl. 48.
Stephens-Adamson Mfg. Co., Aurora, Ill. 442,476–7, ren. 6–10–69. Cl. 23.
Stephens-Adamson Mfg. Co., Aurora, Ill. 442,858, ren. 6–10–69. Cl. 23.
Stevens, J. P., & Co., Inc., New York, N.Y. 870,956, pub. 3–25–69. Cl. 42.
Strauss, Jerome, Inc., New York, N.Y. 748,512, canc. Cl. 38.
Stryker-Post Publications, Washington, D.C. 870,933, pub. 3–25–69. Cl. 38.
Sudzy's, Inc., Galesburg, Ill. 871,033, pub. 3–25–69. Cl. 52.
Sunshine Biscuits, Inc. : *See—*
  Old Vienna Products Co.
Sun-Vi Products, Inc., from Vita Sun Fruit Juices, Inc., Marshall, Minn. 870,962, pub. 3–25–69. Cl. 45.
Supermarkets General Corp., Cranford, from Louket Markets, Inc., Jersey City, N.J. 870,754, pub. 3–25–69. Cl. 18.
Supermarkets General Corp., Cranford, from Louket Markets, Inc., Jersey City, N.J. 870,817, pub. 3–25–69. Cl. 22.
Sutton, Clinton R., d.b.a. The Loony Loop Co., Memphis, Tenn. 870,806, pub. 3–25–69. Cl. 22.
Swank, Inc., Attleboro, Mass. 870,709, pub. 3–25–69. Cl. 3.
Synthetic Plastics Co. : *See—*
  Child World, Inc.
T.G. & Y. Stores Co., Oklahoma City, Okla. 870,740, pub. 3–25–69. Cl. 15.
Table Rock Laboratories, Inc., Greenville, S.C. 507,790, ren. 6–10–69. Cl. 18.
Tak-A-Taco, Inc., Longview, Tex. 870,974, pub. 3–25–69. Cl. 46.
Tanganyika Meerschaum Corp., Ltd., Arusha, Tanzania. 870,722, pub. 3–25–69. Cl. 8.
Tappan Co., The, Mansfield, Ohio. 870,889, pub. 3–25–69. Cl. 34.
Tastee Freeze Industries, Inc., Chicago, Ill. 870,878, pub. 3–25–69. Cl. 31.
Taylor, Ellen K., d.b.a. The Lake Keuka Wine Co., Hammondsport, N.Y. 870,986, pub. 3–25–69. Cl. 47.
Taylor & Sledd, Inc., Richmond, Va. 513,725, ren. 6–10–69. Cl. 46.
Technicolor, Inc. : *See—*
  Technicolor Motion Picture Corp.
Technicolor Motion Picture Corp., to Technicolor, Inc., Hollywood, Calif. 442,330, ren. 6–10–69. Cl. 26.
Technological Products Inc., Rockville, Md. 870,894, pub. 3–25–69. Cl. 36.
Tek Bearing Co., Inc., d.b.a. Auto Safety Equipment Co., Farmingdale, N.Y. 870,800, pub. 3–25–69. Cl. 21.
Telmont Corp., from World Toy House, Inc., St. Paul, Minn. 870,875, pub. 3–25–69. Cl. 27.
Terni Societa per l'Industria e l'Elettricita S.p.A., Rome, Italy. 870,701, pub. 3–25–69. Multiple Class (Classes 2, 13, 14, 26, and 34).
Texize Chemicals, Inc., Mauldin, S.C. 871,028, pub. 3–25–69. Cl. 52.
Textron Inc., Rochester, N.Y. 870,871, pub. 3–25–69. Cl. 26.
Thatcher Furnace Co., Garwood, N.J., to Crane Co., New York, N.Y. 510,172, ren. 6–10–69. Cl. 34.
Third Eye, Inc., The, New York, N.Y. 870,921, pub. 3–25–69. Cl. 38.

Thomas Organ Co., Supulveda, Calif. 870,897, pub. 3–25–69. Cl. 36.
Thrivo Co., Inc. : *See—*
  Rosenberg, Pearl.
Timeplan Corp., The, Tulsa, Okla. 871,051, pub. 3–25–69. Cl. 102.
Torun : *See—*
  Torun Bulow-Hube.
Torun Bulow-Hube, d.b.a. Torun Biot, Alpes-Maritimes, France. 748,426, canc. Cl. 28.
Toyo Kogyo Co. Ltd., Hiroshima-ken, Japan. 870,778, pub. 3–25–69. Cl. 19.
Tracor, Inc., Austin, Tex. 870,868, pub. 3–25–69. Cl. 26.
Trade Publications, Inc., Baltimore, Md. 508,289, ren. 6–10–69. Cl. 38.
Traffic Stoppers Co., Philadelphia, Pa. 870,929, pub. 3–25–69. Cl. 38.
Trailerlevel : *See—*
  Chamberlin, Ogden.
Trans-World Shoe Import Co., Inc., New York, N.Y. 870,942, pub. 3–25–69. Cl. 39.
Tray Service Co., to American Permanent Ware Co., Dallas, Tex. 511,748, ren. 6–10–69. Cl. 13.
Triumph Machinery Co., Hackettstown, N.J. 748,390, canc. Cl. 23.
Trtanj, Albert W., D.D.S., Granite City, Ill. 870,904, pub. 3–25–69. Cl. 37.
True Temper Corp. : *See—*
  American Fork & Hoe Co., The.
Trundle Bundle Inc., Superior, Wis., to North Shore Mfg. Co., Duluth, Minn. 507,137, ren. 6–10–69. Cl. 39.
Tuthill Pump Co., Chicago, Ill. 870,845, pub. 3–25–69. Cl. 23.
Tu-Tone Muffler Corp., Jonesboro, Ga. 745,124–5, canc. Cl. 23.
Twinpak Ltd., Lachine, Quebec, Canada. 870,816, pub. 3–25–69. Cl. 22.
UOP Bostrom Division : *See—*
  Universal Oil Products Co.
USV Pharmaceutical Corp., New York, N.Y. 870,762, pub. 3–25–69. Cl. 18.
Ubina, Joy, New York, N.Y. 870,915, pub. 3–25–69. Cl. 38.
Udico Corp., Los Angeles, Calif. 870,849, pub. 3–25–69. Cl. 23.
Uniroyal, Inc., New York, N.Y. 870,694, pub. 3–25–69. Cl. 1.
United-Carr Inc., from United-Carr Inc., Boston, Mass. 870,789, pub. 3–25–69. Multiple Class (Classes 21 and 23).
United Co-Operatives, Inc., Alliance, Ohio. 870,792, pub. 3–25–69. Cl. 21.
United Fruit Co., Boston, Mass. 870,907, pub. 3–4–69. Cl. 37.
United Sound and Signal Co., Columbia, Pa. 748,410, canc. Cl. 23.
U.S. Automatic Box Machinery Co., Inc., Roslindale, Mass. 511,647, ren. 6–10–69. Cl. 23.
United States Catheter & Instrument Corp., from United States Catheter & Instrument Corp., Glens Falls, N.Y. 870,957, pub. 3–25–69. Cl. 44.
United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 260,739, ren. 6–10–69. Cl. 12.
U.S. Industries, Inc. : *See—*
  American Hosiery Mills, Inc.
U.S. Plywood-Champion Papers Inc., New York, N.Y. 870,710, pub. 3–25–69. Cl. 4.
United States Rubber Co., New York, N.Y. 870,879, pub. 12–19–67. Cl. 32.
Universal Oil Products Co., d.b.a. UOP Bostrom Division, Des Plaines, Ill. 870,780, pub. 3–25–69. Cl. 19.
Uram, Pete, Sales, Inc., Wyandotte, Mich. 870,807, pub. 3–25–69. Cl. 22.
VEB Filmfabrik Wolfen, Wolfen, Germany. 870,863, pub. 3–25–69. Cl. 26.
Veech, Robert D., Commack, N.Y. 870,892, pub. 3–25–69. Cl. 36.
Veriflo Corp., Richmond, Calif. 870,737, pub. 3–25–69. Multiple Class (Classes 13, 23, 34, and 44).
Vermont Marble Co., Proctor, Vt. 512,490, ren. 6–10–69. Cl. 12.
Verreries Pochet et du Courval S.a.r.l., Paris, France. 870,884, pub. 3–25–69. Cl. 33.
Victor Balata & Textile Belting Co., Easton, Pa. 261,086, ren. 6–10–69. Cl. 35.
Victor Chemical Works, Chicago, Ill., to Stauffer Chemical Co., New York, N.Y. 507,800, ren. 6–10–69. Cl. 6.
Victor Electronics Corp. : *See—*
  Victor Electronics Inc.
Victor Electronics Inc., d.b.a. Victor Electronic Corp., Bala Cynwyd, Pa. 748,381, canc. Cl. 22.
Vine Products, Ltd., Kingston-on-Thames, Surrey, England. 870,985, pub. 3–25–69. Cl. 47.
Vita Sun Fruit Juices, Inc. : *See—*
  Sun-Vi Products, Inc.
Volume Builders, Inc., Philadelphia, Pa. 871,079. Cl. 101.
Ward, E. J., Ltd., Ontario, Canada. 870,858, pub. 3–25–69. Cl. 26.
Warner-Artex, Inc., New York, N.Y. 871,068. Cl. 38.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 748,548, canc. Cl. 45.
Warner-Lambert Research Institute, Morris Plains, N.J. 870,767, pub. 3–25–69. Cl. 18.
Washington State University, Pullman, Wash. 871,058, pub. 3–25–69. Cl. 107.
Wayland Chemical Co., Saylesville, R.I. 740,797, canc. Cl. 6.
Weiman Co., Inc., Rockford, Ill. 748,459, canc. Cl. 32.
Werner, R. D., Co., Inc., Greenville, Pa. 871,006, pub. 3–25–69. Cl. 50.
Westgate-California Foods, Inc. : *See—*
  California Marine Curing & Packing Co.
Westinghouse Electric Corp., Pittsburgh, Pa. 748,352, canc. Cl. 21.
Wham-O Mfg. Co., San Gabriel, Calif. 870,827, pub. 3–25–69. Cl. 22.
Wheeling Corrugating Co., to Wheeling-Pittsburgh Steel Corp., Wheeling, W. Va. 512,393, ren. 6–10–69. Cl. 12.
Wheeling-Pittsburgh Steel Corp. : *See—*
  Wheeling Corrugating Co.
Whitaker, F., Co., Providence, R.I. 748,444, canc. Cl. 28.
White Cross Stores, Inc., Monroeville, Pa. 871,016, pub. 3–25–69. Cl. 51.
White, Martha, Foods, Inc. : *See—*
  Atlanta Milling Co.
Whitin Machine Works, Inc., Whitinsville, Mass. 870,838, pub. 3–25–69. Cl. 23.
Wick's Pies, Inc., Winchester, Ind. 870,980, pub. 3–25–69. Cl. 46.
William/Lawrence Corp., The, Sierra Madre, Calif. 871,069. Cl. 38.
Wilson, H. A., Co., The, to Engelhard Minerals & Chemicals Corp., Newark, N.J. 507,411–3, ren. 6–10–69. Cl. 14.
Wilson, Helene L., d.b.a. Helene Originals, Greensboro, N.C. 748,502, canc. Cl. 39.
Wilton Brass Co., Columbia, Pa. 870,721, pub. 3–25–69. Cl. 8.
Wilton Brass Co., Columbia, Pa. 870,890, pub. 3–25–69. Cl. 34.
Wingmaster Co., Inc., Brooklyn, N.Y. 870,996, pub. 3–25–69. Cl. 50.
Wolch's Nut & Candy Co., Chicago, Ill. 846,070, canc. Cl. 46.
Worcester Telegram & Gazette, Inc. : *See—*
  Worcester Telegram Publishing Co., Inc.
Worcester Telegram Publishing Co., Inc., to Worcester Telegram & Gazette, Inc., Worcester, Mass. 513,805–6, ren. 6–10–69. Cl. 38.
Worcester Telegram Publishing Co., Inc., to Worcester Telegram & Gazette, Inc., Worcester, Mass. 514,508, ren. 6–10–69. Cl. 38.
World Toy House, Inc. : *See—*
  Telmont Corp.
Wren Aircraft Corp., Fort Worth, Tex. 870,776, pub. 3–25–69. Cl. 19.
Write Shops, Inc., Chicago, Ill. 870,747, pub. 3–25–69. Cl. 17.
Wyandotte Chemicals Corp., Wyandotte, Mich. 870,717, pub. 3–25–69. Cl. 6.
Yardley of London, Inc., Totowa, N.J. 871,013, pub. 8–27–68. Multiple Class (Classes 51 and 52).
York, L. T., Co., d.b.a. Medi-Kay Pharmacal Co., Brookfield, Mo. 870,748–9, pub. 3–25–69. Cl. 18.
Youngs Drug Products Corp., Piscataway, N.J., from Youngs Drug Products Corp., New York, N.Y. 870,773, pub. 3–25–69. Cl. 18.
Zeno J. Rosario J. Di Pasquale, New York, N.Y. 748,579, canc. Cl. 102.

U.S. GOVERNMENT PRINTING OFFICE: O—1969

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
June 17, 1969 Volume 863 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1969

Examiner affirmed	144
Examiner affirmed in part	22
Examiner reversed	27
Total	193

Certificates of Correction for the Week of June 17, 1969

3,245,502
3,304,320
3,325,500
3,356,993
3,354,174
3,363,832
3,368,712
3,369,999
3,371,002
3,373,750
3,389,998
3,404,844
3,421,457

Disclaimers

3,154,255.—*David L. Schulman,* Cincinnati, and *George E. Brown, Jr.,* Glendale, Ohio. METHOD OF RECLAIMING CELLULOSE FIBERS FROM THERMOPLASTIC COATED CELLULOSIC WEBS. Patent dated Oct. 27, 1964. Disclaimer filed Feb. 3, 1969, by the inventors, the assignee, *The Amberley Company,* consenting.

Hereby enter this disclaimer to claim 5 of said patent.

3,233,578.—*Emil Robert Capita,* North Bergen, N.J. APPARATUS FOR VAPOR PLATING. Patent dated Feb. 8, 1966. Disclaimer filed Dec. 4, 1968, by the assignee, *Western Electric Company, Incorporated.*

Hereby enters this disclaimer to claims 1 and 2 of said patent.

3,295,598. *John A. Metzger,* Glenview, Ill. HEAT EXCHANGER ASSEMBLY AND METHOD OF FORMING SAME. Patent dated Jan. 3, 1967. Disclaimer filed Jan. 15, 1969, by the inventor and the assignee, *Stanley Knight Corporation.*

Hereby enter this disclaimer to claims 1, 2, 3, 11, 12 and 13 of said patent.

3,377,215.—*Clarence J. Carter,* Rolling Hills, Calif., and *Richard F. Stewart,* Richardson, Tex. DIODE ARRAY. Patent dated Apr. 9, 1968. Disclaimer filed May 8, 1969, by the assignee, *Texas Instruments Incorporated.*

Hereby enters this disclaimer to the entire term of said patent.

3,439,096.—*Spencer M. Fossel,* Morristown, N.J. METHOD OF IMPROVING MICROCIRCULATION AND TREATING SENILITY WITH BETA-(PYRIDYL LOWER ALKYL) AMINES. Patent dated Apr. 15, 1969. Disclaimer filed Dec. 2, 1968, by the assignee, *Unimed, Inc.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Sept. 15, 1981.

Patents Available for Licensing or Sale

3,145,992. GAME APPARATUS. Emerson G. Hawn, 1200 Bronson St., Watertown, N.Y., 13601.

3,424,658. METHOD OF PRODUCING A PRINTED CIRCUIT BOARD ON A METALLIC SUBSTRATE. Eva Norton, Greenwich, Conn., 06830. Correspondence to: Resources Engineering, Inc., 1701 16th St. NW., Washington, D.C.

3,440,989. FLOTATION UNITS AND SYSTEMS EMPLOYING THE SAME. William S. Ettinger. Correspondence to: Clarence M. Crews, 4706 N. Pacific Highway, Central Point, Oreg. 97501.

The following 8 patents are offered by: A. J. Nelson, 1998 Broadway, Apt. 705, San Francisco, Calif., 94109.

3,286,286.	PONTOON SUPPORT FOR OVER THE WATER PIPELINES.
3,350,798.	CONDITION RESPONSIVE ELEVATOR DREDGE.
3,359,741.	DEEP WATER SUPPORT SYSTEM.
3,336,895.	YAW CONTROL OF TOWED BARGES.
3,429,062.	DEEP WATER HARVESTING SYSTEM.
3,429,588.	JOINT CONSTRUCTION.
3,432,704.	SUBMERSIBLE APPARATUS MOTOR DRIVE.
3,438,462.	INCREASED CAPACITY THRUST BEARING ASSEMBLY.

Beaunit Corporation is prepared to grant non-exclusive licenses on reasonable terms and conditions under the following patent.

Inquiries should be directed to: Patent Counsel, Beaunit Corporation, P.O. Box 12234, Research Triangle Park, N.C., 27709.

3,419,638. DYEABLE POLYPROPYLENE.

GREFCO, Inc., a subsidiary of General Refractories Company, is prepared to grant non-exclusive licenses upon reasonable terms under the following 7 patents.

Applications for license under the following patents should be addressed to: GREFCO, Inc., 1520 Locust St., Philadelphia, Pa., 19102. Attention: Patent Counsel.

2,665,813.	HIGHFLOW RATE MINERAL FILTER AID.
2,698,251.	METHOD OF MANUFACTURING SILICEOUS INSULATING MATERIAL.
2,698,256.	SILICEOUS COMPOSITION AND METHOD FOR MANUFACTURING THE SAME.
2,783,011.	DUPLEX SLEEVE PALLET.

New Applications Received During April 1969

Patents	8989
Designs	450
Plant Patents	6
Reissues	19
Total	9464

Issue—June 17, 1969

Patents	1301	—No. 3,449,761 to No. 3,451,061, incl.
Designs	65	—No. 214,417 to No. 214,481, incl.
Plant Patents	1	—No. 2,896
Reissues	3	—No. 26,607 to No. 26,609, incl.
Total	1370	

2,801,065. MATERIALS-HANDLING DEVICE.
2,695,839. METHOD AND COMPOSITIONS FOR KILLING WEEDS.
2,695,840. METHODS AND COMPOSITIONS FOR KILLING WEEDS.

The RCA Corporation offers to grant non-exclusive licenses on reasonable terms and conditions under the following 33 patents.

Inquiries respecting licenses under the following patents should be addressed to: RCA Corporation, Staff Vice President, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,436,139. TORSIONAL LIGHT DEFLECTOR.
3,436,470. HUE ADJUST CIRCUIT FOR A COLOR TELEVISION RECEIVER.
3,436,475. BLANKING CIRCUITS FOR TELEVISION RECEIVERS.
3,436,591. ELECTRON BEAM DEFLECTION AND LOW VOLTAGE SUPPLY CIRCUIT.
3,436,681. FIELD-EFFECT OSCILLATOR CIRCUIT WITH FREQUENCY CONTROL.
D.213,699 TAPE REEL OR SIMILAR ARTICLE.
3,437,533. METHOD OF FABRICATING SEMI-CONDUCTOR DEVICES.
3,437,745. BLACK LEVEL SETTING CIRCUIT FOR COLOR SUBCARRIER MODULATOR.
3,437,951. MODULATING OR Q-SWITCHING A LASER.
3,438,403. WIRE HANDLING APPARATUS.
3,438,405. WIRE STRINGING MACHINE.
3,438,881. METHOD OF PREPARING LUMINESCENT MATERIALS.
3,439,185. LOGIC CIRCUITS EMPLOYING FIELD-EFFECT TRANSISTORS.
3,439,236. INSULATED-GATE FIELD-EFFECT TRANSISTOR WITH CRITICAL BULK CHARACTERISTICS FOR USE AS AN OSCILLATOR COMPONENT.
3,439,291. LADDER NETWORK FILTERS HAVING A NEGATIVE RESISTANCE TO COMPENSATE FOR LOSSY REACTIVE COMPONENTS IN THE FILTER.
3,439,317. COORDINATE CONVERTER SYSTEM.
3,439,328. PARITY CIRCUITS EMPLOYING THRESHOLD GATES.
3,440,407. TEMPERATURE CONTROLLED CIRCUIT BOARDS.
3,440,409. CARD PROCESSING APPARATUS.
3,440,444. DRIVER-SENSE CIRCUIT ARRANGEMENT.
3,440,620. ELECTRO-OPTICAL MEMORY.
3,440,625. STRESS-WAVE THIN-FILM MEMORY.
3,441,342. FREQUENCY AND PHASE ERROR DETECTION MEANS FOR SYNCHRONIZATION SYSTEMS.
3,441,666. ELECTRONIC SPLICING CONTROL SYSTEM.
3,441,669. THRESHOLD CONTROL FOR SYNC SEPARATOR NOISE PROTECTION CIRCUIT AND FOR AGC STAGE.
3,441,673. TELEVISION DEFLECTION SYSTEM INCLUDING AFC CIRCUIT WITH REGENERATIVE PHASE DETECTOR.
3,441,748. BIDIRECTIONAL IGFET WITH SYMMETRICAL LINEAR RESISTANCE WITH SPECIFIC SUBSTRATE VOLTAGE CONTROL.
3,441,751. TWO PHASE CLOCK PULSE GENERATOR EMPLOYING DELAY LINE HAVING INPUT-OUTPUT MEANS AND CHARACTERISTIC IMPEDANCE TERMINATION MEANS AT EACH END.
3,441,790. STABILIZATION OF TELEVISION DEFLECTION CIRCUITS.
3,441,791. DEFLECTION CIRCUIT WITH BIDIRECTIONAL TRACE AND RETRACE SWITCHES.
3,441,865. INTER-STAGE COUPLING CIRCUIT FOR NEUTRALIZING INTERNAL FEEDBACK IN TRANSISTOR AMPLIFIERS.
3,441,921. SELF-SYNCHRONIZING READOUT WITH LOW FREQUENCY COMPENSATION.
D.213,968. ANTENNA FOR A RADIO OR TELEVISION SET.

General Electric Company is prepared to grant non-exclusive licenses under the following 15 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Nuclear Energy Division, 175 Curtner Ave., San Jose, Calif., 95125, Attention: Patent Counsel.

3,094,621. IDENTIFYING PLANT AND ANIMAL DEFICIENCIES BY RADIOACTIVE MEANS.
3,371,222. BI-DIRECTIONAL RING COUNTER.

Applications for license under the following 3 patents may be addressed to: General Electric Company, Power Distribution Division, 100 Woodlawn Ave., Pittsfield, Mass., 01201. Attention: Division Patent Attorney.

3,423,668. VOLTAGE REGULATOR VERNIER CONTROL DEVICE WHEREIN AN AUTOTRANSFORMER IS DIRECTLY CONNECTED TO THE CONTROL FINGERS OF A COARSE CONTROL.
3,434,659. TAKE-UP TOTALIZING RELAY.
3,434,724. MECHANISM TO OBTAIN GAP BETWEEN RECORDINGS ON A TAPE RECORDER.

Applications for license under the following 4 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,178,614. ELECTRIC CIRCUIT BREAKER.
3,180,960. BOUNCE SUPPRESSING ARRANGEMENT FOR ELECTRICAL CONTACTS.
3,259,802. GROUND FAULT RESPONSIVE PROTECTIVE SYSTEM FOR ELECTRIC POWER DISTRIBUTION APPARATUS.
3,297,955. PLURAL OSCILLATORS SYNCHRONIZED TO THE HIGHEST FREQUENCY.

Applications for license under the following 6 patents may be addressed to: Patent Counsel, Appliance and Television Group, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,059,089. OVEN VENTING SYSTEM.
3,109,411. CONTROL DEVICE.
3,114,813. TEMPERATURE RESPONSIVE CONTROL DEVICE.
3,154,051. CALIBRATION ADJUSTMENT FOR CONTROL DEVICE SETTING DIALS.
3,419,427. METHOD OF CLEANING SOILED ARTICLES.
3,428,766. SWITCH MECHANISM FOR CABINET.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 2, 1969

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4-26-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*8-22-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-20-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*8-22-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-06-67
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-19-67
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-13-66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*6-14-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-10-67
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	7-26-67
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-19-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	9-20-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5-03-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	5-23-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	4-01-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	12-26-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	9-25-67

Total number of pending applications (excluding Designs)	186, 399
Total number of Design applications pending	3, 367

Expiration of patents: The patents within the range of numbers indicated below expire during June 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,598,659 to 2,601,678, inclusive
Plant Patents	Numbers 1,101 to 1,109, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

THE O. M. SCOTT & SONS COMPANY *v.* AGWAY, INC., ASSIGNEE, BY MERGER OF COOPERATIVE GRANGE LEAGUE FEDERATION EXCHANGE, INC.

No. 8036. Decided November 27, 1968

[56 CCPA —; 402 F.2d 1012; 159 USPQ 648]

1. TRADEMARK—CONFUSING SIMILARITY—"PRO-GREEN," "PRO-N," AND "PRO GRO" FOR FERTILIZERS.

"* * * we do not think the average fertilizer purchaser would necessarily think that 'Pro' is a recognized abbreviation of the word 'professional,' any more than he would think 'Pro' is a recognized synonym of the word 'for.' Even so, we fail to see how it possesses 'an obvious laudatory connotation as applied to fertilizers' any more than the word 'amateur' would necessarily suggest an opposite meaning. On the contrary, we think that the average purchaser, on viewing the competing marks ["PRO-GREEN," "PRO-N," and "PRO GRO"] applied to identical goods in the market place, would not be inclined to dissect them in the manner suggested by the Board, but would view them in their entireties and assume the goods emanate from a common source.

APPEAL from Patent Office. Opposition No. 44,297.

REVERSED.

Charles R. Allen, Jr., for appellant.

Conrad Christel, Christel & Bean for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, and BALDWIN, *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Agway seeks registration of "PRO-GREEN" for use on turf fertilizer and is opposed by Scott on prior use and registration of "PRO-N"[1] and "PRO GRO"[2] also used on fertilizers.[3]

We are controlled in part by a stipulation between the parties advising that "PRO GRO" and "PRO-N" are advertised in national trade publications and pamphlets and "sold to homeowners and other consumers in drug stores, garden supply stores, lumber yards, hardware stores, department stores, and other general retail merchandise outlets."[4]

In dismissing the opposition the Trademark Trial and Appeal Board stated:

> In this regard, the term "Pro," common to the marks, is a recognized abbreviation of the word "professional," and, as such, it possesses an obvious laudatory connotation as applied to fertilizers. In view thereof, and considering the differences between the marks when considered in the entireties, it is our opinion that their contemporaneous use is not likely to cause confusion or mistake or deceive.

With due respect to the Board's position we are unable to agree with either the reasoning or result it reaches.

[1] First, we do not think the average fertilizer purchaser would necessarily think that "Pro" is a recognized abbreviation of the word "professional," any more than he would think "Pro" is a recognized synonym of the word "for." Even so, we fail to see how it possesses "an obvious laudatory connotation as applied to fertilizers" any more than the word "amateur" would necessarily suggest an opposite meaning. On the contrary, we think that the average purchaser, on viewing the competing marks applied to identical goods in the market place, would not be inclined to dissect them in the manner suggested by the Board, but would view them in their entireties and assume the goods emanate from a common source.

The decision is reversed.

REVERSED.

Judge Smith participated in the hearing of this case but died before a decision was reached.

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[1] Registration No. 663,649, issued July 1, 1958.

[2] Registration No. 664,903, issued July 29, 1958.

[3] "Pro Turf," another mark registered by Scott for a fertilizer with weed killer, was properly disregarded by the Board since its use and registration were subsequent in time to the Agway use.

[4] The record is silent regarding Agway's advertising and trade channels.

U.S. Court of Customs and Patent Appeals

LIVIA C. SCHMIERER AND JACQUES H. F. VALIN
v.
JOHN C. NEWTON

No. 7879. Decided June 27, 1968

[56 CCPA—; 394 F.2d 110; 158 USPQ 203]

1. APPLICATION—BENEFIT OF FILING DATE OF FOREIGN APPLICATION—35 U.S.C. 104 AND 119.

"As seen from the foregoing chart, appellants had filed a patent application in France on December 16, 1957. On December 8, 1958, less than a year after the French filing, appellants executed in France a corresponding patent application for filing in the United States Patent Office. However, apparently due to certain delays in customs, the executed application was not filed in the United States until December 22, 1968, more than one year after the corresponding French application. Thus appellants' filing date in the United States is more than one year after their French filing date; hence appellants cannot relay on their French application for priority. 35 U.S.C. 119. Under these circumstances, appellants may not establish under 35 U.S.C. 104 a date of invention by reference to activities in France."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—INTERFERENCE—NEW ISSUE.

"Appellants, in their brief, seek to obtain some benefit from their earlier filing of a French application by urging a two-fold argument: First, appellants suggest the French application provides a basis for judicial notice to be taken of the fact that Schmierer made the invention independently from Newton and his assignee and that 'no inference can be drawn' to the contrary. This issue of derivation was not presented below and is not in question here. Accordingly, we decline to consider it."

3. INTERFERENCE—CONCEPTION—EXECUTION OF APPLICATION IN FOREIGN COUNTRY—35 U.S.C. 104.

"Appellants' second argument directed to the effect of their French application is bottomed on their position below that execution of the application before the United States Consul in Paris constitutes an act of *conception* provable under 35 U.S.C. 104. However, appellants cite no authority to support their contention that the execution of a patent application before a consular officer in France is anything other than an act 'in a foreign country' within the meaning of this term in 35 U.S.C. 104. Thus, the express wording of 35 U.S.C. 104 precludes reliance on appellants' activities in France to establish a date of invention, except as to applications filed pursuant to 35 U.S.C. 119. Here appellants' failure to comply with 35 U.S.C. 119 precludes such a reliance."

4. SAME—SAME—DEFINITE CONCEPT OF COMPLETE INVENTION.

"We turn now to a review of appellants' attack on the legal sufficiency of Newton's proofs [regarding conception]. In order to prevail, Newton's proofs must justify a conclusion that Newton 'possessed a definite and permanent idea of the complete and operative invention' or that he made his invention sufficient plain to enable one of the ordinary skill in the art to understand it. See *Spero* v. *Ringold*, 54 CCPA 1407, 377 F.2d 652, 153 USPQ 726 (1967); *Gould* v. *Schawlow*, 53 CCPA 1403, 363 F.2d 908, 150 USPQ 634 (1966); *Townsend* v. *Smith*, 17 CCPA 647, 36 F.2d 292, 4 USPQ 269 (1929)."

5. SAME—SAME—THIRD-PARTY INVENTORSHIP MAY NOT BE RAISED.

"Appellants urged that Newton's Exhibit 11 cannot establish conception for Newton allegedly because the only evidence linking Newton's conception to the exhibit in his own testimony. Insofar as this argument questions the inventorship, we think it a sufficient response to that position to reiterate the well-settled proposition that the question of third-party inventorship may not be raised in an interference proceeding. See, e.g., *Huang* v. *Cheney*, 53 CCPA 1355, 362 F.2d 816, 150 USPQ 295 (1966); *Schwarzenbek* v. *Evering*, 53 CCPA 1152, 357 F.2d 1018, 149 USPQ 213 n. 3 (1966)."

6. SAME—SAME—INVENTION UNDERSTOOD BY ONE SKILLED IN THE ART.

"We think it clear that Newton's testimony, standing alone, could not prove conception. Priority of conception, however, may be established when the invention is made sufficiently plain to enable one of ordinary skill in the art to understand it. Thus, evaluating the evidence of conception adduced by Newton in the light of the standard of what it teaches one of ordinary skill in the art, see e.g., *Spero* v. *Ringold*, supra; *Gould* v. *Schawlow*, supra; *Townsend* v. *Smith*, supra, we think the Board was correct. When the evidence of all the circumstances is here tested by the requisite standard of proof, i.e., a preponderance of evidence, we think it legally supports the conclusion reached by the Board."

APPEAL from the Patent Office. Interference No. 93,980.

AFFIRMED.

Karl F. Ross (*Watson, Cole, Grindle & Watson, Francis G. Cole, Laurence R. Brown*, of counsel) for appellants.

Dos T. Hatfield (*Edgar H. Kent, Willis M. Ertman*, of counsel) for appellee.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK[1]

SMITH, *J.*, delivered the opinion of the court.

This is an appeal by the senior party, Livia C. Schmierer and Jacques H. F. Valin (Schmierer) from a decision of the Board of Patent Interference,[2] adhered to on reconsideration, awarding priority of the invention set forth in the single count here in issue to appellee, John C. Newton (Newton) the junior party.[3] The sole count originated as claim 1 of Schmierer's United States patent and was copied by Newton for purposes of interference.

Appellants' arguments here raise issues as to whether the facts of record are legally sufficient on the questions of conception, reduction to practice, and diligence on behalf of Newton to support the conclusion of the Board. Newton's burden was to establish his case by a preponderance of the evidence. As will be further developed, the facts of record require an affirmance of the decision of the Board on the question of priority.

The assignees of the respective parties are Societe Nouvelle d'Electronique of Paris, France, for appellants, and International Business Machines Corporation for appellee.

Background of the invention

The invention relates to a digital computing system which may receive messages of an arithmetical type from a memory. Appellants, in their brief, explain that the invention defined in the count may be

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] The board consisted of Messrs. Willner, Boys and Bailey, Examiners of Interferences. Mr. Willner wrote the opinion of the board.

[3] The interference proceedings arose under 35 U.S.C. 135 between an application of John D. Newton, Serial No. 823, 988, filed June 30, 1959, entitled "Data Processing Element" and a patent to Livia C. Schmierer and Jacques H. F. Valin, U.S. Patent No. 3,058,658, issued October 16, 1962, entitled "Control Unit for Digital Computing Systems." The patent issued on an application filed in the United States on December 22, 1958.

described by reference to the operation of a simplified conventional computer.

A digital computing system of the type to which the invention relates processes data in response to and in accordance with a series of instructions. Both the data and the instructions are in the form of binary-coded words which are stored in the memory unit of the computing system. The systems disclosed by Schmierer and by Newton both utilize a message which includes an operation, or instruction, portion and a single-address portion.

Typical computers known to the art at the time the invention here in issue was made included what are known as "single-address" computers. Such single-address computers are capable of performing certain basic arithmetic operations, such as adding and subtracting. A typical adding operation takes the form of a command "Add X" wherein "Add" is termed an instruction word, or operation portion, constituting the functional message part of the coded signal. "X" is a data word constituting the algebraic or address portion of the coded signal which signifies to the computing system where in the memory to find the quantity to be added. Similarly, a subtraction operation will be in the form of a command "Subtract Y" where, again, "Subtract" is an instruction word and "Y" is a data word.

In the then conventional operation of such a computer, the two commands "Add" and "Subtract" or similarly two "Add" or two "Subtract" commands operated in sequence would require the successive callout of at least two coded signals comprising four different "words" from at least two different memory locations in which they are stored, for example, "Add X" and "Subtract Y."

These coded signals are withdrawn from the memory of the computer to rest temporarily in an instruction register and are used to instruct a sequencing section of the computing system to perform the specified operation. Thus, in the typical known prior-art computers for the exemplary calculation sequence under consideration, (*a*) the sequence in the calculator section is established for addition, (*b*) the location X is then found for the quantity to be added before (*c*) the next operating sequence in the calculator is set up, and, finally, (*d*) the second quantity is located at Y.

In this art, this conventional sequence of steps, wherein each step is done independently, is called the "non-overlapped" mode of operation.

The improvement set forth by the count in issue may be referred to as an "overlapped" mode of operation and involves the simultaneous performance of two steps in the foregoing schedule, i.e., to locate a quantity while the previous calculation is in progress, thus resulting in a more rapid calculation. With "overlap," a second or auxiliary instruction register is added to the system to receive messages from the storage unit, and to set up operations for the specified calculation from the functional message portion of the instruction. The following sequence of steps is exemplary: (*a*) the first message, e.g., "Add X," is "fed" through the auxiliary register and is temporarily held in the main register to perform the addition of "X"; (*b*) the second message "Subtract Y" is "fed" into the auxiliary register and retained to specify the next operation "Subtract"; (*c*) during the addition, a message in the storage means is located in response to the functional portion of the message "Subtract"; (*d*) when the addition is completed, the main register is cleared and "Subtract Y" is transferred from the auxiliary register into the main register while the next message is fed into the auxiliary register. Thus, in step (*c*) a message is located without waiting for the calculation to end, resulting in "overlap."

The Count

The sole count in issue states:

> 1. In a digital computing system having *storage means* for retaining coded information applied thereto, *main instruction-register means* connected to receive from said storage means combinations of coded signals constituting functional and algebraic message portions, and *a computer* adapted to perform calculating operations in response to instructions from said main register means corresponding to an algebraic message portion stored therein, the combination therewith of *control means* including:
>
> *auxiliary instruction-register means* connected to receive messages from said storage means;
>
> *selector means* operative under the control of said auxiliary register means, in the presence of a first message in said main register means and a second message in said auxiliary means, for identifying a third message in said storage means in response to a functional portion of said second message during performance of a calculating operation by said computer in response to an algebraic portion of said first message; and
>
> *signal-responsive means* operable by an execution signal from said computer indicative of the completion of a calculating operation for clearing said main register means of said first message and thereafter initiating a transfer of said second message from said auxiliary register means to said main register means and a transfer of said third message from said storage means to said auxiliary register means, thereby enabling said computer to operate on an algebraic portion of said second message during transfer of said third message and identification by said selector means of a further message in said storage means. [Emphasis added.]

In the proceedings below, the appellants raised a question of interpretation of the language of the count. However, to simplify issues in this proceeding, appellants do not press this point before the court and, for the purpose of the present proceedings, adopt appellee's construction of the count.

The Events Below

Appellants' brief contains in comparative chart form a brief summary of the time sequence of the principal events bearing upon the issues presented here. An edited version of that chart is here reproduced to provide a background outline of pertinent matters to be further considered in this opinion.

Schmierer et al.	Newton
	(1) 20 November–12 December 1957: Alleged conception by Newton (Exhibit 11, a drawing made by the witness Tilton).
(2) 16 December 1957: Filing of French application No. 753,933 (subsequently French Patent No. 1,201,663) by assignees of Schmierer et al.	
	(3) 1 July 1958: Date appearing on printed report (Exhibit 1) from Newton's assignee (IBM) to United States Government. (Held to be conception by the Board.)
(4) 8 December 1958: Execution by Schmierer et al. before U.S. Consul in Paris, of patent application corresponding to French application No. 753,933, supra.	

Schmierer et al.	Newton
	(5) 9 December 1958: Demonstration of computer model to representative of Secretary of Defense. (Doubt was expressed by the Board as to sufficiency of this demonstration to establish an actual reduction to practice.)
(6) 22 December 1958: Filing of U.S. application Serial No. 782,266 (later Patent No. 3,058,658) with documents ribboned under seal of U.S. Consulate in Paris.	
	(7) 29 June 1959: Newton's application executed before Notary Public.
	(8) 30 June 1959: Filing of Newton's application Serial No. 823,988.

OPINION

I. *Appellants' position*

[1] As seen from the foregoing chart appellants had filed a patent application in France on December 16, 1957. On December 8, 1958, less than a year after the French filing, appellants executed in France a corresponding patent application for filing in the United States Patent Office. However, apparently due to certain delays in customs, the executed application was not filed in the United States until December 22, 1968, more than one year after the corresponding French application. Thus, appellants' filing date in the United States is more than one year after their French filing date; hence appellants cannot rely on their French application for priority. 35 U.S.C. 119. Under these circumstances, appellants may not establish under 35 U.S.C. 104 a date of invention by reference to activities in France.[4]

[2] Appellants, in their brief, seek to obtain some benefit from their earlier filing of a French application by urging a two-fold argument: First, appellants suggest the French application provides a basis for judicial notice to be taken of the fact that Schmierer made the invention independently from Newton and his assignee and that "no inference can be drawn" to the contrary. This issue of derivation was not presented below and is not in question here. Accordingly, we decline to consider it.

[3] Appellants' second argument directed to the effect of their French application is bottomed on their position below that execution of the application before the United States Consul in Paris constitutes an act of *conception* provable under 35 U.S.C. 104.[5] However, appellants cite no authority to support their contention that the execution of a patent application before a consular officer in France is anything other than an act "in a foreign country" within the meaning of this term in 35 U.S.C. 104.[6] Thus, the express wording of 35 U.S.C. 104 precludes reliance on appellants' activities in France to establish a date of invention, except as to applications filed pursuant to 35 U.S.C. 119. Here appellants' failure to comply with 35 U.S.C. 119 precludes such a reliance.

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[4] § 104. *Invention made abroad*

In proceedings in the Patent Office and in the courts, an applicant for a patent, or a patentee, may not establish a date of invention by reference to knowledge or use thereof, or other activity with respect thereto, in a foreign country, except as provided in section 119 of this title. * * *

[5] By motion filed before appellee's testimony was taken, appellants asked to be given the benefit of the filing date of their corersponding French application, December 16, 1957, and the benefit of the date of December 8, 1958 when they executed their United States application before a United States consul in France. The Board deferred decision on those motions until final hearing after which it held that, under 35 U.S.C. 104, appellants' French application is a nullity in this proceeding and confined appellants to their U.S. filing date.

The Board stated:

> * * * The statute does not provide for any extension of the year for any reason whatever. Therefore benefit of the filing date of the French application, December 16, 1957, cannot be accorded Schmierer et al. 35 U.S.C. 119. Since Schmierer et al. may not establish a date by reference to knowledge of the invention in France except under the provisions of 35 U.S.C. 119, by operation of 35 U.S.C. 104, the Schmierer et al. French application is a nullity in this proceeding. Schmierer et al. is therefore restricted to the filing date of the U.S. application, December 22, 1958, for conception and (constructive) reduction to practice.

In their reasons of appeal, appellants questioned the Board's decision insofar as the Board failed to consider the filing date of the application in France as proof of conception.

Newton took testimony, the legal sufficiency of which is the central issue in this appeal. Schmierer also took testimony, relating primarily to the reasons why his filing date in the United States was delayed beyond one year after his French filing date. As the case reaches us, Schmierer is confined to the filing date of his application in the United States. Thus, Newton must establish priority of invention by a preponderance of the evidence.

Turning now to the central contentions of the appellants as to the legal sufficiency of appellee's proofs, we shall consider each of the arguments in turn, often referring only to as much of the testimony as is necessary to support our conclusion.

II. *Conception*

Appellants' argument on this issue is that Newton has not proven conception by a preponderance of the evidence. Thus, these arguments raise the question of whether Newton's proofs are legally sufficient to prove conception.[7]

[4] We turn now to a review of appellants' attack on the legal sufficiency of Newton's proofs. In order to prevail, Newton's proofs must justtify a conclusion that Newton "possessed a definite and permanent idea of the complete and operative invention" or that he made his invention sufficiently plain to enable one of ordinary skill in the art to understand it. See *Spero* v. *Ringold*, 54 CCPA 1407, 377 F.2d 652, 153 USPQ 726 (1967); *Gould* v. *Schawlow*, 53 CCPA 1403, 363 F.2d 908, 150 USPQ 634 (1966); *Townsend* v. *Smith*, 17 CCPA 647, 36 F.2d 292, 4 USPQ 269 (1929). To this end, we shall review certain portions of apellee's proofs.

The evidence for appellee relates the history of the designing, construction and initial testing of a computer system embodying the improvement defined by the single count of the interference. The system was designed and built under Government contracts by Newton's assignee IBM for the purpose of developing new circuits, parts, packaging techniques, error detection techniques and logic. Its purpose, as the Board noted, was to be subjected "to operating conditions over a long period of time" to evaluate its logic, circuitry and components for adoption by the Government in a new defense system. The system was thus named "Reliability Test Assembly" or "RTA."

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[6] Appellants cite *United States ex rel. Majka* v. *Palmer*, 67 F.2d 146 (7th Cir. 1933); *United States* v. *Rodrigues*, 182 F. Supp. 479 (S.D. Cal. 1960); *United States* v. *Archer*, 51 F. Supp. 708 (S.D. Cal. 1943). We do not find that these cases, involving criminal prosecutions, support appellants' contention that the acts here urged were not "in a foreign country" within the express meaning of 35 U.S.C. 104.

Equally non-pertinent are the cases of *King* v. *Young*, 26 CCPA 762, 771, 100 F.2d 663, 670, 40 USPQ 176, 183 (1938) and *Fox* v. *Kingsland*, 81 F. Supp. 433, 437, 80 USPQ 14, 17 (D.D.C. 1948), cited by appellants for the proposition that execution of an application before a notary is evidence of conception even though the notary did not read or understand the disclosure, since *these cases involve acts in the United States* and do not have meaning in this context as applying to 35 U.S.C. 104.

[5] [7] Appellants urge that Newton's Exhibit 11 cannot establish conception for Newton allegedly because the only evidence linking Newton's conception to the exhibit is his own testimony. Insofar as this argument questions the inventorship, we think it a sufficient response to that position to reiterate the well-settled proposition that the question of third-party inventorship may not be raised in an interference proceeding. See, e.g., *Huang* v. *Cheney*, 53 CCPA 1355, 362 F.2d 816, 150 USPQ 295 (1966); *Schwarzenbek* v. *Evering*, 53 CCPA 1152, 357 F.2d 1018, 149 USPQ 213 n. 3 (1966).

The heart of the RTA system was its central computer. Other major parts of the system were an operating console which contained some of the memories for the central computer, together with control and indicator equipment for the operators, and an input-output system, variously referred to in the record as "I–O," "Peripheral Unit Processor" or "PUP," which included a card reader, a typewriter and a high speed drum.

The project began in 1957. In November of that year, the witness Tilton, who participated in the design, building and testing of the central computer from the fall of 1957 until July 1959, made a block circuit diagram of the system, entered into evidence as Newton's Exhibit 11. He stated that FIG. 4 of Newton's Exhibit 1, a final report of the phase of RTA prior to July 1, 1958, showed a simplified block diagram of the central computer portion of the RTA–1 machine, as it was in the summer of 1958. He also testified that his drawing was a print of a system diagram of the RTA–1 computer and that it embodied the logic of the count. Newton's Exhibit 11, however, was not considered by the Board to be legally sufficient by itself to prove conception. It stated:

> There seems to be no doubt that two "instruction" registers with associated decoders and command generators and with indicated transfer from the first register to the second register were in the plan of the RTA–1 from near its inception. They are shown on the layout, Newton Exhibit 11, made by Tilton. Tilton testified that he made no changes in the drawing after his last change note, December 12, 1957. We have no reason not to believe him. His testimony however does not affirmatively show just when he acquired such understanding of the relationship functioning of the elements shown on the layout that the requirements of the count would be met by it. * * *

We need not, however, review the question of whether Newton is entitled to a conception date of November 20 to December 12, 1957.[8]

Newton's Exhibit 1 includes a diagram generally similar to FIGS. 1 and 3 of Newton's application. As to this exhibit, the Board stated:

> * * * But Newton has a firmly established conception by July 1958, with the report, Newton Exhibit 1, which makes Newton first to conceive by fully corroborated evidence. * * *

Schmierer agrees, for the purposes of the present proceedings, that Newton's Exhibit 1 shows all the elements of the count. Since Newton's Exhibit 1 concededly shows all of the elements of the count, it is, of course, apparent that someone possessed the conception of the invention. Resolution of the question is clouded by the fact that Newton's Exhibit 11 chronologically preceded Exhibit 1.

Newton's own testimony states:

> 9Q. Did the RTA central computer system involve the overlapped processing of instructions? A. Yes, it did.
>
> 10Q. Who designed the logic for that overlapped processing of instructions? A. I would say that the primary portion of the overlapped processing is handled in the program control element and that I was responsible for the design of these controls.

That testimony is corroborated by Newton's Exhibit 1 which states that in the central computer "the program element is the controlling section for memory communications" and will perform the following functions one of which is "*d.* Provide instruction overlapping."

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[8] While Newton believes that he should have been given a date of conception by December 12, 1957, the date when the last change on the drawing (Newton's Exhibit 11) was made, he does not pursue the point, apparently conceding that "it does not appear to have any consequence to the questions appellants are raising here."

The testimony also shows that Newton was required to review the manuscript of that exhibit before printing to verify its content. That testimony, by Newton, is:

> 27Q. Did you approve the layout or text that goes with it? Were you given the manuscript for approval? Did you write it yourself or check it? A. I would say my manager, I think, was Joe Moyer * * * maybe it was Bill Carroll at that time * * * he had to approve * * * he was one of the people who had to approve the whole program. However, I would say I certainly had to look at all of this write-up and check to see that it was consistent with the design that I did.
>
> * * * * * * *
>
> 29Q. What portion of this report Exhibit #1 did you write? A. I wrote portions * * * I wrote eveything from pages 84 through to 96 and also including the diagram on page 97.

That portion of the document also contains descriptions of the "overlap-type" of operation which further supports Newton's own testimony.

Furthermore, the witness Tilton testified that he made the original drawing for Exhibit 1 in November of 1957 and revised it in December of that year. He stated that until he was assigned the task of preparing this drawing, there existed no overall system diagram of the machine which was then being designed. He thus was given the task of compiling and securing the information necessary to produce such a drawing and to make the drawing.

He stated that he obtained the information from various sources and that information for the program control element on the diagram came from John Newton. We think this testimony provides additional corroborative evidence on the issue of Newton's conception.

Mr. Tilton compared the drawing, Newton's Exhibit 11, with FIG. 4 of Newton's Exhibit 1 and testified that they showed the same logic except for the immaterial absence of a third memory in Exhibit 11. He testified further that FIG. 5 of Exhibit 1 shows by means of a timing diagram the manner in which the logic shown in FIG. 4 of Exhibit 1 and in Exhibit 11 executes instructions in an overlapped manner.

[6] We think it clear that Newton's testimony, standing alone, could not prove conception. Priority of conception, however, may be established when the invention is made sufficiently plain to enable one of ordinary skill in the art to understand it. Thus, evaluating the evidence of conception adduced by Newton in the light of the standard of what it teaches one of ordinary skill in the art, see e.g., *Spero* v. *Ringold*, supra; *Gould* v. *Schawlow*, supra; *Townsend* v. *Smith*, supra, we think the Board was correct. When the evidence of all the circumstances is here tested by the requisite standard of proof, i.e., a preponderance of evidence, we think it legally supports the conclusion reached by the Board.

On the record here, we conclude that there existed sufficient corroborative evidence in the form of documents, testimony and other circumstances to indicate that appellee's proofs are legally sufficient to support the Board's finding of a "firmly established conception" by Newton by July 1958.

III. *Actual reduction to practice*

While the proofs necessary to establish an actual reduction to practice vary with each case,[9] we agree with the Board that appellee's proofs, when considered as a whole, are legally sufficient to support the Board's finding that the invention of the count was actually reduced to practice on or before the end of June 1959. See, e.g., *Patterson* v. *Hauck*, 52 CCPA 987, 341 F.2d 131, 144 USPQ 481 (1965); *Schnick* v. *Fenn*, 47 CCPA 1174, 277 F.2d 935, 125 USPQ 567 (1960).

Newton contended before the Board that by December 9, 1958 the computer was sufficiently complete that, with some temporary equipment then in existence and connected to it, it could and did demonstrate "overlap" operation that meets the requirements of the count. The testimony indicates that the equipment as it existed on or before December 9, 1958 would perform that operation. The witness Tilton, for example, indicated that the logic of FIG. 4 of the report, which corresponds to FIG. 1 of the Newton application drawing, had been made "for all practical purposes" operational. The Board, however, noted:

> * * * On the other hand the computer was operating with temporary test memories having only two addresses each, so that a program of eleven messages such as given as an illustration in FIGURE 5 of Exhibit 1 apparently could not be carried out, at least in its entirety. The several contentions and points argued by Schmierer et al. do raise a little doubt as to whether reduction to practice had been proved as of December 9, 1958, and if the Newton evidence had cut off at this date we would hesitate to rule that the Newton evidence made out a sufficient case.

While appellee does not agree that the above quoted portion of the Board's opinion was correct, we need not reach that issue. Moreover, counsel for appellee stated at oral argument that "it doesn't matter here."

The Board summarized the Newton evidence for the period between December 9, 1958 and June 30, 1959, appellee's filing date, as follows:

> The Newton evidence however shows that about thirty people continued to work on the computer in order to complete it by the scheduled date, July 1, 1959, working sometimes in two and three shifts, reducing in number as the computer neared completion because the work on it then did not admit of so many without conflict. The testimony is that the computer was delivered to the reliability test group on about July 1 as a fully operational device according to plan, according to Tilton. Tilton testified that, except for a memory drum that was being developed as an added feature, the machine was completely tested in the months before turning over the computer, during which time (referring to early 1959) test programs were debugged and developed for use by the reliability group.

It concluded:

> We are satisfied that the invention in issue was actually reduced to practice on or before the end of June 1959, at which time the invention was constructively reduced to practice by the filing of the Newton application.

The gist of appellants' position here on this issue is that appellee had not proven, with the requisite certainty, a date on which an operative embodiment of the count had been reduced to practice by Newton's assignee.

In connection with a visit from a representative of the Secretary of Defense on December 9, 1958,[10] photographs, submitted as Newton's Exhibits 6–A to 6–D, were taken which show, according to the testimony of Newton and the witness Digan, that the three modules of the central computer had been completed, wired together and to test equipment, and were undergoing active testing. The date of the photos was independently established by the witnesses Casazza and

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[9] Some of the problems of territory and proof raised in determining whether an invention has been actually reduced to practice, are discussed in a recent article, Kempf, Reduction to Practice of Space Inventions, 50 JPOS 105 (1968).

[10] Since that visit occurred before Schmierer's United States filing date, i.e., December 22, 1958, it is convenient to discuss that evidence insofar as it provides a suitable starting point relating to Newton's proof of diligence, see Part IV, infra.

Tilton. The testimony reveals that the test equipment included indicator lamps by which execution of logic could be determined, and two pairs of two address toggle switch registers, which were used in place of the 32 address and 8 address plugboard memories to be provided by the operating console when completed. With this amount of test equipment, the testimony establishes that it was possible to test all of the operating features of the central computer, including the execution of all instructions which the machine was designed to execute and its continuous operation in overlap mode as stated by the witness Tilton. His testimony on this point is as follows:

> 116Q. When, with reference to the date of December 9, 1958 of Exhibit #6–C, do you believe you had done a substantial amount of such testing? A. I would say that on or about the date of this photograph, that from the appearance of the equipment and appearance of the test panel, we had done a substantial amount of testing. I definitely recall certain tests we made in overlap mode over a long period of time in which we, as an exercise, would continually add one to the arithmetic element and we would do it in overlap mode and we would do it in non-overlap mode; and we could observe the difference in instruction execution rate.

The record establishes that by the December 9, 1958 date of the photographs the testing had been done to such extent as to, in the words of the witnesses, "leave no doubt whatever that the central computer * * * would operate as designed" and had "for all practical purposes been made operational."

While the Board hesitated to find this an actual reduction to practice, the testimony also shows that testing with the test equipment shown in Newton Exhibits 6–A to 6–D continued into January 1959, when the permanent operating console was completed and test work was interrupted to wire it into the system and change the wiring from the temporary test equipment to the corresponding equipment of the console. The console added two plugboard memories of 32 and 8 storage addresses respectively which enabled longer and more diversified programs to be run, but otherwise essentially duplicated the test equipment previously used.

After the console had been wired in and tested, Tilton testified that "an entire group of programmers who had been engaged in writing tests and diagnostic programs" for the life performance analysis for which the machine was built, joined the work and "time began to be shared between the hardware test people and the programmers." The record also reveals that in March-April 1959 the "ferrite core" third memory was completed, wired in and tested, its additional storage addresses enabling still longer and more diversified programs to be run by the programmers. Also, in the first half of 1959 the PUP system was tied in to the central computer. During a substantial part of this period the work was carried out on a three shift, 24 hour per day basis, a point commented upon by the Board.

The record also establishes that in July 1959, the RTA system was turned over to the Reliability Testing Group which ran the diagnostic and test programs to determine the suitability of the system as a prototype for SAGE–2. At that time the record shows that all of the central computer and all of the I–O equipment were operating, and that the system had been completely tested, except for a new type drum added later and some error detection equipment, both seemingly immaterial to the unit here involved.

Thus, we find that the conclusion of the Board that Newton had established an actual reduction to practice before his own filing date

is adequately supported by the testimony of the witnesses Tilton and Digan, as well as by Newton's Exhibit 4 and the first RTA quarterly report for 1959.

IV. *Diligence*

The Board concluded that since Newton has established no actual reduction to practice before Schmierer's United States filing date, he must show diligence toward a reduction to practice from a time just prior to Schmierer's filing date of December 22, 1958. The Board found:

> * * * There can be no question of Newton diligence from prior to the Schmierer et al. filing date to reduction to practice, so that as first to conceive Newton is entitled to prevail. * * *

On this issue, we have reviewed this record in its entirety in the light of appellants' assertions and appellee's counter arguments. In particular, we have perused those questions and answers in the record, as specifically requested by appellants, together with the exhibits. We find the evidence on diligence to be legally sufficient to support the decision of the Board on this issue.[11]

The decision of the Board is affirmed.

AFFIRMED.

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[11] See Part III, supra, especially the text accompanying note 9, supra.

U.S. Court of Customs and Patent Appeals

FORMICA CORPORATION
v.
THE NEWNAN CORPORATION

No. 7991. Decided June 20, 1968

[55 CCPA 1232; 396 F.2d 486; 158 USPQ 104]

1. TRADEMARK—CONFUSING SIMILARITY—"FORMICA" AND "NEW-MICA" FOR DECORATIVE LAMINATED MATERIAL.

"It does seem likely to us that use of the mark NEW-MICA will lead some purchasers to the conclusion that the laminate they are buying is new FORMICA, the most widely known of the plastic laminate materials."

2. SAME—SAME—DOUBT RESOLVED AGAINST LATE-COMER.

"As long ago as 1910, the Court of Appeals of the Second Circuit said: 'It is so easy for the honest business man, who wishes to sell his goods upon their merits, to select from the entire material universe, which is before him, symbols, marks and coverings which by no possibility can cause confusion between his goods and those of his competitors, that the courts look with suspicion upon one who in dressing his goods for the market, approaches so near to his successful rival that the public may fail to distinguish between them.' *Florence Mfg. Co.* v. *J. C. Dowd & Co.*, 178 F. 73 (2nd Cir. 1910). Where the late-comer chooses a mark which so much as raises reasonable doubts about the likelihood of confusion with an established mark, those doubts will be resolved in favor of the first user."

3. SAME—SAME—"FORMICA" AND "NEW-MICA" FOR DECORATIVE LAMINATED MATERIAL.

"The trademark FORMICA, through aggressive and expensive merchandising, has become widely known. The owners of the mark deserve to have the good will which they have acquired protected from appropriation by the adoption of a mark so close to theirs as is the one before us [NEW-MICA] and which seems to us so likely to mislead purchasers as to the source or origin of the product on which it is used [decorative laminated material]."

APPEAL from Patent Office. Opposition No. 41,831.

REVERSED.

James Edwin Archer, *Daphne Leeds*, *August G. Maron*, *Jr.* for appellant.

J. Harold Kilcoyne for appellee.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

Formica Corporation appeals from the decision of The Trademark Trial and Appeal Board dismissing its opposition to the application [2] of the Newnan Corporation to register "NEW-MICA" for decorated laminated surfacing material for use as table tops, counter and sinkboard surfacing and the like, asserting use since August 26, 1960.

Appellant (opposer) is the registrant of the mark "FORMICA" for laminated sheets of wood, fabric or paper impregnated with synthetic resin and consolidated under heat and pressure for use on table tops, furniture and wall paneling,[3] for plastic wall tile,[4] and for adhesive for bonding laminated plastics to other surfaces such as wood.[5]

The record shows that appellant has, for many years prior to appellee's asserted use of NEW-MICA, continuously used FORMICA as a trademark for a decorative laminated material which is sold in sheet form for use as a surface covering for walls, furniture, counter tops, kitchen cabinets, and the like. Its FORMICA product has been marketed throughout the entire United States, with sales for the years 1955 through 1964 approximating four hundred million dollars, and advertising expenditures ranging from $1,275,000 in 1956 to about $3,000,000 in 1963. Appellant's advertising media include consumer magazines, trade periodicals, television and the sponsorship of an exhibit at the 1964 New York World's Fair showing the many applications for its products. Its products are sold through distributors to architects, builders, building suppliers, interior decorators, furniture manufacturers, fabricators of cabinets, counter, table, sink and bar tops, and to the public generally.

In August 1960, appellee commenced using NEW-MICA on decorative laminated plastic sheets. The products were offered for sale through the same trade channels to the same types of purchasers as were appellant's products. The vice-president of Newnan testified that appellant's product sold under the mark FORMICA was the most widely advertised of all the decorative laminated plastic surfacing and that it had knowledge of appellant's mark at the time it adopted NEW-MICA.

The sole issue here is whether NEW-MICA so resembles FORMICA when applied to the same goods, moving through the same trade channels to the same ultimate purchasers, as to be likely "to cause confusion, or cause mistake, or to deceive." 15 U.S.C. 1052(d).

The Board, noting that appellee had introduced a large number of documentary exhibits, found that:

> * * * it is abundantly clear therefrom that in numerous advertisements of kitchen cabinets and other articles made from laminated plastic materials the term "MICA" has been used as a descriptive name for such materials; that persons other than opposer have adopted marks comprising the term "MICA" for laminated plastic materials and/or products made therefrom; and that the term "MICA" forms a component part of the trade names of numerous concerns specializing in the fabrication of kitchen cabinets and other articles from laminated plastic materials.

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Serial No. 115,937, filed March 17, 1961.

[3] Reg. No. 421,496, isued June 4, 1946.

[4] Reg. No. 700.435, issued July 5, 1960.

[5] Reg. No. 698,357, issued May 31, 1960.

Predicated on this finding, the Board concluded:

> Considering the frequent adoption by others in the trade of marks and trade names comprising the term "MICA," and the frequent use of the term in advertisements of kitchen cabinets and other articles as a descriptive name for the laminated plastic materials used in the manufacture thereof, it is our opinion that applicant's use of "MICA" as a part of its mark is not reasonably calculated to cause confusion or mistake or to deceive, or to suggest to purchasers that applicant's "NEW-MICA" product is a new "FORMICA" product.

Although appellant argues that the Board had an insufficient factual basis for its finding that MICA had become a descriptive name for laminated plastic materials, we do not find it necessary to address ourselves to that question. Our inquiry is directed solely to the likelihood of confusion of the marks when taken as a whole and applied to the goods in question.

[1] It does seem likely to us that use of the mark NEW-MICA will lead some purchasers to the conclusion that the laminate they are buying is new FORMICA, the most widely known of the plastic laminate materials.

[2] As long ago as 1910, the Court of Appeals of the Second Circuit said: "It is so easy for the honest business man, who wishes to sell his goods upon their merits, to select from the entire material universe, which is before him, symbols, marks and coverings which by no possibility can cause confusion between his goods and those of his competitors, that the courts look with suspicion upon one who in dressing his goods for the market, approaches so near to his successful rival that the public may fail to distinguish between them." *Florence Mfg. Co.* v. *J. C. Dowd & Co.*, 178 F. 73 (2nd Cir. 1910). Where the latecomer chooses a mark which so much as raises reasonable doubts about the likelihood of confusion with an established mark, those doubts will be resolved in favor of the first user. *The United States Time Corp.* v. *Jacob Tennenbaum*, 46 CCPA 895, 267 F.2d 327, 122 USPQ 15.

[3] The trademark FORMICA, through aggressive and expensive merchandising, has become widely known. The owners of the mark deserve to have the good will which they have acquired protected from appropriation by the adoption of a mark so close to theirs as is the one before us and which seems to us so likely to mislead purchasers as to the source or origin of the product on which it is used.

The decision of the Trademark Trial and Appeal Board is reversed.

REVERSED.

REISSUES

JUNE 17, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,607

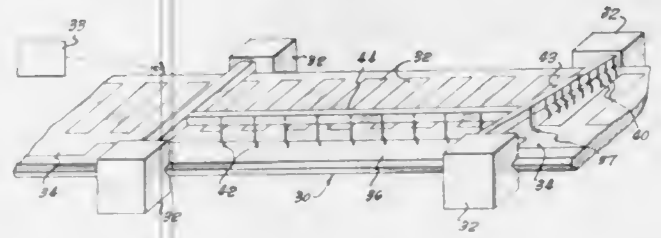
DIGITAL CODING AND TRANSLATING SYSTEM

Carl P. Spaulding, San Marino, Calif., assignor, by mesne assignments, to Giannini Controls Corporation, Duarte, Calif., a corporation of New York

Original No. 3,165,731, dated Jan. 12, 1965, Ser. No. 415,058, Mar. 9, 1954. Application for reissue Feb. 21, 1968, Ser. No. 709,151

Int. Cl. H04l *3/00;* **G06f** *5/00*

U.S. Cl. 340—347 **43 Claims**



1. A system for indicating the Arabic decimal number represented by a set of physical code elements which are shiftable respectively among a plurality of states, said code elements comprising a plurality of groups corresponding to the respective digits of the Arabic number, the configuration of the code element states of each group representing the value of the corresponding Arabic digit in accordance with one syncopic code when the preceding Arabic digit has one parity and representing that digit value in accordance with another syncopic code when the preceding Arabic digit has the other parity the configuration of code element states that represent the digit value 9 in each code being identical with the configuration that represents the digit value 0 in the other code; said system comprising a plurality of translating sections for the respective groups of code elements, input means acting to supply to the respective translating sections sets of input signals representing the configurations of code element states of the corresponding groups, the translating sections including respective translating circuits responsive to the respective sets of input signals and producing respective output signals representing the corresponding Arabic digit values, the translating sections for the Arabic digits of other than least significance including parity discriminating circuits which are responsive to the respective sets of input signals and which act independently of the output signals of the translating circuits to produce respective parity output signals representing the respective parities of the corresponding Arabic digits, the translating circuits and the parity discriminating circuits of the translating sections for the Arabic digits of other than least significance being capable of respective first and second conditions in which they act in accordance with said first and second codes, respectively, and coupling means for each such translating section acting to shift the translating circuit and the parity discriminating circuit of that translating section between their respective conditions in response to the parity output signal of the parity discriminating means of the translating circuit corresponding to the Arabic digit of next greater significance.

26,608

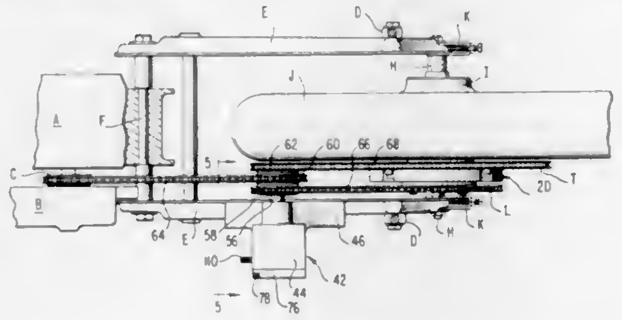
CHANGE-SPEED MECHANISM

**William C. N. Hopkins, P.O. Box 511,
Walnut Creek, Calif. 94597**

Original No. 3,318,408, dated May 9, 1967, Ser. No. 396,081, Sept. 14, 1964. Application for reissue Nov. 24, 1967, Ser. No. 693,029

Int. Cl. B62d *61/02;* **F16h** *9/00*

U.S. Cl. 180—33 **24 Claims**



A change-speed unit connectible between a drive member and two driven members has a shaft carrying three drive members with an intermediate member connectible with the first mentioned drive member and the outer two of the three drive members connectible with the two driven members. A key is slidable axially on the shaft and engageable in keyways on the three drive members with the range of movement of said key being such that it can span the middle drive member and only one of the outer drive members.

26,609

ALUMINUM CLEANING COMPOSITIONS

James W. Carroll, Lafayette Hill, and Harold V. Smith, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original No. 3,255,118, dated June 7, 1966, Ser. No. 163,064, Dec. 29, 1961. Application for reissue Aug. 19, 1968, Ser. No. 764,350

Int. Cl. C11d *3/04;* **C23f** *7/08*

U.S. Cl. 252—137 **6 Claims**

Compositions for cleaning aluminum or aluminum alloys containing an alkali metal tetraborate, an alkali metal polyphosphate, a hexavalent chromium compound in the form of a water soluble salt selected from chromic acid and alkali metal chromates and dichromates, and an organic detergent selected from a sodium salt of a sulfonated condensation product of naphthalene and formaldehyde, an alkyl aryl sulfonate, and an alkyl phenol-ethylene oxide condensate. The cleaning composition may also contain an aluminum sequestrant.

PLANT PATENTS

GRANTED JUNE 17, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,896
NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California
Filed Dec. 6, 1967, Ser. No. 695,293
Int. Cl. A01h *5/08*
U.S. Cl. Plt.—41 **1 Claim**

A nectarine tree, of medium size and vigorous growth, which is a regular and productive bearer of late ripening clingstone fruit having yellow flesh, and yellow skin substantially overspread with red at maturity; the fruit being large in size and globose in form.

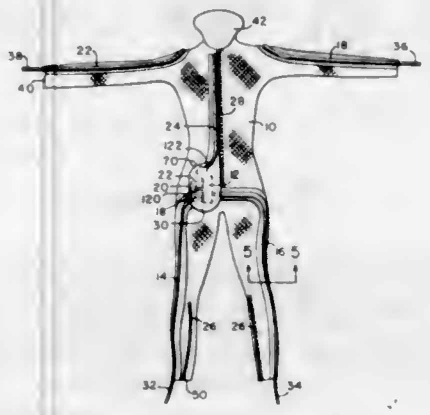
PATENTS

GRANTED JUNE 17, 1969

GENERAL AND MECHANICAL

3,449,761
HEATED UNDERWATER DIVING SUIT

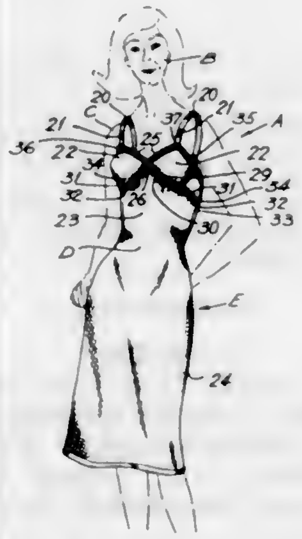
Richard W. Long, 760 Wakefield Court, El Cajon, Calif. 92020
Filed Apr. 17, 1967, Ser. No. 631,243
Int. Cl. B63c *11/04, 11/28*
U.S. Cl. 2—2.1 **12 Claims**



This invention relates to a heated underwater diving suit for receiving temperature controlled fluid under pressure which fluid is distributed through a plurality of conduits covering the diving suit. The conduits and suit have a plurality of matching holes through which the liquid passes supplying a uniform distribution of temperature controlled fluid to the cavity of the diving suit and out the neck, wrist and ankle openings.

3,449,762
UNDERGARMENT

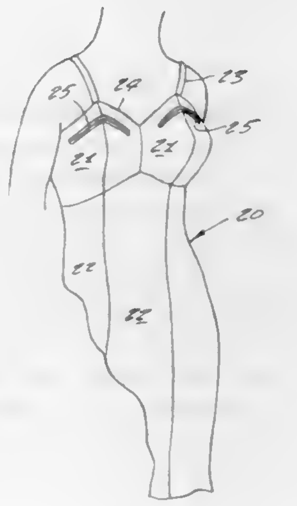
Herma Wiedle Dozier, 6609 Olive Blvd., St. Louis, Mo. 63130
Filed Sept. 29, 1967, Ser. No. 671,703
Int. Cl. A41b *9/08, 9/16;* **A41f** *15/00*
U.S. Cl. 2—73 **5 Claims**



The disclosure sets forth a slip provided with breast cups which are encircled with a relatively wide band of elastic material preferably in criss-cross construction, which extends around the breast cup and to the side of the garment. Around the breast cup there is an extra fullness which permits ready expansion of the garment depending upon the shape of the torso of the wearer below the breast cup portions and particularly around the front of the abdomen and around the waist.

3,449,763
NURSING SLIP AND COMBINATION MATERNITY AND NURSING SLIP

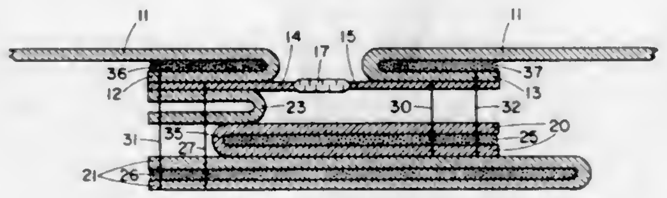
Gertrude F. Grate, 350 Park St., Marion, Ohio 43302
Filed Nov. 24, 1967, Ser. No. 691,671
Int. Cl. A41b *9/00;* **A41c** *3/04*
U.S. Cl. 2—73 **1 Claim**



A slip under-garment for a woman, the slip having self-contained means for exposing one or both breasts for nursing an infant, such means comprising detachable securement means whereby the breast cups of the slip may be folded back out of the way so to expose the breast during nursing.

3,449,764
CLOTHING CLOSURE

Benjamin S. De Fazio, Westbury, John Silvia, Jr., Brooklyn, and Caesar J. Zemme, New York, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 25, 1966, Ser. No. 589,472
Int. Cl. A44b *19/32*
U.S. Cl. 2—96 **1 Claim**

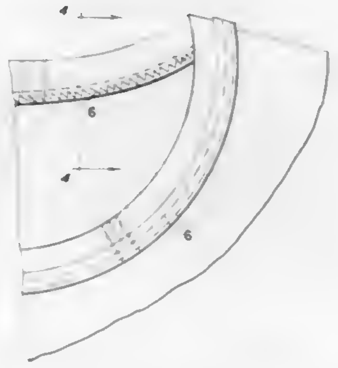


The invention consists essentially of a self-closing double flap closure preferably used in combination with a slide fastener to protect the wearer against a variety of weather conditions. The flaps are positioned between the fastener and the wearer and overlap each other. The flap adjacent the wearer is the wider of the two and overlaps the flap adjacent the fastener, forming a double barrier which is adapted for installation on a variety of types and styles of garments.

3,449,765

GARMENT CONSTRUCTION

Ralph L. Beard and James F. Hester, Winston-Salem, N.C., assignors to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina
Filed Dec. 20, 1967, Ser. No. 692,031
Int. Cl. A41b *9/06*
U.S. Cl. 2—113 6 Claims

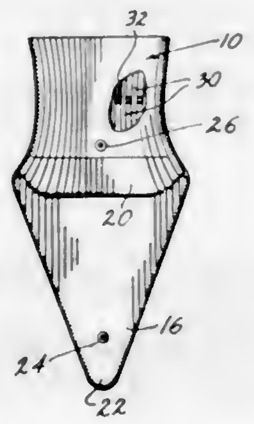


A collar edge construction includes a unitary multifold colret strip which frames a neck opening of a garment body portion. A first longitudinal fold in the colret strip forms inner and outer layers between which the body portion is located. The outer layer is further folded to provide reinforcement layers. These folds produce a double layer positioned outwardly of the outer layer and an end layer positioned inwardly of the outer layer next to the body portion. The body portion extends well between the inner and outer layers of the colret to a position where its edge lies adjacent the first fold. The inner layer may be folded inwardly to position the end thereof next to the body portion.

3,449,766

ARTICLE OF APPAREL USABLE AS DICKEY OR AS HEAD COVERING

Nat Garber, 46—29 217th St., Bayside, N.Y. 11364, and Sidney Friedman, 144—45 76th Road, Kew Gardens, N.Y. 11415
Filed Apr. 24, 1967, Ser. No. 633,022
Int. Cl. A41d *23/00, 1/04*
U.S. Cl. 2—196 6 Claims

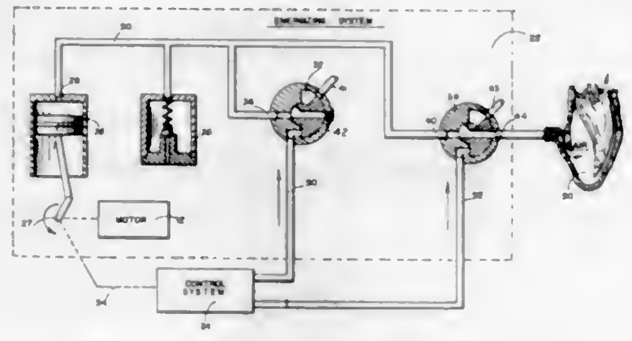


An article of apparel usable as a dickey or as a head covering, consisting of a circumferentially elastically knit tubular body expansible from neck size to head-band size, and having an extension along approximately half its circumference along one edge thereof adapted to serve as dickey when body is worn over neck and to cover the head when body is worn as head-band, with cooperating means at the end of the extension and on the tubular body for interengaging the same when worn as head band to form a head covering.

3,449,767

ARTIFICIAL HEART REGULATING SYSTEM

Victor W. Bolie, Tustin, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Sept. 24, 1965, Ser. No. 489,983
Int. Cl. A61f *1/24, 1/00*
U.S. Cl. 3—1 14 Claims

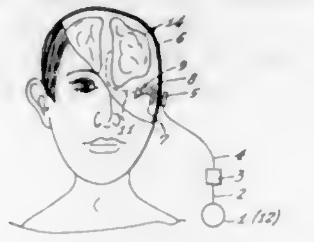


A system for energizing an artificial heart. A piston provides air pressure to operate a prosthetic during portions of the systolic and diastolic intervals. A pair of valves vent the prosthetic to atmospheric pressure at appropriate times during the heart cycle, under control of a pair of gear differentials driven in synchronism with the piston. The operating cycle may be controlled by appropriately changing the settings of the differentials.

3,449,768

ARTIFICIAL SENSE ORGAN

James H. Doyle, Garden Grove, Calif., assignor of one-half to Earle W. Ballentine, Portuguese Bend, Calif.
Continuation of application Ser. No. 326,124, Nov. 26, 1963. This application Dec. 27, 1966, Ser. No. 605,087
Int. Cl. A61f *1/00, 9/08, 11/04*
U.S. Cl. 3—1 15 Claims



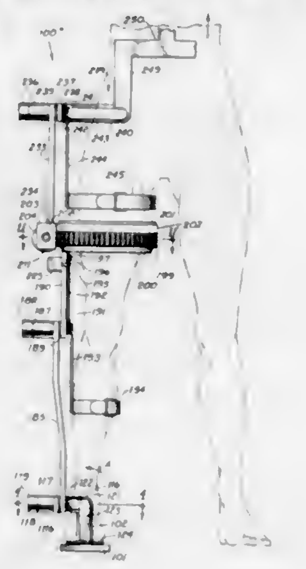
A tested device is described for stimulating the auditory nerve using electrodes energized by pulses in a cyclic pattern, commensurate with the recovery time of nerve fibers. The pulses being modulated in accordance with the audio signal; the electrodes are spaced so that the potential differences between them control the number of nerve fibers stimulated.

3,449,769

POWERED EXOSKELETAL APPARATUS FOR AMPLIFYING HUMAN STRENGTH IN RESPONSE TO NORMAL BODY MOVEMENTS

Neil J. Mizen, Buffalo, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed June 27, 1966, Ser. No. 560,701
Int. Cl. A61f *1/00;* **A61h** *1/02*
U.S. Cl. 3—1.2 10 Claims

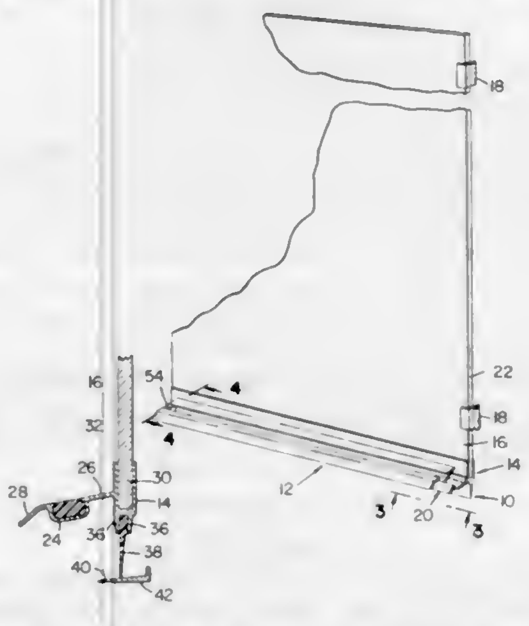
A powered exoskeletal apparatus comprising articulated joints, compatible with those of man, each of which are powered by one or more servo-motors which respond to the output of a plurality of sensor assemblies strapped to the wearer. Follow-up mechanisms are provided to move the sensors in response to the powered movement of the articulated joints.



3,449,770

DRIP ASSEMBLY FOR SHOWER DOOR

Ralph T. Casebolt, 380 Elysian Fields Drive, Oakland, Calif. 94605
Filed June 22, 1967, Ser. No. 648,162
Int. Cl. A47k *3/14*
U.S. Cl. 4—154 12 Claims



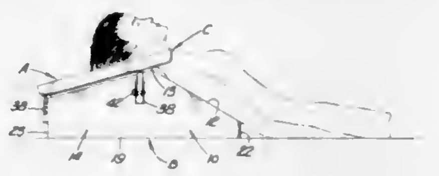
Drain apparatus for a swingable shower door wherein the apparatus is positioned to collect drain liquid gravitating along the shower side of the shower door and to return the drain liquid to the shower area regardless of whether the shower door is opened or closed. A drain extension attachably mounted at one end of a drain member increases the effective length of the latter so that it communicates with the shower area for all operative positions of the shower door. The drain extension can be coupled to either end of the drain member so that the drain apparatus can be used on a swinging shower door hinged at either of its side edges.

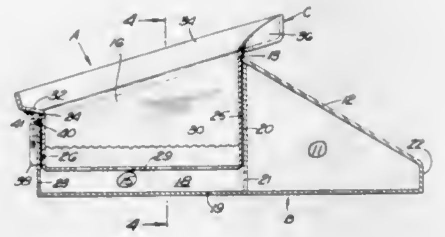
3,449,771

PORTABLE SHAMPOO ASSEMBLY

Talmage E. Watson, 816 Wilaford Ave., Ruston, La. 71270
Continuation-in-part of abandoned application Ser. No. 440,365, Mar. 17, 1965. This application Aug. 14, 1967, Ser. No. 660,291
Int. Cl. A61h *35/00;* **A47k** *3/062*
U.S. Cl. 4—159 6 Claims

Two-piece, detachable, portable shampoo assembly placed on bed for shampooing patient reclining atop of it. Forward, wedge-shaped segment supports shoulders and internally stores rinse water. Separable unit is vertically adjustable neck cradle with peripheral splash guard about top edge of upright walls which telescope base walls surrounding opening to run-off reservoir within wedge-segment. Horizontal cross screen in vertically adjustable unit is support for containers or for long hair, beneath uppermost water level of base.

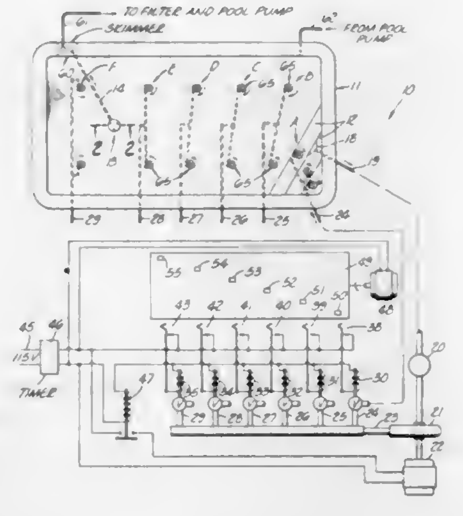




3,449,772

AUTOMATICALLY CYCLING SWIMMING POOL CLEANING SYSTEM

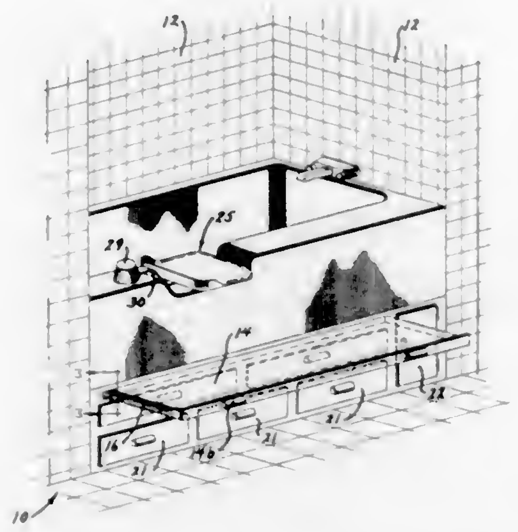
Arthur W. Werner, 68000 Foothill Road, Cathedral City, Calif. 92234
Filed July 24, 1967, Ser. No. 655,378
Int. Cl. E04h *3/16;* **B08b** *3/00, 9/00*
U.S. Cl. 4—172 20 Claims



A timer-control pool cleaning system and method operable periodically to program a cleaning cycle and utilizing automatically extendable and retractable water-driven jets to sweep debris on submerged surfaces progressively toward a drain. The jets are activated in predetermined sequence to advance debris to the drain. The jets are rotated slowly and in the order of not more than two r.p.m. in discrete increments through the intermittent impact imparted to the nozzle by a circulating ball carried by a stream of water in route to the nozzle. The slow but positive sweeping action restricts to a bare minimum the amount of sediment placed in suspension.

3,449,773
BATHTUB STRUCTURE

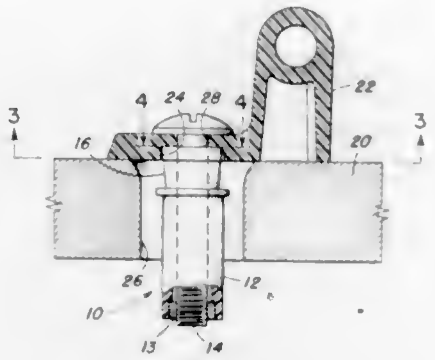
Albert E. Seib, 603 SE. 1st St.,
Evansville, Ind. 47713
Filed Sept. 15, 1966, Ser. No. 579,543
Int. Cl. A47k *3/12*
U.S. Cl. 4—175 **4 Claims**



A bathtub structure characterized by the provision of integrated shelf and storage areas in combination with a pivotal bathtub seat.

3,449,774
ATTACHMENT DEVICE FOR TOILET SEAT HINGE

Larry F. Wilham, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,354
Int. Cl. A47k *13/12;* **F16b** *13/06, 33/04*
U.S. Cl. 4—240 **11 Claims**

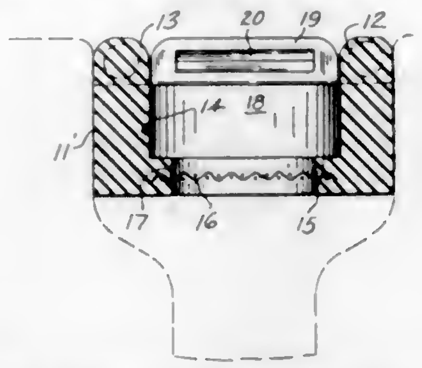


An anchoring device which is particularly suitable for securing toilet seats to toilets. The anchoring device includes four essential elements, a screw, a spacer, a resilent sleeve and a nut fixed in place inside the sleeve at its lower end. In use the screw passes through a hole in the toilet seat hinge, through the spacer and then through the sleeve until it engages the nut. The sleeve is placed in position in a hole in the toilet and the screw is turned until the sleeve is axially compressed and radially expanded to the desired extent.

3,499,775
KITCHEN SINK PLUG

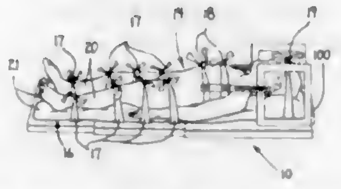
Richard Gregory De Krauze, 7324 E. La Reata Ave.,
Scottsdale, Ariz. 85257
Filed Nov. 7, 1966, Ser. No. 592,602
Int. Cl. A47k *1/14;* **B65d** *39/00;* **E03c** *1/26*
U.S. Cl. 4—287 **5 Claims**

A plug for kitchen sinks consisting of a cylindrical stopper capable of fitting in an outer plug member. A mesh strainer is firmly implanted in the bottom portion of the outer plug member so that said mesh does not interfere with the lower part of the stopper when it is positioned within the outer plug member. Removal of the stopper facilitates collection of waste material on the mesh as drainage is accomplished.



3,449,776
STRETCHER

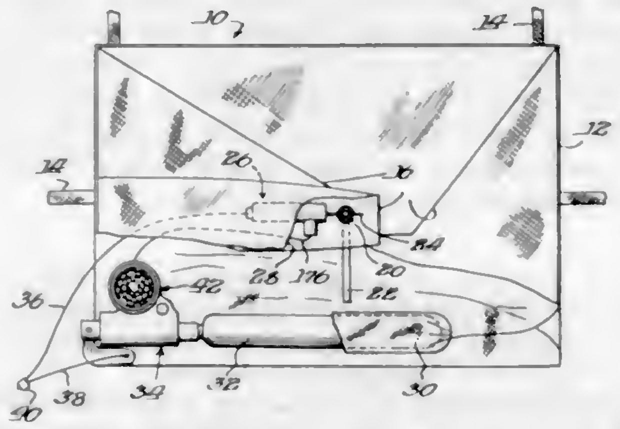
Randall D. Brock, 422 S. Webster St.,
Kokomo, Ind. 46901
Filed Sept. 11, 1967, Ser. No. 666,660
Int. Cl. A61g *1/00*
U.S. Cl. 5—82 **6 Claims**



A collapsible telescoping stretcher including a plurality of flexible straps attached to the stretcher and adapted to tie down the legs and torso of the patient to the stretcher. An inflatable mattress rests on the stretcher and has separate leg portions whereby the straps can be used to tie down the legs individually. A collapsible telescoping head support is mounted on the stretcher and has adjustable torso members mounted thereon. The straps extend through the head support and torso members for immobilizing a broken neck.

3,449,777
AUTOMATIC INFLATING FLOATING DEVICE

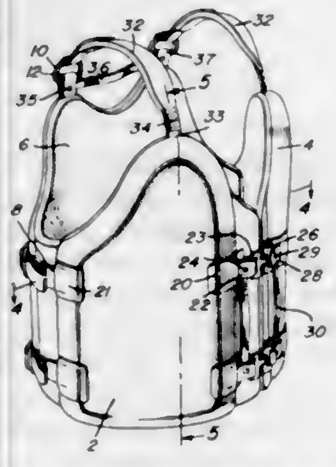
Ichiro Hattori, Tokyo, Japan, assignor to Hosoya Kako Co., Ltd., Tokyo, Japan, a company of Japan
Filed May 16, 1967, Ser. No. 638,983
Claims priority, application Japan, May 24, 1966,
41/33,417
Int. Cl. B63c *9/18*
U.S. Cl. 9—316 **5 Claims**



A gas inflatable flotation device, including automatic inflation and release mechanisms. Wetting of a water-activated battery causes firing of detonators located in the inflation and release mechanisms, and consequent detonation of explosive charges. The explosive charge in the inflation mechanism operates a piston to pierce a gas cylinder connected to a flotation bag. Simultaneously, the explosive charge in the release mechanism operates a piston to withdraw a closure pin on a flexible container in which the flotation bag is packed, thus allowing the bag to inflate. The inflation and release mechanisms may also be operated manually.

3,449,778
ADJUSTABLE WATER SAFETY JACKET

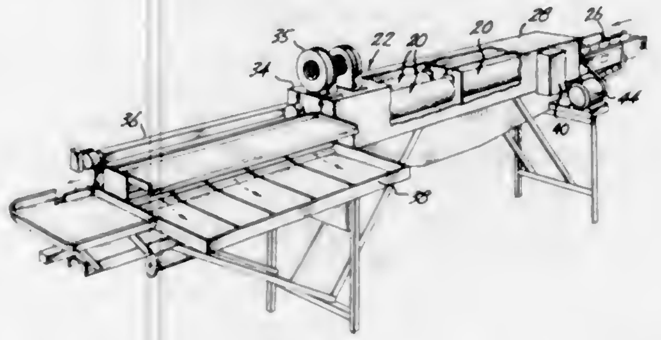
Hermit A. Jones, Canton, Miss., assignor to Jones & Yandell, Division of American Tent Company, Inc., a corporation of Mississippi
Filed Sept. 21, 1967, Ser. No. 669,595
Int. Cl. B63c *9/08*
U.S. Cl. 9—341 **8 Claims**



A water safety jacket composed of three sections held in place with respect to each other by peripheral straps capable of adjustment by control of effective strap length achieved with metal rings. The jacket is donned by attaching hook-up buckles attached to front straps which secure the two front sections together when fastened.

3,449,779
BRUSHES FOR AN AUTOMATIC EGG CLEANING MACHINE

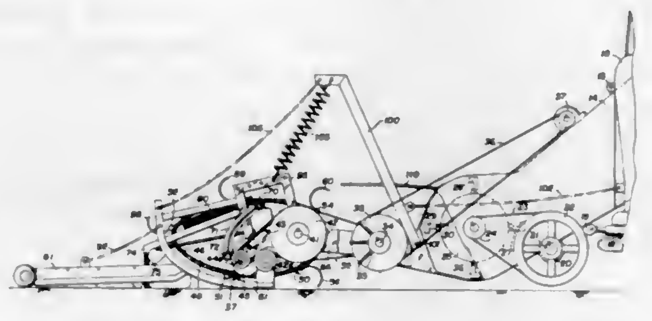
Lyle J. Butterworth, Tacoma, Wash., assignor to Dawson and Co., Inc., Tacoma, Wash., a corporation of Washington
Filed Oct. 10, 1967, Ser. No. 674,319
Int. Cl. A01k *43/00*
U.S. Cl. 15—3.16 **4 Claims**



Brushes of an automatic egg cleaning machine are composed of metallic and non-metallic bristles to be more effective in cleaning eggs, as eggs, while being rotated naturally, are conveyed past these counter rotating composite grouping of bristles in cleaning brushes. Individual brushes are arranged in opposite pairs on spaced substantially parallel and longitudinal axial mountings that are located above, substantially parallel to, and on respective sides of an egg conveyor. Each individual brush is composed first of a continuous strip of a composite grouping of bristles which is thereafter spirally wound about and secured to a longitudinal shaft to acquire a cylindrical appearing overall individual brush configuration.

3,449,780
LITTER COLLECTOR-PULVERIZER

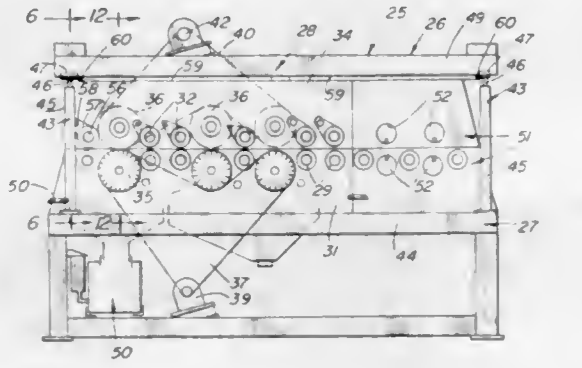
Alvin R. Juno, Plainview, Tex., assignor, by mesne assignments, to First National Bank in Quanah, Tex.
Filed Mar. 24, 1966, Ser. No. 537,040
Int. Cl. A47l *11/00;* **A46b** *13/04;* **E01h** *1/04*
U.S. Cl. 15—4 **14 Claims**



An apparatus for collecting litter scattered over a course by traversing the course with three elements connected in tandem. A lead element collects the litter during movement along a traverse by picking up the litter with upwardly moving tines and by transferring the litter to an intermediate element which delivers the litter to the trailing element. The trailing element includes a flail drum which has hammer elements pivotally mounted thereon in order to fragmentize the litter by impact and also to drive the litter into a storage location in response to the impact.

3,449,781
GLASS WASHING APPARATUS

Jack W. French, Lake Forest, and Steven Miller, Berwyn, Ill., assignors to Sommer & Maca Glass Machinery Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1966, Ser. No. 604,031
Int. Cl. B08b *1/02*
U.S. Cl. 15—77 **3 Claims**

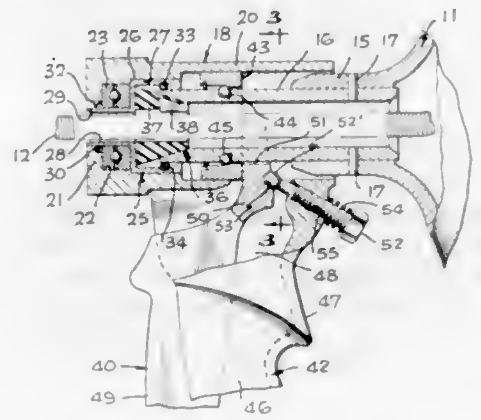


Flat glass washing apparatus including a supporting frame which embodies a relatively stationary lower frame unit and a relatively movable upper frame unit. A lower bank of glass sheet-advancing rolls, a lower bank of rotary brushes, and a lower bank of blower tubes are mounted on the relatively stationary lower frame unit, and an upper bank of glass sheet-advancing rolls, an upper bank of rotary brushes, and an upper bank of blower tubes are mounted on the relatively movable upper frame unit. Power means is provided for raising and lowering the relatively movable upper frame unit, the upper bank of glass sheet-advancing rolls, the upper bank of rotary brushes, and the upper bank of blower tubes carried thereby relative to the relatively stationary frame unit and the lower bank of glass-sheet advancing rolls, rotary brushes, and blower tubes while maintaining the relatively movable upper frame unit and the parts carried thereby in a generally horizontal position and generally parallel to the lower and relatively stationary frame unit.

Means are provided for bracing the upper and relatively movable frame unit and the parts carried thereby against lateral movement when the relatively movable frame unit and the parts carried thereby are in raised position, in the event of failure of the power means which raises and lowers the relatively movable upper frame unit and the parts carried thereby.

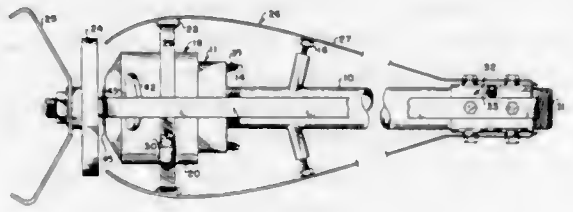
Means are also provided for retaining the relatively movable upper frame unit and the parts carried thereby in a raised position to enable access to be had to the area between the relatively movable upper frame unit and the relatively stationary lower frame unit and the parts carried thereby for the removal of broken segments or chips of glass (cullet), or for the repair, replacement or servicing of parts of the apparatus.

3,449,782
GRIP HANDLE CHUCK
Robert G. Hunt, Los Angeles, Calif., assignor to Lawrence F. Irwin, Sally J. Irwin Trust, doing business as Marco Products Company, Los Angeles, Calif.
Filed Sept. 15, 1967, Ser. No. 667,946
Int. Cl. F28g *3/00;* **B23b** *5/34;* **F16d** *45/00*
U.S. Cl. 15—104.3 **8 Claims**



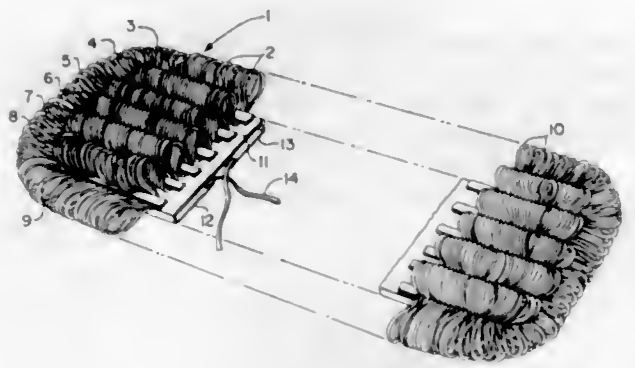
The application discloses a handle and lever-operated chuck means for a plumbers' tool having a motor-driven storage housing for a flexible plumbers snake which passes through the chuck means.

3,449,783
HYDRAULIC WASTE DISPOSAL LINE CLEANER WITH MOTOR AND CLEANING HEAD
John A. Kirschke, Box 125, Ammann Road, Boerne, Tex. 78006
Filed Mar. 24, 1967, Ser. No. 625,754
Int. Cl. B08b *9/02, 3/10*
U.S. Cl. 15—104.12 **10 Claims**



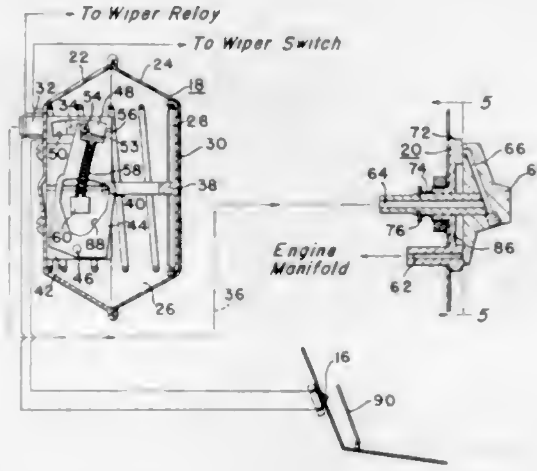
The hydraulic propelled and driven line cleaner comprises the combination of a high pressure source of fluid operably connected to a skid-mounted, jet-propelled, hydraulic-driven motor rotating a cleaning head designed for removing deposits and obstructions from waste disposal lines with components arranged in a configuration so as to jet flush the residue from the line.

3,449,784
DRY MOP
Theron V. Moss, 3175 Falmouth, Shaker Heights, Ohio 44120
Filed Mar. 31, 1966, Ser. No. 539,211
Int. Cl. A47l *13/20, 13/24*
U.S. Cl. 15—229 **9 Claims**



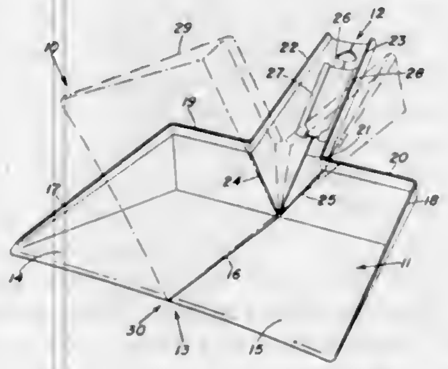
A dry mop comprising a plurality of substantially parallel rows of looped yarns which extend longitudinally of the mop. The looped yarns are formed from continuous yarns extending across the width of the mop. The rows are separated one from another by means such as adhesive tapes which extend therebetween. Such mop is made by forming an array of continuous substantially parallel yarns and securing the array together transversely thereof at spaced intervals along its length. The array is severed at desired intervals and the yarns are brought into a close parallel relationship at the transversely secured places to form rows of yarn loops therebetween. The rows of loops are secured in the indicated parallel relationship.

3,449,785
WIPER CONTROL
Eugene R. Ziegler, Spencerport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,276
Int. Cl. B60s *1/10;* **A47l** *1/02*
U.S. Cl. 15—250.12 **7 Claims**



In a preferred form, this disclosure relates to a windshield wiper control mechanism for controlling operation of an electric motor of an electrically driven windshield wiper. The control mechanism includes a first control means for intermittently effecting operation of the electrically driven windshield wiper through one cycle and with intervening dwell or rest periods. The first control means includes a switch means for controlling energization and de-energization of the motor, a vacuum responsive means in communication with a vacuum source and which includes an actuating member movable in opposite directions, a valve means operatively connected with the actuating member and movable between first and second positions in which it communicates the vacuum source with the vacuum responsive means and blocks communication between the vacuum responsive means and the atmosphere and vice versa, respectively, and a means for biasing the actuating member towards a first position in which it actuates the switch means and biasingly holds the valve means in its first position. The actuating member of the vacuum responsive means being movable in a first direction from its first position in opposition to the biasing force of the biasing means when the vacuum source is in communication therewith and during which it is operable to first de-actuate the switch means to de-energize the motor and thereafter effect movement of the valve means to its second position to vent the vacuum responsive means to the atmosphere. The biasing means is effective to move the actuating member in the opposite direction when the vacuum responsive means is vented to the atmosphere, this movement being effective to actuate the switch means and to energize the motor and move the valve means towards its first position in which it again communicates with the vacuum source. The control mechanism additionally includes a second control means for varying the magnitude of vacuum pressure communicated to the vacuum responsive means to vary the length of time required to move the actuating member through its movement in its first direction and thereby control the dwell period between cycles of operation of the wiper.

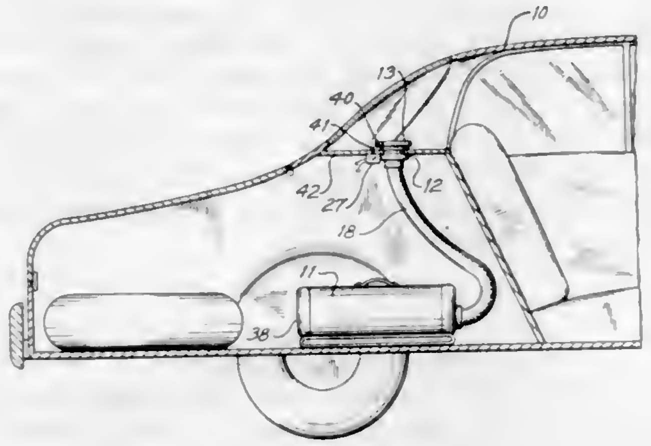
3,449,786
FOLDING DUSTPAN
Bernard Francis John Ross, 18 Banstock Drive, Willowdale, Ontario, Canada
Filed Jan. 16, 1967, Ser. No. 609,549
Int. Cl. A47l *13/52*
U.S. Cl. 15—257.7 **7 Claims**



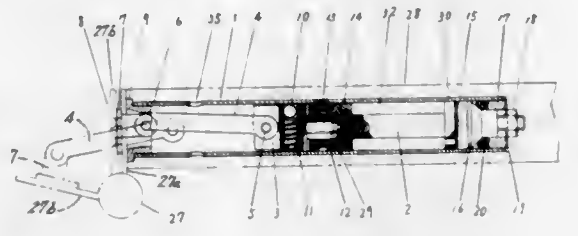
This specification discloses a dustpan formed of molded thermoplastic material which is provided with fold lines or integral hinges along predetermined axes so as to permit the dustpan to either lie flat in use or to be folded into a chute for emptying of the contents. The fold lines or hinges are so designed as to leave the dustpan free of obstruction when laid flat.

3,449,787
CENTRAL VACUUM CLEANING SYSTEM FOR VEHICLES
Morris L. Rothstein, 1181 E. 85th St., Brooklyn, N.Y. 11228, and Howard B. Rothstein, 16 Karl Drive, Old Bridge, N.J. 08851
Filed Jan. 16, 1967, Ser. No. 609,481
Int. Cl. B60s *1/64;* **A47l** *5/38*
U.S. Cl. 15—313 **8 Claims**

A central vacuum cleaning system for use in a vehicle which is entirely self-contained and portable, and powered by the battery of the vehicle. A convenience coupling is provided within the vehicle to receive a flexible vacuum hose for cleaning the interior of the vehicle while either stationary or in motion. The cleaning unit includes a solenoid, connected to the vehicle's battery and the cleaning unit, and electrically responsive to the insertion of the cleaning hose into the convenience outlet.

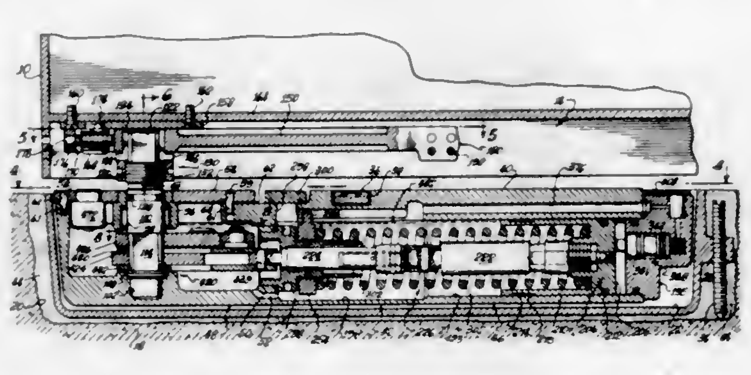


3,449,788
HINGE TYPE DOOR CHECK
Kiyoyasu Wake, 378 Kinuta-machi, Setagaya-ku, Tokyo, Japan
Filed June 13, 1966, Ser. No. 557,083
Int. Cl. E05f *3/20, 3/22*
U.S. Cl. 16—54 **1 Claim**



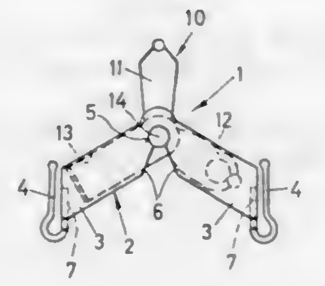
A hinge-type hydraulic door check positioned within a door including a cylinder having one end rigidly attachable to one arm of a door hinge, and a slidable piston pivotally linked to the other arm of said door hinge.

3,449,789
DOOR CLOSER AND CHECK
Fred J. Russell, South Gate, and George B. Solovieff, San Clemente, Calif., assignors, by mesne assignments, to Norris Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 3, 1966, Ser. No. 583,764
Int. Cl. E05f *3/20, 3/22*
U.S. Cl. 16—55 **23 Claims**



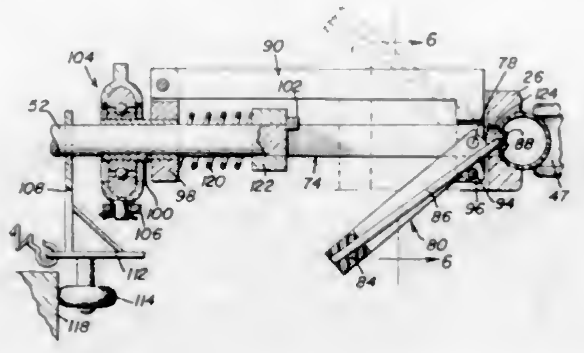
A door closer and check mechanism for a swinging door which is mountable within the floor below the door and serves both to pivotally support the door and variably control the speed and force with which the door closes. It includes adjustment of the static angular position of the door and incorporates combined height adjustment and levelling means for the mechanism prior to its permanent embedment in the floor. High and low speed discharge passages for hydraulic fluid are provided in a check cylinder as well as means for adjusting spring tension for door rotation. The mechanism provides for vertical and lateral door adjustment, for check cylinder pressure relief, and for temperature compensation within the hydraulic cushion.

3,449,790
CURTAIN RUNNER
Franz Felsner, 1 Gleissenweg 8043, Ismaning, Germany, and Albert Heitmann, 20 Maistrasse 8000, Munich 15, Germany
Filed Jan. 17, 1967, Ser. No. 609,861
Claims priority, application Germany, July 20, 1966, F 30,476
Int. Cl. E05d *13/02;* **A47h** *15/00;* **A44b** *21/00*
U.S. Cl. 16—93 **6 Claims**



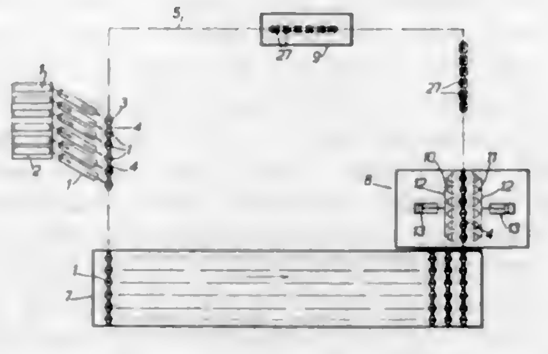
A curtain runner is provided with two or more rail-engaging head portions of different forms or sizes. Any selected head portion can co-operate with a curtain rail without interference by the other head portion or portions and the runner is therefore capable of being used with curtain rails of different form or sizes of curtain rail. The specification describes in detail a two-component runner wherein one component carries curtain-attachment means and the other component carries the rail-engaging head portions and is rotatable to bring any selected head portion into operative position.

3,449,791
IRRIGATION PIPE
James B. Zetzsche, Jr., Lubbock, Tex. (1405 March, San Luis Obispo, Calif. 93401)
Filed June 20, 1966, Ser. No. 558,786
Int. Cl. B26f *1/00*
U.S. Cl. 18—1 **6 Claims**



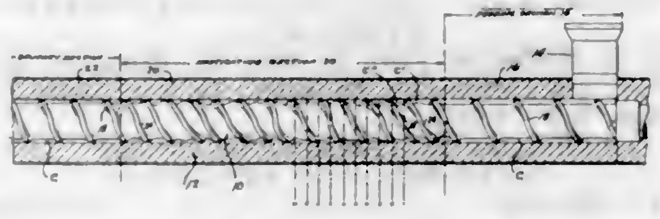
A continuously rotating enlarged annular carrier which receives pipe to be perforated about a portion of the circumference thereof. Perforating tools are mounted at equally spaced points about the carrier and are cam actuated for extending a pipe piercing tool through the near wall of a carried pipe and subsequently angling the tool at an angle to exceed the elastic limit of the pipe material, the tool continuously operating during this procedure and cold forming the pipe to define a hole with a conically shaped entrance and exit.

3,449,792
BLOW MOLDING APPARATUS
Henry J. Plummer, Woodley, England, assignor to Marrick Manufacturing Co. Limited, a British company
Filed Sept. 7, 1966, Ser. No. 577,682
Claims priority, application Great Britain, Oct. 1, 1965, 41,671/65
Int. Cl. B29c *1/14*
U.S. Cl. 18—5 **9 Claims**



Blow molding apparatus with mandrels for supporting individual discrete lengths of thermoplastic tubing. After the mandrels are loaded, the mandrel-supported tubing lengths are heated in an oven to molding temperature, at which they are received at a molding station provided with means for introducing fluid under pressure into each tubing length to expand the same into conformity with mold means to form a molded article. A guide track supports slides which support the mandrels for movement therealong, and the track extends from the oven to and through the molding station, thence to and through an unloading station, where the molded article is removed from the mandrel, and thereafter to and through the loading station to the oven. A drive conveyor extends within the oven and has transverse guides for receiving the slides. The drive conveyor is advanced intermittently and, when it is at rest, at least one of the slides is discharged from the conveyor into the track and advanced in the track. The operations at all stations are coordinated with the slide movement, and before the mold is completely closed, the unsupported end of the tubing length is centered in the mold.

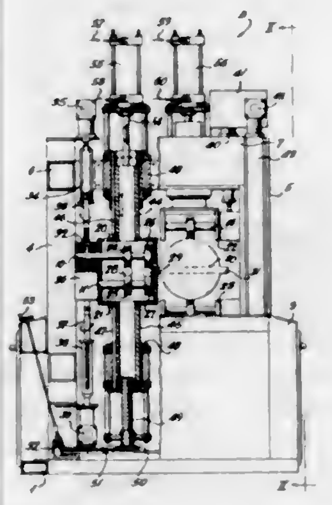
3,449,793
MACHINE FOR WORKING RUBBER AND LIKE PLASTICS
James D. Weir, Anchorage, Ky., assignor to International Rubber Industries, Inc., Louisville, Ky.
Filed Apr. 21, 1967, Ser. No. 632,812
Int. Cl. B01f *7/08*
U.S. Cl. 18—12 **9 Claims**



A machine for working plastics in a continuous operation, and having a hollow cylinder with a feed inlet at

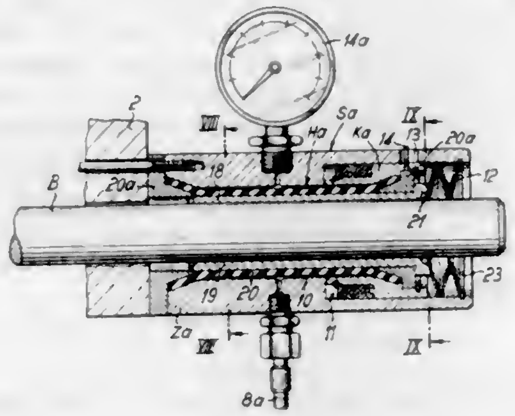
one end and a delivery outlet at the other, a screw rotatably mounted in the cylinder and having feeding, masticating and delivery sections disposed sequentially therealong, said screw having at least one thread whose pitch varies so as to increase and decrease within the length of the masticating section to define with said cylinder a plastic flow channel whose cross-sectional area increases and decreases. Desirably, a pair of grooves of varying depth is provided at the root of the thread, one groove on each side, the depth of the first groove increasing as that of the second decreases causing the plastic to shift laterally across the channel as it flows around and progresses axially forwardly along the screw. Each of said grooves preferably both increases and decreases in depth within the length of the masticating section. Desirably, an additional thread is formed on the screw for the entire length of the masticating section, said additional thread having either a constant pitch or a varying pitch. When two or more threads are provided, a pair of grooves is formed at the root of each thread so that the two grooves in the channel formed between the two threads will alternately increase and decrease in depth as the thread progresses along the screw.

3,449,794
PROFILE-CASTING APPARATUS FOR PROCESSING SYNTHETIC THERMOPLASTICS
Hendrik J. Kalbfleisch, Velp, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed June 6, 1967, Ser. No. 644,010
Claims priority, application Netherlands, June 8, 1966, 6607904
Int. Cl. B29f *3/01*
U.S. Cl. 18—12 **3 Claims**



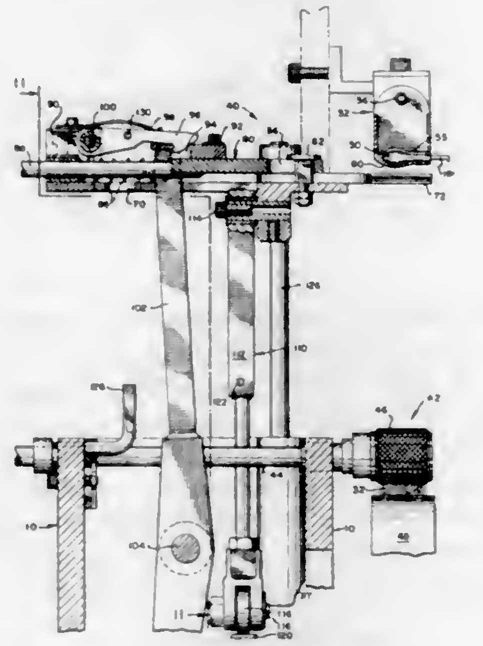
A profile-casting apparatus for the processing of synthetic thermoplastics, comprising extruder means for forming the molten thermoplastics into shaped structures with defined profiles, and a drawing-off means for drawing-off and transporting the shaped structures, said drawing-off means comprising a plurality of pairs of driven shafts, mounted one after the other in the direction of transporting the structures, the shafts of each pair being placed horizontal and one over the other, upper and lower crossheads for supporting the ends of the upper and lower shafts in each pair, respectively, said crossheads being attached to members sliding between vertical guides, the members for the lower crossheads being adjustable to predetermined positions, and the members for the upper crossheads being displaced by a control means, all the shafts being driven at the same speed by a common driving means, the direction of rotation of the upper shafts being opposite to that of the lower shafts of each pair and one or more drawing-off elements being exchangeably mounted on each of said shafts.

3,449,795
MOLD CLOSING MEANS FOR INJECTION MOLD MACHINE
Alfred Fischbach, Am Scheffert, Runderoth, Bezirk Cologne, Germany
Filed Aug. 24, 1966, Ser. No. 574,594
Claims priority, application Germany, Sept. 9, 1965, F 47,140; Apr. 5, 1966, F 48,861
Int. Cl. B29f *1/00*
U.S. Cl. 18—30 **19 Claims**



An injection molding machine in which a pair of mold sections carried on platens are movable between an open and a closed position and in which a hydraulically operated clamping unit applies sealing pressure to the platens when the mold is closed.

3,449,796
SWAB-MAKING MACHINE
Lazzaro Pezza, Bronx, N.Y., assignor to Swabettes, Inc., Wayne, N.J., a corporation of New Jersey
Filed Sept. 6, 1966, Ser. No. 577,290
Int. Cl. D01g *13/00*
U.S. Cl. 19—145.3 **4 Claims**

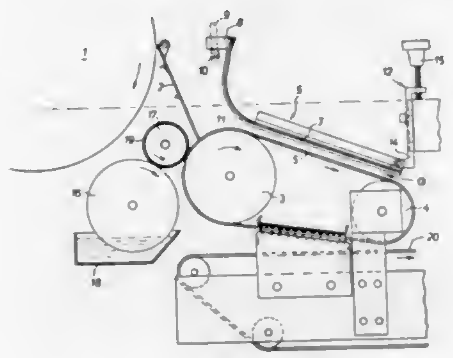


A swab-making machine for enwrapping and forming tufts of suitable material such as relatively loose fibrous material on the ends of swab sticks wherein the machine has a rotatable knotted carriage member having a plurality of receptacles for receiving individual sticks in each of the receptacles. Power means are connected to the carriage member for imparting rotational motion thereto and swab stick supplying means are provided for introducing individual swab sticks into each of the receptacles on the carriage member. Swab stick rotating means is engageable with the swab sticks in the receptacles for imparting rotational motion thereto in order to enwrap the tufts of material on the ends of the swab stick. Shaping means is engageable with the tufts of material enwrapped on the ends of the swab sticks for forming the tufts of material into the desired configuration. A material feeder adjacent the carriage member positions a continuous strand of material for a periodic removal of tufts of material therefrom to be enwrapped from the ends of the swab stick. Tuft-positioning means is movably mounted adjacent the carriage member and is engageable with the strand of material positioned by the material feeder for tearing a tuft of material therefrom. The tuft-positioning means is movable to position the tuft of material adjacent the receptacle on the carriage member for enwrapment on the end of a rotating swab stick as the sticks are moved past the tuft-positioning means by the carriage member prior to engagement with the shaping means. Second power means is connected to the tuft-positioning means to move the tuft-positioning means generally between the material feeder and the receptacles on the carriage member.

3,449,797

MACHINE FOR PRODUCING CYLINDRICAL COTTON BODIES

Fritz Witschi, Uhwiesen, Zurich, and Max Bunzli, Neuhausen am Rheinfall, Switzerland, assignors to IVF Verbandstoffmaschinen-Fabrik Schaffhausen, Neuhausen am Rheinfall, Switzerland
Continuation-in-part of application Ser. No. 454,017, May 7, 1965, now Patent No. 3,382,542. This application Sept. 12, 1966, Ser. No. 578,862
Claims priority, application Austria, Oct. 28, 1965, A 9,778/65
Int. Cl. D01g *25/00*
U.S. Cl. 19—149 **7 Claims**



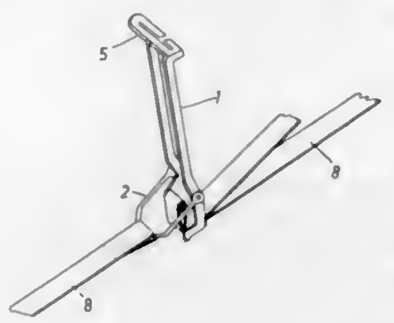
A machine for the production of cylindrical cotton bodies, particularly suitable for producing dental tampons or the like of high quality, comprising a separating and feeding unit for producing individual cotton strips and a winding unit cooperating with the separating and feeding unit for winding substantially cylindrical cotton bodies, and belt means for applying an adhesive to the surface of the cylindrical cotton bodies and for finally calibrating these bodies by pasting flat any standing fibres.

3,449,798

TENSIONING AND SECURING DEVICE FOR LOAD SECURING STRAPS

Ludwig Hofmann, 10 Markgrafenstrasse, 758 Buhl, Baden, Germany
Filed May 31, 1967, Ser. No. 642,400
Claims priority, application Germany, June 4, 1966, H 59,601; Aug. 11, 1966, H 60,213
Int. Cl. B63d *63/16*
U.S. Cl. 24—71 **6 Claims**

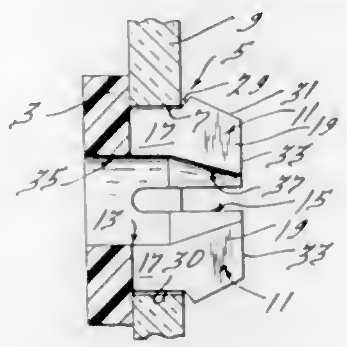
Two side members are curved upwards at one end and are joined at this end by a clamping pin and a clamping rib. At their other end, a safety frame is mounted. A strap is connected to a strap yoke pivoted on the side members. The other end of the strap is passed around a container and finally looped around the clamping rib. Manual rotation of the two side members locks and tensions the straps. The safety frame is then pushed onto the strap and thus holds the strap locked and in tension.



3,449,799

FASTENER FOR CONNECTING APERTURED STRUCTURE TO ANOTHER STRUCTURE

Alfred A. Bien, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,822
Int. Cl. A44b *21/00*
U.S. Cl. 24—73 **14 Claims**

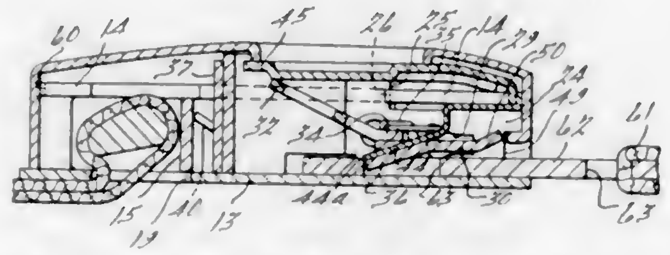


Fastening member for joining one structural member to a second structural member having a hole therein. The fastening member includes a head and a shank, the shank comprising a plurality of generally V-shaped fingers. A bore having a tapered portion extends through the head and shank for receiving a rigid pin or bolt for expanding the V-shaped fingers against the surface of the second structural member around the hole, the sides of the V-shaped fingers being spread apart as the fingers are expanded.

3,449,800

SEATBELT BUCKLE

Robert C. Fisher, 580 E. Long Lake Road, Bloomfield Hills, Mich. 48013
Filed Oct. 20, 1966, Ser. No. 588,088
Int. Cl. A44b *11/25*
U.S. Cl. 24—77 **10 Claims**

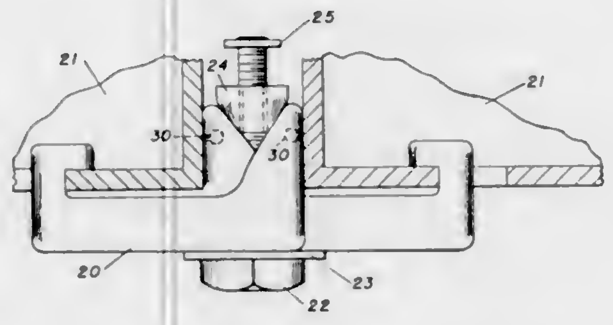


The seatbelt buckle has a case assembly in which an inter-related latch and lever are pivoted with the lever having forwardly and rearwardly extending portions one of which is engaged by a spring for urging the other portion against a manual operator which when moved downwardly releases the latch to permit a belt tongue engaged thereby to move from the belt buckle.

3,449,801

CONTAINER COUPLING FITTINGS

Leo C. Lafont, Newark, and Emory L. Kerr, Cranford, N.J., assignors, by mesne assignments, to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed July 24, 1967, Ser. No. 655,376
Int. Cl. B65j *1/08;* **B66c** *1/42*
U.S. Cl. 24—81 **11 Claims**

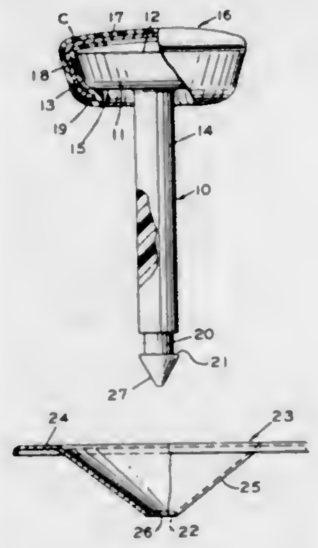


Fittings for coupling containers together to permit simultaneous handling and transporting of two containers. One embodiment includes two fittings spaced by a bar and located between bottom corner castings of 20 foot containers and thus coupling the containers and another embodiment includes the use of independent fittings, one at each lower corner of adjacent containers. Both embodiments utilize two top compression fittings located between top corner castings.

3,449,802

TRIM BUTTON

Walter Mackey, Detroit, Mich., assignor to Ray E. Forsyth, Birmingham, Mich.
Filed May 18, 1964, Ser. No. 368,176
The portion of the term of the patent subsequent to Aug. 30, 1983, has been disclaimed
Int. Cl. A44b *1/12, 1/32*
U.S. Cl. 24—113 **2 Claims**

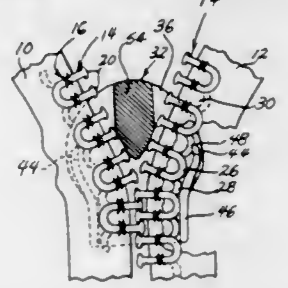


1. A trim button comprising a one piece plastic collet, said collet comprising a base having top and bottom surfaces and a peripheral surface, and an integral solid stem extending from the bottom surface of said base, said stem having a shoulder adjacent the free edge thereof for engagement of a fastener element, a cap affixed to said base, said cap being generally cup shaped and comprising a top wall and a side wall deformed radially inwardly into contact with the surface of periphery of said base of said collet, the free edge of said side wall of said cap extending radially inwardly adjacent the bottom surface of said base, and a covering on said cap, said covering extending over the outer surface of said top wall of said cap, the outer surface of said side wall of said cap, around the free edge of said side wall, along the inner surface of said side wall of said cap and radially inwardly along a portion of the inner surface of the bottom wall of said cap and terminating adjacent but spaced from said stem, the free edge of said covering being substantially thicker in cross section in the area adjacent the free edge of the side wall of said cap.

3,449,803

FLANGE LOCK SLIDER FOR FILAMENT SLIDE FASTENERS

Harry F. Manning, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
Filed Dec. 14, 1967, Ser. No. 690,563
Int. Cl. A44b *19/04*
U.S. Cl. 24—205.14 **10 Claims**

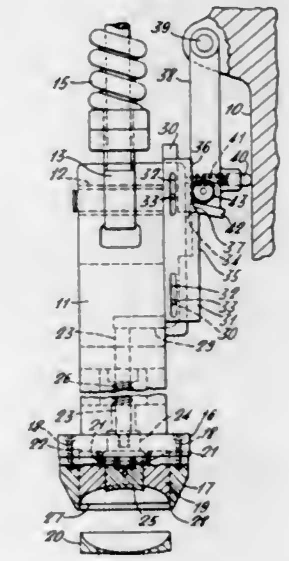


A ladder type flange lock slide fastener having a slider, whose locking projections are positioned on the wings of the slider adjacent its mouth for positive insertion into the space intermediate two adjacent heel portions of the fastener, when the upper ends of the tapes are spread apart, to maintain the slider in a locked condition.

3,449,804

APPARATUS FOR STAMPING SOAP TABLETS AND THE LIKE

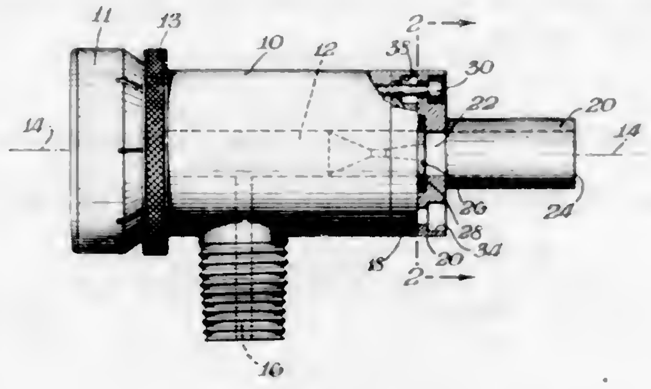
Bernard Cecil Moses, West Kirby, and David Henry Thomas, Bebington, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Oct. 4, 1966, Ser. No. 584,120
Claims priority, application Great Britain, Oct. 7, 1965, 42,649/65
Int. Cl. C11d *13/16*
U.S. Cl. 25—7 **6 Claims**



Apparatus for stamping capacity soap tablets without extrusion of material from between a pair of dies which close lip-to-lip, in which the upper die of the pair is closely surrounded by a fixed or retractable tubular shell member, the rim of which projects beyond the upper die lip and operates to trim the ends off a billet which the dies form into a tablet.

3,449,805
APPARATUS FOR TREATING YARN

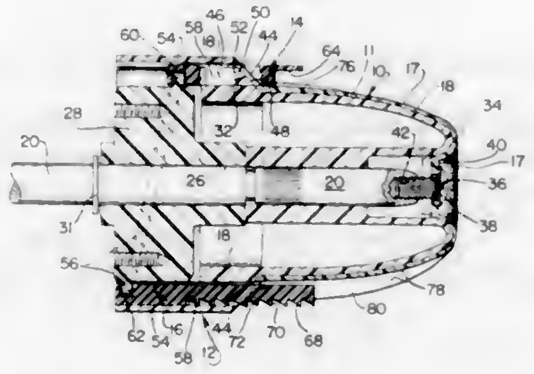
John Paul Lubach, Wilmington, Del., assignor to Enterprise Machine and Development Corp.
Filed Jan. 3, 1967, Ser. No. 606,740
Int. Cl. D02g *1/16*
U.S. Cl. 28—1 **4 Claims**



A device is provided that allows one to lock a nozzle containing element to a housing with a venturi between the element and the housing in a manner which still allows one to adjust the venturi, the device being employed in the production of bulky yarns.

3,449,806
UNWINDING APPARATUS

James A. Kerrigan and Robert E. Morton, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Feb. 14, 1968, Ser. No. 705,400
Int. Cl. D03d *45/58*
U.S. Cl. 28—19 **19 Claims**

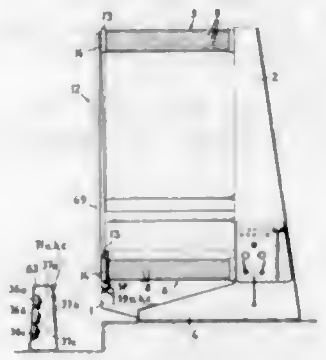


Apparatus for removing yarn from an exhausted bobbin including a rotatable hub on which a disposable stripper shell is releasably mounted.

3,449,807
APPARATUS FOR WARPING AND SIZING OF SHORT WARP THREADS

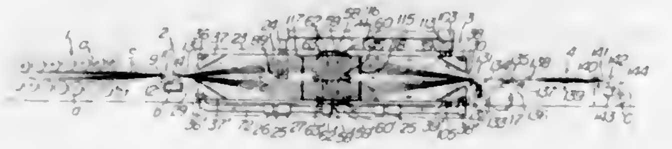
Erich Baltzer, Nordhorn, Germany, assignor to Hergeth KG Maschinenfabrik und Apparatebau Billerbeck, Westfalia, Germany, a corporation
Continuation-in-part of application Ser. No. 539,185, Mar. 31, 1966. This application July 26, 1967, Ser. No. 656,233
Claims priority, application Germany, Jan. 24, 1967, H 61,635
Int. Cl. D02h *3/00*
U.S. Cl. 28—22 **3 Claims**

A machine for warping and sizing of short warps threads, in particular, for the manufacture of fabric in multi-colored weaving. The machine comprises an improved thread guide system which includes a catch-hook for laying the threads around a pair of winding elements which are mounted in the machine. The catch-hook is rigidly attached to an endless belt which is driven by a pair of opposite pulleys each one of which is coaxially mounted with respect to one of said pair of winding elements. A plurality of levers are operatively mounted adjacent to the endless belt and cooperate with the catch hook for guiding a preselected thread thereto. A bobbin is provided for each thread which is mounted on a bobbin-support arrangement. Furthermore, for each bobbin there is provided a swingable arm on the supporting frame for the winding elements, said arm being adapted to seelctively swing a thread into the path of the moving catch-hook.



3,449,808
METHOD OF AND APPARATUS FOR SIZING AND DRYING WARPS OF MAN-MADE FILAMENT YARNS

Susumu Kuroda, Nagoya, Japan, assignor to Kawamoto Industrial Co., Ltd., Nagoya, Japan, a corporation of Japan
Filed Aug. 8, 1967, Ser. No. 659,145
Claims priority, application Japan, Aug. 24, 1966, 41/55,970
Int. Cl. D03j *1/02;* **D02g** *3/36, 1/16*
U.S. Cl. 28—28 **10 Claims**



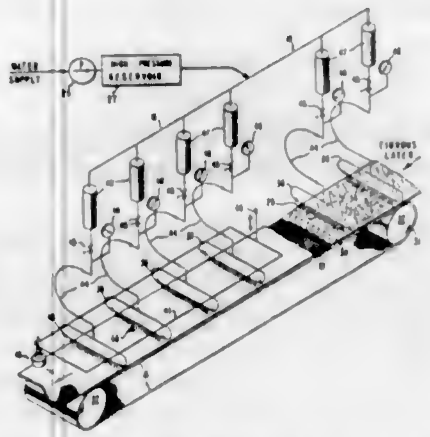
A warp sizing and drying apparatus having a beam stand section, sizing section, a drying section and a take-up section. Warp sizing means with size solution spraying pipes are provided in the sizing section to effect a warp sizing operation. The drying section comprises hot air producing means and a drying chamber having compartments therein and conduits for discharging the hot air toward the wet yarns moving forward within the drying chamber to dry the wet yarns, said drying chamber further having means to remove the now moist air after drying the yarns.

3,449,809
PRODUCTION OF NONWOVEN FABRICS WITH JET STREAM OF POLYMER SOLUTIONS

Hyunkook Shin, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 575,674, Aug. 29, 1966. This application June 30, 1967, Ser. No. 656,616
Int. Cl. D04h *3/12*
U.S. Cl. 28—72.2 **4 Claims**

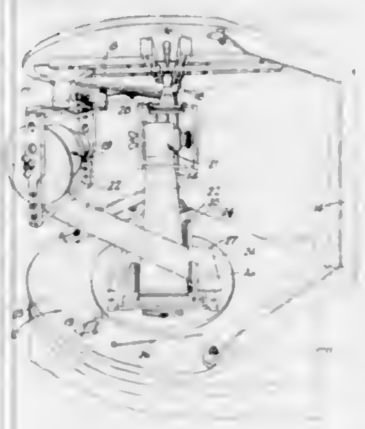
Improvements are disclosed in production of nonwoven fabrics directly from a layer of textile fibers or filaments by high-energy treatment with fine liquid jet

streams to entangle the fibers into a strong structure. In the improved process the liquid is an aqueous solution of a polymer having a molecular weight of at least 10,000. Preferably a 0.5% aqueous solution of the polymer has a relative viscosity (RV) of at least 2.0 at 25° C. Other concentrations of polymer can be used, provided that the solution has at least 1.2 RV; preferably it is less than 20 RV. Aqueous solutions of polyethylene oxide, polyacrylamide or polyvinylpyrrolidone are shown to be much more effective than water alone for entangling fibers to produce strong, stable nonwoven fabrics. Fabrics of double the basis weight are successfully produced. For fabrics which are successfully produced with jet streams of water, the use of polymer solution provides a notable reduction in the total treatment energy required for the same fabric stability, e.g., as evaluated by resistance to pilling in use. The solutions also make it possible to process heavier denier material than can be processed successfully with water alone.



3,449,810
MANUFACTURE OF CAPACITORS

Eric Wade, Carpenters Park, near Watford, England, assignor to Rotax Limited, London, England
Filed Apr. 6, 1966, Ser. No. 540,726
Int. Cl. H01g *13/00;* **B41l** *1/32*
U.S. Cl. 29—25.42 **5 Claims**

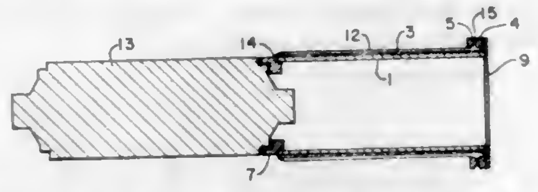


Apparatus for use in forming a capacitor stack includes a frame on which the stack is formed, and a pair of tracks extending at right angles to one another above the frame. On the tracks are two reels containing the material from which the capacitor is formed, and by moving the reels along their respective tracks in turn and causing the strips to be bent about a former, the stack is formed.

3,449,811
METHOD AND APPARATUS FOR COVERING ROLLS

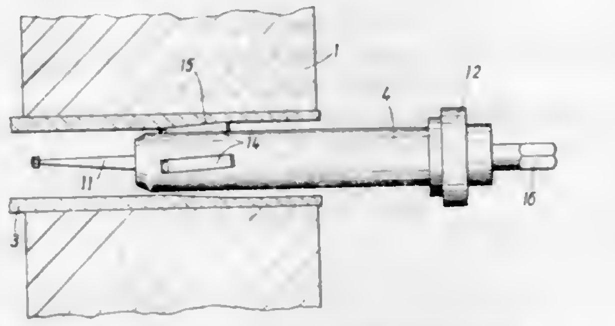
John De Ligt, Covington, Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,560
Int. Cl. B21d *53/12;* **B21h** *1/18*
U.S. Cl. 29—148.4 **10 Claims**

A sleeve of resilient material may be stretch fitted to a roll core by clamping both ends of the sleeve to a second, internally supported sleeve positioned inside the first sleeve, pressurizing the space between the sleeves to expand the first sleeve, positioning one end of the sleeve next to the end of the roll core and then reversely rolling both sleeves over the core; after which the second sleeve, which is now on the outside, is removed, leaving the first sleeve in position on the core.



3,449,812
METHOD OF SECURING TUBE END PORTIONS IN BORES OF A HEAVY PLATE BY PILGRIM STEP ROLLING

Manfred Hauschke, Remscheid, and Erich Ebbinghaus, Remscheid-Hasten, Germany, assignors to Kotthaus & Busch K.G., Remscheid, Germany
Filed Jan. 23, 1967, Ser. No. 611,006
Claims priority, application Germany, Jan. 24, 1966, K 58,225
Int. Cl. B21b *21/00*
U.S. Cl. 29—157.4 **7 Claims**



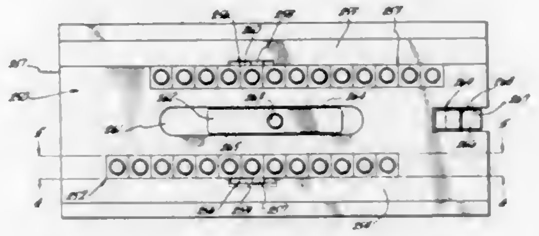
A method for securing tube end portions in bores of a heavy plate by rolling in which roller means comprising a conical mandrel and rollers distributed about the mandrel and in engagement therewith and having axes inclined to the axis of the mandrel are inserted in the end portion of a tube extending through a bore in the heavy plate, whereupon the mandrel is rotated in one direction about its axis to cause thereby a rotation of the rollers and advance of the conical mandrel relative to the rollers as well as advance of the latter relative to the tube so as to press the rollers against the inner surface of the tube to gradually expand the latter, whereby the moment for rotating the mandrel increases. The increasing moment is measured and the direction of rotation of the mandrel is automatically reversed for a predetermined time when the measured moment reaches a predetermined maximum, whereby the mandrel and rollers are retracted for a given distance. After the predetermined time has passed, the mandrel is again rotated in the first mentioned direction to advance the mandrel and rollers again and to initiate the next rolling step. The last two steps are repeated until the whole tube end located in the bore is expanded in tight engagement with the bore surface.

3,449,813
APPARATUS FOR THE PROGRAMMED INSERTION OF TERMINALS

Nicolas Tregubenko, San Pedro, Calif., assignor to Allied Pacific Manufacturing Company, Compton, Calif., a corporation of California
Filed Oct. 10, 1966, Ser. No. 585,578
Int. Cl. H05k *3/20*
U.S. Cl. 29—203 **7 Claims**

1. In a terminal insertion device, the combination of: a source of terminals;

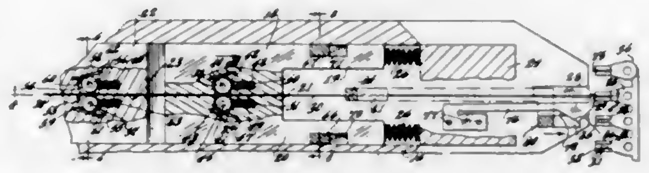
a boat having recesses adapted to receive said terminals;
terminal insertion means, operable when actuated to insert terminals from said source into said boat recesses; and
means for selectively actuating said terminal insertion means in accordance with a pre-selected program for terminal arrangement including:
   (a) a programmer;



   (b) boat movement means controlled by said programmer to move said boat through a pre-selected series of fixed terminal insertion positions; and
   (c) means actuated when said boat is in a terminal insertion position for actuating said terminal insertion means

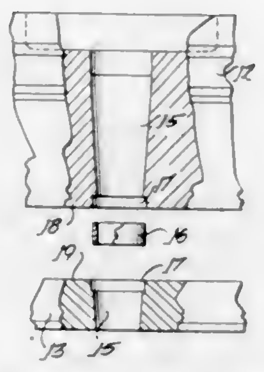
in which the terminal insertion positions which are pre-selected are determined by a program carried by the programmer.

3,449,814
APPARATUS FOR INSERTING SOLDER IN CONNECTOR SLEEVE
John Richard Filson, 95 N. Lakeside Drive,
Medford, N.J. 08055
Filed Apr. 17, 1967, Ser. No. 631,227
Int. Cl. B23k *3/00*
U.S. Cl. 29—203 **8 Claims**



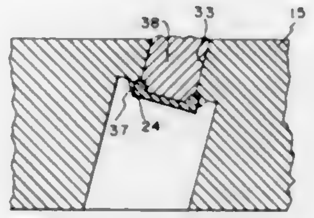
The instant disclosure, in essence, includes a reciprocatory carrier which carries feed means to feed solder between the ends of a connector sleeve being clinched, and cutoff means for severing the clinched solder portion.

3,449,815
METHOD OF RECONSTRUCTION OF DIESEL CYLINDER HEADS
Robert H. Jones, Jr., and Richard B. Jones, both % J. & J. Casting, Inc., R.R. 1, Box 267, Hibbing, Minn. 55746
Filed Oct. 11, 1966, Ser. No. 585,928
Int. Cl. B23p *7/00;* **B22d** *19/10*
U.S. Cl. 29—401 **4 Claims**



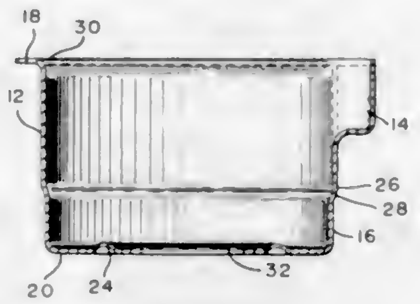
A method of reconstructing worn cylinder heads where only the inner face of the cylinder head forming a portion of a cylinder for a piston exhibits wear, including the steps of severing the worn portion from the remainder of the cylinder head, providing a new casting to be substituted for the worn portion, preparing the abutting surfaces of the unworn portion of the cylinder head and the new casting, applying a suitable epoxy adhesive to the surfaces and retaining the parts together and heat curing the adhesive. To provide accurate alignment, the central passage for an injector is counterbored into both the unworn head and the new casting at the abutting faces thereof, and an aligning sleeve is adhesively mounted in the counterbores.

3,449,816
METHOD OF REPAIRING SCREW-IN PRECOMBUSTION CHAMBER TYPE OPENINGS IN CYLINDER HEADS
Dwaln K. Swick and Clarence E. Swick, both of
440 N. Chestnut, McPherson, Kans. 67460
Filed Apr. 24, 1967, Ser. No. 633,026
Int. Cl. B23p *7/04;* **B23k** *5/22;* **B22d** *19/10*
U.S. Cl. 29—402 **6 Claims**



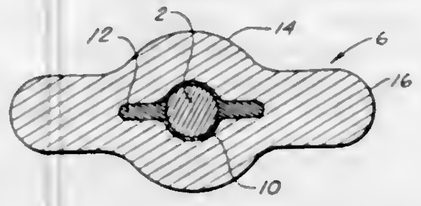
This invention relates to a method of repairing defects in engine cylinder heads, and more particularly, to a method of removing and repairing defective openings adapted to contain either precombustion chamber members, spark plugs, fuel injectors or the like. Still, more specifically, this invention relates to a method of repairing defective openings in cylinder heads through the process of removing the defective area and using special cup members to retain weld material in the defective area for the setting up thereof prior to the final machining thereof to the required specifications.

3,449,817
METHOD OF MAKING CAP FOR PAPER CORE
Philip S. Cushing and Harris E. Stone, both of
293 Lenox St., Norwood, Mass. 02062
Continuation-in-part of application Ser. No. 331,860, Dec. 19, 1963, now Patent No. 3,291,413, dated Dec. 13, 1966. This application Aug. 15, 1966, Ser. No. 572,362
Int. Cl. B23p *17/00;* **B21d** *51/00*
U.S. Cl. 29—416 **4 Claims**



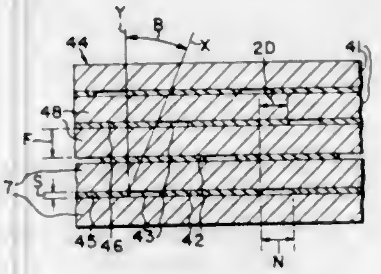
A disk of steel is made into a cap for a paper core by two successive cold drawing steps which form a deep cup with a rim and also press a socket outward at the top of the cup. A substantial central portion of the bottom of the cup can be cut out. The cup can be made with a lower portion of reduced diameter to be cut away and then nested in the upper portion.

3,449,818
SUPERCONDUCTOR JOINT
Larry L. Lowe, Canoga Park, Calif., and Gordon G. Chase, Nederland, Colo., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed May 16, 1967, Ser. No. 638,860
Int. Cl. B23k *31/02*
U.S. Cl. 29—470.5 **4 Claims**



A superconductor joint and method of making. The ends of two superconductor wires are tinned with a Bi-Pb-Sn base superconductive alloy and brought into contact inside a superconductive sleeve. The assembly is hot pressed at a temperature above the yield point but below the melting point of the solder to deform the sheath about the wires and provide intimate contact therebetween.

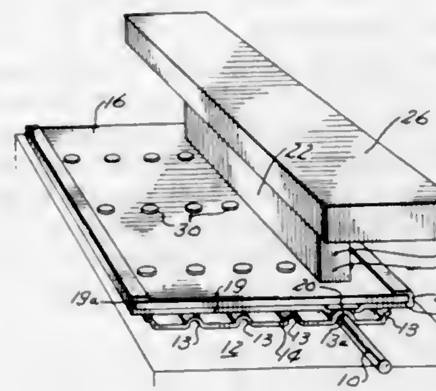
3,449,819
EXPLOSIVELY WELDED HONEYCOMB METHOD
George F. Blank, Concord, Calif., assignor to Hexcel Corporation, Dublin, Calif., a corporation of California
Continuation-in-part of applications Ser. No. 648,177, Apr. 7, 1967, and Ser. No. 439,864, Mar. 15, 1965. This application May 17, 1968, Ser. No. 740,792
Int. Cl. B23k *27/00, 29/00, 31/02*
U.S. Cl. 29—470.9 **16 Claims**



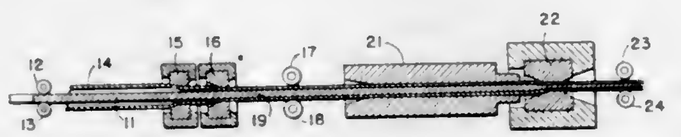
A method for forming a honeycomb structure by disposing a series of spaced parallel strips of a stop weld material along one surface of each of a plurality of thin metallic sheets. The sheets are stacked and an explosive shock wave is directed through the stack to cause the sheets to weld together at those surface areas which are devoid of stop weld material. The thickness and configuration of stop weld material can be varied with the type of metal being bonded and the physical properties desired for the honeycomb. The foils can be stacked so that the edges of the stop weld form an angle with a plane normal to the broad surface of the foils. Momentum traps, adjacent the edges of the foils, can be employed to prevent cutting at the foil edges.

3,449,820
METHOD OF MANUFACTURING BATTERY ASSEMBLIES
Kenneth R. Jones, Mequon, and John R. Thomas, Whitefish Bay, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 17, 1964, Ser. No. 352,595
Int. Cl. B23k *19/00;* **F16b** *11/00;* **H01m** *1/00*
U.S. Cl. 29—472.9 **15 Claims**

In a battery of the type having a silver chloride member and a connecting member with a silver surface juxtaposed with the silver chloride member, the silver surface and the silver chloride member are welded together by pressing the members into contact with each other and heating the junction of the members to 450° F. to 600° F.



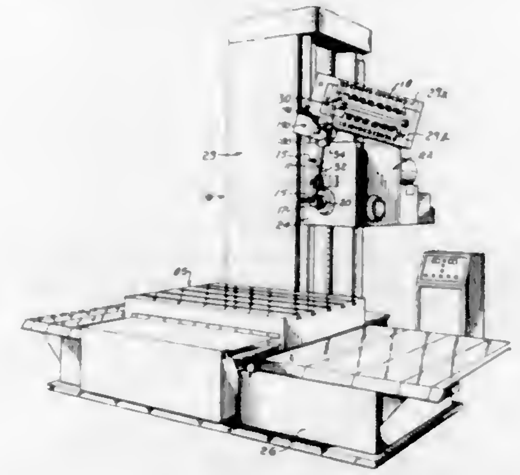
3,449,821
METHOD AND APPARATUS FOR APPLYING OF A NON-FERROUS OVERLAY ON STEEL OR STEEL ALLOY ARTICLES
Philip Vansteenkiste, Deerlijk, Belgium, assignor to Trefileries Leon Bekaert PVBA, Swevegem, Belgium, a corporation of Belgium
Filed Dec. 23, 1966, Ser. No. 604,442
Claims priority, application Netherlands, Dec. 23, 1965, 6516868
Int. Cl. B21c *23/24*
U.S. Cl. 29—474.3 **3 Claims**



A method for covering of a steel or a steel alloy article, such as wire or rod; with an overlay of a non-ferrous metal by a continuous cold forming process; combined with final calibration of both steel wire and thickness of overlay; an apparatus for performing of this method.

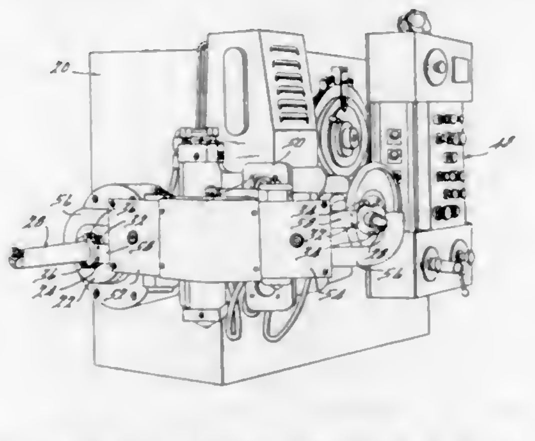
3,449,822
MACHINE TOOL WITH TOOL CHANGING MECHANISM
Edward F. Laumann, Sylvania, and Harry J. Jacob, Jr., South Russell, Ohio, assignors to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 17, 1967, Ser. No. 609,802
Int. Cl. B23q *3/155*
U.S. Cl. 29—568 **35 Claims**

A tool storage magazine is mounted on top of a spindle head which rotatably supports the machine tool spindle of a machine tool. Tools for use in the spindle are stored in storage fingers defining storage locations or sockets which are arranged in two spaced parallel rows and a carrier, which operates between the rows, is adapted to remove a tool from either one of the storage rows and deliver it to a position where it is transferred to an intermediate transfer arm which is adapted to move it into position for transfer to a spindle hand-off arm and to reorient the angular position of the tool while it is being translated so that its axis is parallel to the axis of the spindle when it is positioned to be gripped by the spindle hand-off arm. The spindle hand-off arm is a double-ended arm which is adapted to receive a tool from the transfer arm at the same time that it grips a tool in the spindle and rotation of the spindle hand-off arm interchanges the positions of the tools to remove the old tool and position the new tool in alignment with the spindle axis. The spindle is connected to and from the tool by moving the spindle axially. A sequencing mechanism automatically moves a selected tool out of the storage magazine to the machine tool spindle and removes the old tool in the spindle and returns it to the storage magazine. Mechanism is provided for locking the tool holders in the storage sockets of the magazine and the carrier has mechanism associated therewith for unlocking only the socket selected for removal or return of a tool. The tool for the spindle is always handled by the same gripping device on the spindle hand-off arm when it is to be transferred to the spindle and the other gripping device when it is to be moved from the spindle back to the storage magazine and each gripping mechanism has a park position intermediate its position for holding a tool in alignment with the spindle and its position for transferring to or from the intermediate transfer arm. The tool holders each has a flange extending radially thereof and the carrier in the magazine has gripping arms which grip the opposite radial sides of the flange while the intermediate transfer arm has locking arms which interdigitate with the gripping arms on the carrier when both are gripping the flange and the spindle hand-off arm has gripping arms similar to the gripping arms on the carrier which are adapted to sandwich the locking arms on the intermediate transfer arm while moving to a gripping position.



3,449,823
TOOL LOADING DEVICE FOR MACHINE TOOLS

Richard A. Jerue, Birmingham, Mich., assignor to De Vlieg Machine Company, a corporation of Michigan
Filed Oct. 2, 1967, Ser. No. 672,066
Int. Cl. B23q *3/00*
U.S. Cl. 29—568 12 Claims



A tool changing mechanism for use on a machine tool having a rotatable spindle thereon which is adapted to removably receive and drivingly engage a tool for performing a work operation on a workpiece. The tool changer mechanism incorporates a plurality of arms having gripping means on the ends thereof for removably engaging a tool and for successively positioning a tool in alignment with the spindle and for engagement thereby to perform a series of selected work operations.

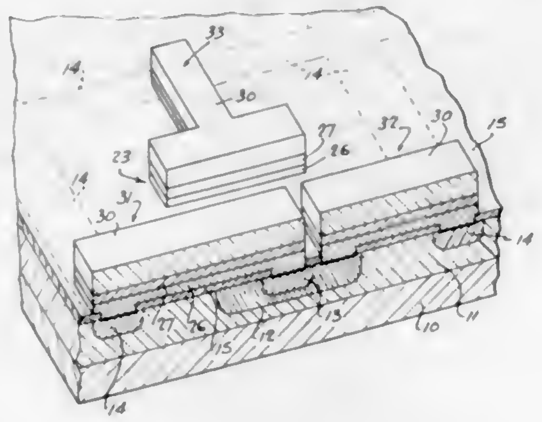
3,449,824
METHOD FOR PREPARING A FERROELECTRIC BODY AND DEVICES

George H. Heilmeier, Philadelphia, Pa., and Louis A. Zanoni, Trenton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,548
Int. Cl. B01j *17/00;* **H01g** *13/00;* **H01l** *11/14*
U.S. Cl. 29—571 5 Claims

A method of reducing residual surface charge on a ferroelectric body comprises heating the body above its Curie temperature in a vacuum and then bombarding the heated body with ions.

3,449,825
FABRICATION OF SEMICONDUCTOR DEVICES

Alberto Loro, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Apr. 21, 1967, Ser. No. 632,641
Int. Cl. H01l *7/66*
U.S. Cl. 29—578 10 Claims



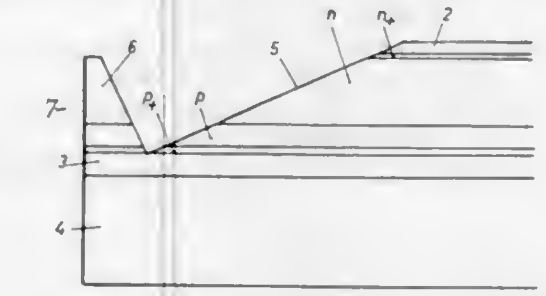
An improvement in the beam lead process in which the metallic layer (platinum and titanium) on which the beam leads (gold) are electrodeposited is divided into separate sections before the plating step, thus avoiding the difficulties hitherto experienced in removal of the metallic layer from between the beam leads after they have been formed.

To ensure uniformity of plating potential on these separate sections, a continuous conducting region (grid) is formed in the substrate assembly, and each section of the metallic layer is connected to an individual portion of this conducting region during the electrodeposition step. Subsequently such portions of the conducting region are etched away on removal of the areas of the substrate assembly around each device.

3,449,826
PROCESS FOR MAKING A SEMICONDUCTOR ELEMENT

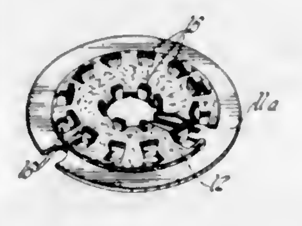
Eduard Eugster, Windisch, and Dieter Spickenreuther, Baden, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Aug. 25, 1966, Ser. No. 575,173
Claims priority, application Switzerland, Sept. 8, 1965, 12,525/65
Int. Cl. H01l *7/00, 7/02, 3/00*
U.S. Cl. 29—589 5 Claims

A process for producing a semiconductor element of a shock-voltage-resistant semiconductor valve includes the steps of diffusing an opposite conductivity type endowment substance into a disc of weekly endowed semiconductor material of a first type conductivity to form a weakly endowed surface zone of a second type conductivity and producing a p-n transition zone. This surface zone is removed from the sides and one end face of the disc, after which a first metal disc containing a donor substance is alloyed into the n-type conductivity zone of the disc to form a highly endowed $n+$ zone, and then a second metal disc containing an acceptor substance is alloyed into the p-type conductivity zone to form a highly endowed $p+$ zone. Finally an electrically conductive carrier plate made of a metal having substantially the same thermal expansion coefficient as that of the semiconductor material is soldered to the first metal disc. The thickness of the weakly endowed zones is chosen sufficiently great so that the electric field strength at the $p+$-p and n-$n+$ junctions just before avalanche breakdown is less than 1 kv./cm. and the endowment gradient is greater than 10^{17} atoms/cm.^{3}/μm.



3,449,827
METHOD OF MAKING COMMUTATOR ASSEMBLY

Thomas A. Witzel, Honeoye Falls, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,521
Int. Cl. H01r *43/00;* **B29f** *1/10;* **B29d** *3/00*
U.S. Cl. 29—597 4 Claims

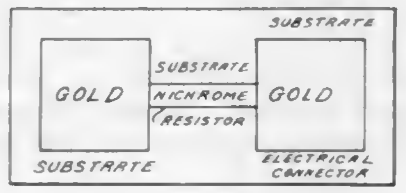


A method for manufacturing commutator assemblies wherein a heat sealable paper disc is positioned over the slots of a slotted metallic blank, holding tabs are punched through the paper and blank, an internal and an external diameter are punched from the blank, a plastic material is molded upon a portion of the blank adjacent the heat seal paper, metallic extensions extending from the periphery of the mold material are formed and the extensions are bent in the form of hooks to which lead wires may be connected.

3,449,828
METHOD FOR PRODUCING CIRCUIT MODULE

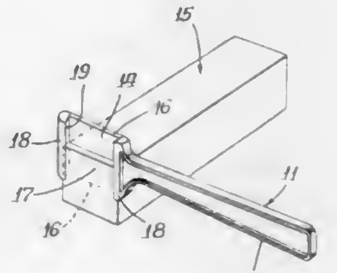
Conrad J. Solberg, White Bear Lake, Lawrence S. Hille, Minneapolis, and Henry W. Schoenherr and Russell V. Solstad, St. Paul, Minn., assignors to Control Data Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 28, 1966, Ser. No. 582,697
Int. Cl. H01c *17/00*
U.S. Cl. 29—620 21 Claims

A process for producing an electrical component on a substrate wherein the length and width of the component are established, respectively, by separate etching steps. To facilitate the manufacture of such a component in mass production, masks used to define the areas to be etched are dimensionally related to provide a substantial tolerance when the masks are registered with one another, without having any effect on the critical length and width dimensions of the resultant component.



3,449,829
BUTTER SPREADER

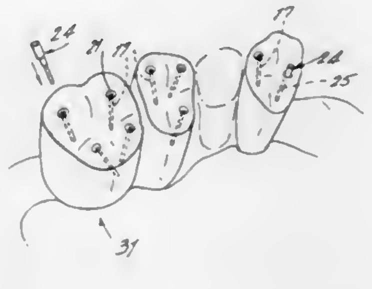
Thomas Mattinson, 302 N. Maple St., Wood Dale, Ill. 60191
Filed Dec. 18, 1967, Ser. No. 691,560
Int. Cl. A47g *21/06;* **A47j** *43/28*
U.S. Cl. 30—124 2 Claims



Plastic device comprising unitary handle and head portions, latter defining rectangular blade with a base of substantially the same width as a standard quarter pound stick of butter or margarine, chamfered side cutting edges, and parallel end flanges having inner opposed plane surfaces converging outwardly from the base to facilitate neat removal of selectable end portion from stick while compressively engaging the severed end portion to insure retention thereof on the blade for spreading same on corn on the cob.

3,449,830
CONSTRUCTION OF FIXED PARTIAL DENTAL PROSTHESIS

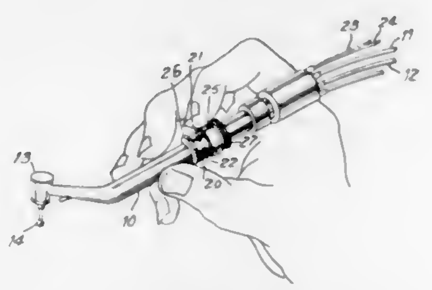
Bernard Weissman, 304 Ashland Place, Brooklyn, N.Y. 11217
Filed Nov. 9, 1965, Ser. No. 507,072
Int. Cl. A61c *13/10*
U.S. Cl. 32—6 4 Claims



A method of construction of a fixed dental prosthesis involving preparing the concerned teeth with bores, disposing a locating pin in each bore, forming in impression and disposing the head portion of the locating pin in the complementary cavities formed in the impression, reproducing a dental stone model from the impression wherein the pins are retained, forming a wax pattern of the prosthesis wherein the locating pin heads extend through the wax pattern, investing the pattern and model to form a metal casting of the desired prosthesis, removing the pins from the metal casting, positioning the metal castings on the involved teeth and securing the same in place by means of screw anchors extending through the apertures and in threaded engagement with the dentin of each tooth.

3,449,831
DENTAL HANDPIECE CONTROL

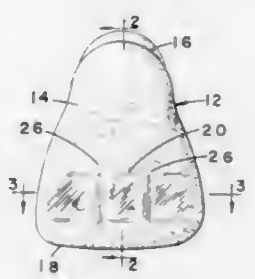
Lazaros C. Vandis, 13 Cartridge Road,
Concord, N.H. 03301
Filed July 3, 1967, Ser. No. 650,917
Int. Cl. A61c *1/08*
U.S. Cl. 32—26 4 Claims



This invention relates to a control switch assembly having particular application to dental handpieces having air-driven motors. This invention features a finger-iontrolled sliding contact, operable by the dentists and eliminates entirely the existing foot-control mechanism of conventional dental handpieces. A line voltage circuit is used to operate the valve means for admitting pressurized fluid for drivinng the dental motor; and a low voltage circuit is employed in the handpiece switch controlled by the operator but is connected to the line voltage circuit by a solenoid. Using these two separate circuits virtually eliminates any hazard to the patient.

3,449,832
ARTIFICIAL CERAMIC TOOTH

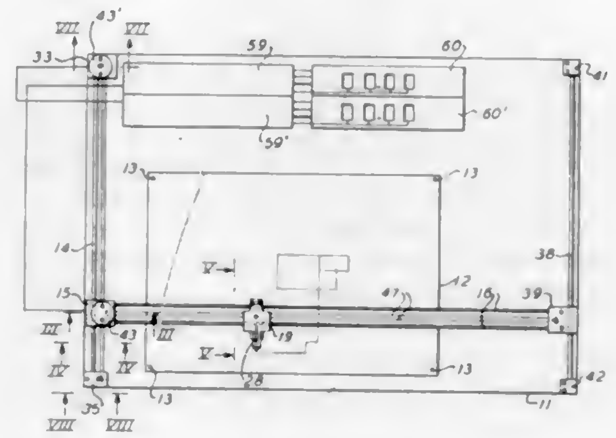
George Bruce Connan, Preston, Victoria, Australia, assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed May 12, 1966, Ser. No. 549,581
Int. Cl. A61c *13/08*
U.S. Cl. 32—8 10 Claims



A ceramic artificial tooth comprising a relatively opaque inner body portion, a translucent enamel-simulating layer overlying at least the labial surface portion of the body portion, and a band-like area of particles having different light-reflective properties from the adjacent ceramic material extending transversely to the longitudinal axis of the tooth between said body and enamel-simulating layer and positioned intermediately of the upper and lower extremities of the tooth, said layer being formed of material resistant to the normal firing temperatures required to fuse the ceramic portions of said tooth and resembling the pearlescence of natural teeth selected from the class comprising mica and glass-like material.

3,449,833
APPARATUS FOR DETERMINING THE COORDINATES OF POINTS

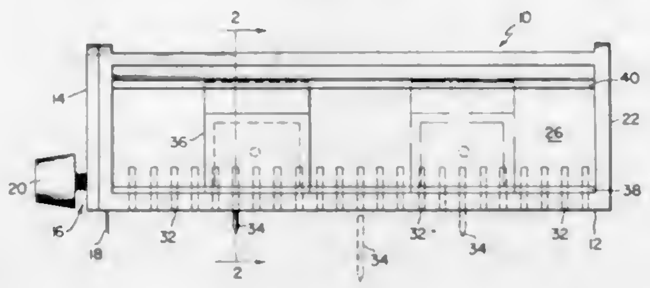
Gregory Dzula, 1 Fairview Drive,
North Caldwell, N.J. 07006
Filed Jan. 25, 1967, Ser. No. 611,613
Int. Cl. G06g *1/00*
U.S. Cl. 33—1 10 Claims



Apparatus for obtaining in drafting and other operations, a digital readout of points on a two-dimensional graph, comprising a first shaft extending along a side of said graph, a second shaft with one end connected to ride along said first shaft, a scriber to travel over said graph and along said second shaft, a first bidirectional decade counter on which a reading increases or decreases as the scriber moves one way or the other along said second shaft, and a second bidirectional decade counter on which a reading increases or decreases as the second shaft rides one way or the other along the first shaft.

3,449,834
MAGNET HOLDER FOR CENTERING PIN

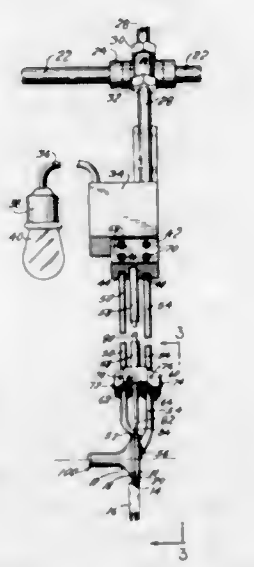
John M. Snyder, New York, N.Y., assignor to Commercial Carpet Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1968, Ser. No. 742,794
Int. Cl. B43l *9/04*
U.S. Cl. 33—27 4 Claims



This invention relates to adjustable magnetic means for holding centering pin means in position in a selected one of a plurality of centering pin receiving means in a tool or the like to provide for adjustment of the tool to various radius sizes.

3,449,835
APPARATUS FOR USE IN THE REBUILDING OF VALVES FOR INTERNAL COMBUSTION ENGINES

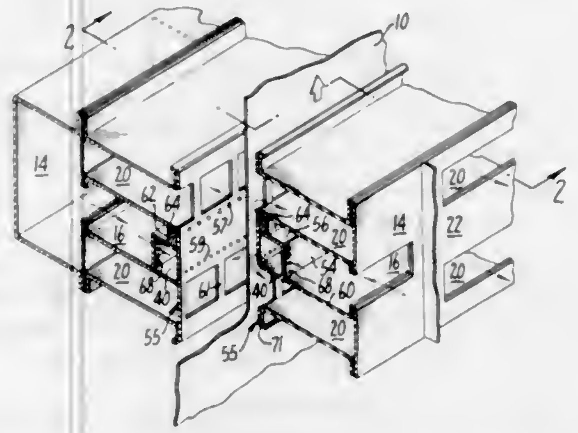
Ernest E. Liner, 1119 Corbet Drive,
Bremerton, Wash. 98310
Filed Feb. 27, 1967, Ser. No. 618,731
Int. Cl. G01b *5/24*
U.S. Cl. 33—169 3 Claims



An indicating device for use in the finishing of a built-up valve in which the face of the valve will be cut to proper size and shape. The device includes feelers which engage surfaces of the valve so as to give an indication of the changes in size of the valve.

3,449,836
AIR SUSPENSION SYSTEM IN MICROWAVE DRYING

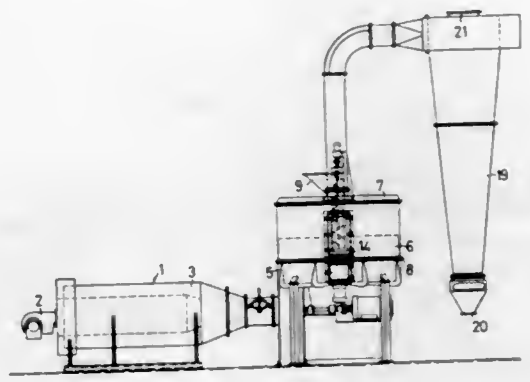
Henry Schreiber, Port Washington, N.Y., and David J. Goerz, Jr., Menlo Park, Jerome W. Hankin, Morega, and Erik W. Stephansen, San Francisco, Calif., assignors, by mesne assignments, to Bechtel International Corporation, San Francisco, Calif., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 677,914
Int. Cl. H05b *9/00;* F26b *3/28*
U.S. Cl. 34—1 7 Claims



A drying device for a web wherein the solvent to be removed from the web is subject to microwave heating and high speed gas jets by passing the web through a split waveguide whereon the otherwise open portions of the waveguide are covered by an electrically non-conducting low loss-tangent material to provide an air tight seal over the open portion of the waveguide for its entire length to prevent moisture and dust from collecting in the waveguide and disturbing the electrical properties. Web suspension is provided by the high speed jets and may be provided by passing gas through the waveguide cover through small holes or slots.

3,449,837
DRYING PEAT

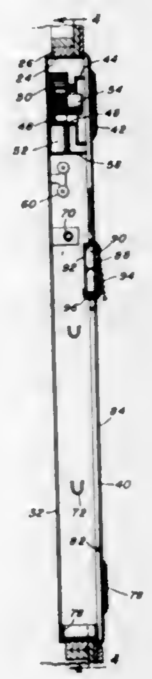
Gert Ottmuller, Gronepark 19, Ahrensburg 207, Germany, and Wilhelm Jester, Post Wischhafen, Wolfsbruchermoor 2161, Germany
Filed July 11, 1967, Ser. No. 652,450
Int. Cl. F26b *17/10*
U.S. Cl. 34—57 5 Claims



In drying peat by means of hot air, the peat is brought suddenly into contact with the air, preferably by being thrown centrifugally, and the rate of mixing of the air and peat is varied to hold a constant temperature in air entraining the peat.

3,449,838
COMBINATION WALL MOUNTED DRYER AND HEATER

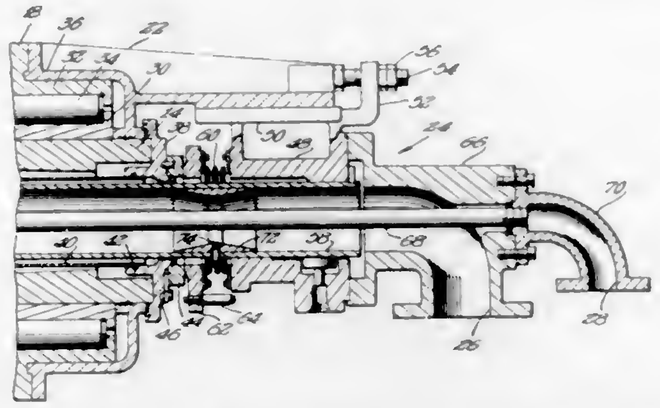
Charles W. Chancellor, Jr., Midland, Tex., assignor to Chancellor Chair Company, Midland, Tex., a corporation of Texas
Filed Sept. 9, 1966, Ser. No. 578,316
Int. Cl. F26b *9/00*
U.S. Cl. 34—90 9 Claims



A vertically disposed cabinet for wall mounting having an air inlet adjacent the upper end and an air outlet at a point below the air inlet. A fan and heater is provided interiorly of the cabinet for circulating and heating air. A hose receiving opening for a hair dryer hose is provided in the cabinet together with a pivotal plate for directing air out through the hose or permitting it to pass downwardly beyond the hose opening. In one embodiment of the invention, an access door is provided together with structural means within the cabinet to support clothing articles to be dried. In another embodiment, the structure is incorporated into a mirror assembly or entered above the sink or wash basin.

3,449,839
ROTARY STEAM JOINT AND CONDENSATE SCAVENGER THEREFOR

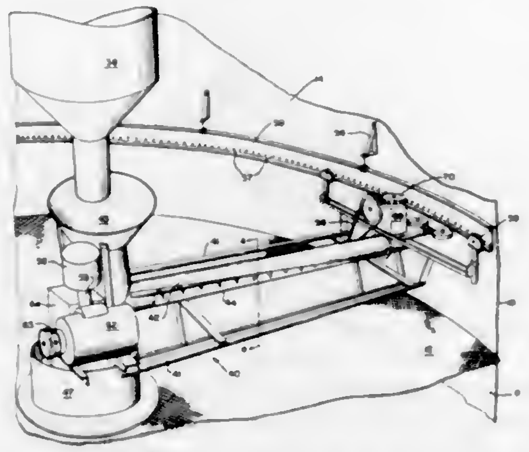
Elmer E. Crist, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation of abandoned application Ser. No. 563,583, July 7, 1966. This application Dec. 21, 1967, Ser. No. 697,552
Int. Cl. F26b *11/02;* **F16l** *39/04*
U.S. Cl. 34—124 **12 Claims**



Steam inlet fitting particularly adapted for dryer drums heated by steam. The dryer drum is supported on the usual hollow shafts journalled in bearing housings. Steam is introduced into the dryer drum through a steam inlet pipe extending along one hollow shaft. The hollow shaft through which the steam inlet extends has a sealing plate at its outer end and an annular seal mounted thereon and rotating therewith. A sealing member is slidably guided in a non-rotatable housing, mounted on a bearing support for the hollow shaft and is retained from rotatable movement by the housing. Spring means bias the sealing member into sealing engagement with the annular seal. Bellows provide a seal to connect the housing to the sealing member and to accommodate axial movement of the housing toward and from the sealing member due to differences in temperature between the housing and the sealing member and dryer drum. A venturi is in communication with the steam inlet and has a throat in the region of the bellows. A radial passageway leads from the bellows to the throat of the venturi to scavenge steam and condensate from the bellows formed by leakage of steam from the drum to the bellows, as steam passes along the venturi.

3,449,840
CONTINUOUS GRAIN DRYING APPARATUS

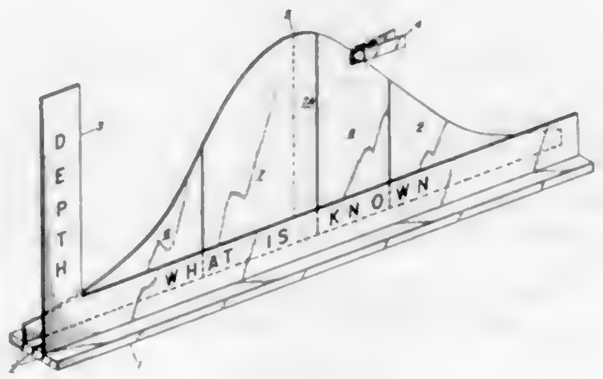
James H. Francis, Louisville, Ky., assignor to Clayton and Lambert Manufacturing Company, Buckner, Ky., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,126
Int. Cl. F26b *15/02*
U.S. Cl. 34—187 **9 Claims**



A radially-extending grain handler is mounted in a grain drying bin for rotary sweep movement about the vertical axis of a centrally-open disc-like floor which is perforated to accommodate the upward passage of a drying gas therethrough. As the handler sweeps rotationally forward, it operates, on its lag side, through one auger, to feed a stream of incoming wet grain to said floor and, on its lead side, through another auger, to retrieve and remove dry grain from said floor. The grain feeding auger receives an incoming stream of wet grain at its inner end adjacent the central opening of the floor and directs that stream horizontally outward along a radially-extending overflow dam on its lag side in a manner causing the dam to overflow rearwardly along its length and thereby deposit, during each rotation of the handler, a radially wide band or layer of wet grain progressively extending circularly about said vertical axis of the bin. The grain retrieving auger has a radially-extending grain scoop on its lead side which, during each rotation of the handler, progressively scoops up the circular layer of grain deposited during the preceding rotation while the feed auger contemporaneously deposits a new circular layer of wet grain.

3,449,841
PROCESS AND APPARATUS FOR GRAPHICAL REPRESENTATION OF INTELLECTUAL PROFILES AND COMBINATIONS OF MENTAL CHARACTERISTICS AND DISCIPLINES IN SCIENCE, EDUCATION AND BUSINESS FIELDS

Michael Sveda, Zaccheus Mead Lane, Greenwich, Conn. 06830
Continuation-in-part of application Ser. No. 540,938, Apr. 7, 1966. This application Dec. 22, 1967, Ser. No. 701,512
Int. Cl. G09b *19/00*
U.S. Cl. 35—22 **10 Claims**

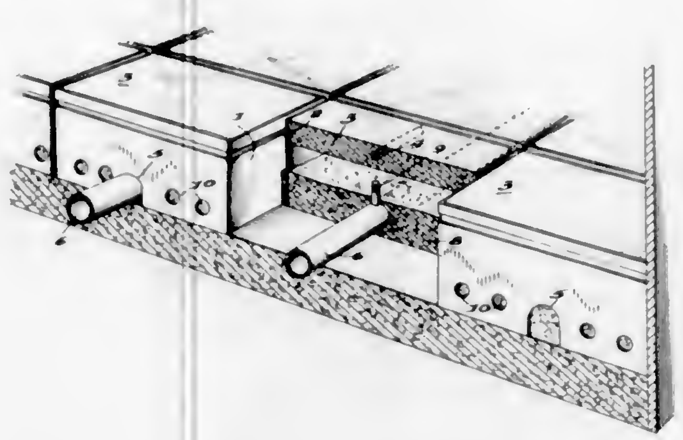


Two general types of process and apparatus are described. The first involves the positioning or actual movement of profiles which are thin, vertical members and which may be fitted into and moved in grooves on boards. The profiles, which can either be cut out in the case of opaque material or transparent material or drawn on larger sheets of transparent materials in ink, tapes, etc., represent various mental characteristics, such as knowledge in a given field, achievement, personality traits, and the like. The profiles can be moved during the expository process, or different positions can be shown sequentially, as by slides, motion picture film, and the like.

3,449,842
METHOD AND APPARATUS FOR BLENDING FINELY GRANULATED MATERIALS

Karl-Heinz Kayatz, Hamburg-Nienstedten, Germany, assignor to Fuller Company
Filed Aug. 2, 1967, Ser. No. 658,003
Claims priority, application Germany, Aug. 5, 1966, P 40,134
Int. Cl. F26b *25/10;* **E04h** *7/34;* **B65g** *53/18*
U.S. Cl. 34—237 **13 Claims**

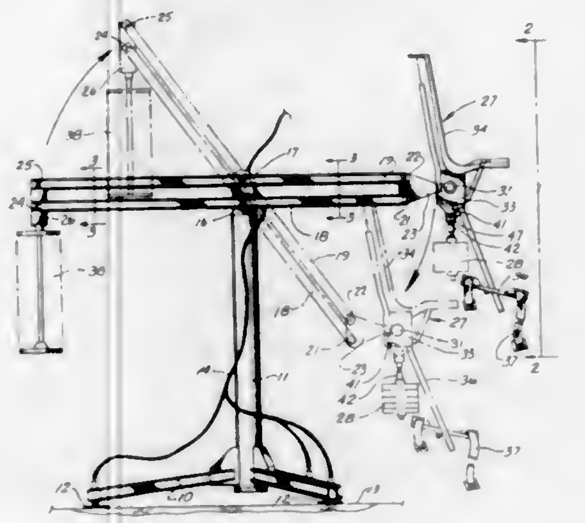
An aeration unit for blending silos having a sheet steel framework covered at its upper edges by an air-permeable plate and open at the bottom with cut out portions at the lower edges of the unit so as to receive the air supply lines having vertical gas nozzles attached and at the same time be substantially flush with the silo floor so as to be capable of being held firmly in place by a solidifying filler material, which also acts as a seal, deposited on the silo floor.



The method of installing such units and completing the construction of the aerated silo floor being briefly that of (1) laying the air supply lines, (2) laying the solidifying filler material to a depth just covering the supply lines but not of sufficient depth to cover the gas nozzles, and (3) placing the units in position over the supply lines and gas nozzles and embedding each into the filler.

3,449,843
SIX DEGREE OF FREEDOM APPARATUS

Donald H. Richter, La Mirada, Irving Streimer, Northridge, and David P. W. Turner, Canoga Park, Calif., assignors to North American Rockwell Corporation
Filed Aug. 3, 1966, Ser. No. 570,059
Int. Cl. G09b *9/08;* **A63g** *1/32*
U.S. Cl. 35—12 **9 Claims**



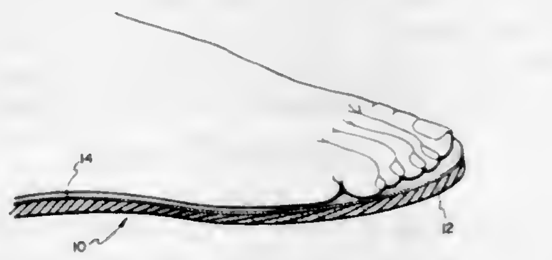
A simulator of zero gravity is described, characterized by very low mass and great freedom of motion in all six degrees. The simulator comprises a base supported by air-bearing pads for providing three degrees of freedom. A vertically extending column on the base has a pair of vertically displaced low friction bearings at its upper end and a pair of beams mounted thereon at their midpoints. A support member at the end of the beams forms a parallelogram for large vertical displacements of the beam ends without change in orientation of the support member. Roll and pitch bearings on the support member thus have uniform orientation despite changes in vertical displacement. The roll and pitch bearings support an operator seat. A counterweight below the seat adjusts the center of gravity of the combined seat and operator assembly to the centers of rotation of the pitch and roll bearings. A counterweight at the other end of the parallelogram beam brings the center of gravity of the simulator vertically in line with the column and maintains the apparatus in equipoise.

ERRATUM

For Class 35—22 see:
Patent No. 3,449,841

3,449,844
PROTECTIVE INNER SOLE

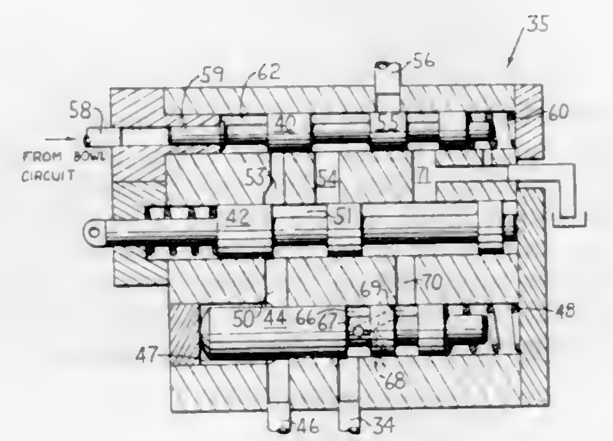
Wayman R. Spence, Salt Lake City, Utah, assignor to Spenco Corporation, Salt Lake City, Utah, a corporation of Utah
Filed May 5, 1967, Ser. No. 636,303
Int. Cl. A43b *13/40*
U.S. Cl. 36—44 **7 Claims**



An inner sole which includes an elastic closed cell foam base having a maximum compression set of less than 50 percent and a two-way linear elongation of 1/16 to 1/2 inch which has one face bonded with a rubbery adhesive to a two-way stretch fabric or fiber.

3,449,845
EARTHMOVING SCRAPER BOWL SUSPENSION WITH SAFETY FEATURES

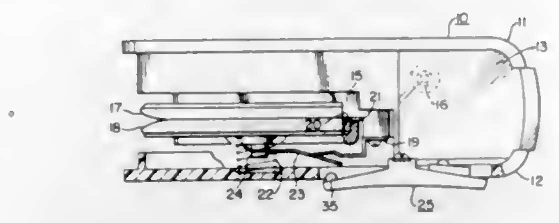
Henry J. Jessen, Manhattan, and John A. Junck and Roger A. Rice, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 15, 1966, Ser. No. 602,082
Int. Cl. E02f *3/62;* **B60d; E03b**
U.S. Cl. 37—129 **1 Claim**



A pressure system for providing resiliency to reduce pitch and bounce in association with the hitch between tractors and scrapers, and particularly to safety features in such a system including means to retard discharge of pressure from the system when the tractor engine is shut down.

3,449,846
PRESSING DEVICE

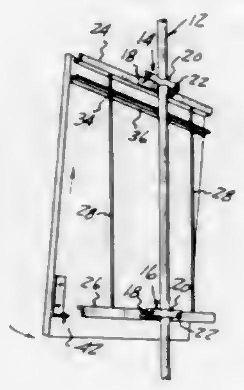
Samuel R. Bricker, Shelby, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 12, 1967, Ser. No. 645,407
Int. Cl. A47j *51/00*
U.S. Cl. 38—71 **5 Claims**



Actuator mechanism for a combination pressing and steaming device. The mechanism comprises a lever arm pivotable about its center and provided at one end thereof with a protuberance for depressing a diaphragm in the wall of a water tank to thereby actuate valve structure in the tank, the one end of the actuator being further characterized by having means thereon adapted to cooperate with the wall of the water tank to prevent overtravel of the actuator and therefore the protuberance.

3,449,847
LOWERABLE ELEVATED POSTER HOLDER

David S. Howell, Troy, Mich., assignor, by mesne assignments, to Woodle Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 14, 1966, Ser. No. 594,069
Int. Cl. C09f *7/00, 7/18*
U.S. Cl. 40—125 **3 Claims**

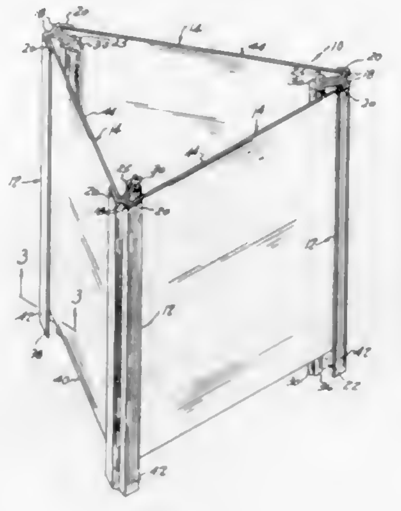


A poster holder attached to a vertical support by guide and guide follower means having upper and lower attachment members, the poster holder being movable vertically within limits defined by the attachment members, and a stop on the lower portion of said poster holder adapted to be supported on the lower attachment means and equipped with latch means for holding the stop detachably fastened to the attachment member.

3,449,848
DISPLAY DEVICE

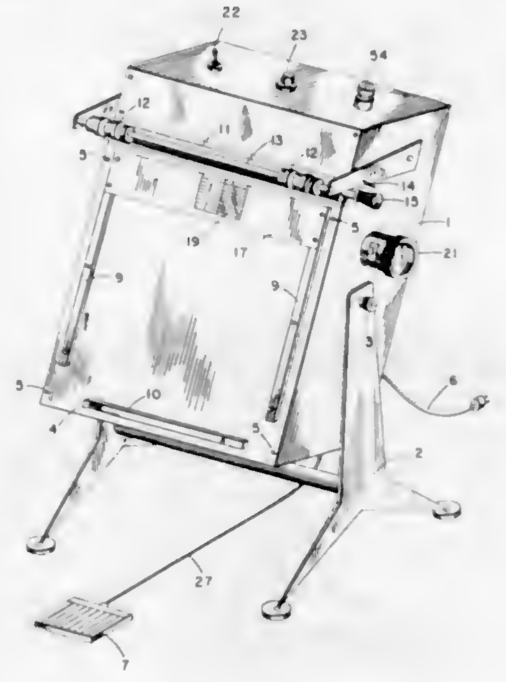
David S. Howell, Troy, Mich., assignor, by mesne assignments, to Woodle Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 17, 1966, Ser. No. 599,682
Int. Cl. G09f *7/00, 11/00*
U.S. Cl. 40—125 **7 Claims**

There is herein disclosed a multi-sided, self-supporting display device wherein the opposite vertical edges of the stiff poster carrying display panels are reversely bent and received within grooves on the inner sides of uprights of approximately W-shaped cross-section and held firmly in position by the resistance of the edge flanges being bent around the fold lines between them and their respective panels.



3,449,849
ELECTROMECHANICAL COPYHOLDER AND PRESENTING DEVICE

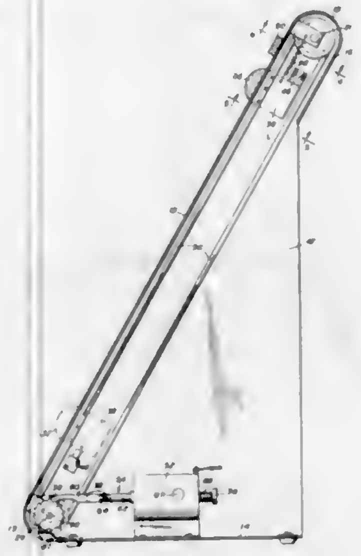
Gene Di Pasquale, 42 Rutgers Lane, and Peter Reisz, 40 Rutgers Lane, both of Parsippany-Troy Hills, N.J. 07054
Filed July 18, 1966, Ser. No. 566,054
Int. Cl. B41j *11/36, 13/00*
U.S. Cl. 40—343 **5 Claims**



An electromechanical copyholder is disclosed which includes a holder for lined printed textual material to be copied, a scale for indicating the spacing between the lines of textual material, an electric motor for advancing the material to be copied, an electronic circuit for applying electric power to the motor for a period of time determined by the setting of a continuously variable control having an index thereon corresponding to the scale, and a device, such as a foot switch, for actuating the electronic circuit so that on each such actuation the electric motor is driven for a period of time sufficient to advance copy material under the scale a distance determined by the setting of the control.

3,449,850
COPYHOLDER FOR ELECTRIC TYPEWRITER

George E. Eckert, 5215 Canterbury Way SE., Washington, D.C. 20031
Filed Jan. 30, 1967, Ser. No. 612,452
Int. Cl. B41j *11/64*
U.S. Cl. 40—356 **3 Claims**

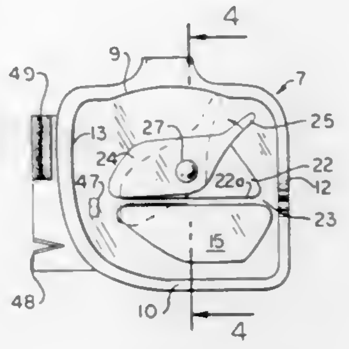


A copyholder for use with an electric typewriter of a type which generates an electric signal when a carriage return key is depressed. The copyholder includes a generally inclined plate having parallel sides and a top and bottom for the reception of a sheet of paper. A pair of conveyor belts supporting a line indicator bar are disposed adjacent to and parallel to opposite sides of the plate. An axle member having rollers thereon frictionally circumscribed by the belts is rotatably mounted with respect to the plate. A ratchet member having a plurality of teeth about its periphery carried by the axle. A solenoid is affixed to the plate and has an opening member mounted for reciprocating movement over a predetermined operating stroke length, which solenoid operates in response to the electric signal generated by the depression of the carriage return key. The operating member is in engagement with the ratchet and upon actuation of the solenoid rotates the ratchet through an arc whose length is dependent on the operating stroke length. The ratchet is cone-shaped along its longitudinal axis on said axle with respect to the operating member. Means are provided for sliding the ratchet on the axle to adjusted positions relative to the operating member to present areas of different radius at the point of engagement between said operating member and ratchet whereby the angle of rotation of the longitudinal axis of the ratchet varies in response to a change in radius of the ratchet at the point of engagement between the operating member and ratchet for a given length of the operating stroke.

3,449,851
POLE MOUNTED FISHHOOK HOLDER AND GUARD

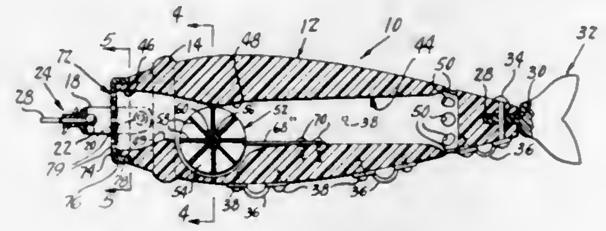
Kenneth F. Hall, 9205 W. 73rd Place, Arvada, Colo. 80002
Filed Sept. 18, 1967, Ser. No. 668,423
Int. Cl. A01k *87/00, 97/12*
U.S. Cl. 43—25.2 **11 Claims**

A fishhook holder and guard comprising a body being formed to provide a backing wall and a recessed portion. A hook support is disposed in recessed portion on backing wall and upper piece is disposed in the recessed portion in spaced relation with the upper surface of the hook support to provide slot for receiving hook shank. The hook support has the upper surface for supporting the shank portion of a hook and an abutment end surface in spaced relation to the end wall for engaging inner curved portion of hook adjoining the shank. A movable arm in the recessed portion for closing portion of slot to hold hook against lateral movement moves in a plane substantially parallel to the backing wall. The forward end wall of the body has a narrow opening through which the line attached to the hook disposed on the support extends.



3,449,852
SOUND EMITTING FISH LURE

Roscoe A. Mitchell, Box 95, Dover, Tenn. 37058
Filed Jan. 25, 1966, Ser. No. 522,983
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.06 **4 Claims**



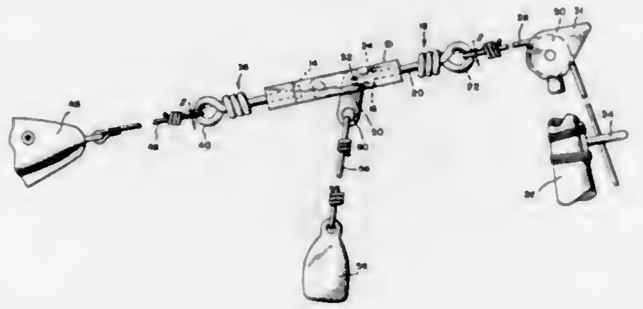
A sound emitting fish lure is provided wherein a paddle wheel is located in a longitudinal substantially straight water passage through the lure body. A reed is positioned for contact with the paddle wheel whereby movement of the lure through water rotates the paddle wheel and vibrates the reed.

3,449,853
ARTIFICIAL FISH BAIT

William E. Shearer, Little Rock, Ark., assignor to Carl R. Cordell, Jr., Hot Springs, Ark.
Filed May 12, 1967, Ser. No. 638,046
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.24 **4 Claims**

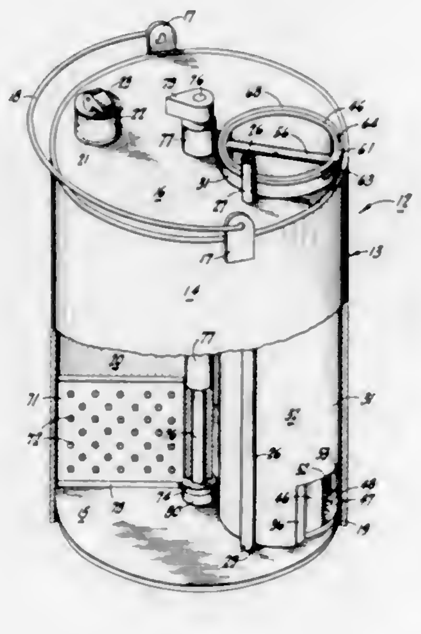
An artificial bait for fish simulating a worm-like creature formed of a spine-like length of soft, limp yarn of wool or similar fibers, surrounded by an elongate body formed of soft plastic adhered only to the yarn surface and protruding fibers thereof. The body is shaped, colored and marked to resemble a worm, eel or snake, and the yarn forms a limp, bone-like supporting member for the body. The yarn extends axially and continuously through the body and is exposed at each end thereof.

3,449,854
TROLLING RIG
Lewis A. Sinclair, 3803 Terrace Drive,
Annandale, Va. 22003
Filed Oct. 20, 1966, Ser. No. 588,054
Int. Cl. A01k *95/00, 73/08, 91/00*
U.S. Cl. 43—43.1 **3 Claims**



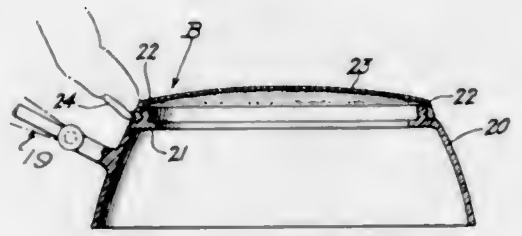
A trolling swivel having a body portion with fishing line swivelly attached to each end thereof. A sinker line connector is pivotally attached to the body portion and may be retracted into the body portion when not in use enabling the swivel to be reeled in past the tip end line guide of a fishing rod.

3,449,855
OXYGENATED LIVE BAIT CONTAINER
Jack V. Hassel, 902 Del Paso Blvd., Sacramento, Calif., assignor of one-third each to Orin R. Munger, and Clifford E. Seavey
Filed May 8, 1967, Ser. No. 636,745
Int. Cl. A01k *97/04*
U.S. Cl. 43—56 **10 Claims**



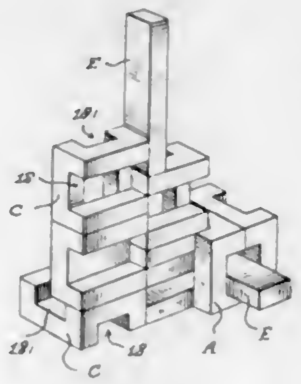
The disclosure comprises a substantially sealed water container including a standpipe opening at its lower end to the interior of the chamber and at its upper end to the atmosphere, and means for introducing oxygen under pressure into the interior container chamber. The water rises in the standpipe to balance the internal oxygen pressure, thus providing a water seal. A sleeve is rotatably disposed within the standpipe and includes a gate movable into and out of registry with an opening in the standpipe as the sleeve is rotated. A swingable paddle directs a preselected live bait through the gate, when in registry with the standpipe opening, the bait passing into the interior of the sleeve, the sleeve being thereupon rotated to close the opening. The live bait thus entrapped within the sleeve is subsequently removed by axially withdrawing the sleeve from the standpipe and extracting the fish through the sleeve gate.

3,449,856
FLY CATCHER WITH ADHESIVE LINED HEAD PORTION
Ted T. Weaver, Rte. 2, Box 89,
Fallon, Nev. 89406
Filed Dec. 27, 1966, Ser. No. 604,952
Int. Cl. A01m *5/02*
U.S. Cl. 43—136 **4 Claims**



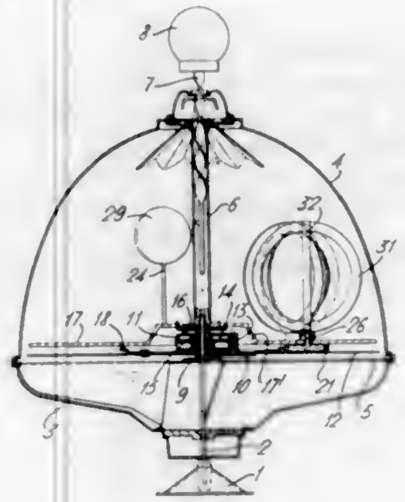
A fly catcher comprising an elongated handle releasably attached to a light-weight, throw-away type head member of thin, clear, transparent, plastic material coated on one side thereof with a non-drying, tacky, adhesive substance which will retain a fly upon contact therewith, the head member being shaped for nesting, together with a plurality of similar head members, and being shaped so as to be optionally attached to a transparent base member. The heads are arranged in a package so as to be free for separate removal of individual head members for successive attachment to the handle.

3,449,857
MODULAR BLOCKS WITH MATING CHANNEL STRUCTURE
Eugene de Christopher, Penn Valley, Pa., assignor to Blackstone Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 459,189, May 27, 1965. This application Nov. 14, 1967, Ser. No. 684,899
Int. Cl. A68h *33/08;* **A63h** *33/04*
U.S. Cl. 46—25 **8 Claims**



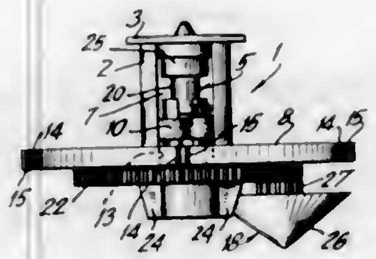
A set of modular building blocks made of wood or plastic material, including a plurality of basic interfitting blocks of various rectangular or triangular plan formations but all having rectangular central channels of equal depth on one or both sides, the side walls of the channels being of a width equal to or twice the width of certain of the channels; certain of said blocks having the channels on both sides in right angular relation, thereby forming central square through openings, and certain other of said blocks having central square perpendicular posts for interfitting insertion in corresponding square openings in other blocks of the set.

3,449,858
TOY SPINNING TOP
Peter Balleis, 55 Hermann-Lons-Strasse,
Zirndorf, near Nuremberg, Germany
Filed Jan. 31, 1967, Ser. No. 612,868
Claims priority, application Germany, Nov. 19, 1966,
B 89,906
Int. Cl. A63h *1/00, 1/10, 1/26*
U.S. Cl. 46—65 **9 Claims**



A toy spinning top having a hollow, at least partly transparent spinning body, a reduction gear within and driven by said body, and a plurality of figures within said body and connected to and driven individually by the reduction gear relative to each other and to said body.

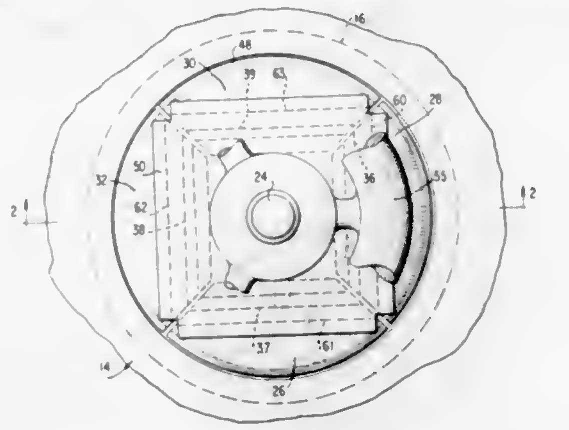
3,449,859
ASSEMBLABLE MULTIPLE TOP SPINNING DEVICE AND APPARATUS
Roger L. Neilson, 70 Trafalgar Drive,
Shirley, N.Y. 11967
Filed Mar. 7, 1967, Ser. No. 621,285
Int. Cl. A63h *1/04*
U.S. Cl. 46—67 **10 Claims**



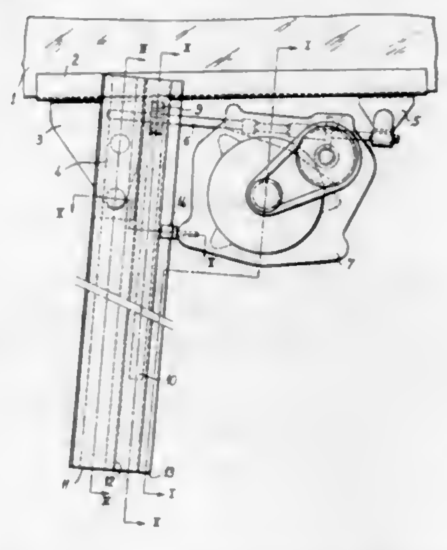
The present invention is directed to a readily assemblable multiple top spinning device removably mounted actuatable by a resilient flexible length interconnecting the frame and spindle. Tops having gear teeth are mountable beneath the frame, a part of the gearing of the tops interdigitatable with a portion of the gearing on the spindle, each top mounted within an opening provided along a slit in the frame wherein each slit and opening on the frame is provided with closed spaced apart companion slit. The tops may be provided with indicia either integral to the tops or by the provision of supplements such as horizontal overlays.

3,449,860
APPARATUS FOR CLOSING OPENINGS
Robert L. Franks, Jr., 1601 Woodland Drive, Lake Charles, La. 70601, and Frank C. Fontenot, Box 393, Ville Platte, La. 70586
Filed June 1, 1967, Ser. No. 642,962
Int. Cl. E06b *7/18;* **E05c** *9/12, 1/14*
U.S. Cl. 49—317 **7 Claims**

Rapidly operable apparatus for closing escape hatches or other openings includes a cover and an elongated support member extending in a direction generally normal to the cover. A plurality of locking members extending radially relative to the support member are moved radially to lock and unlock the cover. The locking members are moved through a system of inclined planes by an actuator which is associated with the support member and moved toward and away from the locking members by a motive device such as a hand wheel or fluid motor.



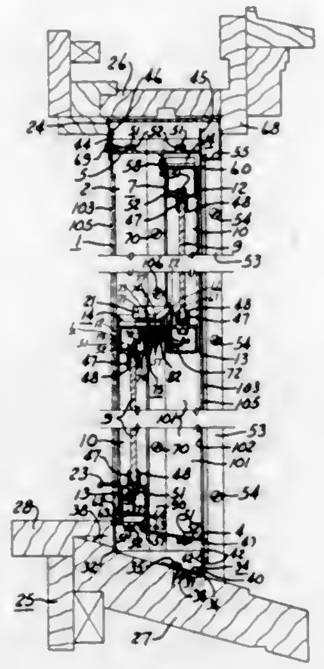
3,449,861
AUTOMATIC WINDING WINDOW REGULATORS
Alexandre Lecomte, Billancourt, France, assignor to Regie National des Usines Renault, Billancourt, France
Filed June 9, 1967, Ser. No. 645,040
Claims priority, application France, Aug. 1, 1966,
71,597
Int. Cl. E05f *15/16, 11/34, 11/52*
U.S. Cl. 49—349 **9 Claims**



Automatic regulator mechanism for operating a winding window of vehicle, which comprises an electric motor and reduction unit having its output shaft provided with at least one pinion in meshing engagement with a fixed rack, characterised in that said motor and reduction unit is suspended from the glass support or channel by means of said output shaft so that it can oscillate about the axis of said shaft which remains constantly parallel to itself during its movements.

3,449,862
WINDOW STRUCTURE
Alexander J. Biro, Indiana, Pa., assignor to Season-All Industries, Inc., a corporation of Pennsylvania
Filed Aug. 11, 1967, Ser. No. 660,100
Int. Cl. E05d *15/16, 13/02;* **E06b** *7/16*
U.S. Cl. 49—406 **29 Claims**

A replaceable window structure having removable sash members with an interlock therebetween adapted to be guided in sash channel in parallel jamb members connected by a lintel and sill member. At least one counterbalance is provided for each sash member to bias the horizontal movement of the sash member within the jamb members and to removably interlock with the sash member, the counterbalance traveling with the sash member in its guided movement between the parallel jamb members until interrupted by abutment means in the sash channel which holds the counterbalance to permit the sash member to travel on to be interlocked from the former. Jamb tensioning devices or stabilizers are provided to permit proper placement of the window in the open window frame or shell, as well as place the sash members in a state of tension in their travel within the jamb members to (a) permit proper guidance of the sash members in the sash channels of the jamb members, and (b) seal the sash members relative to the sill, lintel and jamb members, especially when the sash members are in their closed position.



3,449,863

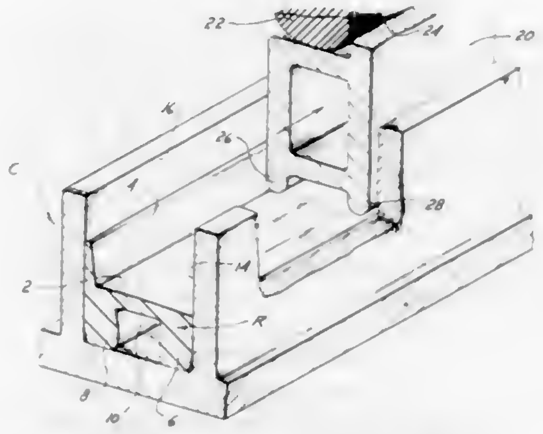
RUNNER OR GUIDEWAY

Charles H. Koch, Jr., Glenside, Pa., assignor to Young Windows, Inc., Conshohocken, Pa., a corporation of Pennsylvania

Filed Jan. 24, 1968, Ser. No. 700,293

Int. Cl. E05 *3/22*

U.S. Cl. 49—428 **8 Claims**



A runner or guideway which is adapted for insertion into the U-shaped channel of a frame assembly in which is positioned a screen mounted in a housing member which is slidable to and fro on the runner. The runner, a bench-shaped strip of flexible polyethylene, has a seat or runway on which the screen housing member can slide easily to and fro and a back which projects upwardly from the runway and is inclined outwardly therefrom. The back is in frictional engagement with a side wall of the U-shaped channel and functions to keep the runner wedged in the channel once it is inserted under pressure therein. The underside of the runway has two legs in spaced relation to each other. Each of the legs is adapted to frictionally engage one of the side walls of the U-shaped channel and as such they cooperate with the back to keep the runner wedged in the channel.

3,449,864

DOOR LOCKING AND SEALING DEVICES

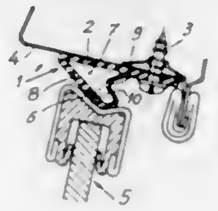
Claude Prost-Dame, Pierre Ventre, and Pierre Bouthors, Billancourt, France, assignors to Regie Nationale des Usines Renault, Billancourt, France

Filed May 19, 1967, Ser. No. 639,774

Claims priority, application France, July 1, 1966, 67,916

Int. Cl. E06b *7/23;* **F16j** *15/46*

U.S. Cl. 49—477 **6 Claims**



Device for locking and sealing a movable panel adapted to fit in a frame, characterised by a flexible fluid-tight strip mounted on one of these two elements and connected through at least one three-way control cock to a source of fluid under pressure and to a source of fluid under vacuum, said strip comprising a collapsible hollow bead projecting sufficiently when neither under pressure nor under vacuum to engage in the closed position a groove formed in the other element, and of which the concave contour is directed in a direction substantially parallel to the plane of the movable panel in its closed position. (Refer to FIGURE 1.)

3,449,865

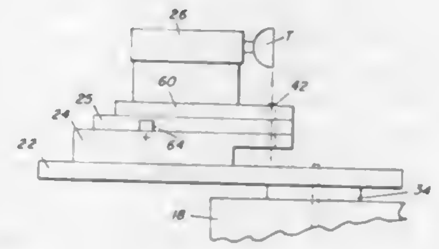
DECK SUPPORT FOR ABRADING TOOL

Jack M. Suddarth, Muskogee, Okla., assignor to Coburn Manufacturing Company, Inc., Muskogee, Okla., a corporation of Oklahoma

Filed July 22, 1966, Ser. No. 567,132

Int. Cl. B24b *7/00, 9/00*

U.S. Cl. 51—55 **1 Claim**



A supporting assembly for the abrading cup of a lens generator of a type having a pivotal first deck wherein an additional deck is provided which is pivotal about the same axis as said first deck and pivotal with respect thereto whereby the cup can be positioned to grind both convex and concave curves without disturbing the built-in orientation between the axis about which the decks pivot and the abrading edge of the cup.

3,449,866

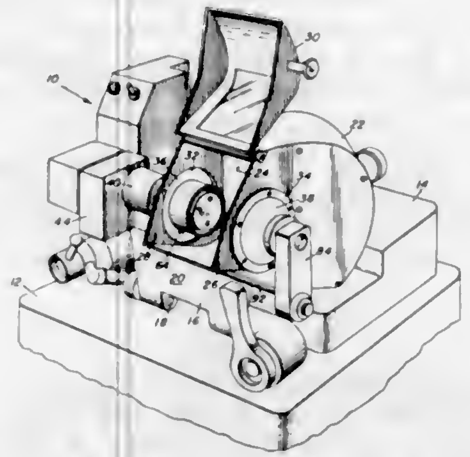
AUTOMATIC CRIBBING DEVICE

Jack M. Suddarth, Muskogee, Okla., assignor to Colurn Manufacturing Company, Inc., Muskogee, Okla., a corporation of Oklahoma

Filed Oct. 28, 1966, Ser. No. 590,395

Int. Cl. B24b *7/00, 9/00*

U.S. Cl. 51—101 **5 Claims**



Apparatus for removing excess glass from the edges of an opthamalic lens blank comprising an abrading tool, a lens support movable toward and away from the abrading tool, a pattern control mechanism riding on a first cam and a second cam mounted on said first cam being adjustable to provide quick adjustment in situations where more than the normal amount is to be trimmed from the edge of the lens blank. The second cam engages a microswitch which controls the operation of the pattern mechanism. The lens blank holding means comprises a chuck having a depression therein, a member slidably received in said depression, a spring in the depression between the depression bottom and the outer end thereof for biasing said member toward said outer end such that when the block is loaded into said depression, the member is moved against the bias.

3,449,867

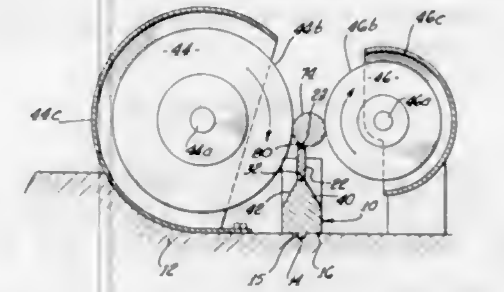
WORK GUIDE MEANS FOR CENTERLESS GRINDING MACHINES

Arwin O. Lindsay, 13445 Oscar St., Sylmar, Calif. 91345, and Kenneth C. Boalen, 1839A Verdugo Loma Drive, Glendale, Calif. 91208

Filed Oct. 10, 1966, Ser. No. 589,179

Int. Cl. B24b *5/18, 5/34*

U.S. Cl. 51—103 **5 Claims**



Work guide means for use in a centerless grinding machine including a wearing portion and a base portion, wherein the wearing portion of said work guide means is material of relatively low porosity and high density, and the base portion of said work guide means is a relatively flexible, shock absorbing material wherein vibrations transmitted to said guide means from said centerless grinding machine will be dampened.

3,449,868

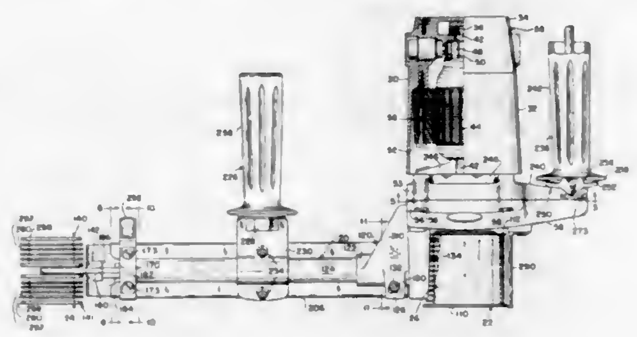
SANDING MACHINE

Treffle J. Leveque, 16606 Glastonbury, Detroit, Mich. 48219

Filed Sept. 16, 1966, Ser. No. 580,025

Int. Cl. B24b *21/00, 23/00*

U.S. Cl. 51—141 **7 Claims**



A portable, bodily manipulatable, power, surface finishing machine having an endless surface-finishing belt trained around parallel spaced apart rollers and a motor mounted on a roller support frame and extending laterally from one side thereof in parallel relation with the rollers in the region of one roller to which it is drive connected. The motor is disposed in parallel spaced apart relation between two tool-manipulating handles which also extend laterally from the aforesaid side of the frame, with the axis of one handle being disposed rearwardly of the drive roller and the axis of the other handle extending between the two rollers to provide a balanced relationship with the motor.

3,449,869

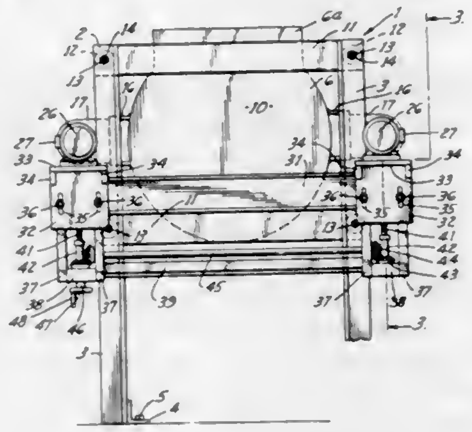
VIBRATORY FINISHING MACHINE

John F. Rampe, 3417 Fairfax Road, Cleveland Heights, Ohio 44118

Filed Mar. 16, 1966, Ser. No. 534,710

Int. Cl. B24b *31/06*

U.S. Cl. 51—163 **14 Claims**



A precision finishing machine characterized by orbital movement of bulk finishing media comprising supporting structure; a centrally disposed receptacle resiliently mounted on the supporting structure; a plurality of shaft-supported eccentrics mounted on opposing sides of said centrally disposed receptacle at substantially the level of the center of mass of the receptacle and its load, the longitudinal axes of said shaft-supported eccentrics paralleling one of the horizontal axes of the receptacle; flexible couplings connected to the eccentrics; and, connected to the couplings, a drive system including power means and auxiliary means for positioning, adjusting the position of, and controlling the power means.

3,449,870

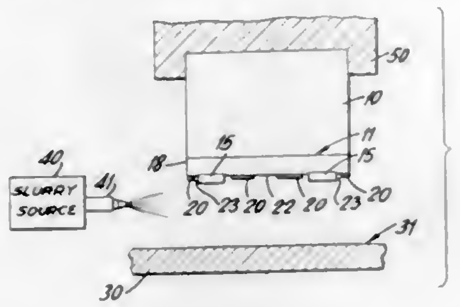
METHOD AND APPARATUS FOR MOUNTING THIN ELEMENTS

Elmer W. Jensen, Mount Vernon, N.Y., assignor to Geoscience Instruments Corporation, Mount Vernon, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 561,951, June 30, 1966. This application Jan. 24, 1967, Ser. No. 622,381

Int. Cl. B24b *41/06, 5/00, 29/00*

U.S. Cl. 51—216 **6 Claims**



Thin wafer elements are mounted for processing by a porous membrane member secured to a mounting block, with a nonporous layer having a plurality of apertures therein being optionally fixed to the membrane.

The composite assembly is rotated in a liquid slurry environment to effect the desired wafer mounting.

3,449,871

BEELINE FLOW FINISHING METHOD AND APPARATUS

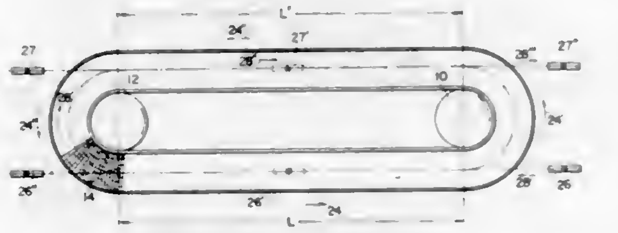
Hisamine Kobayashi, 13, 3-chome, Kikuzono-cho, Showa-ku, Nagoya, Japan

Filed Mar. 21, 1967, Ser. No. 624,874

Claims priority, application Japan, June 18, 1966, 41/89,506, 41/89,507, 41/39,505

Int. Cl. B24b *1/00*

U.S. Cl. 51—317 **2 Claims**



A carrier device of U-shaped endless belt type composed of a durable wire net is tightly spanned between a pair of vertical belt wheels and its bottom is supported by a plurality of bearing rollers while each of its side walls is supported by a plurality of guide rollers except for the ranges of the belt wheels. A quantity of abrasives is loaded in the form of a loose layer into the device. One of the belt wheels is driven to rotate the device and therefore the abrasive layer is moved in one direction in the horizontal plane. Workpieces are moved one after another in counterflow relation in either or both of the rectilinear portions of the traveling abrasive layer. If desired, the workpieces may push against the surface of the rectilinear abrasive portion. Also a layer of abrasives can be rotated in a vertical plane. A carrier device of channeled endless belt type composed of a flexible material is tightly spanned between a pair of horizontal belt wheels such that the major part of its upper rectilinear section formed between the belt wheels is of a substantially U-shaped cross section confined by a plurality of roller sets such as above described for purpose of surface finishing while the remaining section of the devices has a closed cross sectional profile by having a plural sets of four rollers disposed on four sides of the device excepting that the inside rollers are omitted in the range of each belt wheel. Further a pair of channelled endless belts can be juxtaposed into an X-shaped arrangement in the respective vertical planes and be rotated in the opposite directions. A layer of abrasives is formed in the ascending upper rectilinear section of each traveling belt and is transferred from its top end onto the other ascending rectilinear belt section through a transfer chute. Workpieces are successively passed through one of the rectilinear stream of the abrasive layer from its upper end to its lower end and then transferred to the other rectilinear stream with their orientation remaining unchanged followed by the similar passage through the other stream. Alternatively both rectilinear streams may be utilized for separate finishing operations. Preferably the speed of the workpieces relative to the rectilinear abrasive stream ranges from 70 to 500 meters per minute and the finishing time ranges from 10 seconds to 15 minutes. The rectilinear abrasive stream has a length of from less than 1 to more than 10 meters. The abrasives may be of either dry or wet type.

3,449,872

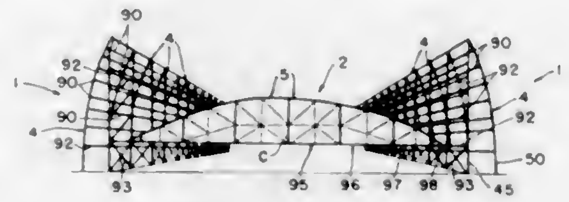
FIELD HANGAR OR SHELTER

Philip B. Craighead, Grosse Pointe, and Faisal A. Naffa, Detroit, Mich., assignors to Brooks & Perkins, Inc., Detroit, Mich., a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,368

Int. Cl. E04b *7/16, 1/346*

U.S. Cl. 52—66 **5 Claims**



A field hangar is disclosed which is capable of erection and dismantling on site from prefabricated roof, side and lift truss components having releasable pin connections of prefabricated units to one another. The roof trusses are articulated in parallel relation to one another by the lift truss structure, prefabricated components of which are pivotally connected to one another to permit flexure relative to one another as the lift and the articulated roof sections are elevated. The roof and side truss components are releasably pin-connected to one another at the top of the latter by pin and slot means permitting a substantial degree of relative movement of the roof and side components as the connecting pins are applied or removed. The entire structure is covered by a sheath, panels of which are overlapped and seamed together, being held onto the side and roof structures, and purlins rigidly connecting trusses thereof to one another, by flexible draw members received in guide formations at the borders of the panels.

3,449,873

PRECUT SHEET MATERIAL MOULDING ASSEMBLIES, TO BE SECURED TO ROOM WALLS, ALONG THE FLOOR OR DOOR OR WINDOW FRAMES

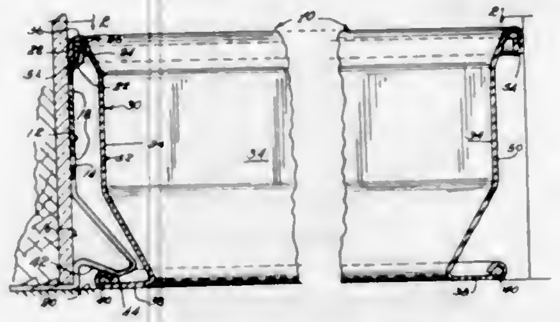
Daniel A. Damato, Des Plaines, Ill. (1910 Verde Drive, Arlington Heights, Ill. 60004), Sheldon Lazar, 6429 N. Oakley Ave., Chicago, Ill. 60645, and Richard B. Zittler, 178 Cooper Road, Hoffman Estates, Roselle, Ill. 60172

Filed July 14, 1965, Ser. No. 471,960

Int. Cl. E04b *1/00;* **E02d** *35/00;* **E06b** *1/04*

U.S. Cl. 52—127 **2 Claims**

The instant invention concerns floor moulding assemblies consisting of snap brackets of suitable material, having flat central body portions for engaging the wall with which they are associated, and also having apertures for screws to be driven into the wall so as to secure each snap bracket to the wall adjacent the floor. The brackets are so designed as to cooperate with each other, with the associated wall, and with the molding strips and with corner ends.



3,449,874

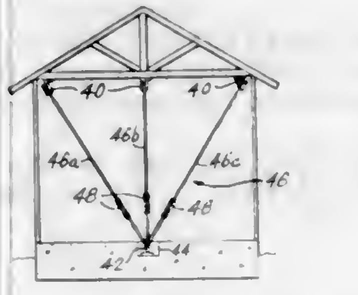
HOUSE ANCHORAGE

Jean L. Beaupré, 650 Marconx, Therford Mines, Quebec, Canada

Filed Aug. 21, 1967, Ser. No. 662,004

Int. Cl. E04h *12/20;* **E02d** *5/74;* **A45f** *1/18*

U.S. Cl. 52—149 **5 Claims**



An anchorage assembly for supporting and strengthening building structures during extreme conditions including anchor means permanently secured to and around the structure at a distance above ground level and anchor means provided in the ground around the structure, and a length of cable to be led alternatively around the building anchors and the ground anchors and a cable tightening device to apply tension evenly along the length of cable.

3,449,875

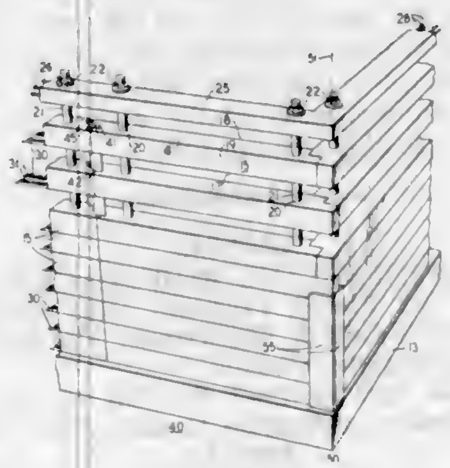
BUILDING CONSTRUCTION

Herbert Elmer Snedeker, Savannah, Ga. (233 Micanopy Court, Indian Harbour Beach, Fla. 32935)

Filed Apr. 6, 1967, Ser. No. 628,977

Int. Cl. E04c *5/08*

U.S. Cl. 52—227 **2 Claims**



Elongated building block members, generally rectangular in cross-section, are stacked lengthwise one on top of the other to construct a building wall without any need for carpentry skill. The ridigity of the wall is ensured by vertical holes in the building block members engaging tie rods secured in the wall foundation. The ends of the building block members are rabbeted for making corner joints and intermediate wall joints.

3,449,876

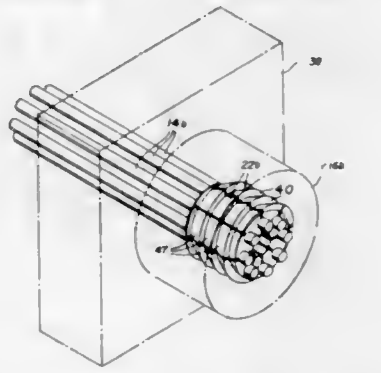
TENDON ANCHORAGE

George H. Howlett, Oakland, Calif. (746 Folger Ave., Berkeley, Calif. 94710)

Continuation of application Ser. No. 434,978, Feb. 24, 1965. This application Feb. 21, 1968, Ser. No. 707,067

Int. Cl. E04c *5/01, 5/08;* **F16g** *11/05*

U.S. Cl. 52—230 **7 Claims**



A tendon anchorage for use in connection with pretensioning and post-tensioning concrete is disclosed which includes an anchor member formed with a bore with a plurality of wedges mounted therein and the wedges are designed to receive pairs of tendons between their adjacent side faces such that tensioning of the tendons causes said wedges to apply a clamping force which is self-adjusting between each pair of tendons whereby the tendons are secured in the anchorage with a substantially equal force which is proportional to the tension applied to the tendons. In addition, the anchorage may include interfitting convergent cam planes for inducing the clamping forces in the wedges.

3,449,877

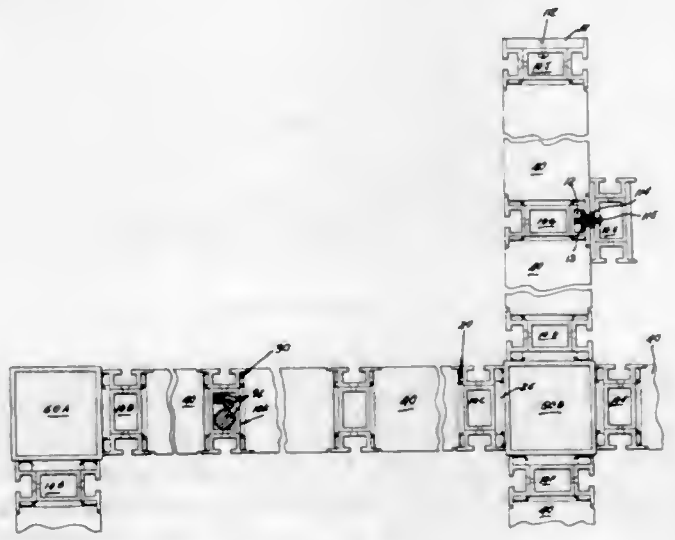
SPACE DIVIDER

Ronald H. Beckman, New Canaan, Conn., assignor to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan

Filed Jully 11, 1966, Ser. No. 564,404

Int. Cl. E04b *2/82*

U.S. Cl. 52—238 **1 Claim**

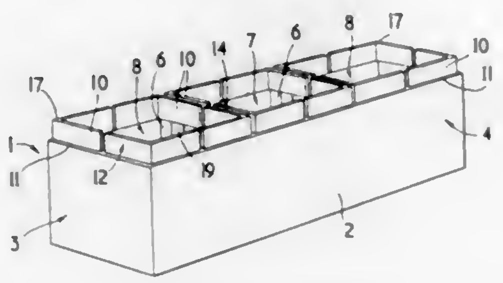


A space divider system incorporating a series of sectionalized pole structures including spaced, facing channels adapted to slideably receive the edges of the panels.

The interiors of the channels are provided with depressible, resilient means for holding the panels in compression after they have been installed in the system. Each of the panel-receiving channels is formed by two separate upright members connected by spaced, rectangular connectors. Panels may be removed by removing the uprights at each side thereof and withdrawing the entire panel from the particular wall with which it has been associated.

3,449,878
BUILDING BRICKS OR BLOCKS AND STRUCTURES UTILISING THE SAME

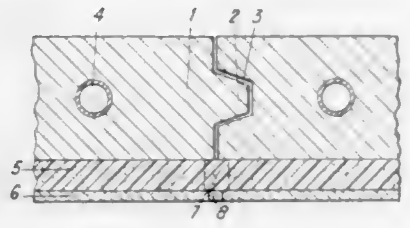
Geoffrey Benjamin Hern, "Byecroft," Bircher, near Leominster, England
Filed Mar. 22, 1967, Ser. No. 630,781
Claims priority, application Great Britain, Mar. 30, 1966, 14,023/66
Int. Cl. E02d *27/32;* **E04b** *2/18;* **E04c** *1/10*
U.S. Cl. 52—293 **9 Claims**



A building block is formed of a hollow box having at least one inner vertical partition dividing the interior of the box into a plurality of cells open at top and bottom. Flanges or lugs are located at the top of the outer wall of the box and at the top of the partition or partitions and form channels adapted to interlock with a similar staggered upper block. Thus walls are formed with laterally closed vertical spaces produced by aligned cells of staggered blocks.

3,449,879
BUILDING PANEL WITH FOAM LAYER AND METHODS OF CONNECTING AND ATTACHING THE PANEL

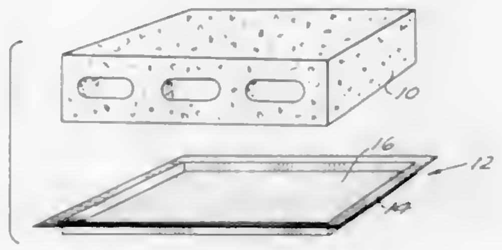
Martin S. Bloom, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Sept. 12, 1966, Ser. No. 578,520
Claims priority, application Great Britain, Sept. 27, 1965, 40,999/65
Int. Cl. E04c *1/00, 1/10, 1/30*
U.S. Cl. 52—309 **5 Claims**



1. A laminated building panel comprising: a cast gypsum panel; an outer layer of weathering material; means bonding said layer to said panel and including an intermediate layer of a foamed organic polymer; and means for rendering said panel load-bearing and including the provision in said panel of internal metal reinforcing means, said gypsum panel being tongued and grooved along at least two of its edges, and the foamed organic polymer layer and the outer layer being rebated with respect to the gypsum.

3,449,880
MASONRY BLOCKS

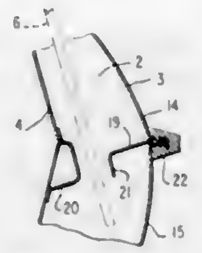
Frank T. Bailey, Jr., R.D. 1, Pittstown, N.J. 08867
Filed Mar. 1, 1967, Ser. No. 619,637
Int. Cl. E04c *1/40;* **B28b** *1/08, 1/30*
U.S. Cl. 52—309 **6 Claims**



A finished masonry block which includes a preformed facing in the shape of a shallow pan which is permanently adhered to the masonry block. The facing pan serves as a mold during fabrication and as the finished facing thereafter. The bonding material for adhering the facing comprises about 220 parts by weight of finely divided sand, about 75 parts by weight of portland cement and about 70 parts by weight of an acrylic polymer in a water base having about 28% solids.

3,449,881
DOUBLE-WALLED MOTOR VEHICLE DOOR

Karl Wilfert, Gerlingen-Waldstadt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Unterturkheim, Germany
Filed May 15, 1967, Ser. No. 638,377
Int. Cl. E04b *2/34, 2/32;* **B60j** *5/04*
U.S. Cl. 52—615 **14 Claims**

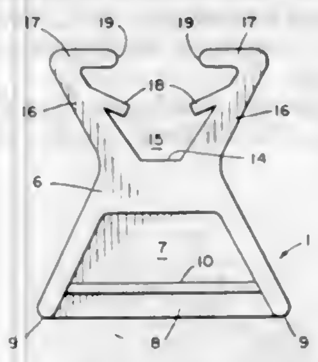


A double-walled motor vehicle door, especially for passenger motor vehicles, which consists of an outer sheet metal wall and of an inner sheet metal wall arched in the direction toward the outside, of which at least the inner sheet metal wall is provided with a bend or corner at approximately half the height of the door panel. The outer sheet metal wall of the door may also be provided with a bend at approximately half the height; reinforcements extending from the outer wall from the area of its bend into the interior space of the door may be provided and reinforcing abutments may be provided along the outer surface of the inner sheet metal wall against which the reinforcements of the outer wall come into abutment in case of lateral impacts.

3,449,882
REINFORCING ROD SPACER

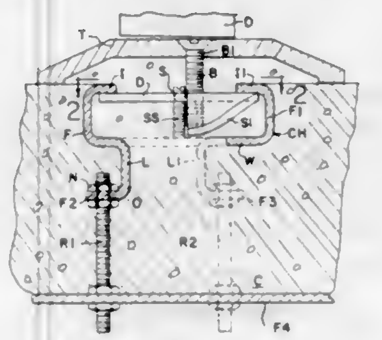
Walter Ott, 102 Pintail Crescent, Don Mills, Ontario, Canada, and Edwin J. Bigglestone, 376 Lawson Road, West Hills, Ontario, Canada
Filed Apr. 24, 1967, Ser. No. 633,096
Claims priority, application Canada, Mar. 15, 1967, 985,282
Int. Cl. E04c *5/16*
U.S. Cl. 52—689 **4 Claims**

A chair spacer for accommodating rods of differing diameters for use in moulds is described. The spacer is made of a resilient material and includes one portion which accepts rods of smaller diameter between a pair of finger members, and a second portion for retaining rods of larger diameter between the noses of a pair of linear arms.



3,449,883
MOUNTING MEANS

Leroy F. Skubic, Long Beach, Ind., and Milford A. Juten, Brookmont, Md., assignors to The Paltier Corporation, Michigan City, Ind., a corporation of Illinois
Filed July 31, 1967, Ser. No. 657,148
Int. Cl. E04b *1/38;* **E06b** *1/16;* **F16b** *1/00*
U.S. Cl. 52—710 **18 Claims**

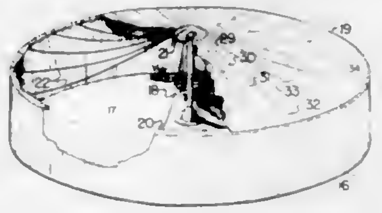


The mounting device of the present invention includes a channel having inturned margins on the free edges of the flanges and legs project from the rear or opposite surface and include feet for supporting the channel in the correct position of the inturned margins with respect to a supporting structure such as a floor or the like, so the inturned margins may be used to indicate the floor surface of concrete and also used as a screed guide. The legs and feet are adapted to be embedded in concrete or attached to supporting means to maintain the correct position. Screw receiving slide members such as circular discs are provided with threaded openings eccentrically positioned on the disc for attachment to machine screws by which a threshold or other structural element is fixedly mounted in an adjustable position with respect to the supporting structure so the threshold is in correct alignment with a door with which it is used. The channel may be made by the extrusion process or by stamping and bending sheet metal to provide legs and feet projecting from the back surface of the channel web with the legs arranged so the channels may be stacked in back-to-back relation or the legs of one channel may rest within another channel so that packages of two or three or any number of channels can be stacked and packaged.

The invention also provides for insertion of the slidable members of the mounting disc in any position in the channel by providing a radial slit in each disc and a bent out peripheral portion thereof so the disc can be inserted in any position in the channel at any time. Means are provided for positively securing the disc in adjusted position so the threaded aperture is in proper alignment for mounting the threshold or other structure. The slidable members may also be in the form of an inverted U-channel section having its ends at acute angles to provide for insertion of the slide in any position in the channel with a slidable nut in the U-channel with one or more threaded apertures for receiving attaching screws for mounting the threshold or other structure. Both the disc and U-channel and nut members may be provided with a set screw engageable with the web to retain the slide in position with the selected machine screw receiving opening of the slide in proper alignment with an index mark made on the channel web at any selected position.

3,449,884
METHOD OF CONSTRUCTING SUSPENSION ROOFS

William E. Joor II, Houston, Tex., assignor, by mesne assignments, to U.S. Industries, Inc., a corporation of Delaware
Filed Feb. 8, 1967, Ser. No. 614,722
Int. Cl. E04g *21/14, 11/04;* **E04b** *7/14*
U.S. Cl. 52—747 **7 Claims**



A roof for large, cylindrical tanks is assembled on sagging tension bars which are initially suspended between a collapsed, telescoping center column and a compression girder at the top of the tank shell. The center column is expanded to tensionally stress the bars and enforce accurate circular curvature of the compression girder. Thereafter, roof sheeting is laid on top of the bars to provide a roof which slopes continuously downwardly and outwardly from center to periphery, and the tension bars are then removed.

3,449,885
METHOD OF PACKAGING VIRAL ANTISERA AND OTHER RESEARCH DIAGNOSTIC REAGENTS

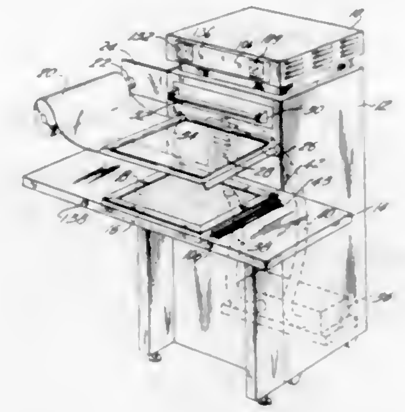
Roland J. Starkey, Jr., Cleveland Heights, Ohio, assignor to Ben Venue Laboratories, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 31, 1966, Ser. No. 538,973
Int. Cl. B65b *55/00, 63/08*
U.S. Cl. 53—22 **25 Claims**

Method of providing a plurality of vials or packages of viral antisera or reagent from a common lot, each of which has a uniform, homogeneous equal content and moisture content and a long shelf life, in lasting compliance with and adherence to the required standard and specifications, by treating the batch or lot of viral antiserum or reagent to be packaged or vialed in bulk by freeze drying (lyophilize) the same, if necessary, pulverizing or grinding the dried serum to a uniform size and consistency, vacuum drying the bulk lot of powdered serum, with stirring or agitation, if desired, to obtain a lot of serum having a uniform, homogeneous, moisture content, powder filling the separate vials or packages of the lot under sterile, moisture free conditions to a uniform fill and content, and sealing the separate vials or packages with a dry moisture free and proof seal.

3,449,886
METHOD AND MEANS FOR SKIN PACKAGING ARTICLES ON A POROUS SUBSTRATE

Harold W. Connelly, Rockville Centre, N.Y., and Alfred C. Monaghan, Warren, N.J., assignors to Stanco Packaging Systems Corp., Elizabeth, N.J., a corporation of New Jersey
Filed June 7, 1967, Ser. No. 644,170
Int. Cl. B65b *47/10, 53/02, 49/16*
U.S. Cl. 53—22 **8 Claims**

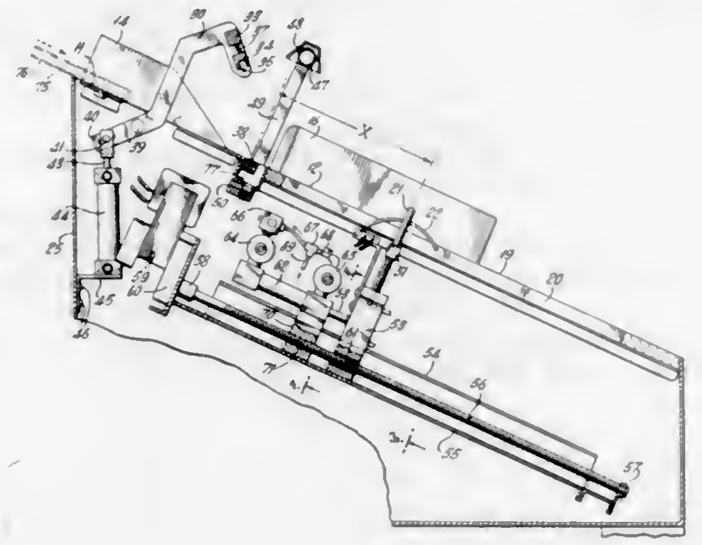
A vacuum skin package includes a vacuum box having a perforate upper surface which may be flush with the work table, a heat source above and spaced from the box, a clamp frame to receive and carry film between the heat source and such articles and porous substrate as may be disposed on the box. The clamp frame is a hollow conduit having slots along its lower surface through which a vacuum is drawn to hold the film thereunder. The frame may be transported by a linear actuator.



3,449,887

AUTOMATIC HEAT SEALING DEVICE

Harvey J. Abramson, New York, N.Y., assignor to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York
Filed Mar. 29, 1967, Ser. No. 626,800
Int. Cl. B65b *57/02, 51/10*
U.S. Cl. 53—76 **10 Claims**

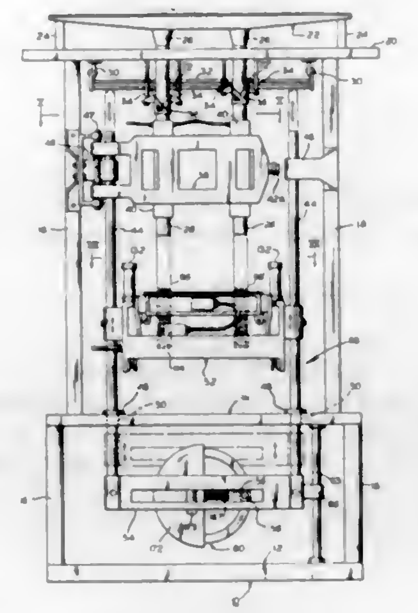


An automatic device is disclosed for heat sealing packages, the device having a platform for receiving packages to be sealed, the platform being provided with stop means for indexing the package in the sealing position. The package is moved along the platform until it reaches the stop means. The stop means is coupled to an indexing means which is responsive to a signal for indexing the package to a position to accommodate the length of a package, the package being an article confined in a heat sealable polyethylene or similar plastic bag. A sealing station together with sealing means is located forward of the stop means for sealing the bag, when the bag has been correctly positioned via the stop means. A control circuit responsive to a signal is employed to carry out the complete sealing cycle when the correct position of the packaged bag has been determined and set.

3,449,888

PACKAGING MACHINE

Alfred P. Gausman, Sheboygan, Wis., assignor to Hayssen Manufacturing Company, Sheboygan, Wis., a corporation of Wisconsin
Filed Sept. 15, 1965, Ser. No. 487,459
Int. Cl. B65b *9/12, 51/30*
U.S. Cl. 53—182 **6 Claims**

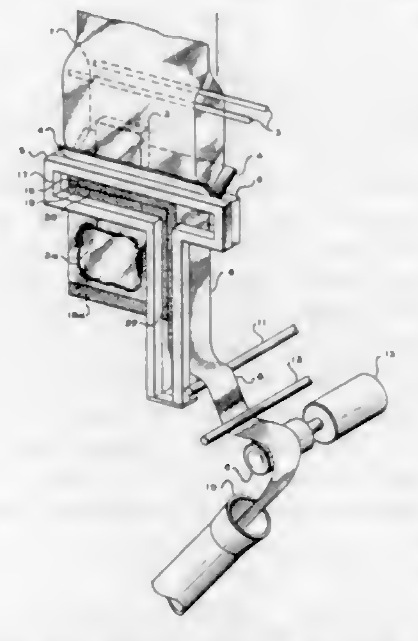


An automatic gravity feed packaging machine has a vertically reciprocably operable carriage mounting a sealing, pull-down and cut-off mechanism and is driven through a counterbalancing eccentric driving means having a stroke-adjusting connection with a yoke at the lower end of the carriage.

3,449,889

SCRAP REMOVAL FROM THERMOPLASTIC PACKAGING OPERATIONS

Edwin A. Molitor, Jr., Cincinnati, Ohio, assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,909
Int. Cl. B65b *9/12, 7/06, 61/04*
U.S. Cl. 53—182 **3 Claims**

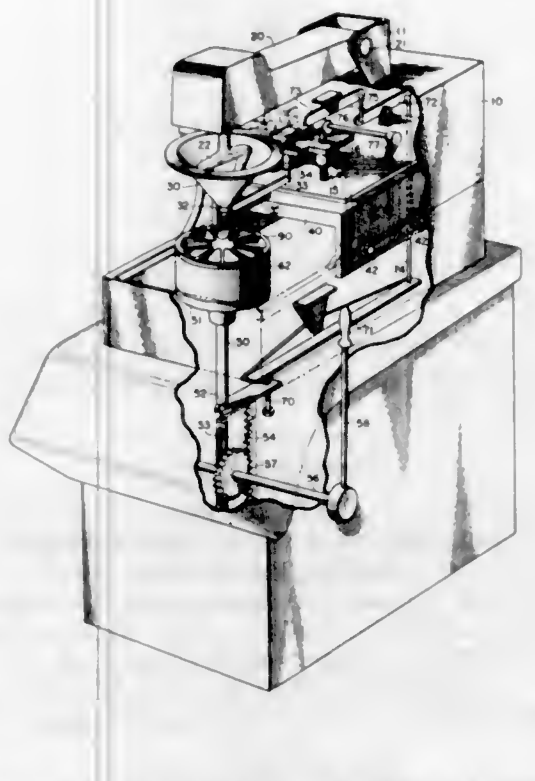


In the sealing of thermoplastic sheets of material about an object wherein the sheets are intermittently advanced and sealed, the strip trimmed from the sealed edge is fed over a friction drum operating at a greater surface speed than the maximum advance speed of the strips, so as to maintain a positive pull on the strip, both during the rapid acceleration when the operation is advancing, and during the time when the films are stationary preparatory to sealing.

3,449,890

APPARATUS FOR PREPARING AND SEALING MIXED MEDICINES

Masataka Sarutani, 9–6 Nibancho, Chiyoda-ku, Tokyo, Japan
Filed July 11, 1966, Ser. No. 564,166
Claims priority, application Japan, Oct. 2, 1965, 40/60,152
Int. Cl. B65b *1/36, 7/28*
U.S. Cl. 53—281 **10 Claims**

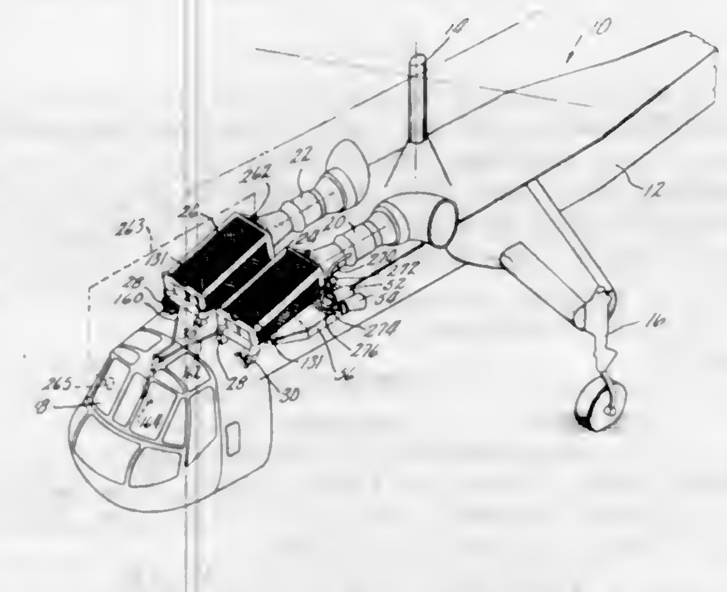


Apparatus for mechanically premixing a variety of medicinal ingredients and preparing them in homogenized form, including metering and packaging the pre-mixed ingredients into radial compartmentized, heat-sealed packages having a predetermined plurality of uniform dosages.

3,449,891

ENGINE INLET AIR PARTICLE SEPARATOR

Herbert N. Shohet, Norwalk, Conn., Armand F. Amelio, Yonkers, N.Y., and Richard L. House, West Haven, and John M. Kowalonek, Stratford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,541
Int. Cl. B64c *1/14;* **B01d** *46/48*
U.S. Cl. 55—306 **23 Claims**

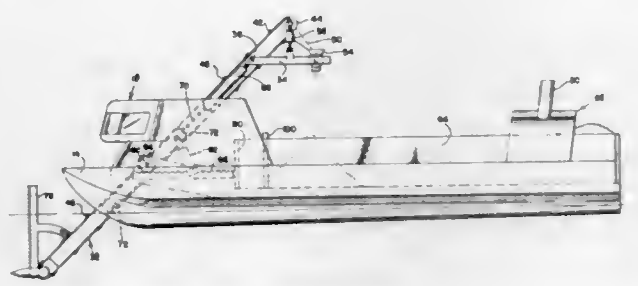


In an engine air particle separator including a plurality of selectively shaped filter panels connected by appropriately contoured connecting means to define a spaced walled member positioned forward of the engine inlet and shaped to define a passageway therethrough into the engine inlet and a chamber therebetween and having centrifugal separator tubes extending between the spaced walls, which tubes are shaped to receive particle ladened air through the outer of the spaced walls, to discharge cleaned air into the passageway and engine inlet, and to discharge separated debris into the chamber between the spaced walls for scavenge therefrom. The separator has minimum pressure loss by pass provisions.

3,449,892

SEA PLANT HARVESTING APPARATUS

Major Walter Huff, West Vancouver, British Columbia, Canada, assignor, by mesne assignments, to Sea-Chem Industries Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia
Filed Dec. 29, 1965, Ser. No. 517,385
Int. Cl. A01d *45/08*
U.S. Cl. 56—9 **6 Claims**

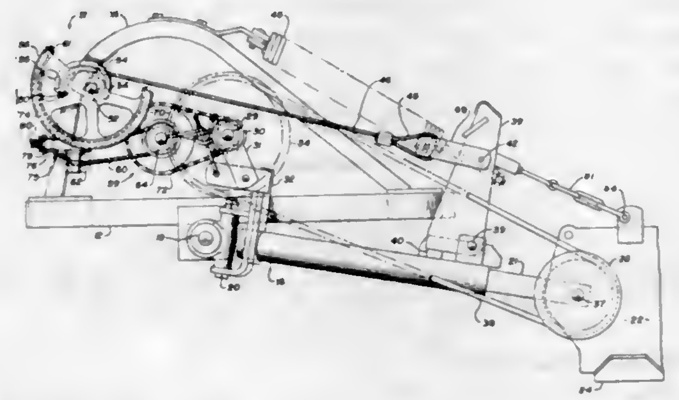


Sea plant harvesting apparatus having a catamaran type hull. At the forward end of the vessel is a conveyor frame located between the two hulls of the catamaran. At the lower end of the conveyor are cutting blades. The conveyor pivots so that the angle of incline can be varied, it moves in a forward and aft direction without changing its angle of incline, and moves up and down in the plane in which it is disposed so that the depth to which it will cut can be varied without changing the angle of incline. A hold means extends from the stern of the vessel towards the forward portion with the forward part of the hold located under or below the upper or discharge end of the conveyor. The hold contains means for moving severed sea plants aft and for discharging them out the aft end of the vessel when the stern wall of the hold is open.

3,449,893

MECHANICAL CUTTERBAR LIFT

Joseph C. Hurlburt, Leola, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,850
Int. Cl. A01d *55/28*
U.S. Cl. 56—25 **10 Claims**



An apparatus for lifting a mower cutterbar utilizing a winch which is driven by a rope enwrapped about a constantly driven capstan. The operator of the mower controls the application of driving power to the winch by controlling the tightness of rope wrap around the capstan.

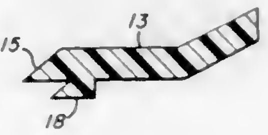
3,449,894
MULTIPLE EDGE MOWER BLADE

Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware

Filed Feb. 19, 1968, Ser. No. 706,362

Int. Cl. A01d *55/18*

U.S. Cl. 56—295 **4 Claims**



A flexible mower blade primarily formed of an elastomeric material and having a rigid metal or plastic central mounting portion within the blade for mounting on the lawn mower shaft. The blade has cutting edges at the tips, and extra cutting members mounted on the lower surface of the blade below the regular cutting edges.

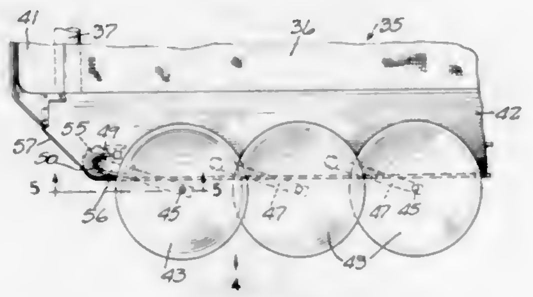
3,449,895
CATCHING AND GUIDE MEANS IN A BERRY HARVESTER

Emil E. Pertics, P.O. Box 84, La Paz, Ind. 45637

Filed Jan. 3, 1967, Ser. No. 606,841

Int. Cl. A01g *19/00*

U.S. Cl. 56—330 **8 Claims**



A berry harvester travelling astraddle a row of plants and carrying vibrating members operable to release berries from the plants, wherein low level berry-collecting pans are arranged in rows to engage opposite sides of the plants and to discharge berries upon means for delivering them to a collection receptacle, said pans being freely rotatable on spring-positioned arms pivoted to swing laterally, and wherein parts of the device which normally rub against the plants journal idler pulleys around which are trained belts having plant-contacting runs.

3,449,896
FRUIT PICKING DEVICE

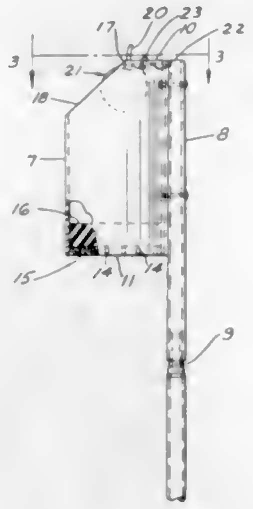
James Burgess, 6920 Yinger, Dearborn, Mich. 48126

Filed June 8, 1966, Ser. No. 556,122

Int. Cl. A01g *19/08*

U.S. Cl. 56—339 **2 Claims**

This application discloses a portable fruit picker. The invention resides in the particular combination and arrangement of the elements, which include a receptacle mounted on a pole. The receptacle having a slotted top member with a disposable razor blade, adjustably mounted across the slot for cutting the fruit stem and a padded bottom member for receiving the fruit after it has been cut from the tree.



3,449,897
HAYMAKING MACHINE AND METHOD OF OPERATING SAME

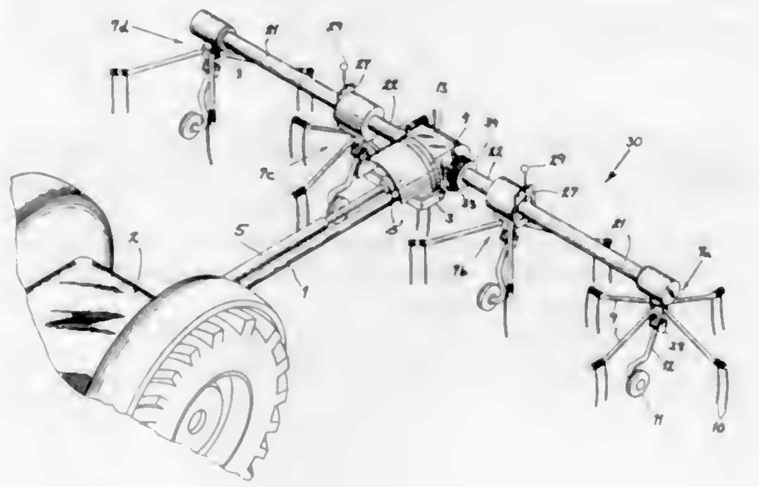
Robert G. Chombart, Paris, France, assignor to Maschinenfabrik Fahr A.G., Kreis, Konstanz, Germany, a corporation of Germany

Filed July 5, 1966, Ser. No. 562,710

Claims priority, application France, July 7, 1965, 23,745

Int. Cl. A01d *81/00*

U.S. Cl. 56—366 **3 Claims**



A tedding machine in which a plurality of rakes are rotatable about generally vertical axes and have radial arms whose depending prongs entrain the hay. The prongs move in intersecting orbits in opposite senses and in interleaved relationship while the support has a plurality of interconnected tube sections which are limitedly rotatable about a common axis corresponding to the axis of the drive shaft for the rakes.

3,449,898
HEATER FOR YARN TWISTER

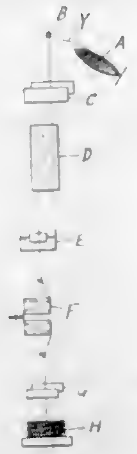
Shiro Fujita, Tokyo, and Yutaka Maeda, Fuji-Yoshida-shi, Japan, assignors to Nippon Rayon Co., Ltd., Kyoto-fu, Japan, a corporation of Japan

Filed Oct. 10, 1967, Ser. No. 674,320

Int. Cl. D01h *13/28;* **D02j** *13/00*

U.S. Cl. 57—34 **7 Claims**

The invention relates to a heater for thermoplastic yarns in high speed direct twisting type false twister and the like, which is disposed turning means comprising pins, in which yarns are subjected to turn with drawing contact arc having a radius of curvature of from 4 to 7 mm. in contacting positions of the yarns and the pins.



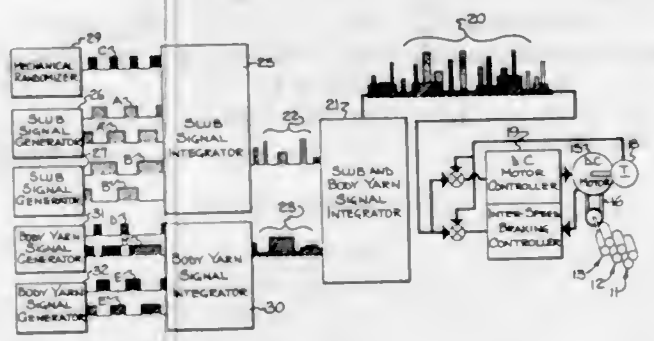
3,449,899
VARIABLE COUNT AND SLUBBING APPARATUS AND METHOD

Francis M. Cureton, Matthews, and Jackson L. McManus, Charlotte, N.C., assignors to Electro-Matic Corporation, Charlotte, N.C., a corporation of North Carolina

Filed Mar. 1, 1968, Ser. No. 709,543

Int. Cl. D01h *5/28, 13/02*

U.S. Cl. 57—38.3 **17 Claims**



An apparatus and method for the production of novelty yarns wherein the characteristics of the yarn vary in a random nature such as, for example, a slub yarn wherein slubs of randomly varying size and length are spaced at random intervals along a base yarn of randomly varying count.

3,449,900
TWIST RETENTION YARN GUIDE AND METHOD OF UPTWISTING YARN

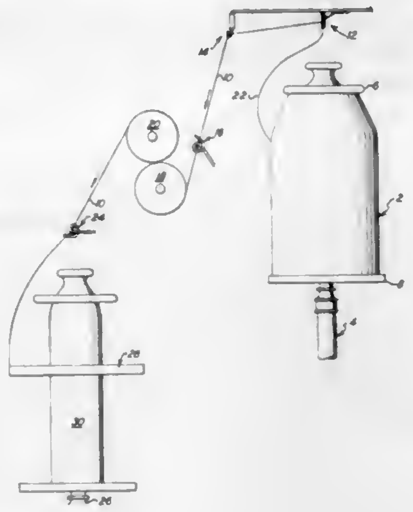
Clare Wallace, Eldridge, Rock Hill, James Dorroh Jones, Fort Mill, and Junior George Trunk, Rock Hill, S.C., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,507

Int. Cl. D01h *7/86, 7/02*

U.S. Cl. 57—59 **4 Claims**

The yarn passing from the supply package of a delivery twist system such as an uptwister is in the form of a rotating loop called a balloon. In order to minimize air drag on the rotating loop and to produce stable balloons in which filament separation is eliminated, the invention provides for concentrating in the portion of the yarn forming the balloon, a relatively high degree of twist. In the illustrated embodiment, the yarn is bent sharply over a narrow edge of a guide located beyond the end of the supply package. This serves to restrain the passage of twist over the guide edge, so that the twist level in the portion of the yarn forming the balloon builds up to a value greater than the twist level in the yarn beyond the guide.



3,449,901
METHOD AND APPARATUS FOR WINDING YARN

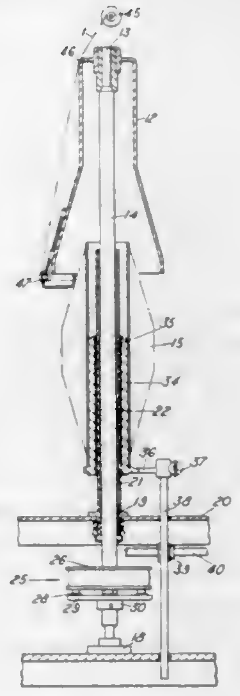
John Kay Pringle Mackie, Belfast, Northern Ireland, assignor to James Mackie & Sons Limited, Albert Foundry, Belfast, Northern Ireland, a British company

Filed Sept. 5, 1967, Ser. No. 665,615

Claims priority, application Great Britain, Sept. 8, 1966, 40,223/66

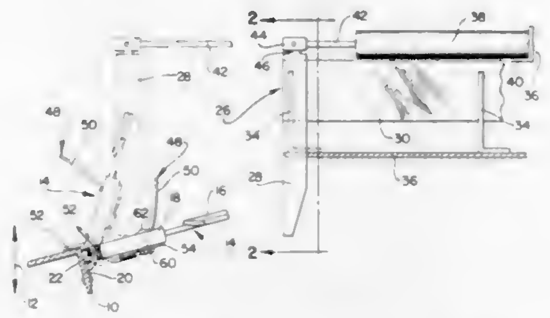
Int. Cl. D01h *1/04*

U.S. Cl. 57—71 **21 Claims**



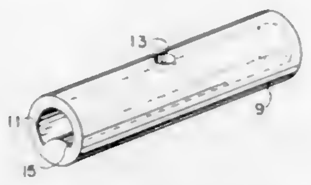
Synthetic plastic tape drawn from a controlled speed supply source is wound on a non-rotary support by means of mechanism comprising a winding guide for the tape which is driven round the axis of the support, while a relative axial traversing motion takes place between the guide and the support, so as to apply one turn of twist for each revolution of the guide. The tape is fed to the winding guide in a generally axial direction from a let-off guide and at a tension such that the twist is applied in a controlled manner represented by localised folds to give a package from which the tape can be unwound over-end in a twist-free condition.

3,449,902
STRAND CONTROL ASSEMBLY
William R. Whitney, Cranston, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 20, 1968, Ser. No. 714,492
Int. Cl. D01h *13/04, 9/10*
U.S. Cl. 57—111 **6 Claims**



Yarn handling apparatus in which a thread board is mounted for up and down movement relative to an actuator and a series of yarn guide assemblies are mounted on the thread board for independent pivotal movement from a normal operating position to a retracted position responsive to operation of the actuator. Each yarn guide assembly has a cam surface for engagement by the actuator to move the assembly to its retracted position while the thread board is moving. The cam surface and actuator coact in identical manner in any position of the thread board regardless of such movement of the thread board.

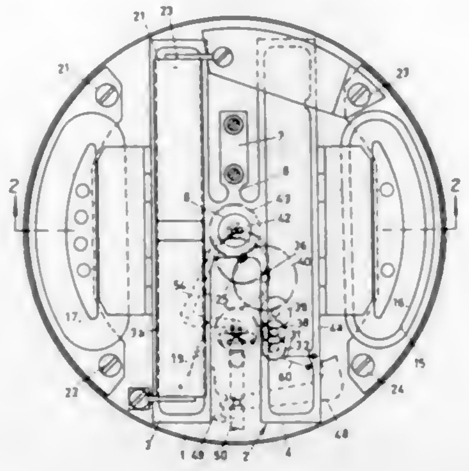
3,449,903
RANDOMLY ENTANGLED TEXTILE PRODUCT
Edward A. Brown, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 5, 1968, Ser. No. 695,898
Int. Cl. D02g *3/02, 3/00;* **D04h** *17/00*
U.S. Cl. 57—140 **11 Claims**



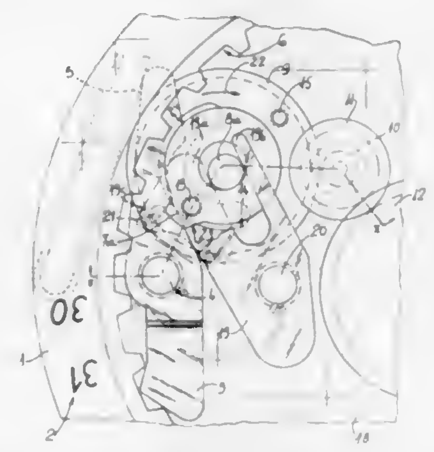
Multifilament textile yarn having the individual filaments thereof randomly entangled to give coherency thereto, the yarn being characterized in that the variability in width within three-inch lengths thereof is no greater than about two times the variability in width within three-inch lengths of a like reference yarn having no entanglements or twist. The apparatus disclosed is a body member having a concavo-convex passageway therethrough which has the general shape of a partially eclipsed disc. Further, the body member has a gas inlet opening communicating with the passageway to permit gas to be forced into the passageway to randomly entangle the filaments of a multifilament yarn being passed through the passageway.

3,449,904
ELECTROMECHANICAL WATCH
Heinz Waldburger, Neuchatel, and Rolf Ludin, Corcelles, Neuchatel, Switzerland, assignors to Centre Electronique Horloger S.A., Neuchatel, Switzerland
Filed Oct. 27, 1966, Ser. No. 590,004
Claims priority, application Switzerland, Nov. 10, 1965, 15,514/65
Int. Cl. G04c *11/00*
U.S. Cl. 58—23 **9 Claims**

This disclosure relates to an electromechanical watch having a mechanical resonator serving as a time base and a driving member and consisting of two frames symmetrically secured to a common central part disposed between the frames, with magnets secured on the outer side of the frames, the common central part being perforated and connected to a foot by a diminished section in such a way as to ensure dynamic coupling of the two frames, with driving coils in a circuit cooperating with the magnet for maintaining the flexural oscillation of the frames and a hand setting mechanism for the watch positioned between the frames.



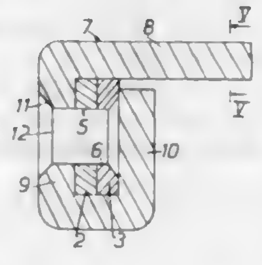
3,449,905
CALENDAR TIMEPIECE
Rene Besson, Les Loges, Les Hauts-Geneveys, Switzerland, assignor to S.A. Ebauches, Neuchatel, Neuchatel, Switzerland, a corporation of Switzerland
Filed Feb. 23, 1967, Ser. No. 618,223
Claims priority, application Switzerland, Feb. 25, 1966, 2,790/66
Int. Cl. G04b *19/24*
U.S. Cl. 58—58 **6 Claims**



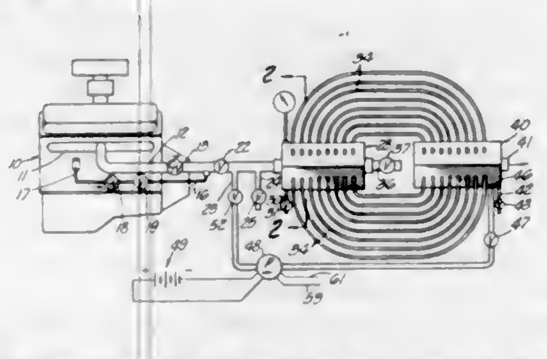
A calendar timpiece of the instantaneous date advance type incorporating control means for the date indicator which includes an elastic connecting means whereby the priming of the date advance operation does not interfere with manual resetting of the time or the date.

3,449,906
BRACELETS
Roger M. King, Watford, England, assignor to Milner King, Hertfordshire, England, a British company
Filed Jan. 29, 1968, Ser. No. 701,340
Claims priority, application Great Britain, Nov. 13, 1967, 51,502/67
Int. Cl. A44c *5/00*
U.S. Cl. 59—78 **9 Claims**

A flexible bracket wherein the links are connected by connector members, one, connecting end of which is secured within the link by a tie member and the other, pivoting end of which is pivotally carried on the tie member between the side wall of a link and the connecting end of another connector member.

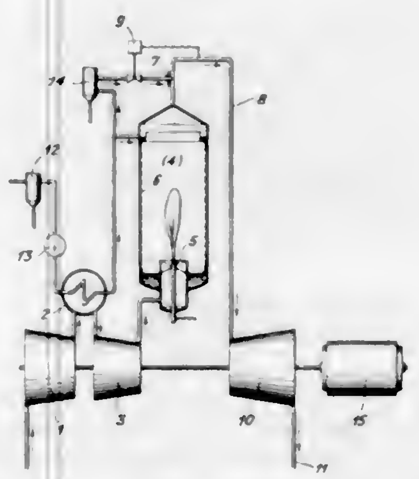


3,449,907
ENGINE SILENCER AND SMOKE ELIMINATION SYSTEM
Clare C. Miley, P.O. Box 13, Inyokern, Calif. 93527
Filed May 18, 1967, Ser. No. 639,458
Int. Cl. F01n *1/12, 3/02*
U.S. Cl. 60—31 **2 Claims**



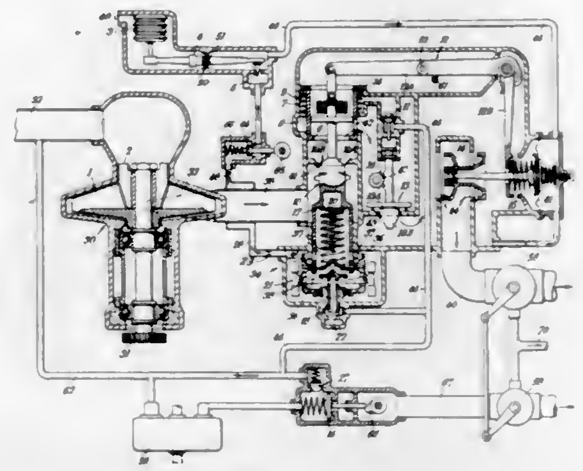
An engine silencer and smoke elimination system being adapted to be connected to a combustion source exhaust and having a plurality of relatively small diameter tubes connected to a manifold, whereby the exhaust is cooled as it passes through the tubes.

3,449,908
GAS-STEAM TURBINE PLANT
Emile Aguet, Winterthur, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Jan. 24, 1967, Ser. No. 611,344
Claims priority, application Switzerland, May 6, 1966, 6,631
Int. Cl. F02c *3/00;* **F24h** *1/10*
U.S. Cl. 60—39.3 **15 Claims**



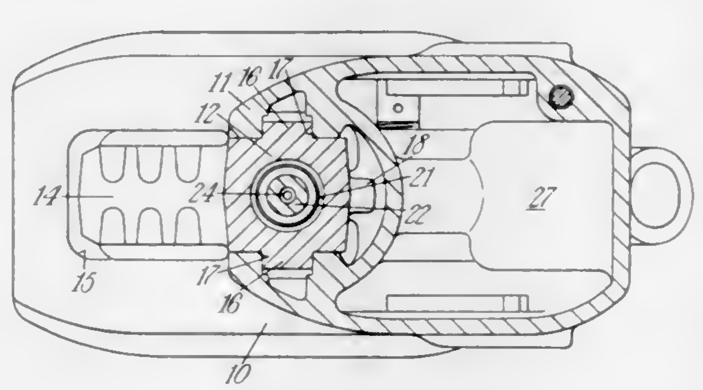
A gas-steam turbine power plant having a continuous water film formed on the walls of the combustion chamber to form steam under heat of the combustion gases to mix with the combustion gases. The water film provides a cooling effect on the chamber walls to protect against excessive heat.

3,449,909
FUEL SUPPLY SYSTEMS FOR AIRCRAFT JET ENGINES
David Marshall and Arthur Leslie Lloyd, Wolverhampton, England, assignors to H. M. Hobson Limited, London, England, a company of Great Britain
Filed Mar. 21, 1967, Ser. No. 624,924
Int. Cl. F02c *3/24, 7/22, 9/08*
U.S. Cl. 60—39.28 **16 Claims**



A fuel supply system for an aircraft jet engine, in which a pump supplies fuel to the main burner of the engine through a number of orifices in series, in which each orifice is variable independently of the others to provide a different mode of control of the engine and in which the pressure drop across the metering orifices is varied as a function of engine speed.

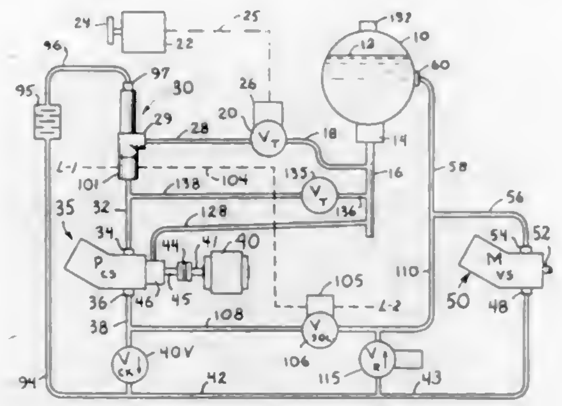
3,449,910
HYDRAULIC FORCE EXERTING APPARATUS
Lionel Arthur Reynolds, Smethwick, England, assignor to Tangyes Limited, Smethwick, England
Filed Apr. 14, 1966, Ser. No. 542,529
Int. Cl. F15b *15/18;* **F16j** *1/00;* **B66f** *3/24*
U.S. Cl. 60—52 **2 Claims**



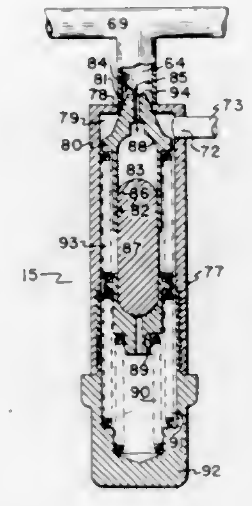
A hydraulic jack comprises a base with an upstanding piston rod, and a load-carrying member with a blind bore in which a piston on said piston rod slides and having an offset load-supporting toe. The load-carrying member has oppositely disposed ribs running in slots in a housing member upstanding from the base to guide the load-carrying member and relieve the piston rod of side loads.

3,449,911
POWER TRANSFER SYSTEM
Paul W. Schlosser, 4452 N. Avers, Chicago, Ill. 60625
Filed Sept. 6, 1966, Ser. No. 577,552
Int. Cl. F16d *31/02;* **F15b** *21/04;* **F04b** *21/00*
U.S. Cl. 60—53 **12 Claims**

This hydraulic system and method obtains variable torque and/or speed (horsepower) outputs from fixed volumetric capacity pumps and motors. A control system selectively meters hydraulic liquid to a pump so that a variably limited supply of liquid at or below full volumetric pump capacity is driven through the motor, thus controlling horsepower output of the motor. A small amount of liquid in the pump chamber vaporizes (cavitation) and condenses in the pump chamber to provide for cooling of the pump and liquid. Air is prevented from being ingested into the pump to prevent high pressure ignition and resultant explosions therein; which explosions are deleterious to fluid and machine parts, thus undesirable, and hereinafter referred to as dieseling. By such arrangement and method, cavitation is utilized to control power transfer between a desired minimum capacity of the apparatus and the maximum capacity thereof.

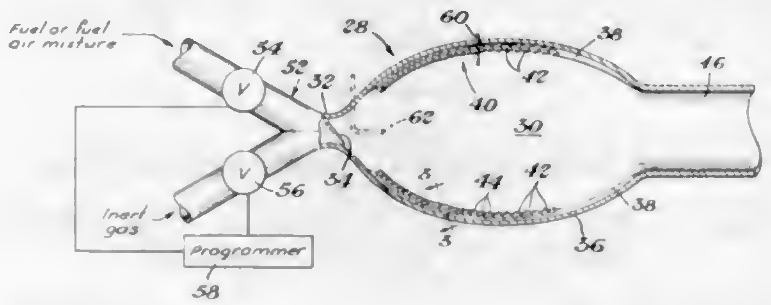


3,449,912
HYDROSTATIC TRANSMISSION
Jerzy A. Habdank-Dunikowski, Birmingham, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 621,515
Int. Cl. F16d *31/02;* **G05d** *7/00;* **F16k** *31/36*
U.S. Cl. 60—53 **20 Claims**



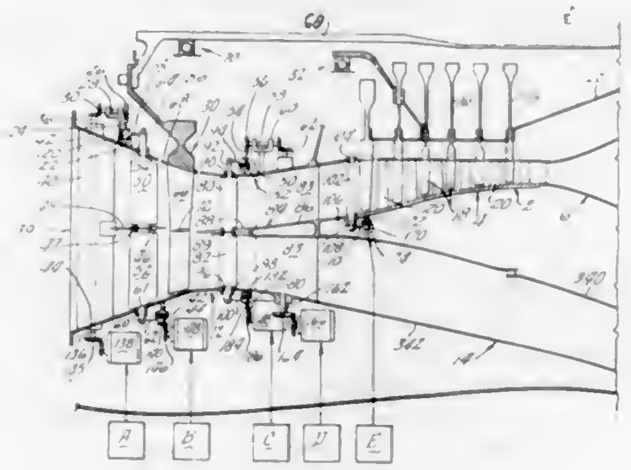
A hydrostatic transmission having a hydraulic motor and a reversible hydraulic pump connected in a circuit by two conduits either of which may be a high pressure conduit and the other a low pressure conduit. A pressure surge control valve responsive to a predetermined pressure differential is by automatic means connected to whichever is the high pressure conduit. A conventional type relief valve limits or controls the highest system operating pressure, and is by the same automatic means connected to which ever is the high pressure conduit. The pressure surge control valve has a valve member with opposed pressure operating surfaces connected by means of a passage with a restriction therein and is responsive to a predetermined pressure differential in said passage ahead of and beyond said restriction for opening the valve and alleviating sudden pressure surges.

3,449,913
COMBUSTION PROCESS
John J. Grebe, 12430 W. St. Andrew, Sun City, Ariz. 85351
Continuation-in-part of application Ser. No. 584,916, Oct. 6, 1966, which is a continuation-in-part of application Ser. No. 480,519, Aug. 17, 1965. This application Jan. 29, 1968, Ser. No. 701,254
The portion of the term of the patent subsequent to Jan. 30, 1985, has been disclaimed and dedicated to the public
Int. Cl. F23r *1/14;* **F02k** *7/00*
U.S. Cl. 60—204 **9 Claims**



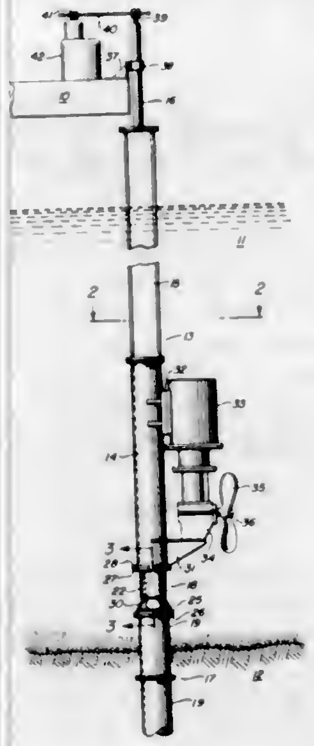
The invention is an improved combustion apparatus and process for generating a high kinetic energy working gas stream wherein a combustion tube is fitted with igniting means, a check valve assembly, separate air and fuel or fuel-air mixture injection means and supply source, a displaceable inert mass injection means and supply source and an exhaust. The high energy working product stream is produced by controllably introducing separately and sequentially predetermined amounts of a fuel and air or a preblended fuel-air combustion mixture and a mass of a displaceable inert mass, usually a gas, into the combustion tube and utilizing the heat of combustion from rapid combustion of the fuel-air combustion mixture to accelerate the inert displaceable mass.

3,449,914
VARIABLE FLOW TURBOFAN ENGINE
William H. Brown, Palm Beach Shores, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,334
Int. Cl. F02k *3/06;* **F02c** *9/02, 3/06*
U.S. Cl. 60—225 **15 Claims**



A ducted fan engine having a compressor and first turbine means for driving said compressor with combustion means located therebetween with a fan positioned upstream of the compressor and a second turbine means for driving said fan located downstream of said first turbine means. An annular duct being located around said compressor, said burner combustion means and both turbine means with its inlet also being located downstream of said fan. Vane means being located on each side of said fan for controlling flow through said fan into the compressor and annular duct. Said vane means each being formed having relatively movable inner and outer sections, all of said sections being independently movable one from the other. Variable vane means also being located adjacent the inlet to the compressor. First movable vane means located upstream of said first turbine means and second movable vane means located upstream of said second turbine means. A bypass valve being positioned between the first turbine means and second movable vane means. An outlet being provided for the flow through the fan, compressor, combustion means and turbine means; an outlet being provided for the annular duct; and an outlet being provided for the passage leading from the bypass valve. All of said outlets are variable. Combustion means are located in the annular duct. Means are provided for actuating and controlling the variable vane means and outlets to provide an engine that can successfully perform missions throughout a wide flight spectrum.

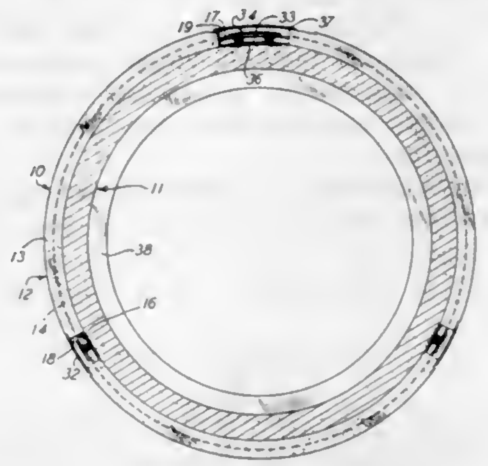
3,449,915
DESILTING EQUIPMENT
Timothy E. Cummings, Riverside, Conn., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Jan. 6, 1966, Ser. No. 519,151
Int. Cl. E02b *3/00, 17/00;* **E02f** *5/00*
U.S. Cl. 61—2 **1 Claim**



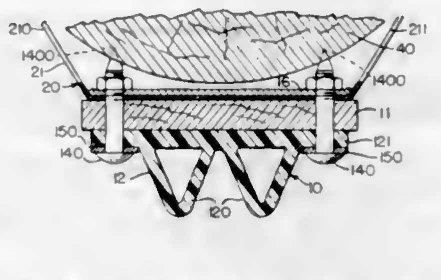
An apparatus for controlling silt by the production of an artificial current has a submerged propeller attached to a vertical column which is mounted on a support member secured to the bottom of a body of water.

3,449,916
TUNNEL LINER AND METHOD OF MAKING SAME
John R. Tabor, 3400 Spruce St., Racine, Wis. 53403
Filed July 12, 1967, Ser. No. 652,949
Int. Cl. E21d *11/08;* **E01g** *5/02;* **E04c** *1/10*
U.S. Cl. 61—45 **7 Claims**

A tunnel liner and method of making same having a plurality of blocks in a circle, and with the radially inside surface of the circle of blocks having a cylinder of concrete cast thereon. The blocks have metal pieces cast therein, and the opposite ends of the metal pieces extend beyond the concrete portions of the blocks. The extending ends of the metal pieces are preferably mechanically joined together, and the cylinder of concrete is cast around the extending ends of the metal pieces to imbed the extending ends in the cylinded of concrete.



3,449,917
PORTABLE BOAT DOCK FENDERS
Donald L. Roskopf, 25140 Dallas Drive, Grosse Ile, Mich. 48138
Filed July 28, 1967, Ser. No. 656,836
Int. Cl. E02b *3/22;* **B63b** *21/00*
U.S. Cl. 61—48 **5 Claims**

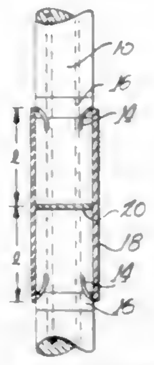


Portable boat dock fenders of the type employable when tying-up or mooring a pleasure craft such as a sail boat, motor boat or cruiser to a dock, wharf or pier having a plurality of generally vertically disposed facing piles or bumper timbers spaced therealong, a typical portable boat dock fender of the invention consisting of a rigid vertically disposed back member onto the face of which is secured a resilient vertical continuous bumper element by such means as preferably vertically spaced transversely disposed pairs of through bolts therealong, upper and lower quickly securable and removable means for removably securing said portable boat dock fender to a dock pile or the like at a selected level to receive the bumping of the rub-rail of a boat thereagainst when the craft is tied up to a boat dock, the said portable boat dock fender including laterally spaced means at the upper and lower portions thereof positively engaging the pile or bumper timber of said wharf or pier whereby to prevent dislocation of said portable boat dock fender with respect to said pile or bumper timber when removably secured thereto and when in use.

3,449,918
CONCRETE PILES AND METHODS AND APPARATUS FOR FORMING AND SPLICING THEM TOGETHER
Gabriel Fuentes, Jr., 1501 Ashford Ave., Apt. 7–B, Santurce, Puerto Rico 00911
Filed Jan. 13, 1967, Ser. No. 609,102
Int. Cl. E02d *5/30, 7/06, 5/52*
U.S. Cl. 61—56 **1 Claim**

A reinforced concrete pile section which can be spliced to another pile section. Each section is reinforced with longitudinally prestressed reinforcing rods and is cast vertically to orient the concrete. In one embodiment, each end of each section has an annular ring. In splicing sections together, a tubular sleeve is telescoped over the ends and its edges affixed to the rings. The sleeve completely encompasses and confines the concrete preventing shattering of the same while being driven. In a second embodiment, the sleeve is telescoped over the ends and bonded to the section with adhesive.

The tubular sleeve has a central transverse plate to completely enclose each pile section.



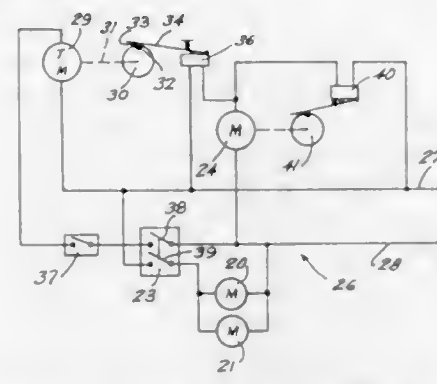
A special mandrel, which does not damage the pile section, is used as a driving means. It has a resilient liner and is centrally supported within the sleeve.

A tubular, tapered end pile section which can be conveniently shipped and/or stored and which can be affixed to the ring of the first pile section is used at the driving end of the pile section. A removable sleeve is affixed to the end of the last pile section for driving it.

3,449,919

REFRIGERATOR WITH AUTOMATIC ICE CUBE MAKER

William L. Fox, Niles, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Mar. 8, 1968, Ser. No. 711,590
Int. Cl. F25c *1/04, 1/00*
U.S. Cl. 62—71 7 Claims



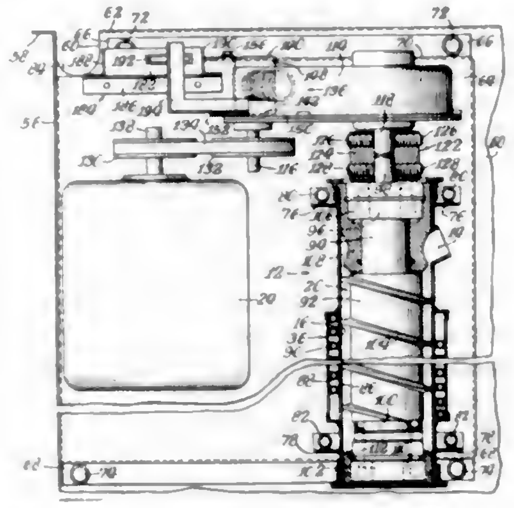
A refrigerator having an automatic ice cube maker. The ice cube maker control apparatus includes a timing motor which initiates a harvest-fill-freeze cycle after it has been energized for a predetermined cumulative time period. The timing motor is energized only when both a refrigeration compressor-motor unit and a freezer compartment circulating air fan are energized and when the temperature of the freezer compartment is below a predetermined level.

3,449,920

ICE AUGER WITH SLIP DRIVE

Leon R. Van Steenburgh, Jr., Manitowoc, Wis., assignor to The Manitowoc Co., Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed Jan. 12, 1968, Ser. No. 697,357
Int. Cl. F25c *1/12, 5/02*
U.S. Cl. 62—136 14 Claims

In ice forming apparatus including a component which is movable within a water freezing chamber, the improvement wherein transmission means for drivably moving the movable component from a prime mover is arranged to slip upon freezing of water within the freezing chamber to an extent preventing free movement of the component,

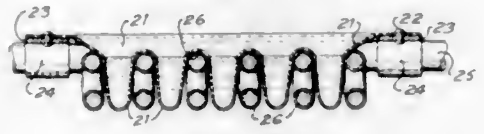


means preferably being provided for thereupon promoting thawing of the ice in the freezing chamber and thereby promoting freeing of the component.

3,449,921

ICE CUBE PRODUCER

Myles F. Connors, Mattituck, N.Y.
(5 Crane Road, Huntington, N.Y. 11743)
Filed Feb. 12, 1968, Ser. No. 709,163
Int. Cl. F25c *5/06, 1/10*
U.S. Cl. 62—137 4 Claims

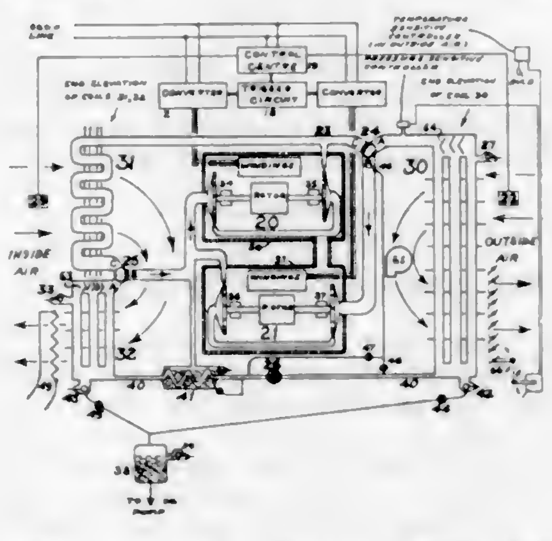


This invention relates to the production of ice cubes using a swingable frame having a pliable plastic film adapted to drape cellwise between parallel disposed refrigerant coils under the action of gravity and water thereon. The device may be manually or automatically actuated to discharge the ice cubes by use of centrifugal force and thereby empty the film cells of their frozen ice cubes.

3,449,922

CENTRIFUGAL COMPRESSOR AND WIDE RANGE OF CAPACITY VARIATION

John D. Ruff, 206 Birch St., and Phillip R. Wheeler, 209 W. Pine St., both of Alexandria, Va. 22305
Filed Feb. 1, 1967, Ser. No. 613,271
Int. Cl. F25b *13/00, 39/04, 43/00*
U.S. Cl. 62—160 12 Claims

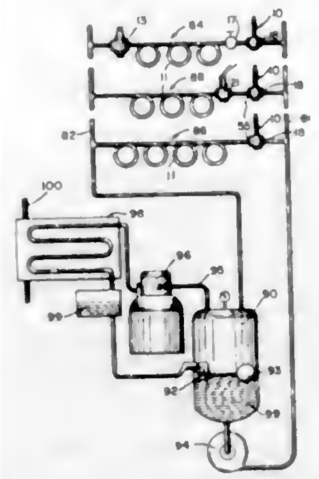


This invention is an electrically driven heat pump, with heating and cooling cycles and using small contrifugal compressors. A wide range of capacity variation is achieved by the use of a variable frequency power supply. This enables the compressor speeds to be varied so that the various degrees of summer and winter temperature can be matched by an appropriate application of system power.

3,449,923

REFRIGERANT FEED CONTROL AND SYSTEMS

Charles C. Hansen, Hinsdale, Kenneth H. Mauer, Roselle, and Olaf E. Kivioja, Villa Park, Ill., assignors to Refrigerating Specialties Company, Broadview, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 627,715, Apr. 3, 1967. This application Mar. 8, 1968, Ser. No. 720,431
Int. Cl. F25b *41/04, 43/00;* **F16k** *31/12*
U.S. Cl. 62—217 15 Claims

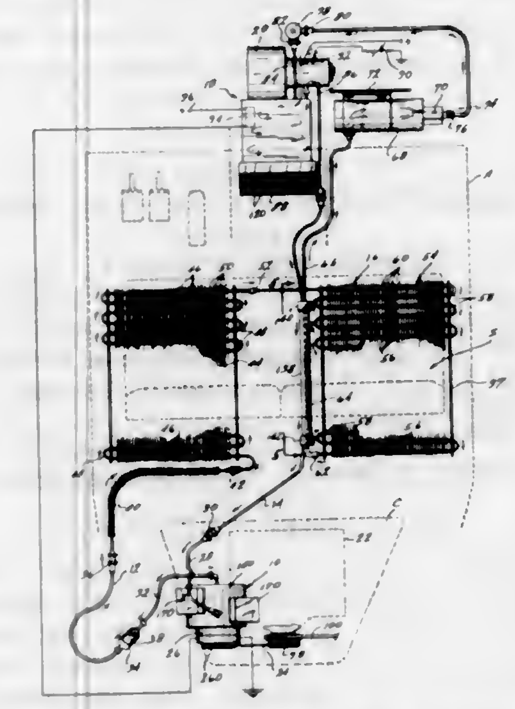


A refrigeration system in which a variable flow rate balance valve ahead of an evaporator chamber is unaffected by pressure variations in a flooded refrigerant supply line at its inlet, but is controlled as to its flow rate opening by downstream pressure of fluid flowing from it and through a manually adjustable orifice valve to maintain a selected constant refrigerant pressure in the evaporator chamber.

3,449,924

AUTOMOTIVE AIR-CONDITIONING SYSTEM

Gustav H. Sudmeier, 2708 Torrance Blvd., Torrance, Calif. 90502
Filed Apr. 21, 1967, Ser. No. 632,800
Int. Cl. B60h *3/04*
U.S. Cl. 62—227 10 Claims

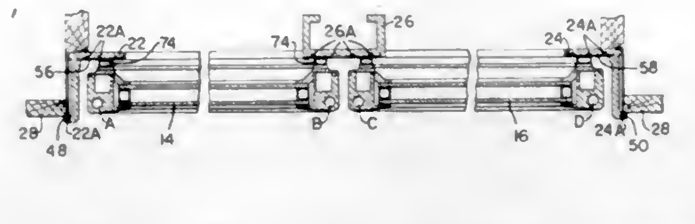


An air conditioning system for small automobiles of the type that may incorporate an air-cooled engine. A compression system incorporates a condenser structure horizontally mounted under the automobile and including one portion through which gaseous refrigerant moves forward in relation to the automobile, and another section in which liquid refrigerant moves rearward relative to the automobile. An evaporator is affixed in the automobile passenger space and is operated at or near the limit of its capability by utilizing thermostatic control of the refrigerant. The compressor in the system is operated intermittently through a magnetic clutch and incorporates a double-spring valve structure for improved efficiency and increased capability. The compressor is of compact configuration and is mountable to occupy a very small space.

3,449,925

REFRIGERATOR WITH HEATED DOOR FRAME

Louis F. Barroero, 1585 Daniels Drive, San Leandro, Calif. 94577
Filed Jan. 24, 1968, Ser. No. 700,165
Int. Cl. F25d *21/04, 23/02*
U.S. Cl. 62—275 4 Claims

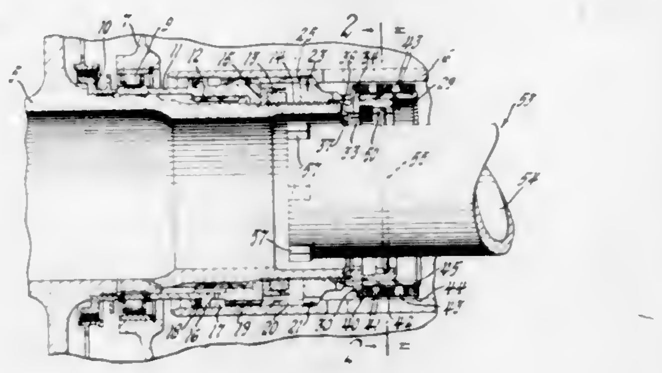


A refrigerator having a frame which has a plurality of grooves in which heating wires are disposed, and plates removably held over the heating wires to allow easy access to the wires for their removal and replacement.

3,449,926

SHAFT COUPLING

Cyril M. Hawkins, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 660,976
Int. Cl. F16d *3/00, 3/18, 3/54*
U.S. Cl. 64—6 6 Claims



An axially adjustable coupling between telescoping compressor and turbine shafts of a gas turbine engine. A thrust nut threaded on the inner shaft engages a shoulder on the outer shaft for transmission of thrust. The shafts are splined together for transmission of torque. The nut is axially adjusted by rotating it on the threads and is locked in place by a detent device splined to the nut and having a detent relation with the inner shaft. A special tool can engage the device to release the detent and turn the nut. The detent device and inner shaft are configured so that the tool cannot be removed unless the turning is stopped at a position in which the detent can engage.

3,449,927

SHAFT COUPLINGS

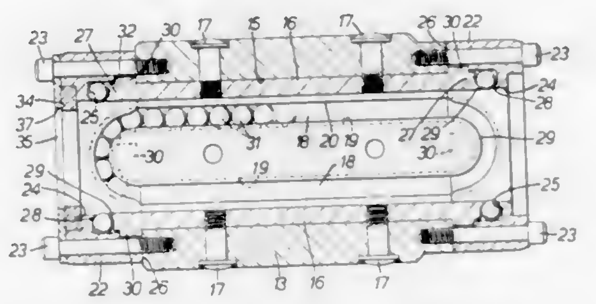
John Henry Field, Leyfields, Tamworth, and George Robertson Parkes, Sutton Coldfield, England, assignors to Birfield Engineering Limited, London, England

Filed Mar. 22, 1967, Ser. No. 625,222

Claims priority, application Great Britain, Mar. 22, 1966, 12,431/66

Int. Cl. F16d *3/06;* **F16c** *17/00, 21/00*

U.S. Cl. 64—23 **4 Claims**



A recirculating ball coupling for transmitting torque and accommodating axial displacement between an inner shaft member and an outer hollow member which has four longitudinal grooves formed in its inner surface. An elongated retaining member is located centrally in each groove to define, at the sides of the groove, two longitudinally extending ball passages which cooperate with semicircular transfer passages to allow the balls to recirculate. The transfer passages are formed wholly within two end members respectively secured to the ends of the outer member.

3,449,928

SELECTOR APPARATUS FOR CIRCULAR KNITTING MACHINES

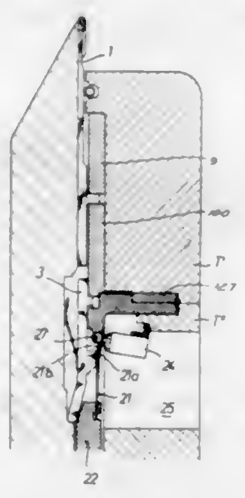
Richard Schmidt, Stuttgart-Vaihingen, and Hans-Joachim Stock, Freiburg im Breisgau, Germany, assignors to Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany

Filed Mar. 7, 1966, Ser. No. 532,304

Claims priority, application Germany, Mar. 6, 1965, M 64,421

Int. Cl. D04b *9/00, 15/74, 15/76*

U.S. Cl. 66—50 **20 Claims**



Jacks mounted on a needle cylinder are biassed to move from an inoperative position to a working position guided by cam tracks to raise needles. Control members cooperate with the jacks and are individually controlled by a program controlled electromagnet and by cams to move selected jacks to the inoperative position.

3,449,929

NEEDLE SELECTING ASSEMBLIES FOR FLAT-KNITTING MACHINES

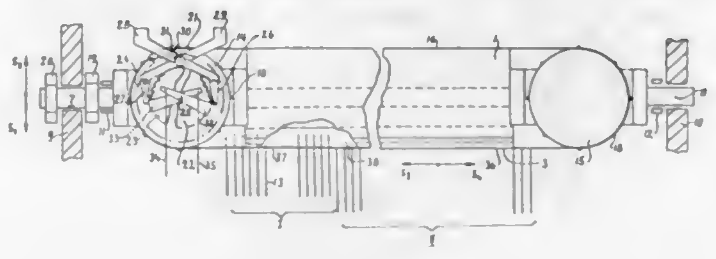
František Svoboda and Lubomír Kliment, Brno, Czechoslovakia, assignors to Vyzkumny ustav pletarsky, Brno, Czechoslovakia

Filed Aug. 28, 1967, Ser. No. 663,814

Claims priority, application Czechoslovakia, Aug. 26, 1966, 5,552/66

Int. Cl. D04b *15/70, 7/24, 7/10*

U.S. Cl. 66—154 **8 Claims**



An assembly for selecting, in a flat-knitting machine, the number of needles which are to operate and the number of needles which are to remain in non-operating positions. The assembly includes an elongated cylinder formed with a longitudinal groove extending axially thereof at its exterior. An elongated endless belt extends longitudinally along this groove and has an elongated portion formed with a slot which is aligned with the groove of the cylinder as well as an adjoining non-slotted portion that covers the groove of the cylinder. A means is provided for selectively positioning the belt longitudinally with respect to the grooved part of the cylinder so that in accordance with the selected longitudinal position of the belt a given part of the slot of the cylinder will be accessible through the slot of the belt while another part of the groove of the cylinder will be covered by the non-slotted portion of the belt. This non-slotted portion of the belt which covers the groove of the cylinder will situate knitting needles in their operating positions while those knitting needles which are not to operate will have components thereof received in the groove of the cylinder through the slot of the belt so that it is possible in this way to have selected needles retracted to their non-operating positions. Thus, in accordance with the longitudinal position of the belt with respect to the cylinder a given number of needles can be retracted through the slot of the belt into the groove of the cylinder to non-operating positions while the non-slotted portion of the belt which covers the cylinder groove will locate the remaining needles in their operating positions.

3,449,930

STRAIGHT BAR MULTIHEAD KNITTING MACHINE

Ernest West, Sutton-in-Ashfield, Ivan C. Cotton, Rainworth, and Frederick R. Challenger, Loughborough, England, assignors of one-half each to S. A. Monk (Sutton-in-Ashfield) Limited, Sutton-in-Ashfield, England, and I. & R. Morley Limited, London, England, both British companies

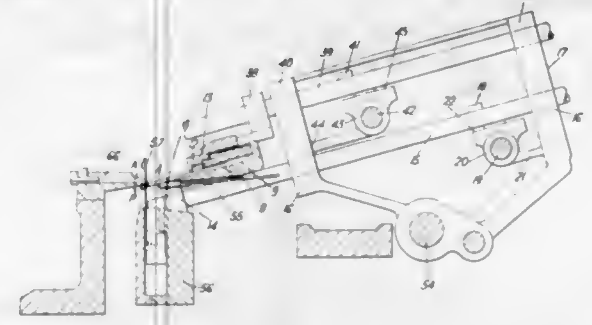
Filed Feb. 6, 1967, Ser. No. 614,178

Claims priority, application Great Britain, Mar. 5, 1966, 9,731/66

Int. Cl. D04b *11/04, 27/10*

U.S. Cl. 66—88 **15 Claims**

A straight-bar knitting machine which can change from rib to plain knitting. The machine has vertical frame needles selected ones of which are rendered inoperative for rib knitting, and horizontal machine needles positionable in the spaces vacated by imperative frame needles. Each machine needle comprises an outer element having a yarn-receiving and lopo-forming hook and an operating butt, and a pair of inner loop-retaining elements which are longitudinally movable together relatively to the outer element and formed with side-by-side operating butts. These needles co-operate with frame needles in knitting a roll welt and rib fabric. Rib loops are transferred from machine needles to frame needles preparatory to knitting plain on the latter only.



3,449,931

METHOD AND DEVICE FOR DETECTING A BREAK IN KNITTING NEEDLES

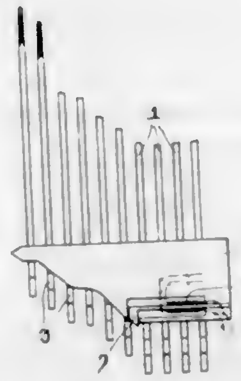
Tatsuya Kawakami, Tokyo, and Noboru Aisaka, Yokohama, Japan, assignors to Agency of Industrial Science & Technology, Tokyo, Japan, a corporation of Japan

Filed Sept. 27, 1966, Ser. No. 582,331

Claims priority, application Japan, Oct. 1, 1965, 40/60,104; Dec. 13, 1965, 40/76,615

Int. Cl. D04b *35/10*

U.S. Cl. 66—157 **4 Claims**



An apparatus for detecting a broken needle and stopping the knitting operation of a circular knitting machine comprising means for detecting the force on a needle disposed in a position where the knitting needle is drawn in slightly while the butt thereof is sliding and passing during knitting, a force measuring strain gauge means for measuring the force detected by the detecting means, means for converting the measured force into an electrical signal, and circuit means for shutting off the circular knitting machine when the force on a knitting needle is zero.

3,449,932

PANTY HOSE GARMENT AND THE METHOD OF MAKING THE SAME

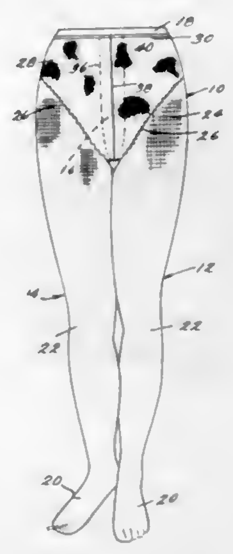
Leland A. Fillmore and Vaughn H. Butler, Harriman, Tenn., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Feb. 26, 1968, Ser. No. 708,251

Int. Cl. A41b *9/02, 9/04, 11/00*

U.S. Cl. 66—177 **13 Claims**

The specification discloses improvements in the method of making panty hose garments wherein two stockings are knitted, slit adjacent their upper portions and seamed together in which a highly stylized panty portion of a denser contrasting visual appearance than the hose or leg portions is formed in the stockings during the knitting thereof by adding and deleting one or more yarns within selected courses contained within a juncture area between the panty portion and each leg portion, each juncture area extending over a multiplicity of courses contained in part in the panty portion and in part in the associated leg portion.



3,449,933

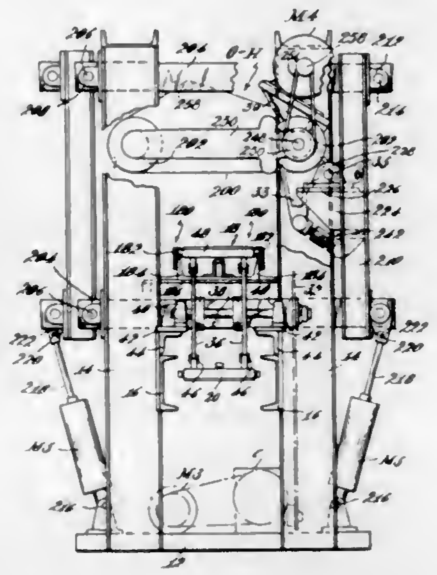
AUTOMATIC ROUGHING MACHINE

Robert B. Dunlap, Medway, Evald O. Peterson, Lynnfield Center, and Bertram A. Von Schoppe, Watertown, Mass., assignors to Compo Industries, Inc., Waltham, Mass., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,379

Int. Cl. C14b *1/48;* **A43d** *37/00*

U.S. Cl. 69—6.5 **23 Claims**



A roughing machine for roughing the bottoms of lasted shoe uppers peripherally of the bottom by means of endless abrasive belts held in contact with the bottom and raised and lowered while in contact to follow the change in level of the bottom, the belts being supported in longitudinally spaced relation transversely of a conveyor and there being supports on the conveyor for moving successive lasted shoes, bottom up, beneath the belts for roughing of the bottoms along both sides.

3,449,934

ADJUSTABLE HEAD TUMBLER CYLINDER

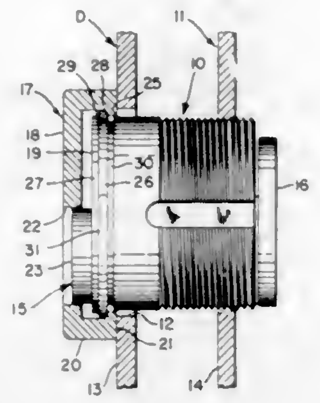
Mathias M. Check, Greenwich, Conn., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Mar. 13, 1967, Ser. No. 622,706

Int. Cl. E05b *9/08*

U.S. Cl. 70—451 **4 Claims**

A cup-shaped scalp is manufactured separately from a lock tumbler cylinder and is snapped into position covering the front end of the cylinder, where it is permanently retained by a circular spring wire. The wire can yield so that the cylinder may adjust its position on the door while pressing the scalp to proper position against the door surface.



3,449,935
APPARATUS AND METHOD OF METAL EXTRUSION

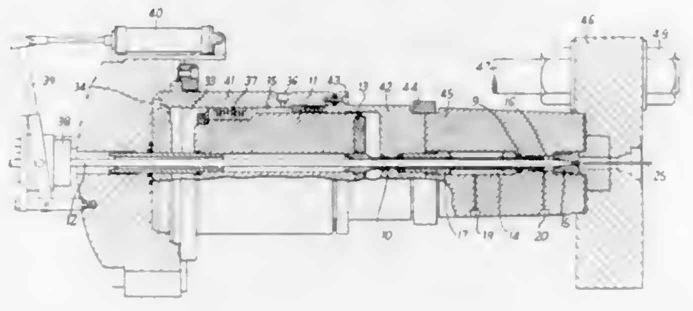
John Dewar McAllan, Glasgow, Scotland, assignor to National Research Development Corporation, London, England

Filed Sept. 16, 1966, Ser. No. 579,901

Claims priority, application Great Britain, Sept. 17, 1965, 39,796/65

Int. Cl. B21d *22/10, 25/18;* **B21c** *33/00*

U.S. Cl. 72—60 **18 Claims**



Apparatus and method for extruding a metal billet of unrestricted length wherein the apparatus includes a tubular ram arranged to receive the billet with a small clearance, a die disposed in an extrusion chamber, means for applying radial pressure to the ram to cause it to grip the billet, a jack operatively connected to the ram, means for applying axial pressure to the jack to cause it to advance the ram and billet to promote extrusion of the billets through the die, means for applying fluid pressure to the extrusion chamber of a value sufficient at least to prevent outward plastic flow of the billet between the ram and the entrance to the die under the axial stress produced by the ram, means for applying axial pressure to the jack in the reverse direction at a time when radial pressure is no longer applied to the ram whereby the ram moves backwards over the billet and means for holding the billet stationary during the backward movement of the ram. A storage chamber may also be provided into which the extruded metal issues, and a die may be located at the opposite end of the storage chamber and means may be provided for applying fluid pressure to the storage chamber whereby a second stage of extrusion takes place therefrom which may be intermittent or continuous.

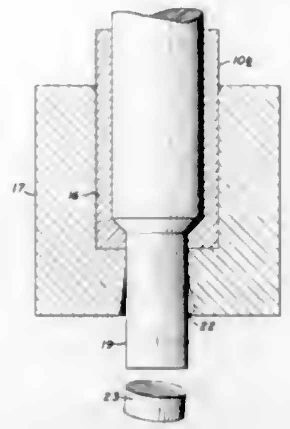
3,449,936
COLD EXTRUSION METHOD

Billy Ted Woodle, Fort Worth, Tex., assignor to American Manufacturing Company of Texas, Fort Worth, Tex., a corporation of Texas

Filed Apr. 30, 1965, Ser. No. 452,160

Int. Cl. B21c *23/18, 25/02*

U.S. Cl. 72—254 **3 Claims**



The method of cold forming a blank of ductile metal into a cup shaped article having an opening of reduced transverse dimension in the bottom thereof, the steps of placing said blank in an open cavity of a die, forcing a punch into said blank to form a hollow and at the same time extrude the displaced metal a distance along said punch, placing the partially formed blank in a second die having a die opening in the bottom thereof, inserting a punch into the hollow of said partially formed blank and removing metal through the hole of the die, and further enlarging the hollow in the blank and further elongating the same by forcing an enlarged punch therein.

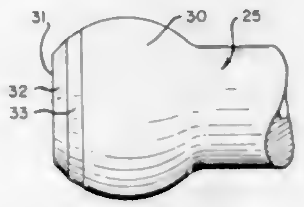
3,449,937
HIGH PRESSURE FUEL LINE HEADS AND THE LIKE

Clarence F. Dimmig, Pittsburgh, Pa., assignor, by mesne assignments, to Columbia-Summerill Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed June 23, 1967, Ser. No. 648,432

Int. Cl. B21d *11/04;* **B21c** *37/06;* **F16l** *9/22*

U.S. Cl. 72—318 **5 Claims**



A fuel line head comprising a spherical enlargement ending in intersecting frusto-conical surfaces formed by a two-step cold forging process.

3,449,938
METHOD FOR SEPARATING AND DETECTING FLUID MATERIALS

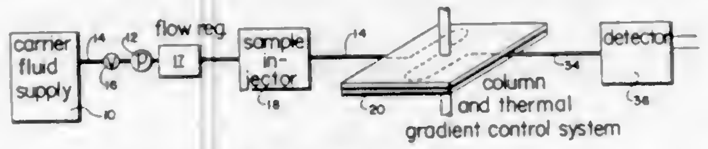
John C. Giddings, Salt Lake City, Utah, assignor to The University of Utah

Continuation of application Ser. No. 516,572, Dec. 27, 1965. This application Aug. 3, 1967, Ser. No. 658,086

Int. Cl. G01n *31/00*

U.S. Cl. 73—23 **10 Claims**

A separation method in which a differential migration of components is induced by transporting a sample through a column with a carrier fluid and imposing a segregating influence, such as a temperature gradient, upon the sample in an orientation perpendicular to the flow axis to (a) effect enrichment of the sample and (b) contribute toward a nonuniform flow velocity pattern the combination of which induces a separation of components for detection or collection thereof.



3,449,939
APPARATUS FOR EXTRACTION AND QUANTITY DETERMINATION OF GAS IN AIR

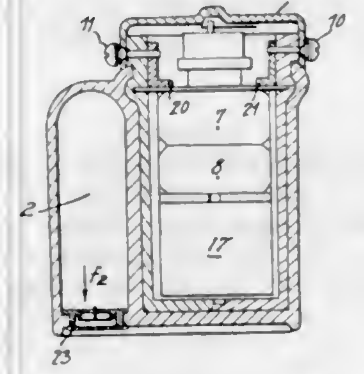
Alexandre Monomakhoff, Verneuil-en-Halatte, France, assignor to Charbonnages de France, Paris, France, a public institution of France

Filed May 3, 1966, Ser. No. 547,300

Claims priority, application France, May 4, 1965, 15,634

Int. Cl. G01n *31/12*

U.S. Cl. 73—26 **5 Claims**



A detector employing an electrically heated filament means, power source and indicating means for sampling and quantity determination of gas in air of a type which is carried and operated in one hand.

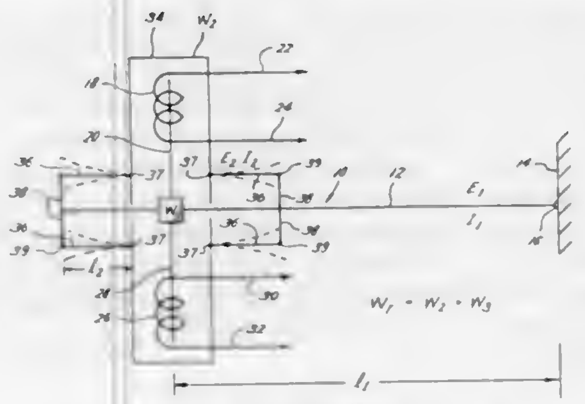
3,449,940
APPARATUS FOR MEASURING PHYSICAL PROPERTIES OF MATERIALS

William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas

Filed July 22, 1966, Ser. No. 567,217

Int. Cl. G01n *9/00*

U.S. Cl. 73—32 **14 Claims**



A vibratory sensing element in which the vibration drive means and the vibration measuring means are mounted on and supported by the sensing element thereby limiting the effects of external conditions. Vibration drive means and vibration measuring means are resiliently supported from the sensing element at a position spaced from the support of the sensing element for isolating the input and output signals from the sensing element support, the mass of the sensing element being less than the mass of the vibration drive means and vibration measuring means. The natural resonant frequency of the apparatus about the sensing element supports is substantially lower than the frequency of operation of the vibration drive means and of the natural resonant frequency of the resilient means whereby the apparatus is substantially isolated from external vibration.

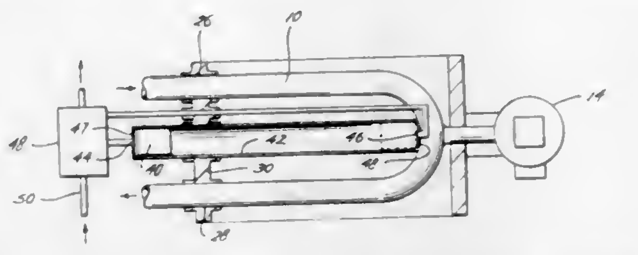
3,449,941
METHOD OF AND APPARATUS FOR MEASURING CHANGES IN THE MASS OF A FLUID ADAPTED TO CONTACT A VIBRATORY BODY

William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas

Filed Aug. 8, 1967, Ser. No. 659,212

Int. Cl. G01n *9/00*

U.S. Cl. 73—32 **11 Claims**



An apparatus and method of measuring changes in the mass of a fluid adapted to contact a vibratory body by periodically adding and subtracting a weight to the body which is vibrated at its natural resonant frequency both before and after the change in weight and comparing the ratios of the natural resonant frequency before and after changing the weight so that the measurement is independent of environmental conditions. An apparatus and method of varying the position of the weight on the body until the natural resonant frequency ratio returns to its original value whereby the change in position of the weight is a measure of the change in mass of the fluid. An apparatus and method of measuring changes in the mass of fluid flowing through a vibrating U-shaped body by periodically changing the effective weight of the U-shaped body by a factor of four by adding and subtracting a weight in which the body is vibrated at its natural resonant frequency before and after changing the weight in which the larger resonant frequency is divided by a factor of two and the lower resonant frequency and the divided resonant frequency is converted to voltage signals which are compared to provide a measure of changes in the mass of the fluid.

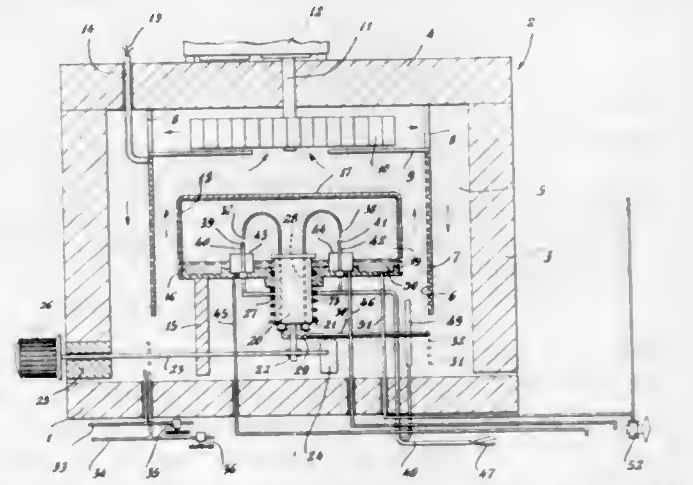
3,449,942
ISOPIESTIC CHROMATOGRAPHIC DETECTOR

Wilhelm Simon, Zurich, Switzerland, assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Aug. 18, 1966, Ser. No. 573,230

Int. Cl. G01n *11/00*

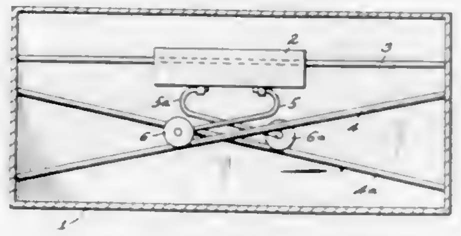
U.S. Cl. 73—53 **17 Claims**



The molar concentration of a solution is monitored by flowing the solution in the form of a film over a thermal sensor of relatively low thermal mass in an isopiestic chamber and observing indications of variations in temperature of the thermal sensor.

3,449,943
CENTERING MECHANISM

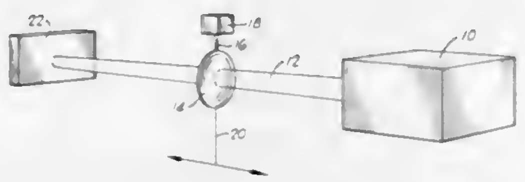
Beauregard Perkins, Jr., Ocala, Fla., assignor to the United States of America as represented by the Secretary of the Army
Filed May 11, 1966, Ser. No. 550,093
Int. Cl. G01v *1/16*
U.S. Cl. 73—71 **4 Claims**



A centering mechanism consisting of a housing in which a pair of horizontally spaced, oppositely inclined tracks are mounted. A mass having spring mounted wheels that ride on the tracks cause the mass to return to a median position thereon after being displaced.

3,449,944
VIBRATION SENSING METHOD AND APPARATUS USING COHERENT RADIATION

Alfred T. Zavodny, Ponca City, Okla., assignor to Continental Oil Company, a corporation of Delaware
Filed Nov. 18, 1966, Ser. No. 597,503
Int. Cl. G01n *9/18*
U.S. Cl. 73—71.3 **16 Claims**

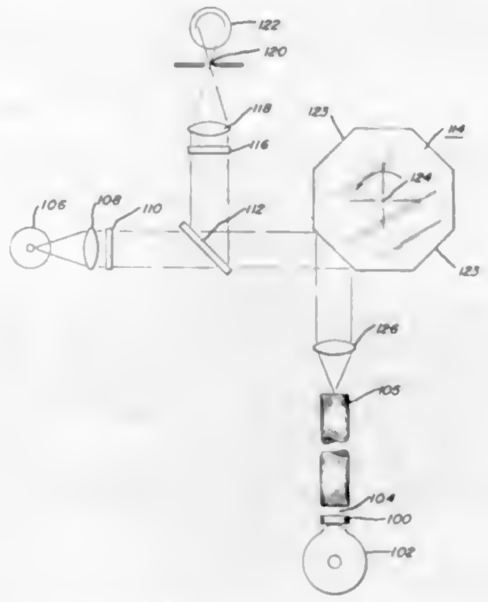


A vibration measuring apparatus having a lens mounted on the vibrating object. A coherent source of electromagnetic waves, as a laser, is directed through the lens to formed an interference pattern and detector means is positioned to respond to the interference pattern.

3,449,945
OPTICAL SCANNING SYSTEMS FOR PHOTOELECTRIC TONOMETERS

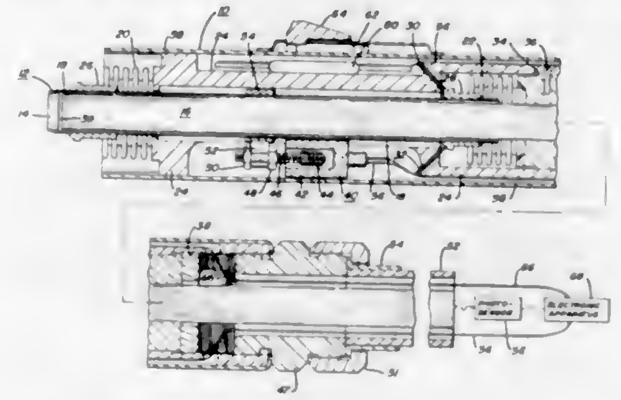
Richard C. Mohrman, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 24, 1967, Ser. No. 633,020
Int. Cl. A61b *9/00*
U.S. Cl. 73—80 **11 Claims**

An optical scanning system for photoelectric apparatus, such as applanation tonometers, is disclosed including a motor driven beam scanner having at least one reflective element or a refractive element. A beam of radiation from a slit source is applied to the scanner. Radiation from the scanner is directed towards an imaging lens system to provide a beam of radiation having an elongated cross-section focused on an image plane. The motion of the scanner provides for periodically scanning the image plane with the elongated beam.



3,449,946
PROBE FOR PHOTOELECTRIC APPLANATION TONOMETERS

Alfred P. Gabriel, Greece, N.Y., Robert E. Lee, Morgantown, W. Va., and Richard C. Mohrman, Irondequoit, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 24, 1967, Ser. No. 633,021
Int. Cl. A61b *9/00*
U.S. Cl. 73—80 **12 Claims**

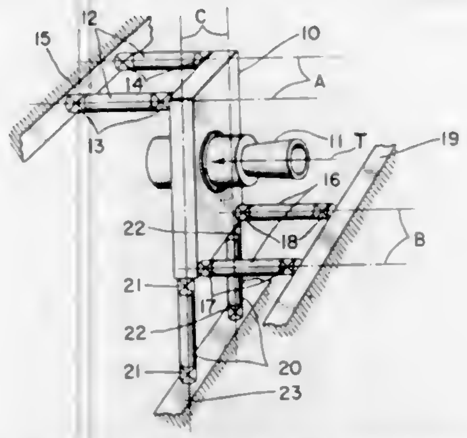


A probe for a photoelectric applanation tonometer including a movable transparent tip portion or contact anvil mounted in place with a highly flexible spring means and closely spaced to an elongated radiation transparent cable means adapted for transmitting radiation from the portion of an eye engaged by the tip portion through the probe towards a radiation sensitive device. A transducer is coupled to the tip portion to generate a signal corresponding to the movement of the tip portion and therefore provides an indication of the force applied to an eye by the probe.

3,449,947
TEST STAND STRUCTURES FOR REDUCING INTERACTING FORCES

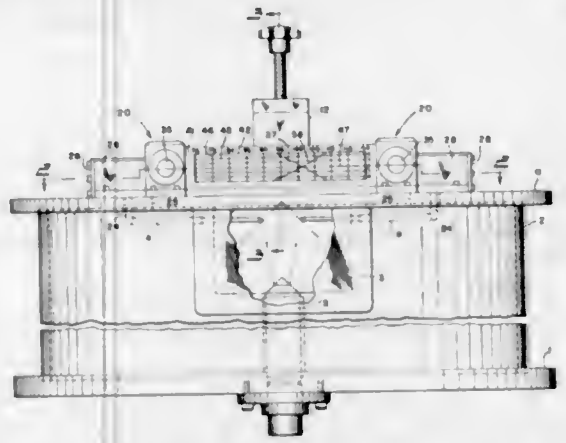
Alfred N. Ormond, 11969 Rivera Road, Santa Fe Springs, Calif. 90670
Continuation-in-part of application Ser. No. 427,001, Jan. 21, 1965. This application Feb. 20, 1967, Ser. No. 628,200
Int. Cl. G01m *15/00*
U.S. Cl. 73—117.4 **6 Claims**

This disclosure concerns a test stand for receiving a force such as a rocket engine thrust force in a given direction. Suitable load cells are coupled to the test stand at spaced points from the applications of the thrust force in such a manner that one of the load cells is placed in compression and the other in tension. As a result of this arrangement, any side force components of the thrust force resulting in the generation of interacting side forces by the load cells will result in these interacting side forces being directed in opposite directions so that they cancel. The same principles may be applicable about other force axes so that true thrust force components may be indicated.



3,449,948
NOZZLE SPRAY TEST DEVICE

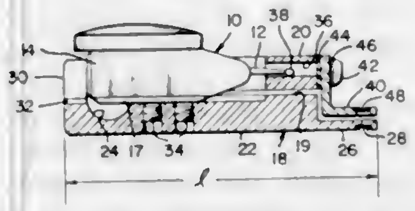
Lloyd L. Kahle, Willowick, and John J. Shandor, Mentor, Ohio, assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1967, Ser. No. 645,773
Int. Cl. G01m *15/00*
U.S. Cl. 73—119 **18 Claims**



Nozzle spray test device for determining spray cone vertex angle of fuel injection nozzle and the like.

3,449,949
FORCE GAUGE

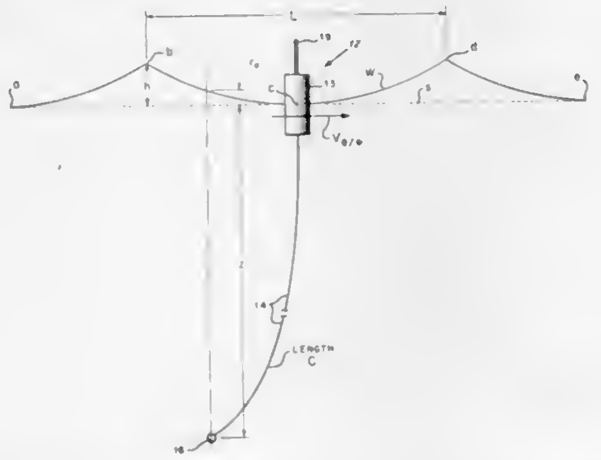
Lee Brody, Los Angeles, and William H. Hill, Carlsbad, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,706
Int. Cl. G01l *5/12*
U.S. Cl. 73—141 **5 Claims**



The disclosed force gauge comprises a body of resilient material defining a slot which divides the body into two portions each having a force receiving anvil at one end so that in response to an applied force couple the slot height is decreased. A rotational displacement indicator having a spring loaded finger sensor is attached to the lower portion of the body by means of a dovetail mounting. The finger sensor is held on a surface of the upper body portion and senses the force couple engendered displacement of the upper portion in relation to the lower portion to indicate the corresponding amount of force on an associated dial. The dovetail mounting allows longitudinal movement of the indicator relative to the slot for calibration purposes.

3,449,950
APPARATUS FOR WAVE ANALYSIS

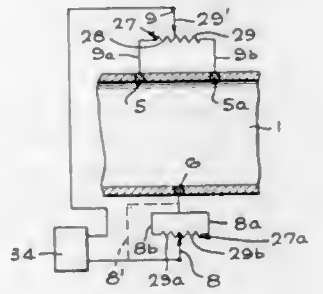
John R. Dale, Willow Grove, Harry R. Menzel, Hatboro, Joseph M. McCandless, Feasterville, and Garnet Goss, Haverford, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Mar. 1, 1967, Ser. No. 620,210
Int. Cl. G01w *1/00*
U.S. Cl. 73—170 **5 Claims**



A method and apparatus for measuring and recording surface waves in any oceanic area by an oceanographic buoy sensing ambient pressure variations at a prescribed depth below the water surface and transmitting the sensed information to a remote location, and a receiving station receiving and recording the information for spectral analysis of the wave. The oceanographic buoy includes a radio transmitter in a float, a pressure sensor, and a flexible conduit operatively connected therebetween for suspending the sensor at a desired depth below the float. A float is selected having a very high buoyancy to weight ratio, a transmitter selected having a flat response over a range of very low frequencies, and a conduit selected having a very low scope. A minimum length of the conduit required is a function of the maximum wave length of the highest expected sea state, the scope of the buoy, and the measurement error tolerance.

3,449,951
FLOWMETER

Allan Westersten, Venice, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 8, 1966, Ser. No. 578,089
Int. Cl. G01f *1/00*
U.S. Cl. 73—194 **14 Claims**



A flowmeter operating on the Faraday principle is subjected to a magnetic field for inducing a potential difference in the fluid, the measure of which indicates volumetric flow. The magnetic field is generated by a current including a fundamental frequency and a third harmonic frequency, with sampling of the output voltages made at the peak voltage time for both the fundamental and harmonic voltages. Electrodes in contact with the fluid being measured are electrically related via variable resistances to electrically simulated measurement of isopotential loops for eliminating eddy current artifacts. A further aspect is the provision of a servosystem for automatically varying the resistances for removing eddy current artifacts.

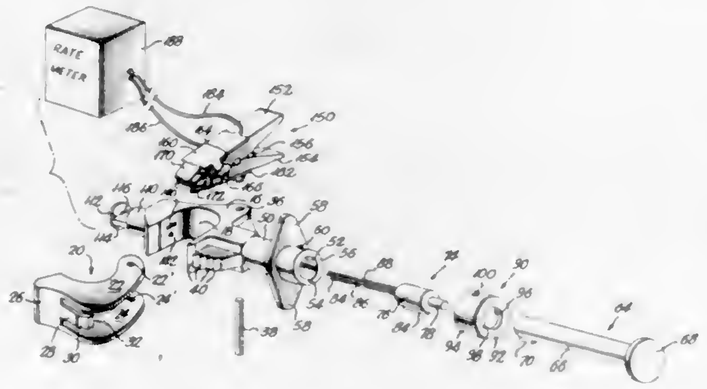
3,449,952
DROP-COUNT ATTACHMENT

Malcolm Neal Brown, Camp Hill, Pa., Thomas Sewell Hargest III, Charleston, S.C., and Herbert Collier Stoltz, Hershey, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed May 19, 1967, Ser. No. 639,901

Int. Cl. G01f *1/04*

U.S. Cl. 73—194 **11 Claims**



A drop-count attachment apparatus which measures drops flowing in a tube. The attachment includes a body means having a recess for receiving the tube. A plunger having three electrodes at its end is slidably mounted in the body means, and an electrical contact is also mounted on the body means in communication with the recess. The plunger may be slided so as to allow the electrodes to pierce the tube and be received by the contact means located across the recess.

3,449,953
FLUID FLOW MEASURING EQUIPMENT

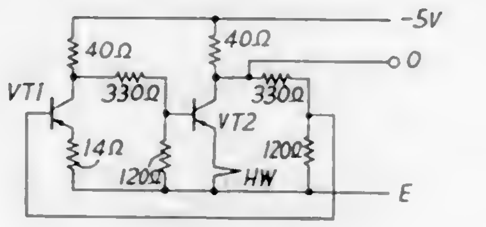
David J. Craft, Taplow, England, assignor to British Telecommunications Research Limited, Taplow, England, a British company

Filed June 15, 1966, Ser. No. 557,646

Claims priority, application Great Britain, June 18, 1965, 25,921/65

Int. Cl. G01f *1/00*

U.S. Cl. 73—204 **5 Claims**



A constant temperature hot-wire anemometer has its hot-wire connected in the output circuit of a low gain amplifier. A fraction of the output signal is supplied via a positive feedback loop to the input of the amplifier, the magnitude of the fraction depending on the electrical resistance and hence on the temperature of the hot-wire. The current required to maintain the hot wire at a temperature such that the loop gain is exactly unity is used as a measure of the cooling effect of fluid flowing past the hot wire and hence as an indication of its flow rate.

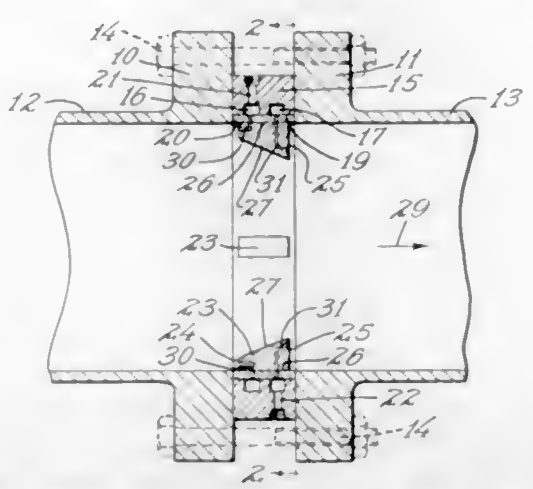
3,449,954
RING-TYPE FLOW METER

William R. Brown, St. Paul, Minn., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Delaware

Filed May 23, 1967, Ser. No. 640,712

Int. Cl. G01f *1/04*

U.S. Cl. 73—212 **5 Claims**



The invention describes a ring-type flow meter adapted to be inserted into a pipeline to measure flow therethrough. One or more differential pressure generating forms are provided. These forms are substantially trapezoidal in outline, having parallel front and rear surfaces substantially on planes normal to the axis of the pipeline, and inclined ramp forming sides which incline inwardly toward the center of the pipeline and downstream. Piezometer passages communicate with the relatively small upstream surface and relatively larger downstream side. If desired, alternately facing ramps may be provided to create differential pressure regardless of the direction of flow.

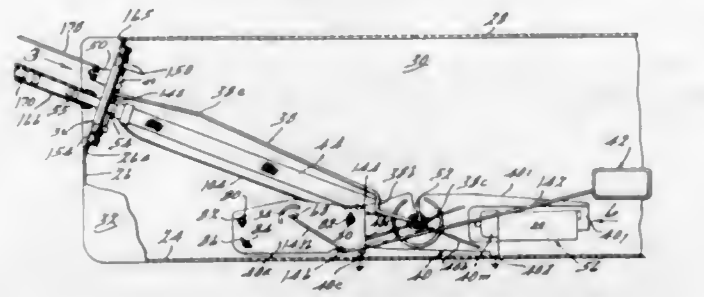
3,449,955
FUEL LEVEL SENDING UNIT

Joachim P. Stadelmann, Madison Heights, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Mar. 24, 1967, Ser. No. 625,861

Int. Cl. G01f *23/08*

U.S. Cl. 73—313 **14 Claims**



For use in a motor vehicle fuel tank, a sending unit includes a leaf spring which is fixed at one end to a plug removably positioned in the usual access hole in a side wall of the tank, the spring extending into the tank in cantilever fashion from the plug with the free end of the spring arranged to press resiliently downwardly against a suitable base structure to maintain the base structure in firm engagement with the bottom wall of the tank. The siphon hose and float of the sending unit are mounted on the base structure and are therefore positively and accurately oriented with respect to the tank bottom wall.

A sending unit for a motor vehicle fuel tank wherein the float and gasoline syphon tube are both mounted on a base structure which is pressed firmly against the bottom of the tank by the free end of a leaf spring extending in cantilever fashion from a plug received in an access hole in a side wall of the tank.

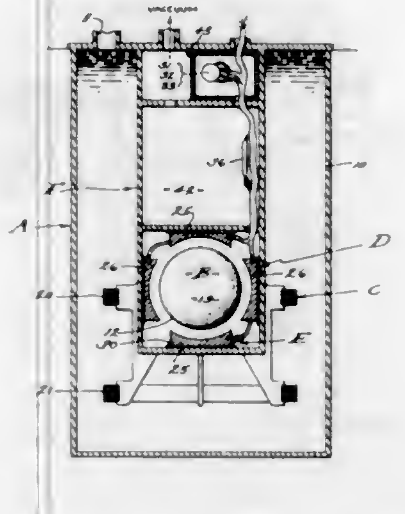
3,449,956
FORCE MEASURING INSTRUMENT

John M. Goodkind, Solona Beach, Calif. (1535 Forest Way, Del Mar, Calif. 92014), and William A. Prothero, La Jolla, Calif. (730 Archer, San Diego, Calif. 92109)

Filed Sept. 3, 1965, Ser. No. 484,989

Int. Cl. G01m *1/12;* **G01p** *15/00*

U.S. Cl. 73—382 **12 Claims**



This invention relates broadly to a geophysical device that detects accelerations, movements, and/or displacements of a suspended mass and employs the phenomenon of superconductive persistent current for the suspension of the mass and accurately detects its movements which result from gravitational, or inertial forces. This invention provides a practical, stable and precise instrument for measuring gravitational forces and as well accelerations along other than vertical axes when and if so desired, through the magnetic support of the mass upon a low angle spring slope, and by disposition of an associated detection means along the axis to be detected.

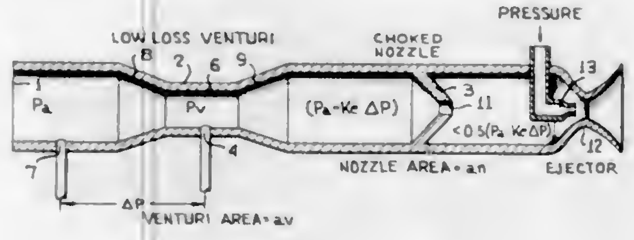
3,449,957
APPARATUS FOR MEASURING ABSOLUTE PRESSURE

William C. O'Neill III, Washington, D.C., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed Sept. 29, 1965, Ser. No. 491,238

Int. Cl. G01l *7/00*

U.S. Cl. 73—388 **8 Claims**



A pressure measuring device in the form of a continuous flow channel has an inlet communicating with a venturi formed downstream thereof. The channel has a nozzle formed therein downstream of the venturi and may include an aspirator at the outlet thereof to maintain the fluid flow through the nozzle at sonic velocity. Openings are provided in a sidewall of the channel at the inlet and the throat of the venturi whereby a measurement of the static pressure may be effected.

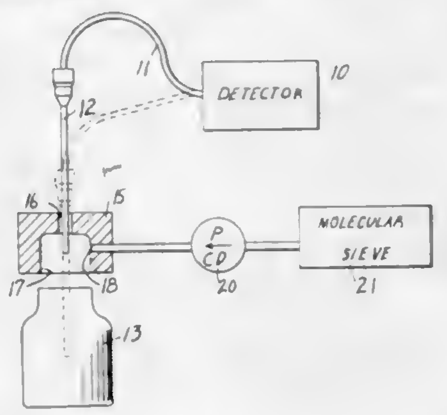
3,449,958
CONTROL ATMOSPHERE FOR GAS SAMPLING APPARATUS

Robert L. Bailey, Spokane, Wash., assignor to National Distillers and Chemical Corp., New York, N.Y., a corporation of Virginia

Filed Apr. 25, 1966, Ser. No. 544,778

Int. Cl. G01n *1/22*

U.S. Cl. 73—421.5 **3 Claims**



An apparatus including a source of control gas and a delivery member provides a control atmosphere for a sampling device which may sample the atmosphere within successive containers to detect the presence of organic contaminants. A sampling tube which reciprocates between the movable containers and the delivery member receives the control atmosphere when its positioned out of the container. The delivery member can include a converted cup-shape chamber positioned to surround the end of the sampler tube or a pivoted member positioned to supply control atmosphere directly into the sample tube.

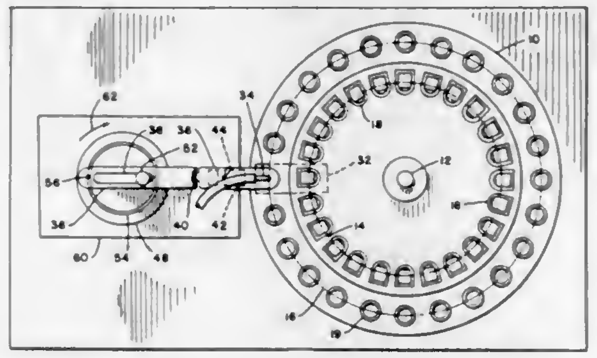
3,449,959
SAMPLE CONTAINER FOR AUTOMATIC SAMPLING APPARATUS

James F. Grimshaw, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed June 27, 1966, Ser. No. 560,760

Int. Cl. G01n *1/10*

U.S. Cl. 73—423 **4 Claims**



An apparatus for supplying samples to an analyzer wherein sample containers are mounted on a turntable which is turned so that samples may be sequentially removed by a probe. The disclosure relates to a particular shaped container and a particular mechanism for manipulating the probe.

3,449,960
CORRECTABLE REFERENCES IN GYROS

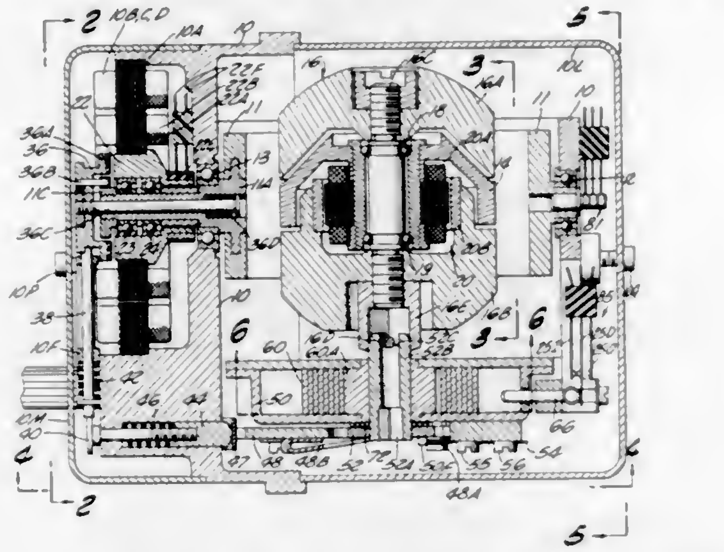
Joseph Kleiman, Los Angeles, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed Feb. 3, 1966, Ser. No. 524,881

Int. Cl. G01c *19/04*

U.S. Cl. 74—5.4 **10 Claims**

A gyro system, during its caged condition, has an element continuously adjusted in accordance with a condition such as, for example, roll of a missile. During uncaging of the gyro system this element is locked to preserve knowledge of roll axis orientation at time of missile launch. This element may be a rotor of a Selsyn which is used for dual purposes, namely as a memory element (phase 1) during the caged condition and later during the uncaged condition when it is locked to one of the gyro gimbals, (phase 2) as an information transmitting element for detection and transmission deviations from a reference point established during the time the element served as a memory element (phase 1). In a modification the memory element may be in the form of a potentiometer type resistance which has its adjustable tap locked to the gyro frame at the time of uncaging.



3,449,961

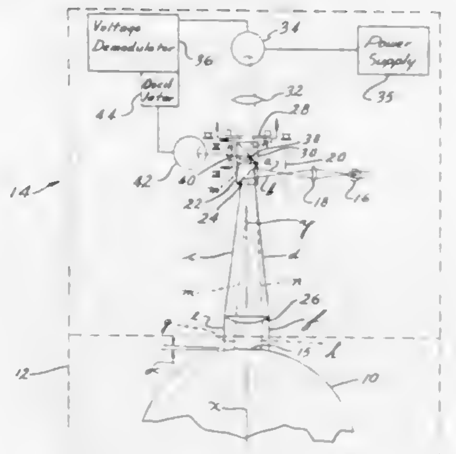
OPTICAL READOUT SYSTEMS

Richard W. Samsel, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,275

Int. Cl. G01c *19/28;* **G01b** *11/26*

U.S. Cl. 74—5.6 **6 Claims**



1. An optical readout system for sensing relative angular movement between a rotating member and a reference base wherein the member has a reflecting flat on its axial end face which is disposed in a plane slightly tilted from a plane normal to the axis of rotation of said member, said system comprising means for directing a collimated beam of light, parallel to said axis of rotation, against said flat whereby a beam of light reflected from said flat travels in a conical path, adjustable means optically concentric with said axis of rotation for vignetting the outer portion of the annular path of said conically traveling reflected beam, photosensitive means for detecting changes in the vignetting of said reflected beam as a result of relative angular movement between the reference base and said axis of rotation, and means for relating in a phase sense changes in the vignetting of said reflected beam to the angular position of the rotating element to thus provide an indication of the direction of such relative angular movement.

3,449,962

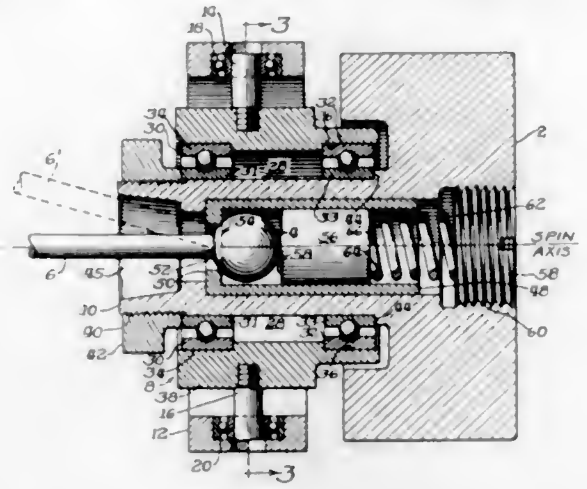
GYROSCOPE FRICTION ERECTION MECHANISM

Daniel D. Call, Mount Prospect, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 29, 1965, Ser. No. 491,133

Int. Cl. G01c *19/06*

U.S. Cl. 74—5.7 **16 Claims**



There is herein disclosed a friction erection-drive mechanism for a gyroscope rotor wherein the rotor is driven by means of a spherically surfaced element which is connected to the output shaft of a drive motor and rotated thereby. The coupling between the spherically surfaced element's drive shaft and the motor drive shaft is comprised of a resilient sleeve adapted to accommodate minor misalignments between the two shafts; and a rigid outer sleeve encasing the resilient sleeve for preventing the thusly coupled shafts from whipping as they are driven by the drive motor. The driving sphere's shaft extends into the rotor through a circular aperture in a plastic bearing-material. A flat faced plug, also of a plastic bearing-material, is spring-biased so as to urge the driving sphere against the circular opening. The plastic elements conform to the surface irregularities on the driving sphere thereby eliminating the normal nutational tendencies of point contact friction erection devices.

3,449,963

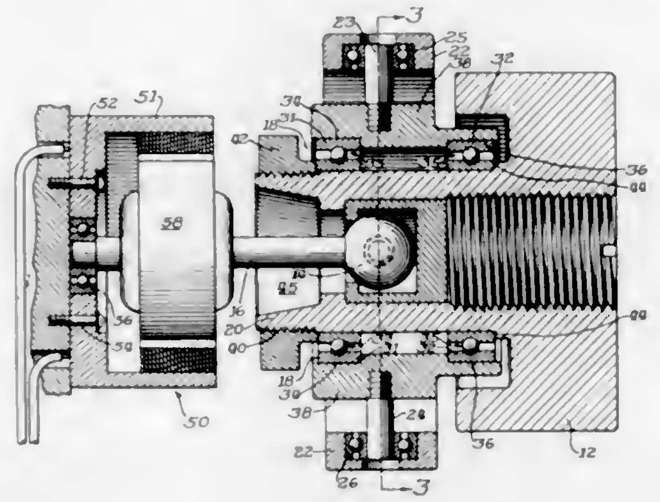
GYROSCOPE DRIVE SUPPORT MECHANISM

Daniel D. Call, Mount Prospect, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 29, 1965, Ser. No. 491,212

Int. Cl. G01c *19/06*

U.S. Cl. 74—5.7 **8 Claims**



There is herein disclosed a friction erection drive mechanism for a gyroscope rotor wherein the rotor is driven by means of a spherically surfaced element which is mounted on the output end of a motor's drive shaft. The other end of the motor's drive shaft is mounted in a bearing assembly which, aside from the driving member's contact with the rotor, is the only support for the drive shaft. In this manner, the drive shaft is effectively suspended between only the spin stabilized rotor on one end of the single bearing assembly on its other end.

3,449,964

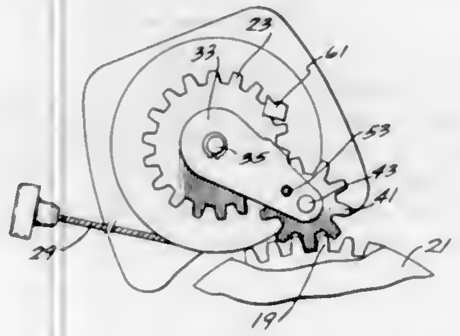
SWING ARM STARTER

James A. Meyer, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Continuation-in-part of application Ser. No. 546,719, May 2, 1966. This application July 23, 1968, Ser. No. 748,900

Int. Cl. F02n *3/02*

U.S. Cl. 74—8 **11 Claims**



Disclosed herein is the combination of an engine having a crankshaft and a connected engine gear, a member rotatably mounted on an axis fixed with respect to the engine and including a sheave and a second gear concentric with the fixed axis, a pinion meshed with said second gear and rotatably mounted on an arm pivotally mounted concentrically with said member for movement relative to a position in engagement with said engine gear, a spring biased friction clutch for releasably restraining rotation of the arm relative to the member, a pull rope connected to the sheave and operable upon unwinding from the sheave to rotate the member in one direction and to thereby move said pinion into engagement with said engine gear, and spring means connected to said member so as to be tensioned upon unwinding of said rope and upon release of said rope to effect rotation of said member to wind said rope upon said sheave, and to effect rotary motion of said arm away from said engine gear.

3,449,965

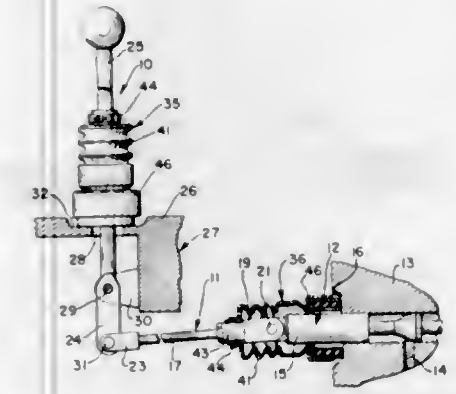
SHIELD WITH MAGNETIC CONNECTING RING

Charles W. Ross, 1100 Blackhawk Road, Moline, Ill. 61265

Filed Jan. 16, 1967, Ser. No. 609,535

Int. Cl. F16j *15/52, 15/18*

U.S. Cl. 74—18.1 **13 Claims**



A magnetic connecting ring used primarily in a shield device for an elongated control element that projects out of a housing structure and is adapted to move in respect to the wall of the housing structure, and composed of an annular magnetic structure that surrounds the control element and is magnetically attracted to the wall of the housing structure, and a flexible sleeve that fits around the element and is connected at one end to the magnetic structure and at the opposite end to the shank of the element.

3,449,966

WINDSCREEN WIPER DRIVE MECHANISMS

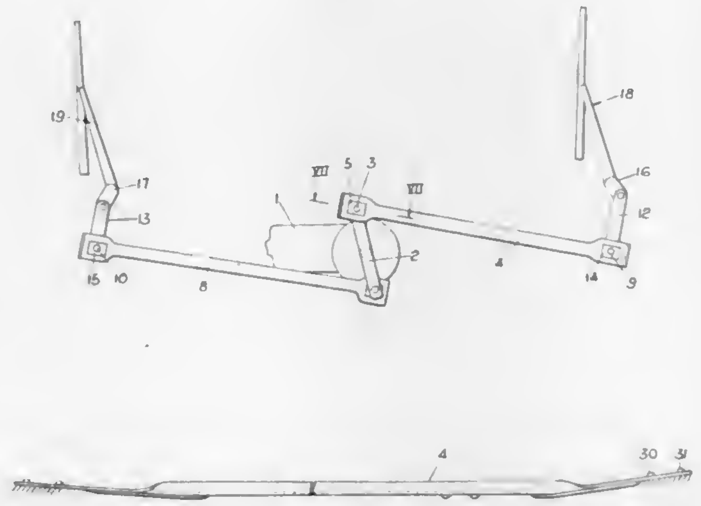
Derek Norman Stevens, Dunstable, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 22, 1967, Ser. No. 692,918

Claims priority, application Great Britain, Jan. 11, 1967, 1,412/67

Int. Cl. F16h *21/02, 21/40;* **F16c** *9/06*

U.S. Cl. 74—44 **9 Claims**



Each end of a link between a windscreen wiper motor crank and the crank on the wiper arm pivot shaft carries a bush formed as a rectangular prism two opposite faces of which are respectively convex and concave and form parts of the surfaces of the larger and smaller of two concentric cylinders of different radii; the bush has a bore to receive a crankpin and in use the bush can pivot on the edge of a rectangular opening in the link engaged by the concave surface to permit relative movement between the link and the cranks, thus enabling the cranks to be out of parallel with each other.

3,449,967

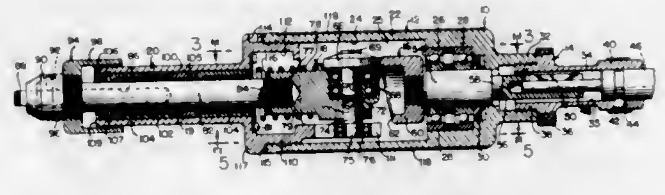
PROFILING MACHINE

Joseph J. Dancsik, 23550 Oneida Ave., Oak Park, Mich. 48237

Filed July 17, 1967, Ser. No. 653,766

Int. Cl. F16h *25/12*

U.S. Cl. 74—56 **4 Claims**

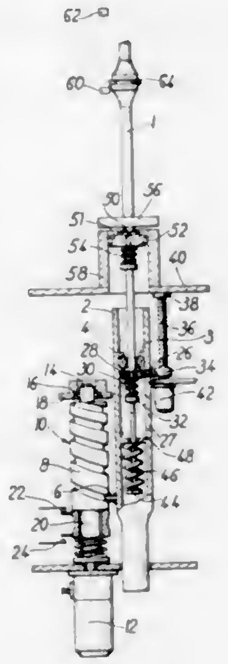


This invention pertains to a hand-type profiling machine having an axially mounted movable tool holder that reciprocates in a to-and-fro motion in response to a rotary member having a cam edge, whereby the rotary motion of the cam edge is translated into an axial longitudinal reciprocating motion of the complementary tool holder.

3,449,968

DRIVE MECHANISM FOR EFFECTING A VERTICAL RECTILINEAL MOVEMENT

Victor Gerard, Cachan, and Georges Palomo, Aix-en-Provence, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Aug. 16, 1966, Ser. No. 572,749
Claims priority, application France, Aug. 26, 1965, 29,584
Int. Cl. F16h *25/12*
U.S. Cl. 74—57 **8 Claims**

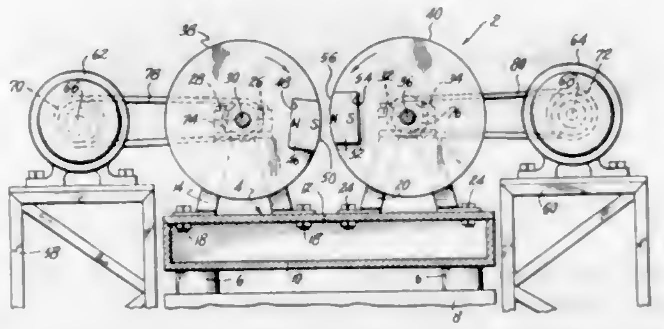


The drive mechanism is adapted to control movement of small amplitude of an element which must be able to fall very quickly or to be displaced progressively, for example, a control and safety rod of a very small nuclear reactor, said element being fixed on a rod secured by an electromagnet in a guide tube and driven with it in progressive movement. The rod has two collars positioned within the guide tube. The first collar is the armature of the electromagnet and is alternately in abutment on one of two internal shoulders of the guide tube, one of which supports the electromagnet. The second collar, at the end of the rod, supports a spring which pushes the second collar away from the second shoulder and pulls the first collar in abutment on this second shoulder when the electromagnet is deenergized and the rod falls freely in the guide tube.

3,449,969

MAGNETICALLY SYNCHRONIZED VIBRATOR APPARATUS

Maurice Thomas Dorris, 19702 Matsonia Ave., Huntington Beach, Calif. 92646
Filed Feb. 16, 1967, Ser. No. 616,639
Int. Cl. F16h *33/00*
U.S. Cl. 74—61 **17 Claims**

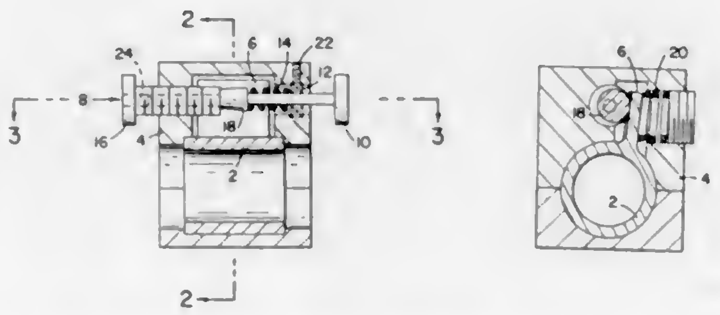


Two independently driven rotary members provided with at least one permanent magnet, or electromagnet, to synchronize their rotation; each rotary member having means in the form of the mass of the magnet and/or some other mass associated therewith, to provide eccentric masses which, when rotated in opposite directions, will impart a vertical vibrating force to any desired structure. The rotary members are directly or indirectly, independently driven by an electric motor, either (or both) of which includes a variable resistor in the current supply line for adjusting the speed of the motors so that both rotary members rotate at as nearly the same speed as possible, whereupon the magnets will compensate for any slight out-of-phase rotation and maintain the rotary members synchronized. One of the rotary members may have a plurality of electromagnets mounted thereon, any one of which may be separately energized and cooperate with a magnet on the other rotary member to vary the direction of the vibrating force. In lieu of an electric motor drive, the rotary members can be designed as turbine elements and driven by adjustable jets of compressed air, etc.

3,449,970

FINE AND COARSE ROTATION CONTROL DEVICE

Keith K. Klatt, San Pedro, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 11, 1967, Ser. No. 652,634
Int. Cl. F16h *27/02, 29/02*
U.S. Cl. 74—89 **5 Claims**

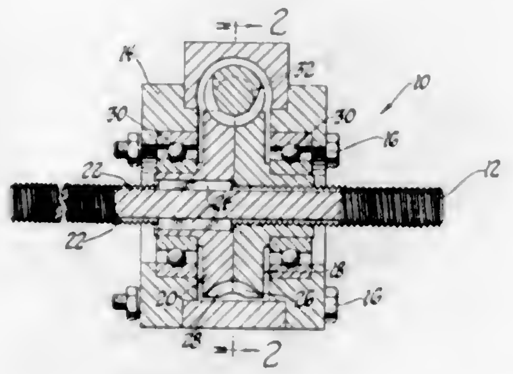


A rotary adjustment device having a tapered arm attached to a rotatable member. This arm bears against an eccentric cam. The cam is rotated to achieve coarse adjustment and axially moved to achieve fine adjustment.

3,449,971

LINEAR ACTUATOR

Raymond C. Posh, Livonia, Mich., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,270
Int. Cl. F16h *29/20, 29/02, 27/02*
U.S. Cl. 74—89.15 **9 Claims**

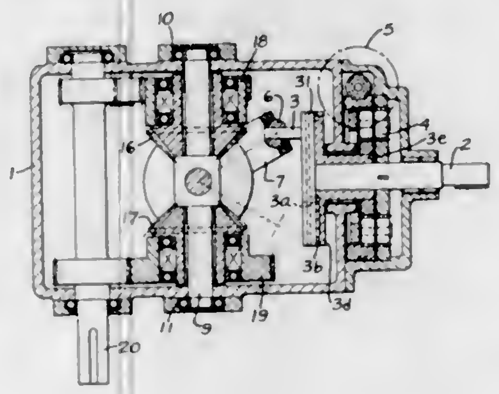


An actuator including a threaded shaft with one wheel-like member rotatably supported in a housing and in threaded engagement with the shaft and another wheel-like member rotatably supported in the housing and in splined relationship with the shaft so as to rotate with the shaft while allowing relative movement therebetween axially of the shaft. There is also included means for causing relative rotation between the wheel-like members whereby a small force moved over a large distance on the input to the actuator is connected to a large force moved over a very small distance at the output of the actuator.

3,449,972

INFINITELY VARIABLE TRANSMISSION WITH OVERRIDING CLUTCH

Gottfried Wicenec, Beckum, Germany, assignor to Julius Meimberg, Munster, Germany
Filed Jan. 25, 1967, Ser. No. 611,678
Int. Cl. *29/08*
U.S. Cl. 74—119 **10 Claims**

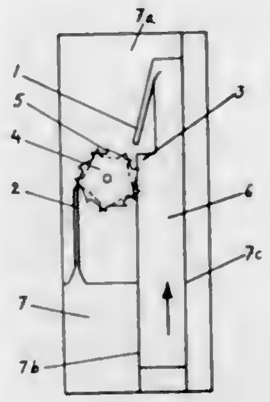


The invention relates to a variable speed transmission in which rotation of an input member causes oscillation of a drive element connected by way of a pair of reversely operating overrunning clutches with an output member with means for varying the stroke of the oscillating member to vary the drive ratio of the transmission and with gearing interposed between the overrunning clutches and the output member.

3,449,973

LOCKING DEVICE

Arne Ytterhag, Alvsjo, Sweden, assignor to Telefon AB L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed June 2, 1967, Ser. No. 643,229
Claims priority, application Sweden, June 7, 1966, 7,747/66
Int. Cl. F16h *31/00*
U.S. Cl. 74—128 **5 Claims**

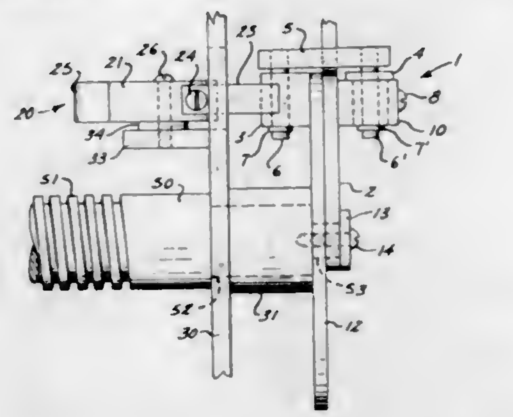


A locking device for a reciprocating member comprising two tooth-wheels connected to each other on a common axis of rotation, one of said tooth-wheels having teeth cooperating with a pawl of said reciprocating member and being rotated one tooth pitch for each movement of said member in one direction, the other wheel having a less number of teeth, one of said teeth locking said member against movement in the other direction, when said member has reciprocated a predetermined number of times.

3,449,974

TOGGLE DRIVE ACTUATOR

Billy P. Compton, 1000 W. 55th St. S., Wichita, Kans. 67217
Filed June 2, 1967, Ser. No. 644,758
Int. Cl. F16h *27/02*
U.S. Cl. 74—142 **4 Claims**

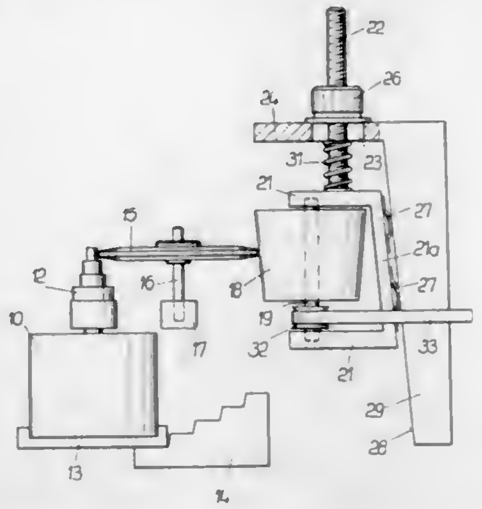


This disclosure describes a rotary actuator which comprises a disk attached to an output shaft and is torqued by intermittent gripping action of a drive bracket and pressure block interconnected by a toggle. The drive bracket is oscillated through on arc segment to provide the power source input. A set (2) of springs are provided to direct and control the gripping action of the pressure block to provide bi-directional torque output.

3,449,975

ADJUSTABLE DRIVE MECHANISM FOR PHONOGRAPHS

Wolfgang Hasselbach, Konigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft
Filed Dec. 19, 1966, Ser. No. 602,822
Claims priority, application Germany, Dec. 24, 1965, B 85,136
Int. Cl. F16h *15/16*
U.S. Cl. 74—193 **4 Claims**



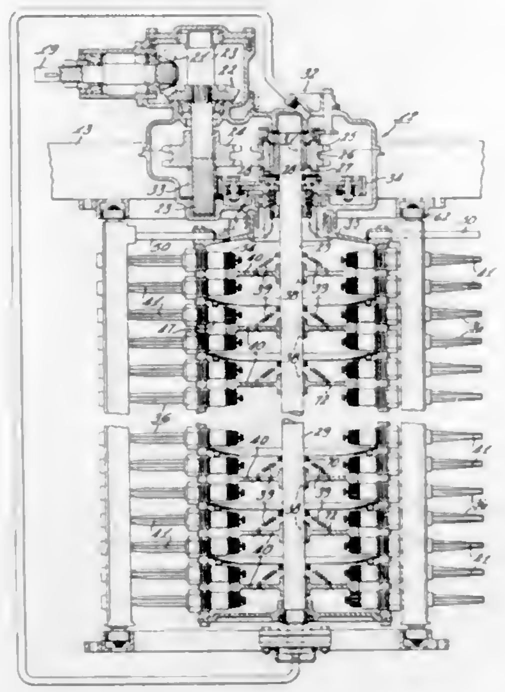
This invention concerns a drive mechanism which includes a motor-driven stepped shaft, a friction transfer wheel selectively engageable with each step of the stepped shaft, and a conical roller engaging the transfer wheel and axially adjustable relative to it. This drive is particularly useful in phonograph record players.

3,449,976

ARRANGEMENT FOR REDUCING BACKLASH AND WEAR BETWEEN GEARS

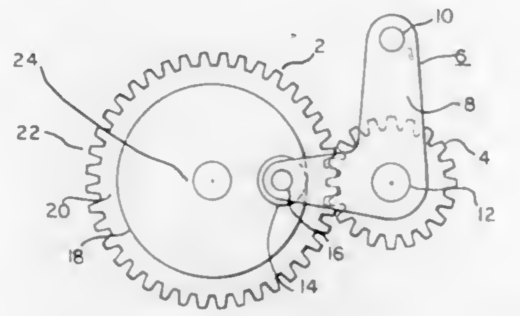
Rector C. Fergason, Gadsden, Ala., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 1, 1967, Ser. No. 665,042
Int. Cl. F16h *55/18*
U.S. Cl. 74—409 **9 Claims**

A double bevel gear mounted on a vertical drive shaft is in geared engagement with bevel pinions on its respective upper and lower gear surfaces. The double bevel gear is capable of limited vertical movement on the drive shaft. A spring means supports the weight of the double bevel gear, thereby in effect rendering the double bevel gear weightless, and thereby equalizes the backlash of the upper and lower pinions with respect to the double bevel gear. The arrangement just described may be used for driving the cotton picking spindles of a cotton harvesting machine.



3,449,977
GEAR MESHING ARRANGEMENT

Benjamin Wilbur, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1967, Ser. No. 676,245
Int. Cl. F16h *57/00*
U.S. Cl. 74—409 **6 Claims**

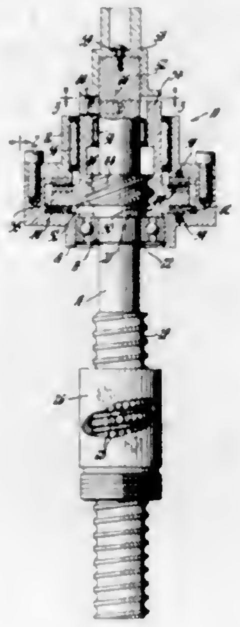


A guide roller is maintained against the inside of one gear rim in a meshed gear set to reduce backlash and prevent the gears from pulling apart. The roller path is machined to the combined mesh held in contact to compensate for inaccuracies of mesh between the gears.

3,449,978
IRREVERSIBLE MECHANICAL MOVEMENT DEVICE

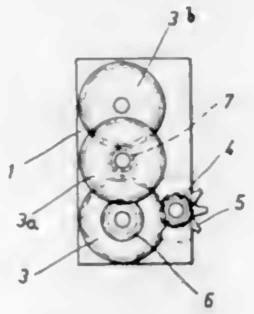
Flave F. Stimpson, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 27, 1967, Ser. No. 685,796
Int. Cl. F16h *57/00*
U.S. Cl. 74—411.5 **3 Claims**

An irreversible ball screw actuator assembly includes an output shaft having one portion formed as an output ball bearing screw having engaged thereon a recirculating train of bearing balls and output ball nut, another portion of the output shaft being formed with acme or like threads providing a brake screw engaging a braking nut disposed adjacent a stationary housing carrying a friction brake member. Backdriving of the output shaft by a load on the output nut drives the brake screw for engagement of the braking nut with a friction brake member to hold the brake nut stationary and thus hold the output shaft stationary through the brake threads. A rotary input to the output shaft in either rotary direction is provided by a coupling operable in one direction of input to initially rotate the brake nut on the brake screw for disengagement from the braking member whereupon the brake nut couples to the output shaft for driving rotation of the latter, rotary input in the opposite direction causing direct drive on the output shaft and brake screw relative to the brake nut to again disengage the latter from the braking member.



3,449,979
GEARING ARRANGEMENT

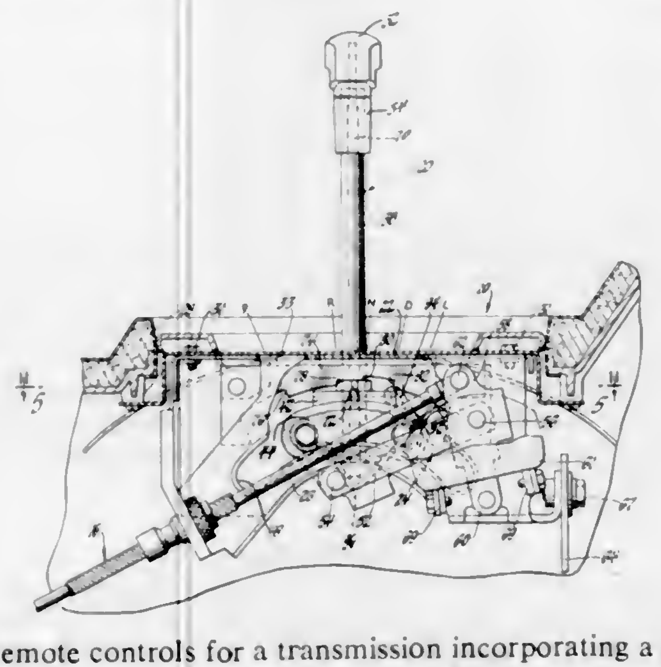
Artur Fischer, 133 Grunmettstetterstrasse, 7241 Tumlingen, Kreis, Freudenstadt, Germany
Filed Oct. 25, 1967, Ser. No. 677,953
Claims priority, application Germany, Nov. 2, 1966, F 50,586
Int. Cl. F16h *1/12, 1/20, 3/08*
U.S. Cl. 74—421 **11 Claims**



The invention relates to a variable-ratio gearing arrangement comprising a support provided with passages. A drive gear is mounted on the support for rotation about a first axis defined by one of the passages. A first gear having a predetermined diameter is provided with a shaft received in one of the passages and is in meshing engagement with the drive gear. A pinion is fixed to the first gear coaxial therewith for rotation with the first gear. At least one second gear is provided with an output shaft and is arranged for rotation about a third axis in motion-transmitting relationship with the pinion. In this arrangement the various gears constitute a first gear train having a predetermined transmission ratio. The first and second gears are removably mounted and the second gear has a diameter identical with the predetermined diameter of the first gear so that the latter may be removed and the second gear substituted, in which case the second gear rotates about the axis of rotation originally utilized by the first gear and is in meshing engagement with the drive gear with which it constitutes a second gear train whose transmission ratio is different from the predetermined transmission ratio of the first gear train.

3,449,980
TRANSMISSION SHIFT CONTROL

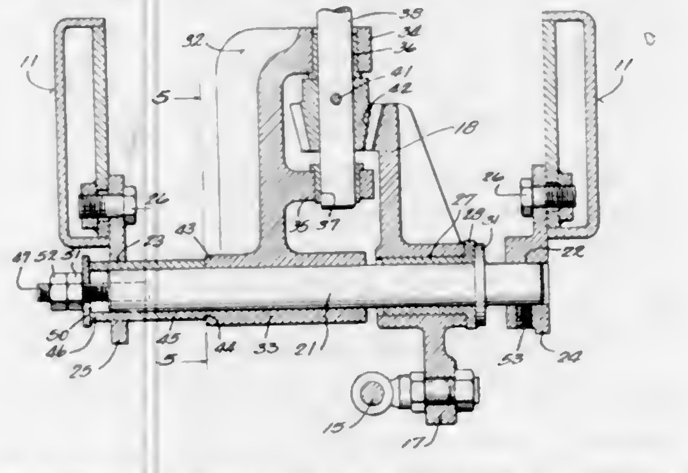
Richard E. Hulten, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,705
Int. Cl. G05g *9/00, 1/04, 5/06*
U.S. Cl. 74—473 **5 Claims**



Remote controls for a transmission incorporating a shift lever assembly mounted for limited rotation by slide members disposed in arcuate slots in a housing assembly. The slots provide a remote pivot axis for the lever assembly permitting the use of a short shifter lever having a long effective length. The lever assembly actuates a cable which turns the transmission shifter shaft to condition the transmission for neutral, park or a selected drive range. The shift lever assembly includes a spring biased detent portion which engages stop shoulders to inhibit inadvertent movement of the lever assembly from predetermined positions.

3,449,981
ADJUSTABLE STEERING GEAR

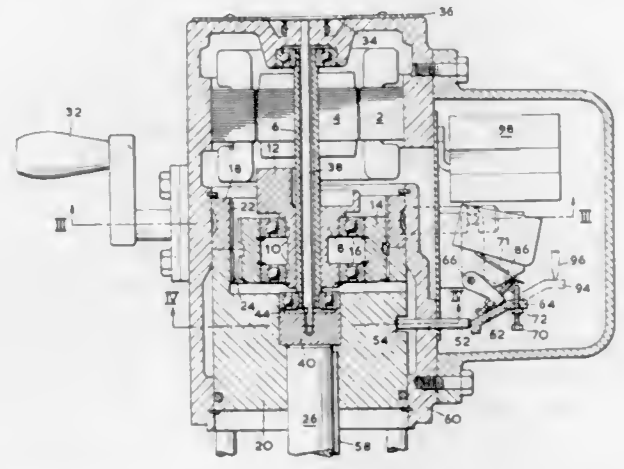
Warren H. Price, Sheboygan, Wis., assignor to Gilson Bros. Co., Plymouth, Wis., a corporation of Wisconsin
Filed Dec. 12, 1967, Ser. No. 689,889
Int. Cl. B62d *1/20, 3/12;* **F16h** *35/08*
U.S. Cl. 74—498 **8 Claims**



This disclosure relates to an adjustable steering gear for a wheeled vehicle in which the sector gear and the pinion gear carrier are free to float or shift axially on the axis of the steering gear shaft during assembly. The position of the gears along the shaft axis is set after assembly. At least one of the gears is adjustable after use in order to compensate for gear tooth wear.

3,449,982
ROTARY ACTUATORS

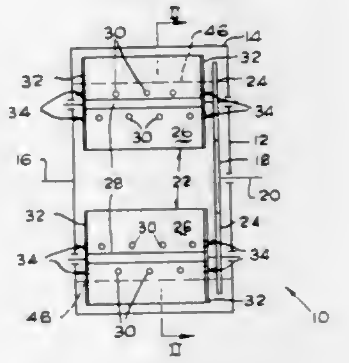
Desmond Ernest Hutchinson and Harry Wilkinson, Bradford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Oct. 26, 1967, Ser. No. 678,377
Claims priority, application Great Britain, Oct. 26, 1966, 47,962/66
Int. Cl. G05g *11/00;* **F16h** *1/16;* **F16k** *31/02*
U.S. Cl. 74—626 **10 Claims**



This invention is concerned with a switch system for an actuator and particularly for a fractional-revolution actuator. The system includes two switch-operating members which are movable (for example pivotally) respectively in response to the position of the actuator output member and the state of a torque-sensitive member, each switch-operating member being capable of carrying switch actuators so that a user can arrange for the actuator to be controlled either by switches responsive to the output member position, or by torque-limiting switches, or by both.

3,449,983
FLUID TORQUE TRANSMITTER

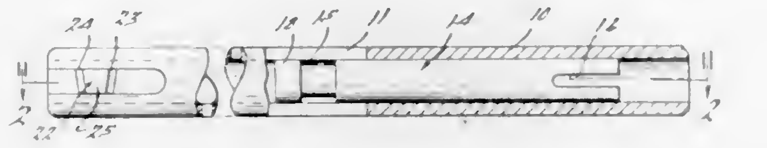
Eric Helmuth Friedmann, Kenilworth, Cape Province, Hendrik Cancrinus, Rondebosch, Cape Province, Richard Timothy Trembath, Plumstead, Cape Province, and John Philip Fourie, Tokai, Cape Province, Republic of South Africa, assignors to Inpower Works (Proprietary) Limited
Filed Sept. 30, 1966, Ser. No. 583,357
Claims priority, application Republic of South Africa, Oct. 1, 1965, 65/5,334
Int. Cl. F16h *3/74*
U.S. Cl. 74—752 **9 Claims**



A liquid entrapping wheel having outwardly extending vanes of substantially C-section fast with and spaced circumferentially about a central boss, the vanes extending axially between axially spaced side walls, fluid rejection openings being provided at the boss, and leading out of recesses defined between adjacent vanes. A fluid torque transmitter which makes use of a liquid-entrapping wheel mounted to rotate on a rotatably mounted carrier, the liquid-entrapping wheel being fast with a planet wheel drivingly connected to a driven wheel co-axial with the carrier and rotatable relative thereto.

3,449,984
DEBURRING TOOL AND A METHOD OF MAKING A DEBURRING TOOL

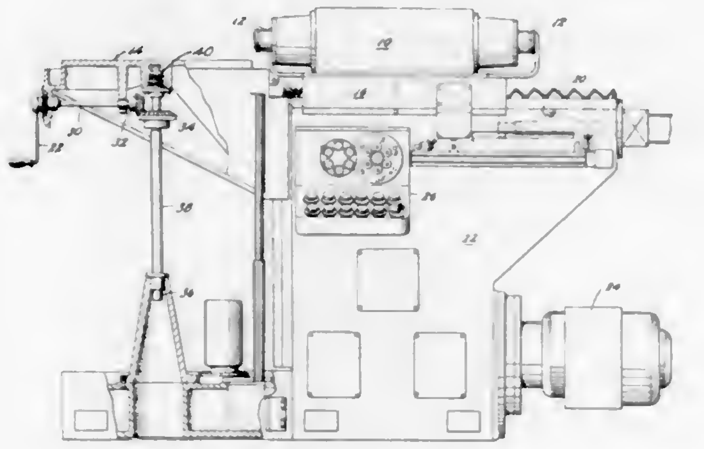
Stuart A. Cogsdill, Orchard Lake, Mich., assignor to Cogsdill Tool Products, Inc.
Filed Oct. 6, 1964, Ser. No. 401,876
Int. Cl. B21k *21/00;* **B23b** *51/10;* **B23d** *77/00*
U.S. Cl. 76—101 **2 Claims**



2. The method of construction of a deburring tool which includes the steps of: dressing the inside of a length of standard tube of low carbon steel to a desired diameter, diametrically slotting the tube inwardly from one end to provide two portions, slotting one of the portions at the free end thereof, case hardening the inner and outer walls of the tube, brazing a cutting nib in the slot in one of the portions, and frictionally retaining a pin within said tube which pin is adjustable therealong by means of a recess adjacent one end of said pin forming a head thereon which functions as a fulcrum and changes the bending moment of the two portions when the pin is adjusted within the tube and retained in adjusted position by said frictional retention.

3,449,985
MACHINE TOOLS

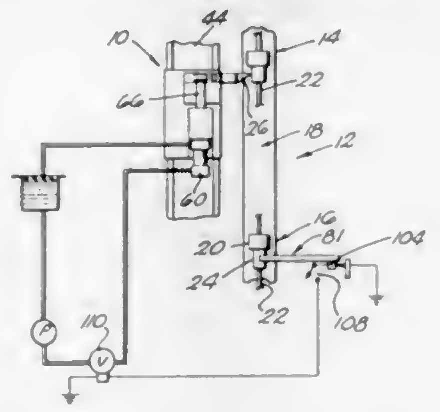
Dennis Robert Eaves, Bournemouth, Horst Bergemann, Christchurch, and William Gordon Groves Bishop, Bournemouth, England, assignors to Eaves, Bishop & Sons Limited, Christchurch, Hampshire, England, a British company
Filed June 25, 1965, Ser. No. 555,209
Int. Cl. B23b *39/20, 39/10, 47/18*
U.S. Cl. 77—25 **2 Claims**



A machine tool which includes a horizontally reciprocable turret indexable about a vertical axis, the turret carrying a plurality of selectively driven tool-receiving spindles. The distance and rate of advance of the slide can be controlled for each indexed position of the turret and the means controlling the rate of advance of the slide includes a separate hydraulic flow valve for each spindle. The flow valves are contained in a valve block having a distributor shaft which is indexed in accordance with indexing movements of the turret.

3,449,986
AUTOMATIC TOOL RESETTING APPARATUS

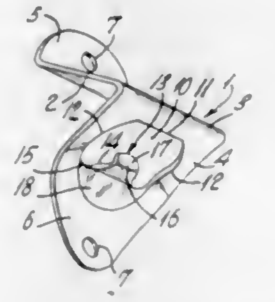
Lloyd H. Joichi, Warren, Mich., assignor to La Salle Machine Tool, Inc., Warren, Mich., a corporation of Michigan
Filed Sept. 30, 1966, Ser. No. 583,189
Int. Cl. B23b *3/00*
U.S. Cl. 82—2 **5 Claims**



Apparatus for incrementally moving a machine tool so as to compensate for tool wear and thereby maintain workpieces machined thereby of a predetermined outer diameter. The apparatus includes a tool support which has a fixed section and a section deflectable relative to the fixed section, the tool being mounted on the deflectable section. An incrementally moving member which is mounted on the fixed section and engaged with the deflectable section is operable to deflect the deflectable section so as to move the tool in a direction to compensate for tool wear.

3,449,987
BOTTLE OPENER AND METHOD

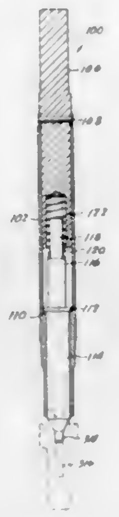
Leonard S. Kavalus, Livingston, and Henryk Lenarcik, Linden, N.J., assignors to American Flange & Manufacturing Co. Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,873
Int. Cl. A47j *45/00*
U.S. Cl. 81—3.3 **4 Claims**



A rigidly mounted tool for opening bottles, particularly lightweight metal tear off closures, comprising a metal body member having a closure receiving opening. The opening is formed with a sharp cap gripping portion bordering one edge and a cap breaking finger on an opposing edge. The cap breaking finger extends in the direction of the one edge and out of the plane of the aperture. Positioned below the finger on the metal body member is a cap engaging panel disposed so that the finger extends into the mouth of a bottle operatively positioned against the cap gripping portion and the cap engaging panel.

3,449,988
SPEED TOOL WITH GUIDE PIN

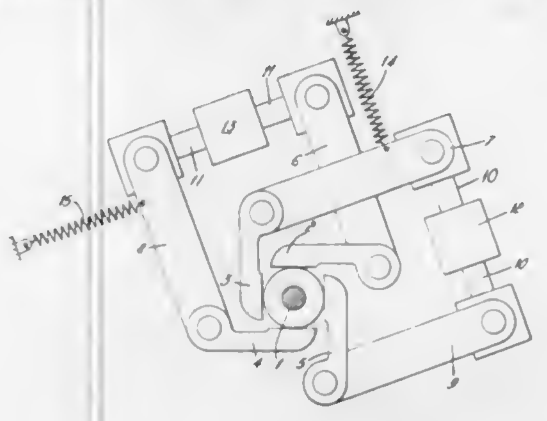
John Gallo, Sr., 64–66 Broad St.,
Boston, Mass. 02109
Filed July 13, 1967, Ser. No. 653,102
Int. Cl. B25b *13/02, 15/00;* **F16b** *23/00*
U.S. Cl. 81—90 **1 Claim**



A speed fastener of the bolt type having a central aperture which includes a threaded portion and a plurality of eccentric apertures in the head of the driver, a cap for being threadably received in the central aperture, and a driver including a central supporting guide pin and a plurality of fingers for engaging in the eccentric apertures in the fastener head are disclosed.

3,449,989
CABLE ECCENTRICITY CONTROL

Norman Stanley Bliss, East Wellow, near Romsey, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 29, 1967, Ser. No. 650,130
Claims priority, application Great Britain, Aug. 16, 1966, 36,535/66
Int. Cl. B23b *5/36, 25/00*
U.S. Cl. 82—20 **8 Claims**

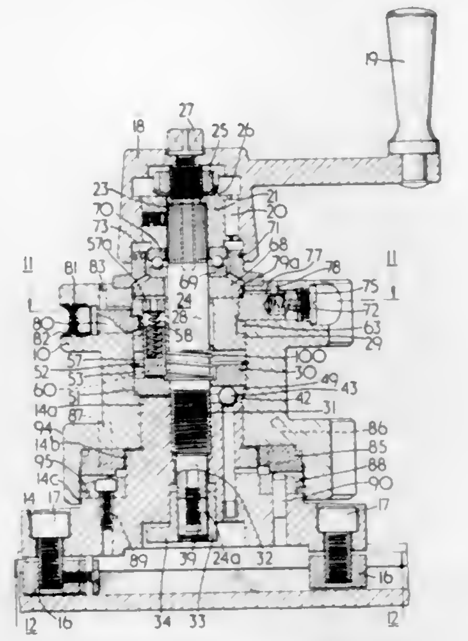


Pairs of guide members are positioned on opposite sides of a cable to align the axis of the central conductor and to position the conductor symmetrically with respect to the insulation. The guide members are controlled by a sensing device and feedback arrangement.

3,449,990
MANUALLY INDEXABLE TURRET FOR A MACHINE TOOL

Julius Harman, Coventry, England, assignor to Alfred Herbert Limited, Foleshill, Coventry, England
Filed Apr. 24, 1967, Ser. No. 633,192
Claims priority, application Great Britain, Apr. 27, 1966, 18,380/66
Int. Cl. B23b *29/24*
U.S. Cl. 82—36 **7 Claims**

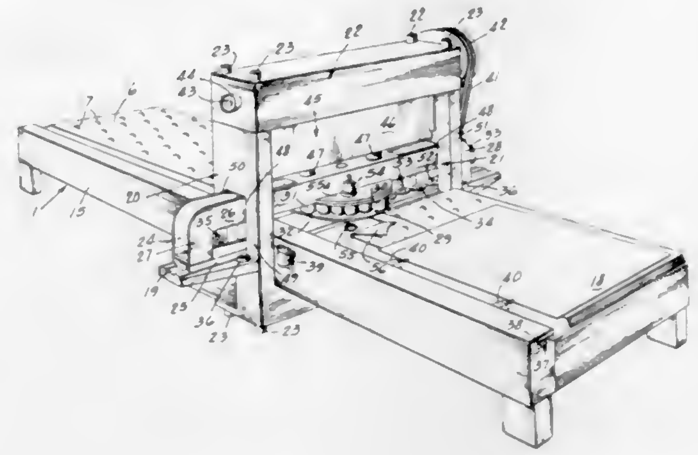
A manually indexable turret has its tool holder held by a dog clutch in an indexed position. An arcuate movement of a handle in one direction releases the tool holder



and indexes it to the next position, and a reverse movement of the handle re-engages the dog clutch.

3,449,991
PUNCH PRESS

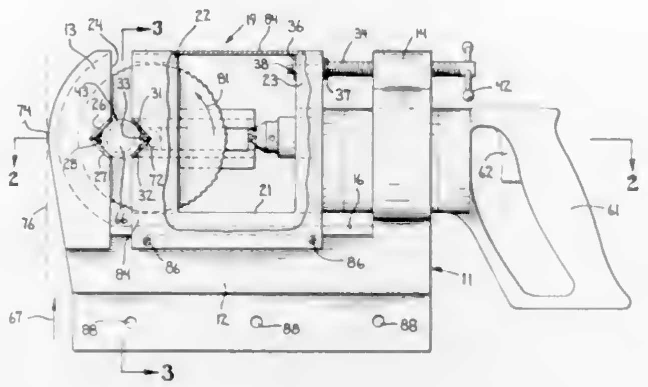
Dennis Daniels, 122 Berkley Road,
Williamsville, N.Y. 11211
Continuation-in-part of application Ser. No. 528,856, Feb. 21, 1966. This application Feb. 6, 1967, Ser. No. 629,335
Int. Cl. B26d *5/30, 7/06, 5/12*
U.S. Cl. 83—71 **61 Claims**



A numerically controlled punching machine feeds the workpiece in the X-axis over a stationary base, the base also supporting a D-shaped frame for movement in the Y-axis. The frame rotatably supports a pair of tool turrets between which the workpiece is passed. The turrets are power driven and employ tooling of more than one envelope size. The base supports a driven ram which is connected to two ram assemblies aligned with diametrically opposite turret stations, only one ram assembly being actuatable at a time. A tool loader simultaneously loads both punch and die tooling in the turrets. A power-driven bolster allows for use of a number of dies having various outside diameters. The ram assemblies have fluid-pressurized means for actuating a stripping element associated with the punch.

3,449,992
MANUALLY-HELD POWER-DRIVEN PIPE CUTTER

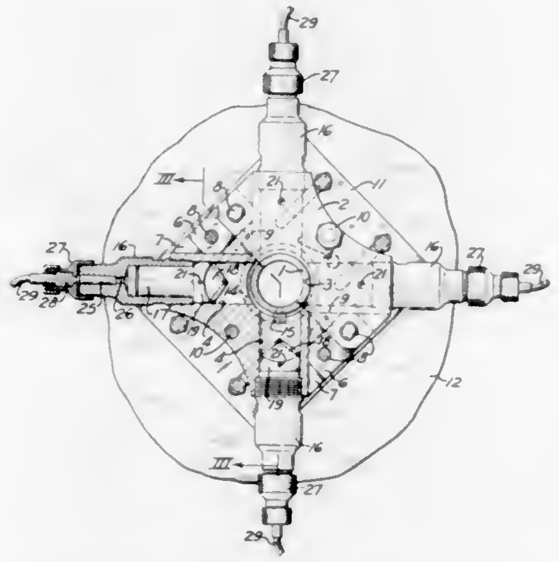
Charles D. Hanaway, Indianapolis, Ind.
(R.R. 1, Butlerville, Ind. 47223)
Filed Mar. 2, 1967, Ser. No. 620,116
Int. Cl. B26d *7/02, 1/18, 5/10*
U.S. Cl. 83—455 **2 Claims**



A pipe or bar cutting machine of compact construction having a main frame and a secondary frame with gripping surfaces on both frames and the secondary frame guided and movable on the main frame by a screw adjustment for clamping a work piece. An electric motor with a convenient grip and trigger slidably mounted in the main frame and driving a rotary cutter also slidably mounted in a frame to move the cutter through a work piece clamped between the gripping surfaces of the frames. The frames are conveniently portable by reason of their attachment to the motor and the convenient hand grip on the motor.

3,449,993
HEAVY DUTY PIPE CUTTING TOOL

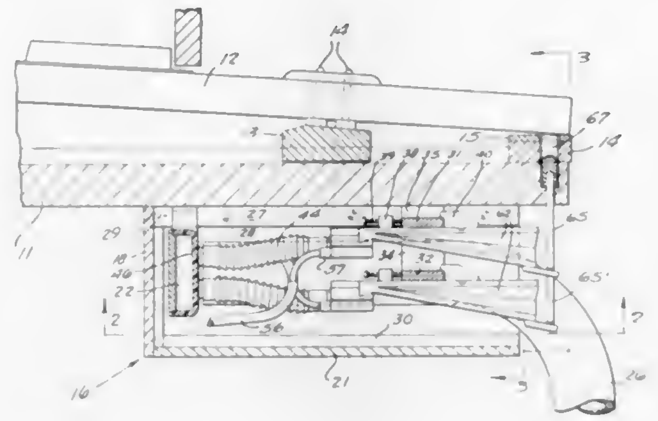
Robert Temple, Pittsburgh, Ernest E. Temple, Murrysville, and Joseph L. Giebel, Pittsburgh, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 9, 1967, Ser. No. 607,932
Int. Cl. B26d *5/12, 3/00, 11/00*
U.S. Cl. 83—639 **6 Claims**



A heavy duty pipe cutting tool has a frame with a central opening to receive a pipe. Radiating from the opening there are four equally spaced passages containing pistons provided with cutting blades at their inner ends. At the outer ends of the passages are means for holding and firing explosive charges to drive the blades toward each other and part way across the frame opening to cut a pipe therein.

3,449,994
PLAYER PIANO ATTACHMENT

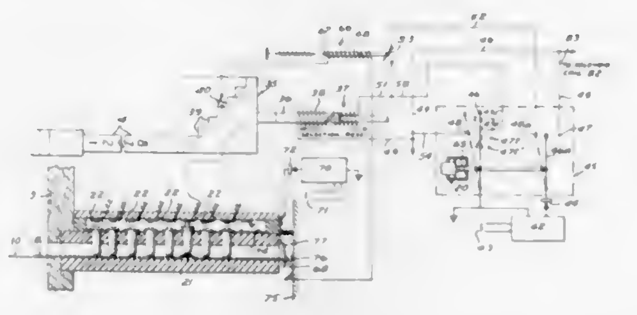
Stephen M. Orenstein, 3504B Hawthorne Drive, Dover, Del. 19901; Lucille Orenstein, administratrix of said Stephen M. Orenstein, deceased
Filed Dec. 17, 1965, Ser. No. 514,444
Int. Cl. G10f *3/00*
U.S. Cl. 84—110 **2 Claims**



Player piano conversion mechanism comprising rearwardly disposed vertically spaced support bars and a forwardly disposed vacuum manifold attachable to the underside of the piano case, and individual actuators mounted on the bars having key actuators to the rear, and valve control chambers forwardly with flexible conduits extending fore and aft between each chamber and the manifold, and a horizontal bleed aperture in each chamber accessible upon removing the conduit to the chamber.

3,449,995
PRESELECTOR FOR THE TONAL CONTROL ELEMENTS OF AN ORGAN

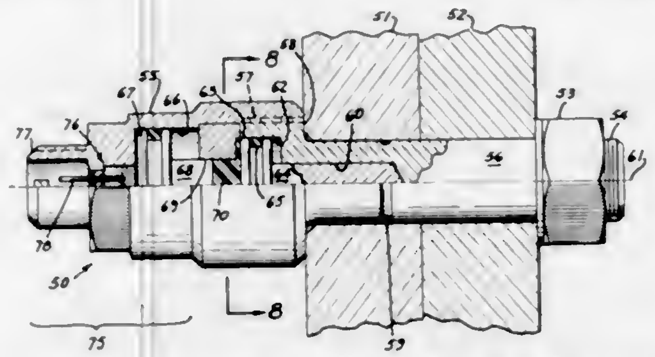
Oscar W. Sepp, Jr., Merrick, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York
Original application Feb. 14, 1963, Ser. No. 258,450, now Patent No. 3,250,168, dated May 10, 1966. Divided and this application Feb. 17, 1966, Ser. No. 528,242
Int. Cl. G10b *3/10*
U.S. Cl. 84—345 **4 Claims**



The invention relates to an organ and a master control record having selector configurations by which tonal control stops may be selected, these configurations being susceptible to sensing operations, as for example, on electric switches, for automatic selection of stops. In accordance with one phase of the invention, the stops are of the type movable from inactive position to two or more active positions, each determining a different quality of tone reproduction by the playing of a key. A master record for that purpose is provided with configurations coordinately located to select stops and their active positions. The card is to be inserted into a recess provided in the organ until the rear edge contacts and closes a normally open switch, thereby closing the circuit and causing the desired selection to be made. When the card is withdrawn, the circuit is de-energized without disturbing the selected positions of the stops.

3,449,996
SEPARABLE BOLT

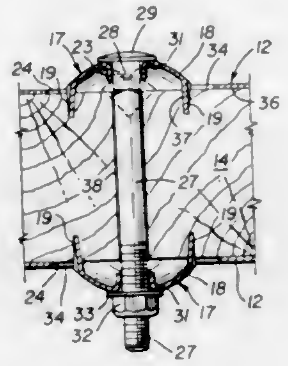
Albert T. Takahashi, Torrance, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Jan. 12, 1966, Ser. No. 520,258
Int. Cl. F16b *29/00*
U.S. Cl. 85—1 **6 Claims**



This invention relates to separable bolts. It includes means for amplifying the pressure from a source of fluid under pressure, and to separate the bolt by a purely axially push which causes separation of the bolt by tensile failure, the level of which failure is readily determinable by appropriate selection of cross-section area at a point of least cross-section.

3,449,997
TIMBER TRUSS PLATE-FASTENER AND SYSTEM

Claude R. Couch, 5025 W. 29th Ave., Denver, Colo. 80212
Filed Aug. 7, 1967, Ser. No. 658,773
Int. Cl. F16b *15/00, 7/00;* **E04c** *3/02*
U.S. Cl. 85—13 **6 Claims**

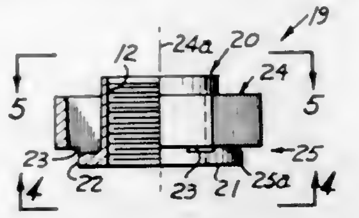


A truss plate-fastener combination for securely and efficiently holding timber construction elements in assembled relation for effective load transmission in which the plates provide formed turret sections of increased strength and rigidity adjacent fastener openings with timber engaging tines struck from the material of the plates adjacent said turret sections, and further utilizing fastener elements for extension completely through the timbers and plates for forcibly drawing the plates and tines into secure engaged positions and for holding said plates in place for the resistance of increased loadings.

3,449,998
INHERENTLY TORQUE-LIMITED FASTENER

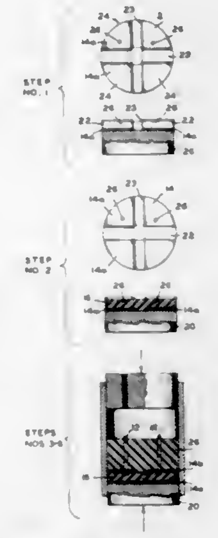
George S. Wing, Torrance, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Jan. 31, 1968, Ser. No. 702,028
Int. Cl. F16b *31/00, 33/04*
U.S. Cl. 85—61 **8 Claims**

One piece inherently torque-limited fasteners wherein the level of torque which can be applied to the fastener is limited by the fracture of a shear section which parts to leave one portion of the fastener threaded onto a threaded element at some desired torque level, without the means by which torque was applied, thereby preventing application of additional torque. The section where the fracture occurs is perforated preferably by the intersection of a surface which has a major and a minor lateral dimension by a circular surface whose radius is less than the major and greater than the minor dimension. The two portions of the fastener which are connected by the shear section may be at least in part axially overlapped.



3,449,999
METHOD OF MAKING AN ELECTRICAL INITIATOR

Sidney A. Corren, Katonah, and Myron A. Coler, Scarsdale, N.Y., assignors to Myron A. Coler, Scarsdale, N.Y.
Original application May 19, 1965, Ser. No. 463,441. Divided and this application Apr. 24, 1967, Ser. No. 688,280
Int. Cl. F24b *33/00*
U.S. Cl. 86—1 **2 Claims**

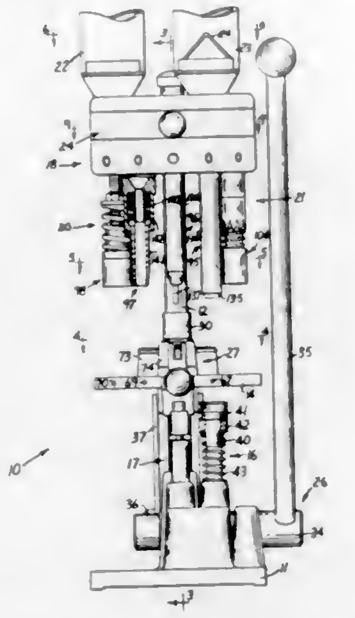


The method of making an initiator for an electro-explosive device which includes the steps of compressing an electrically non-conductive molding composition having metal terminal pins positioned therein; coating discrete areas of one surface of a mold force with silver or other powdered metal; applying a plastic coating to said surface between said discrete areas so as to overlap a small portion thereof; coating two spaced areas of said plastic coating with silver or other powdered metal; and applying heat and pressure to mold the molding composition.

3,450,000
APPARATUS FOR RECONDITIONING AND RELOADING SHOTGUN SHELLS

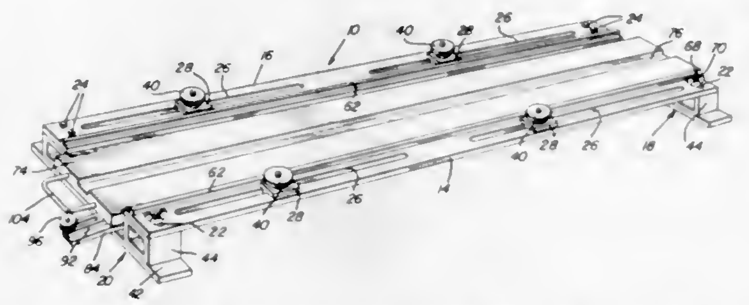
Lloyd E. Ponsness, Rathdrum, Idaho, assignor to Ponsness-Warren, Inc., a corporation of Oregon
Filed Mar. 15, 1968, Ser. No. 713,398
Int. Cl. F42b *33/02, 33/10*
U.S. Cl. 86—25 **8 Claims**

An apparatus is described for reconditioning and reloading various gauge shotgun shells by a tool turret assembly having two sets of angularly spaced tools positioned about a center line. The described apparatus has two upright standards for supporting the tool turret assembly and slidably supporting a vertically movable support plate. A shell carrier is slidably mounted on the support plate for pivotal movement about the center line to a plurality of angularly spaced work stations. A dispensing means is mounted on the turret assembly for accurately measuring and dispensing shot and powder through one of the tools into a shell. A wad loading device is movably mounted on the shell carrier for receiving wad and positioning the wad coaxially over a shell mounted on the shell carrier.



3,450,001
GUIDE AND WORK HOLDER FOR MAKING ROUTER CUTS

William J. Fortune, 946 S. 5th W.,
Missoula, Mont. 59801
Filed Mar. 31, 1967, Ser. No. 627,373
Int. Cl. B23c *1/20;* **B27c** *5/10, 5/04*
U.S. Cl. 90—12 **4 Claims**

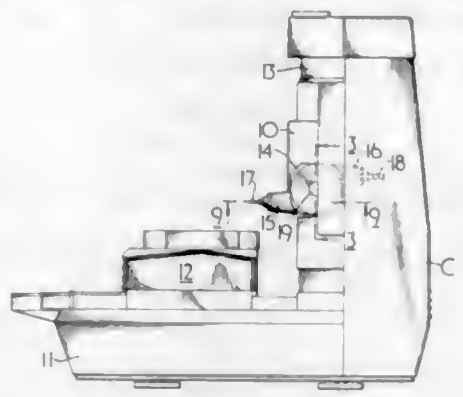


A work holder for holding relatively thin sheets of rigid material to be cut or grooved by a router and including means for guiding a router during the process of cutting or grooving the panel-like workpiece, the holder including parallel guide portions for supporting an associated router therefrom and guiding the router longitudinally therealong and also holding means for engaging a panel-like workpiece and supporting the latter from beneath and in position beneath the parallel guide portions by structure operative to automatically compensate for various thickness of panel-like workpiece to be supported thereby.

3,450,002
INDEXING HEAD FOR A MACHINE TOOL

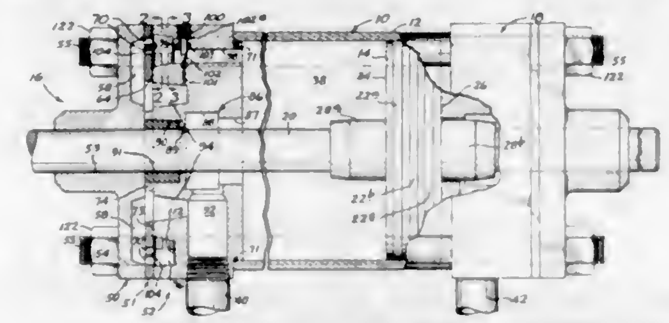
Douglas Ralph Shotter, Foleshill, England, assignor to Alfred Herbert Limited, Foleshill, England
Filed June 5, 1967, Ser. No. 643,720
Claims priority, application Great Britain, June 4, 1966, 24,985/66
Int. Cl. B23c *1/12, 9/00*
U.S. Cl. 90—16 **5 Claims**

An indexing head, for a machine tool, for bringing a succession of different tools to an operating station includes at least two, oppositely-directed, tool spindles which are arranged chordwise to a tool spindle unit which can be indexed about an axis and be locked in operative position by axially-separable dog clutch elements.



3,450,003
RAM WITH SUPPLEMENTING INTAKE MEANS

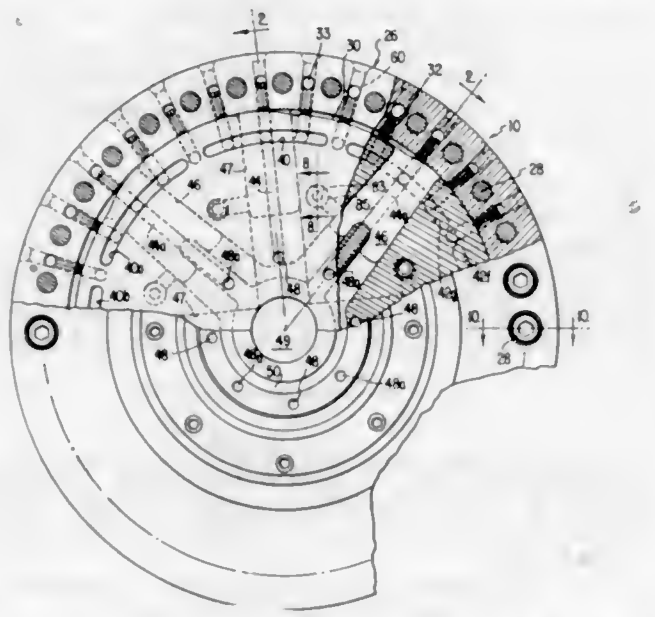
Wesley W. Nightingale, Rte. 2, Box 163,
Creswell, Oreg. 97426
Filed Jan. 3, 1967, Ser. No. 606,829
Int. Cl. F15b *15/22, 21/04;* **F16k** *15/14*
U.S. Cl. 91—26 **8 Claims**



A ram cylinder, piston, and head assembly which provides relatively unrestricted inflow of working fluid at the start of a stroke and cushioning at the end of a stroke. The head assembly includes reed-type closure valves which open to provide relatively unrestricted inflow at the start of a stroke. The head assembly is formed of multiple block elements stacked against each other with the closure valves mounted on one of such elements.

3,450,004
AUTO-KINETIC WHEEL OR FLUID MOTOR

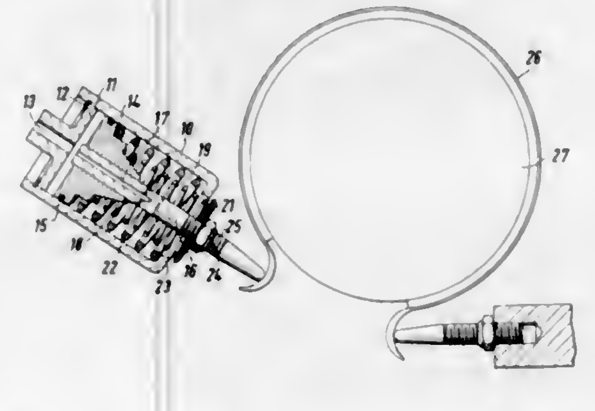
Walter Ernst, Dayton, Ohio, assignor to
Charles P. de Biasi, Waterford, Conn.
Filed June 6, 1967, Ser. No. 658,581
Int. Cl. F01c *1/30*
U.S. Cl. 91—73 **14 Claims**



The device disclosed herein comprises an auto-kinetic wheel or fluid motor in which hydraulic fluid is fed to a plurality of working chambers along paths generally parallel to the axis of rotation of the wheel. A plurality of retractable vanes are positioned to work in each of the fluid chambers and are positioned in working relation by the use of fluid pressure. When the fluid pressure working against the vanes is relaxed, the vanes are retracted because of centrifugal force operating thereon.

3,450,005
FLUID PRESSURE MOTORS FOR PRODUCING STRAIGHT-LINE MOTION

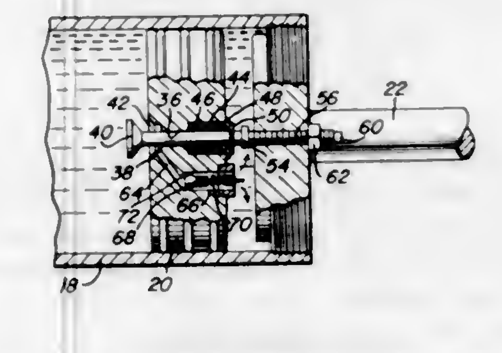
Frederick E. Ellis, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, Warwickshire, England
Filed Jan. 30, 1967, Ser. No. 612,589
Claims priority, application Great Britain, Feb. 9, 1966, 5,691/66
Int. Cl. F15b *11/10;* **F01b** *7/20;* **F16j** *1/10*
U.S. Cl. 91—189 **3 Claims**



A fluid pressure motor for producing straight-line motion has its piston mounted to slide on a piston rod against the resistance of a spring and arranged to close a passage in the piston rod, by passing the piston, after being moved a short distance along the piston rod by fluid pressure, so that initial leakage past the piston, and yielding of the spring, enable the thrust on the piston rod to be built up gradually.

3,450,006
CYLINDER AND PISTON ASSEMBLY WITH AUTOMATIC POWER RELEASE

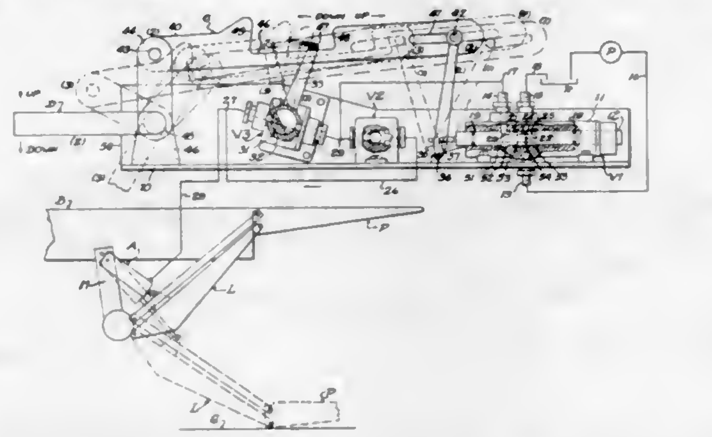
Idas B. White, Blountstown, Fla., assignor to Timberjack Machines Limited, Woodstock, Ontario, Canada, a corporation of Canada
Filed Jan. 29, 1968, Ser. No. 701,238
Int. Cl. F15b *15/22, 11/08, 13/04*
U.S. Cl. 91—401 **3 Claims**



A cylinder and piston assembly incorporating power release means mounted on the piston and operable through engagement with an adjustable abutment mounted on the cylinder head which the piston approaches as the forward stroke is being completed. The power release comprises a pair of cooperating valves which, at a predetermined location of the piston, are opened so as to provide for a communication between the chambers defined to the opposite sides of the piston, and thereby release the piston moving pressure.

3,450,007
COMBINATION VALVE MECHANISM FOR HYDRAULIC POWER SYSTEMS

Morris D. Robinson, 23764 Liverwood Lane,
Harbor City, Calif. 90710
Filed Feb. 6, 1967, Ser. No. 614,174
Int. Cl. F15b *13/04, 11/08*
U.S. Cl. 91—445 **9 Claims**



Disclosed herein is a hydraulic (e.g. lift) system embodying a reservoir, a continuously-operating pump, a hydraulic actuator linkage (e.g. cylinder), manual control and a hydraulic circuit including three valves in an arrangement such that—

(a) The output of the pump can be bypassed to the reservoir when there is no power demand,

(b) The pump output can be supplied to the actuator for power (e.g. lift) operation under manual control,

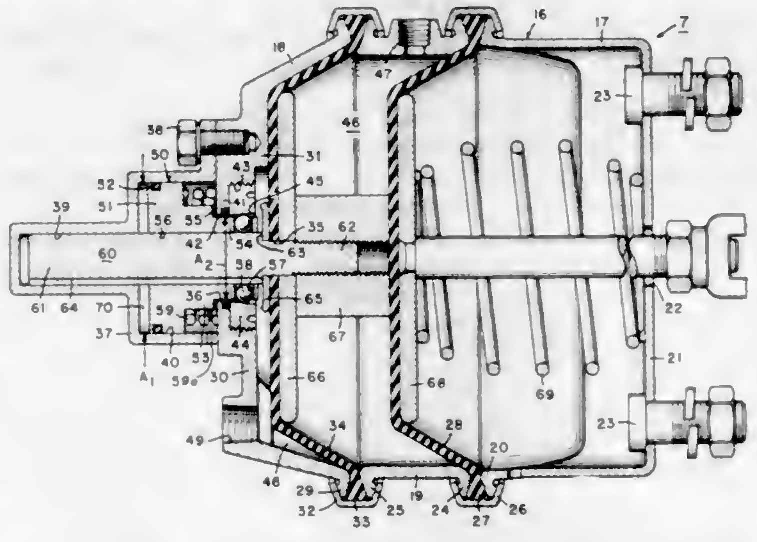
(c) The circuit will provide full, non-leaking containment of the hydraulic fluid in the actuator so as to sustain a load that has been acted on in the power-operation of the actuator, without replenishing supply of fluid from the pump, and

(d) There is provided an operating sequence in which the hydraulic fluid can be released from the actuator.

The actuated apparatus may be a tailgate lift for a cargo truck and the like, in which a lift platform and its load are elevated to the level of the truck floor in the power-operation, and are sustained in the elevated position by the trapped fluid, while the load is moved from the platform into the truck or vice versa.

3,450,008
FRICTION DEVICE OPERATING MECHANISM

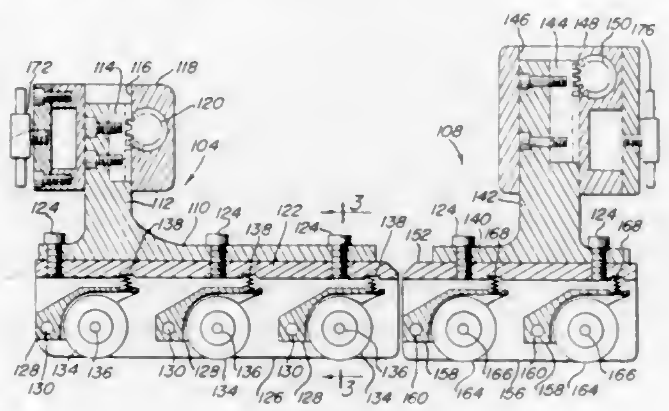
Cyril B. Fites, Florissant, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 589,915
Int. Cl. F15b *15/26;* **F01b** *7/04*
U.S. Cl. 92—24 **1 Claim**



Fluid pressure responsive means movable in a friction device operating mechanism and defining therewith an expansible fluid pressure chamber, said fluid pressure responsive means being movable in response to fluid pressure in said chamber toward an operative position, and a locking member movable in said chamber for locking engagement with said fluid pressure responsive means and having opposed differential areas respectively subjected to the fluid pressure in said chamber, said locking member being movable in response to fluid pressure in said chamber less than a predetermined value acting on said opposed differential areas into locking engagement with said fluid pressure responsive means in the operative position thereof.

3,450,009
MACHINES FOR MAKING ENVELOPES

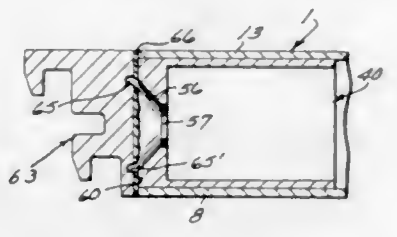
Joseph J. Dohnalik, Chicago, Ill., assignor to Garden City Envelope Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 4, 1966, Ser. No. 591,995
Int. Cl. B31b *21/36, 31/00*
U.S. Cl. 93—62 9 Claims



An envelope forming machine for making large diagonal seam envelopes includes a flat horizontal bed, side flap folders, a rotary segmental applicator and a bottom flap folder over the bed, with presser carriages extending beneath the applicator shaft and including a plurality of presser rollers disposed over the outer edges of the path of travel of the envelope blanks and closely adjacent to the outer edges of the applicator. The presser rollers are mounted on stub shafts extending inward from a support, and a thin cover plate extends over the inner side of each set of rollers. The carriages are supported for vertical reciprocating adjustment and horizontal sliding adjustment. The mechanism for feeding the blank to the machine includes a rotary drum and two sets of independently resiliently mounted rollers disposed in opposite echelon arrangement for engaging the leading edges of a blank for forming a diagonal seam envelope.

3,450,010
LANDING MAT

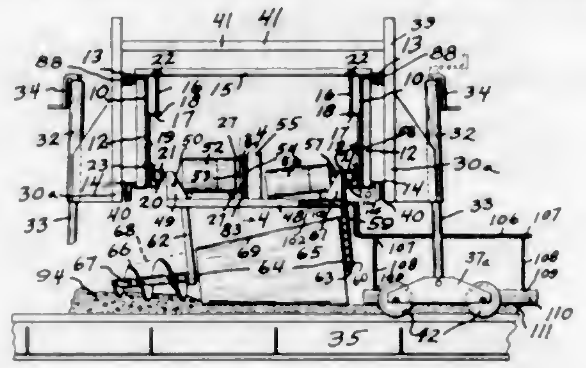
Leo Myer Harvey, Los Angeles, Calif., assignor to Harvey Aluminum Incorporated, Torrance, Calif., a corporation of California
Filed Mar. 8, 1968, Ser. No. 711,681
Int. Cl. E01c *5/00;* **E04c** *1/10, 1/30*
U.S. Cl. 94—13 11 Claims



This invention relates to extruded metal landing mats having deck and base plates spaced by means of parallel ribs with pre-formed complementary end connectors being welded to opposite ends of the mat. The end of the mat is reinforced by inserting into the channels between adjacent ribs a hollow plug having an end wall coextensive with end of the ribs; the end connected then being electron beam welded over its entire rear face to the end wall of the plug and the end of the ribs, deck, and base plates.

3,450,011
CONCRETE FINISHING MACHINE

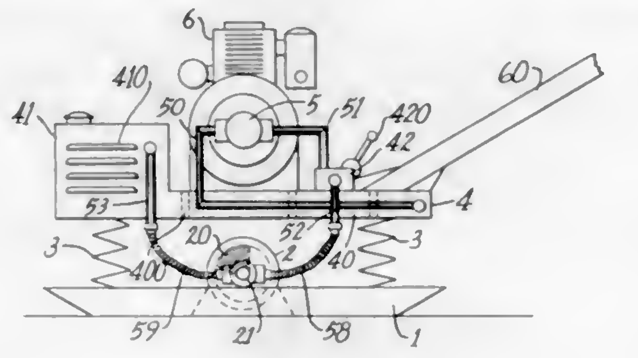
Harold W. Godbersen, Ida Grove, Iowa 51445
Filed July 3, 1967, Ser. No. 650,733
Int. Cl. E01c *19/42*
U.S. Cl. 94—45 11 Claims



A concrete finishing machine, utilizing a traveling carriage to transport a finishing member transversely over a slab of concrete. Several forms of finishing members may be used, and an auger type smoothing member is used to provide preliminary smoothing and leveling of the concrete in advance of the finishing member.

3,450,012
HYDRAULICALLY OPERATED VIBRATOR SOIL COMPACTOR

Berhard Beierlein and Ulrich Beierlein, both of Bergische Landstrasse 309, Dusseldorf, Germany
Filed Mar. 8, 1968, Ser. No. 711,699
Claims priority, application Germany, Mar. 10, 1967, B 91,568
Int. Cl. E01c *19/24, 19/28*
U.S. Cl. 94—48 11 Claims



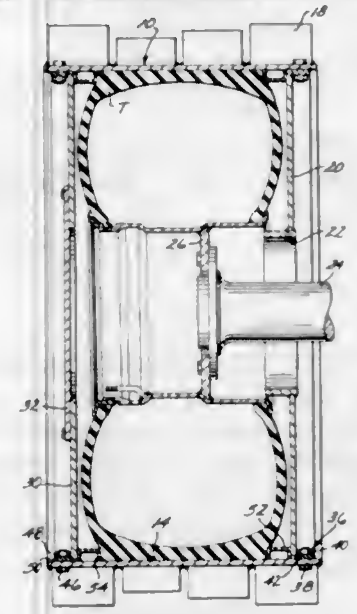
A soil compactor or tamper is hydraulically operated and the hydraulic system comprises an oil tank which is substantially flat and parallel to the ground for distributing the tamping weight as evenly as possible over the area covered by the tamper.

3,450,013
AUXILIARY WHEEL ASSEMBLY

William B. Peterson, 1952 Galerita Drive, San Pedro, Calif. 90732
Filed Oct. 16, 1967, Ser. No. 675,582
Int. Cl. E01c *19/25;* **B60b** *15/08*
U.S. Cl. 94—50 4 Claims

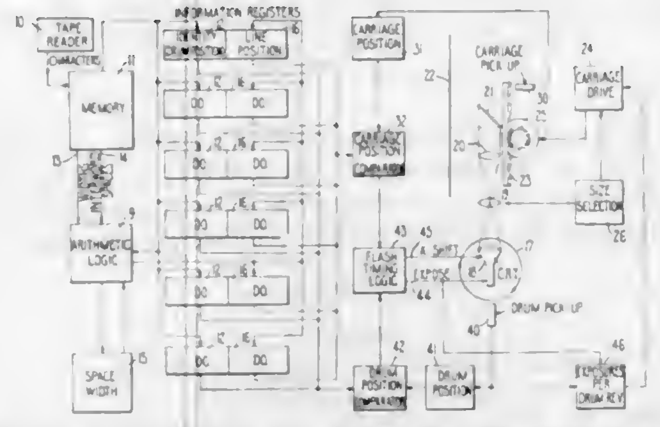
An auxiliary wheel assembly usable with the pneumatic tires of a vehicle such as a tractor or the like in compacting, spreading and dozing of rubbish, trash, refuse or

garbage materials. The wheel assembly includes a steel drum which is fitted over the conventional pneumatic tire of the vehicle. The outer surface of the steel drum is provided with outwardly projecting cleats. To protect the tire against damage, an inboard and outboard shield are utilized to cover the opposite edges of the drum. Inboard and outboard retainer means are affixed to the edges of the drum and inboard and outboard spacer rings are slidably disposed between the opposite sides of the tire and the retainer means. The drum and shields are first arranged around a deflated or partially inflated pneumatic tire. The latter is then inflated to its operating pressure so as to urge the spacer rings apart into tight engagement with the shields to thereby securely maintain the parts of the wheel assembly in position upon the tire.



3,450,014
OPTICAL SCANNERS

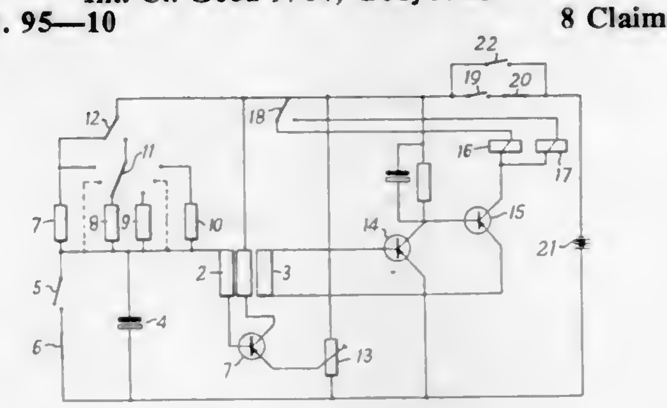
Edward Thomas Astley, London, England, assignor to Crosfield Electronics Limited, London, England, a British company
Filed Aug. 1, 1966, Ser. No. 569,435
Claims priority, application Great Britain, Aug. 10, 1965, 34,190/65
Int. Cl. B41b *17/10*
U.S. Cl. 95—4.5 5 Claims



In photocomposing apparatus, a continuously moving light deflector positions successively exposed characters, from a continuously moving matrix carrier, over a light-sensitive surface, the optical projection system having an exposure zone large enough to contain at least two characters at any time. A continuous comparison is made between the required position on the light-sensitive surface of each of a number of characters to be exposed and the instantaneous positions of the light-deflector and matrix carrier and when the comparison indicates a match for any of the characters under consideration a light flash is generated at that point of the exposure zone at which the character is located, thereby permitting characters to be flashed out of text order at high speed.

3,450,015
APPARATUS FOR ELECTRONIC EXPOSURE CONTROL

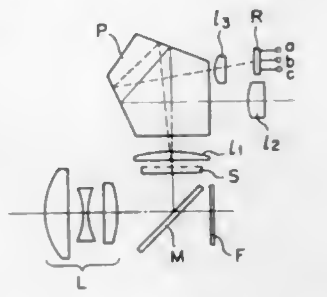
Hubertus Reimann and Christian Hesse, Dresden, Germany, assignors to VEB Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany
Filed Mar. 4, 1966, Ser. No. 531,940
Int. Cl. G03b *9/64;* **G01j** *1/46*
U.S. Cl. 95—10 8 Claims



Apparatus for electronic exposure control in photographic cameras, in which both the exposure time and the duration of a delayed action, which can be switched on as desired, are electronically controlled. To form the delayed action period and the exposure time, use is made of one and the same electronic time switch. This switch is returned at the end of the delayed action time to its functional initial position and switched over to its exposure time formation function automatically.

3,450,016
PHOTOELECTRIC EXPOSURE METER FOR A CAMERA

Takeo Yamada, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Apr. 25, 1967, Ser. No. 633,519
Claims priority, application Japan, May 7, 1966, 41/28,502
Int. Cl. G01j *1/52*
U.S. Cl. 95—10 4 Claims

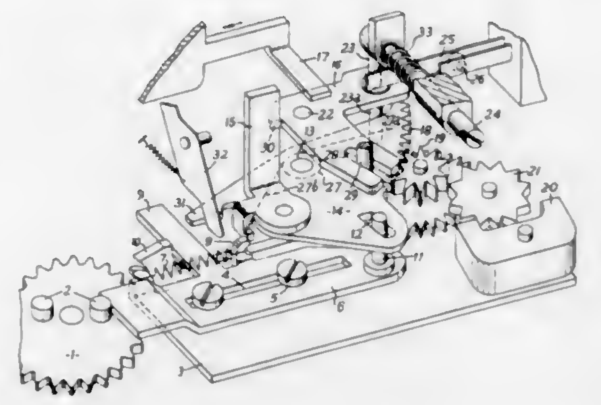


A photoelectric exposure meter for both spot and full view photometry. The photocell is comprised of resistances connected in series over a portion of the photocell and in parallel. A first circuit includes only those resistances connected in series and a second circuit includes all the resistances in the photocell. A switch is provided for connecting either circuit with a galvanometer. When spot metering, the first circuit of series-connected resistances is used and only light falling on these resistances is metered. A marking is provided on the viewfinder to indicate the portion of the view being metered.

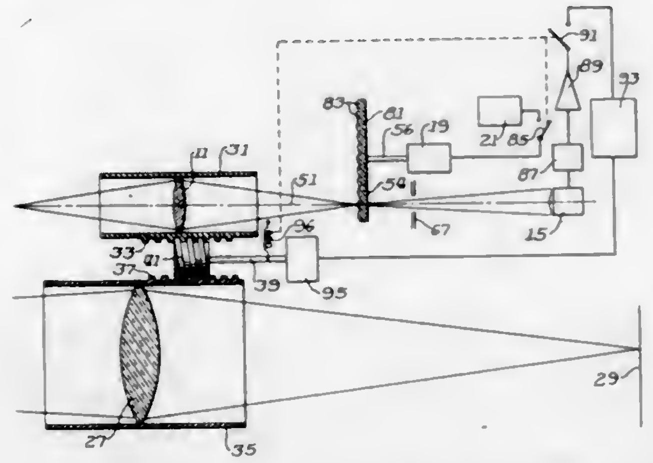
3,450,017
CAMERAS

Rolf Noack, Dresden, and Karl Krömer, Radebeul, Germany, assignors to VEB Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany
Filed Apr. 15, 1966, Ser. No. 542,852
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 3 Claims

A mirror return mechanism for a reflex camera consisting of first and second segment levers, a spring biased slider member, and an escapement device in engagement with the first segment lever. The first segment lever is coupled to the slider member by a pin and slot connection which causes the lever to pivot a counter-clockwise direction when the slider member is moved to its biased position. The second segment lever is interconnected with the mirror mounting and normally maintains the mirror in the path of the picture-taking axis. Upon release of the slider member from its biased position, the first segment lever pivots in a clockwise direction and subsequently engages the second lever causing it to pivot in a clockwise direction. When the second lever pivots in the clockwise direction it moves the mirror out of the path of the picture-taking axis and sets the objective diaphragm to a preselected position.

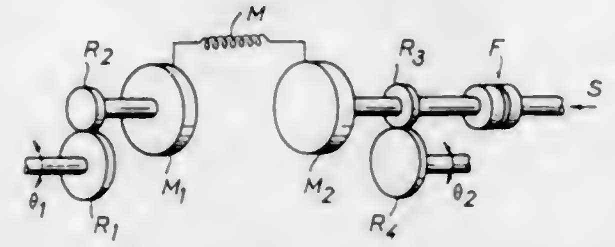


3,450,018
AUTOMATIC FOCUSING APPARATUS
Robert S. John, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 30, 1966, Ser. No. 576,081
Int. Cl. G03b *3/10*
U.S. Cl. 95—45 **17 Claims**



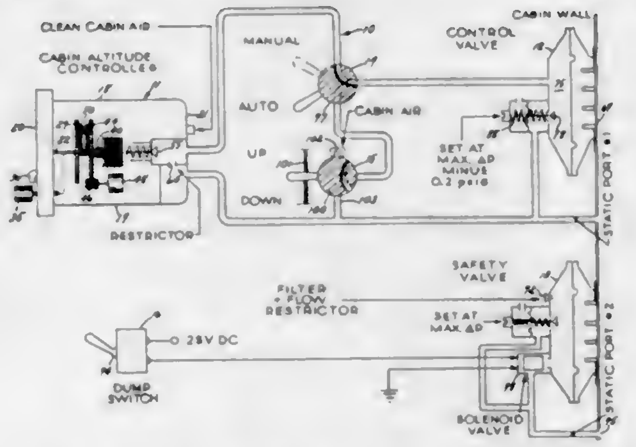
An automatic range determining apparatus for adjusting the focus of an objective of an optical instrument such as a camera. Initially, an imaging lens is moved to an initial position. The imaging lens receives light from a scene and focuses the image of the scene onto the surface of a moving lenticular screen. When the lens focuses the scene image on the face of the screen, intensity variations due to the screen are reduced to a minimum so that the screen is invisible to a photocell and a null signal is generated in the circuit in which the photocell is connected. However, when the lens is not focused on the screen, the screen causes the photocell to see striations. A unidirectional servo motor connected to the photocell and to the imaging lens moves the lens to focus the scene until a null signal indicates that the lens is focused on the lenticular screen.

3,450,019
DEVICE FOR THE REMOTE CONTROL OF AN OBJECTIVE OF VARIABLE FOCAL LENGTH
Renzo Rossellini, Via Caroncini 52, Rome, Italy
Filed May 5, 1967, Ser. No. 636,465
Claims priority, application Italy, May 5, 1966, 33,194/66
Int. Cl. G03b *3/12*
U.S. Cl. 95—45 **5 Claims**



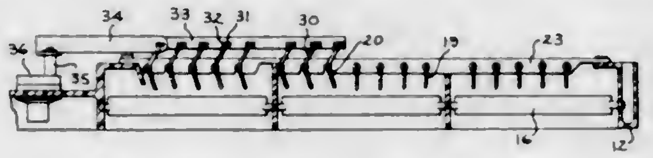
A device for the remote control of an objective of variable focal length (zoom lens) comprises a synchro-transmitter connected to a manual control lever by means of a step-up transmission, and a synchro-receiver connected to the driven element (zoom lens) by a reduction transmission, whereby an adjustable breaking device is associated with the rotor of the synchro-receiver.

3,450,020
AIRCRAFT CABIN PRESSURIZATION SYSTEM HAVING CONTROLLED RATE OF PRESSURE CHANGE
John H. Andresen, Jr., Hewitt, N.J., assignor to Intercontinental Dynamics Corporation, Englewood, N.J., a corporation of New Jersey
Filed Oct. 10, 1967, Ser. No. 674,163
Int. Cl. B64d *13/04*
U.S. Cl. 98—1.5 **2 Claims**



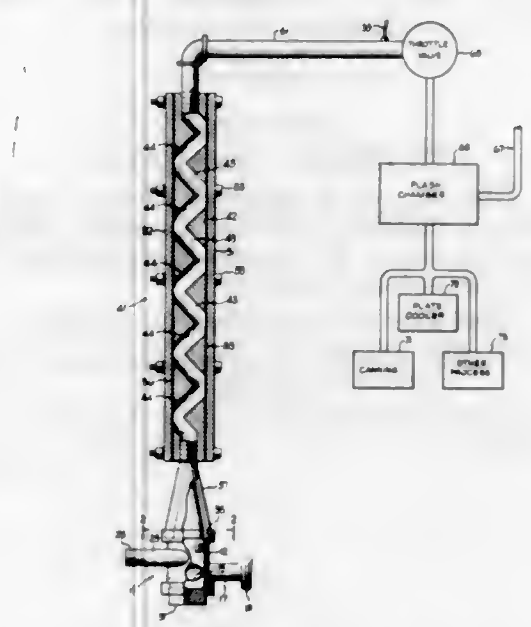
A cabin altitude pressure control system employing clockwork or similar means for causing aircraft cabin altitude to progress to a desired level at a predetermined rate, thereby eliminating rapid or pulsating changes.

3,450,021
AIR-CONDITIONER AIR FLOW CONTROL DEVICE
Clinton E. Ring, Louisville, and Raymond E. Loyd, Jeffersontown, Ky., assignors to General Electric Company, a corporation of New York
Filed Aug. 29, 1967, Ser. No. 664,093
Int. Cl. F24f *13/16, 13/14*
U.S. Cl. 98—40 **7 Claims**



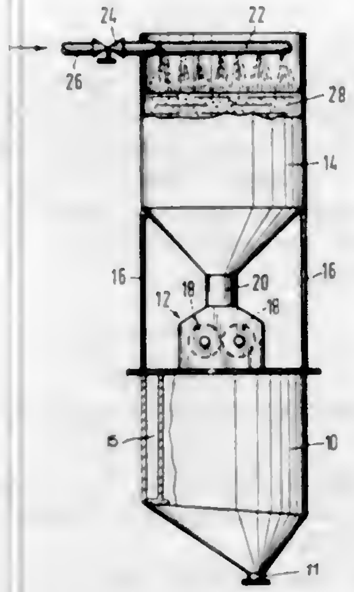
An air conditioner including an air flow control device comprising a frame defining an air outlet and a plurality of adjustable louvers mounted on the frame for controlling the directional distribution of air from the outlet. At least some of the louvers are movable to a position substantially closing a portion of the outlet to provide a higher velocity air flow from the remaining portion of the outlet.

3,450,022
STEAM INFUSER
Martin E. Engel, Park Ridge, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 5, 1965, Ser. No. 493,162
Int. Cl. B65b *55/06;* **A23c** *3/00;* **B01f** *15/06*
U.S. Cl. 99—251 **3 Claims**



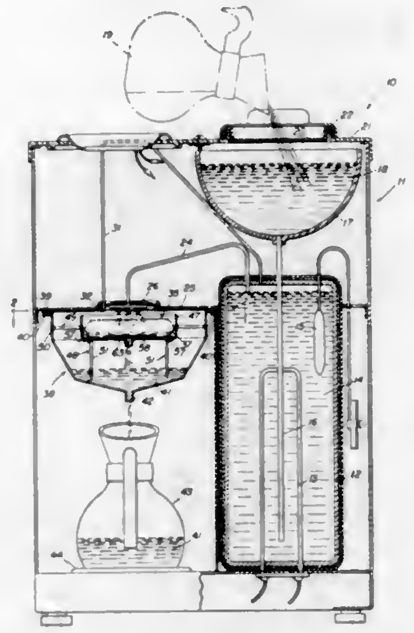
Apparatus for infusing steam into a liquid to be heated having a cylindrical chamber to which are fixed tangential liquid and steam injecting pipes. The mixture is directed out of the top of the cylindrical chamber and through a zigzag conductor in which the steam and liquid are thoroughly mixed.

3,450,023
APPARATUS FOR MAKING BEER WORT
Conrad Lenz, Annenhofstrasse 2, Freising, Germany
Filed May 2, 1967, Ser. No. 635,569
Claims priority, application Germany, May 10, 1966, L 53,552
Int. Cl. C12l *7/02;* **C12c** *7/06*
U.S. Cl. 99—278 **6 Claims**



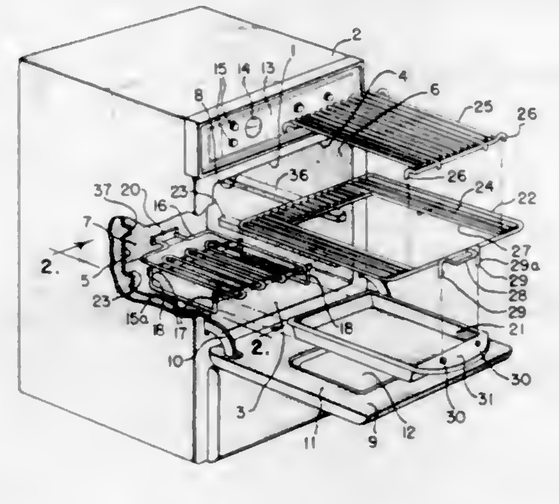
An apparatus for making beer wort is equipped with a crushing mill for wet crushing of malt, the mill being directly mounted on top of a tank so that the crushed malt falls from the gap between the crushing rollers into the tank to form mash with water held in the tank.

3,450,024
COFFEE MAKING MACHINE WITH HOLDER FOR PREPACKAGED GROUND COFFEE
John C. Martin, Springfield, Ill., assignor to Bunn-O-Matic Corporation, Springfield, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 651,481, July 6, 1967. This application June 17, 1968, Ser. No. 737,631
Int. Cl. A23f *1/08*
U.S. Cl. 99—295 **13 Claims**



Prepackaged ground coffee is held for infusion by hot water in a pan removably positioned in a funnel. Hot water flows through a single opening under atmospheric pressure onto the package which overlies a relatively large opening through which the coffiee extract drips from the package to flow to the funnel opening therebelow.

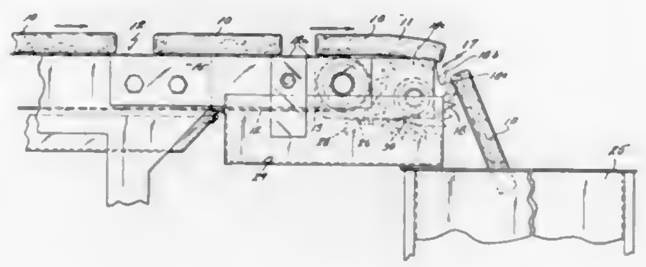
3,450,025
OVEN HAVING ONE HEAT SOURCE FOR PROVIDING BOTH BAKING AND UNDER-FIRED BROILING
Karl J. Fleming, Elmburst, Ill., assignor to General Electric Company, a corporation of New York
Filed Apr. 4, 1966, Ser. No. 540,171
Int. Cl. F24c *15/00;* **A47j** *37/01*
U.S. Cl. 99—399 **3 Claims**



The disclosure describes an oven having the walls thereof coated with polytetrafluoroethylene. A source of heat is situated near the bottom wall of the oven and has the underside thereof coated with a low emissivity material to protect the coating on the oven bottom wall. The oven also includes a drip pan and a slidable rack which are interconnected to effect horizontal movement of the drip pan and rack as a unit.

3,450,026
CONVEYOR FOR BATTER-COATED FOOD PRODUCT

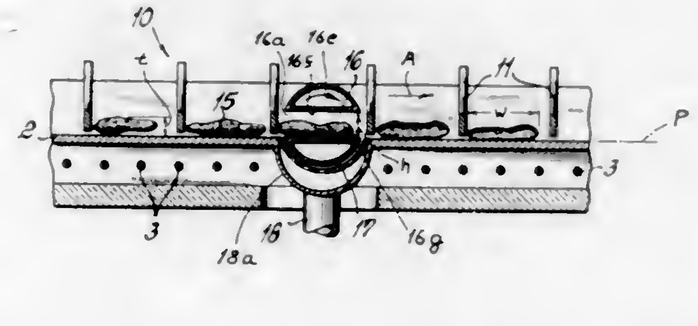
Robert H. Szabrak, Sandusky, Ohio, assignor to Sam Stein Associates, Inc., Sandusky, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 537,911, Mar. 28, 1966. This application Oct. 7, 1966, Ser. No. 585,181
Int. Cl. A47j *37/12*
U.S. Cl. 99—407 **6 Claims**



A batter-coated food product moving along an open wire mesh conveyor belt to the discharge end thereof is picked up by pointed members rotating in a path which is substantially tangent to the discharge run of the conveyor and moving in the same direction and at approximately the same speed so as to move the coated article off of the conveyor and drop it freely in a vertical fall downwardly into a hot bath of oil with a minimum disturbance of the coating of batter on the food product. In a modification, free fall of the article downwardly, as it leaves the pointed members, is sufficient to allow the article to turn over to fall onto a short conveyor touching the article at spaced points only. This gives additional opportunity for self-restoration of any disturbance of the coating originally on the bottom of the article.

3,450,027
APPARATUS FOR THE FRYING AND ROASTING OF COMESTIBLES

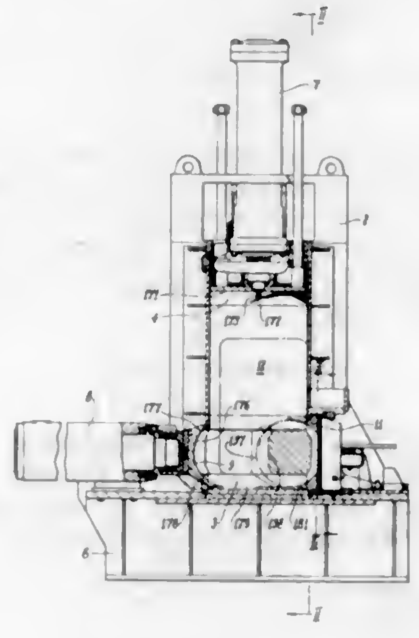
Alfred Lohr and Helmut Hemmann, Herborn, and Karl Tropp, Werdorf, Germany, assignors to Burger Eisenwerke Aktiengesellschaft, Wetzlar, Germany, a corporation of Germany
Filed May 23, 1967, Ser. No. 640,535
Claims priority, application Germany, May 25, 1966, 87,280
Int. Cl. A47j *37/10*
U.S. Cl. 99—423 **13 Claims**



Apparatus for the serial frying or roasting of comestibles in which pieces of meat or the like are drawn along an endless annular transport path by a plurality of pusher arms or flights cantilevered at one side of this path, extending athwart the latter, and continuously entrained around this path; the roasting or frying surface is subdivided into two generally straight sections joined at their ends by a pair of semicurcular sections to import a generally elliptical configuration to the path. Approximately midway along one of these sections, an exit ramp is provided for discharging the roasted objects and, substantially midway along the other straight section, a turning device flips over the pieces of meat. The flights are entrained by a chain and are vertically shiftable to enable them to follow the ramp and to discharge the meat over a fat-collection pan through an outlet opening across the transport path into a receptacle, uncooked meat being placed on the path for engagement by the continuously moving flights just ahead of this opening.

3,450,028
STRAPPING APPARATUS

David V. Goland, North Balwyn, Victoria, and Samuel E. Stapleton, Niddrie, Victoria, Australia, assignors, by mesne assignments, to Signode Corporation, Chicago, Ill., a corporation of Delaware
Filed July 17, 1967, Ser. No. 653,900
Claims priority, application Australia, July 21, 1966, 8,649/66
Int. Cl. B65b *13/04;* **B30b** *15/32, 7/04*
U.S. Cl. 100—7 **5 Claims**

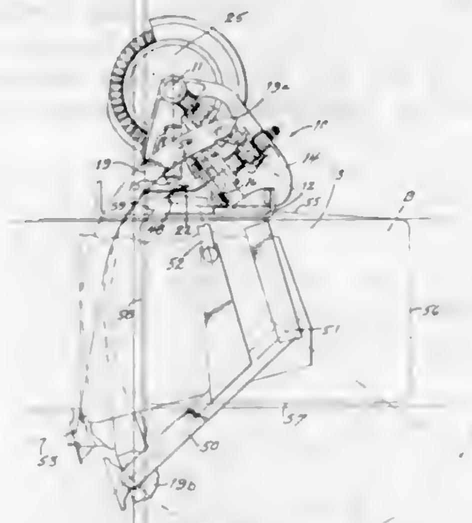


This invention relates to a press for baling wool and various other materials. The press includes vertically and transversely movable plattens which serve to form a compression chamber wherein material disposed therein is compressed into a highly compact bale. Inlet and outlet doors are arranged on opposite sides of the base platten, and the plattens are provided with guide means for strap to be disposed about the bale.

3,450,029
SELF-STRIPPING WIRE TWISTER FOR WIRE BALERS

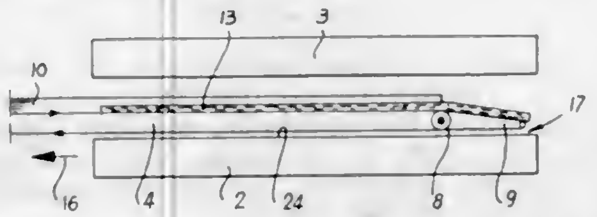
William K. Ralston, Memphis, Tenn., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,514
Int. Cl. B65b *13/28, 13/08*
U.S. Cl. 100—22 **4 Claims**

A wire twister for binding bales of hay in a hay baler and having a twister hook oriented in its home position towards the direction of bale movement so that the intertwisted ends of a strand of wire encircling a bale is dislodged from the twister hook by rearward movement of the bale.



3,450,030
METHOD AND APPARATUS FOR THE CHARGING OF PLATEN PRESSES

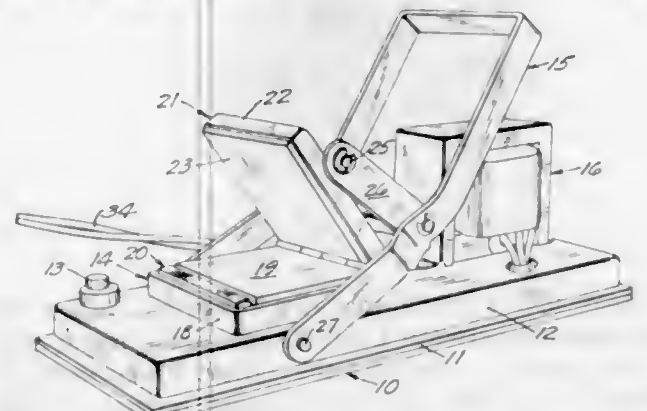
Gerhard Hütz, Suchteln, Rhineland, Germany, assignor to Eugen Siempelkamp, Krefeld, Germany, a corporation of Germany
Filed Oct. 3, 1967, Ser. No. 672,639
Int. Cl. B30b *13/00, 15/30;* **B65h** *29/68*
U.S. Cl. 100—35 **10 Claims**



Method and apparatus for the charging of a platen press wherein a conveyor pallet is provided with a discharge ramp extending beyond the leading edge of a fiber mat by a distance co-ordinated with the speed of the conveyor band forming the floor of the pallet and the means for withdrawing the pallet over the lower platen of the press such that this leading edge of the mat does not pass over the discharge side of the band until the receiving surface thereof has been accelerated to full mat-deposition speed.

3,450,031
PRESS

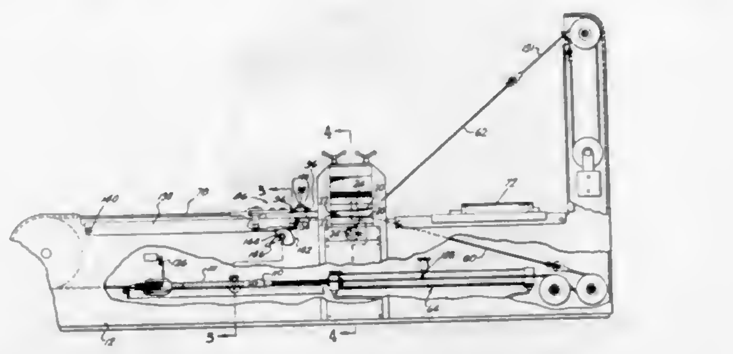
Roy L. Peterson, 73 Wildwood Beach Road, Mahtomedi, Minn. 55115
Filed Nov. 10, 1966, Ser. No. 593,489
Int. Cl. B30b *15/34*
U.S. Cl. 100—93 **2 Claims**



There is described a hand-operated press suitable for enclosing and sealing coins and similar articles in transparent envelopes for preserving and protecting the same. The press includes opposing pressure platens having a resiliently compressible pad on each surface thereof.

3,450,032
PRESS

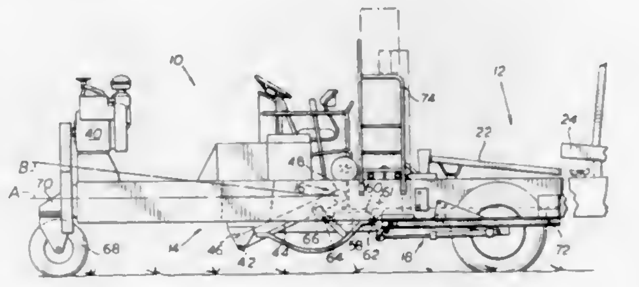
Carroll H. Van Hartesveldt, Toledo, Ohio, and Buddy D. Wahl, Ann Arbor, Mich., assignors to Hoover Ball and Bearing Company, Ann Arbor, Mich., a corporation of Michigan
Filed Nov. 14, 1966, Ser. No. 593,994
Int. Cl. B30b *15/34, 5/00;* **B02c** *11/08*
U.S. Cl. 100—93 **16 Claims**



Apparatus for making workpieces in sheet form wherein such workpieces are sandwiched in between two metallic sheets and such sheets are then pulled between two spaced platens wherein heating and compressing of the workpieces occur.

3,450,033
UNITIZED BALING, BALE ACCUMULATING, AND TRANSPORTING APPARATUS

James H. Bornzin, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,599
Int. Cl. A01d *90/00, 15/14*
U.S. Cl. 100—100 **6 Claims**

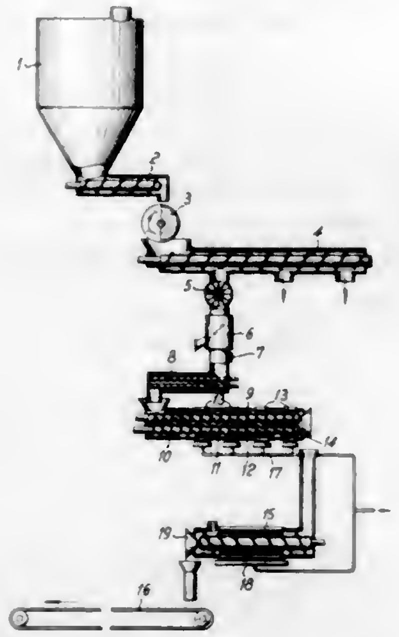


An agricultural apparatus including in combination a baler and a dirigible, self-propelled bale wagon provided with automatic bale accumulation facilities. The baler is pivotally connected to the front of the bale wagon and is movable by a hydraulic ram between a ground-engaging, baling position and an elevated, transport position.

3,450,034
INSTALLATION FOR EXTRACTING LIQUID FROM VEGETABLE MATTER

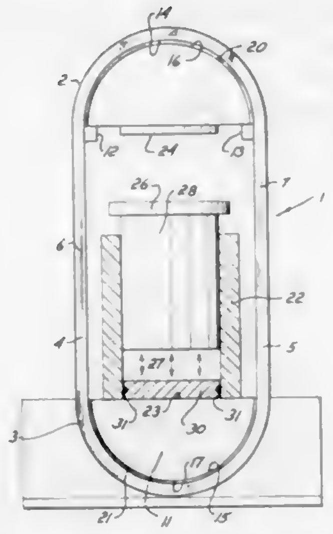
Herbert W. G. Ocker, Baden-Wurttemberg, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a German company
Filed Apr. 22, 1966, Ser. No. 544,558
Claims priority, application Germany, Apr. 23, 1965, W 39,037
Int. Cl. B30b *9/12, 9/14, 9/16*
U.S. Cl. 100—117 **6 Claims**

An installation for extracting liquid from vegetable matter, including a double wormed conveying, milling and obstructing device which has alternating sections of opposite screw thread pitch. The liquid so released from the vegetable matter flows in one direction to a separating stage while the milled matter flows in the opposite direction to repeat the process for further extraction.



3,450,035
HYDRAULIC PRESS

Everett Chapman, P.O. Box 207,
West Chester, Pa. 19380
Filed Apr. 10, 1967, Ser. No. 629,670
Int. Cl. B30b *1/00, 1/32*
U.S. Cl. 100—214 **3 Claims**

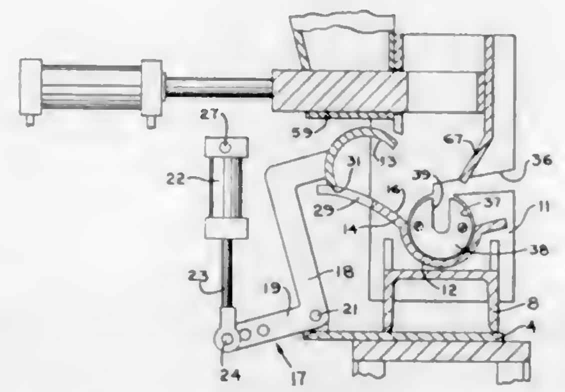


The invention relates to a press structure wherein each end of the press comprises a semi-circular member and a load pad interconnected thereto by a pressure-transmitting medium which eliminates stress concentrations and provides for all of the bearing or transfer surfaces on the end member and pad to participate in the transfer function. The end structure cooperates with a simplified press loading means to permit fabrication of presses of extremely large capacity.

3,450,036
HALF SHELL

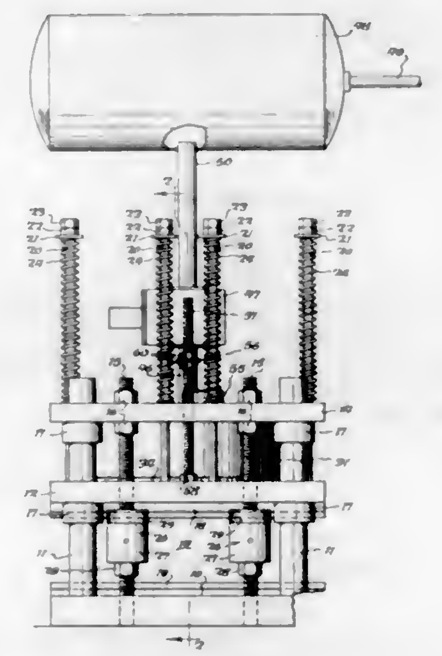
Robert J. Broersma, Spring Lake Township, Ottawa County, Mich., assignor, by mesne assignments, to Royer Foundry and Machine Co., Kingston, Pa., a corporation of Pennsylvania
Filed Nov. 3, 1966, Ser. No. 591,919
Int. Cl. B30b *7/04, 1/32;* **B65b** *13/20*
U.S. Cl. 100—232 **8 Claims**

A packing machine having a casing formed of at least two acruate sections, one of the sections being fixed and the other section mounted above the fixed section for pivotal movement toward and away from the fixed section. The casing sections together form a cylinder whereby packing material placed in the casing is shaped into a generally cylindrical form. A pusher element pushes the packing material and the nursery object packed therein out of the casing. Intermittent feed means, such as a reciprocable shuttle, transports a measured charge of packing material from a supply hopper to the casing. Guide means provided adjacent the upper casing section guides same into mating relationship with the fixed section and also acts as a receiving means for a portion of the packing material deposited into the casing whereby the movable section folds the packing material over the nursery object when the casing sections are closed.



3,450,037
PNEUMATIC PRESS

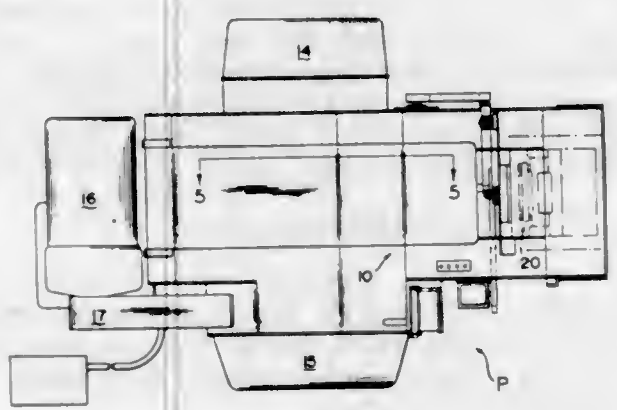
Robert P. Lickliter, 113 Buffalo St., and Earl Abbott, 81 Dudley Ave., both of Hamburg, N.Y. 14075, and John F. Reeves, Tonawanda, N.Y.; said Reeves assignor to said Lickliter and said Abbott
Filed Dec. 27, 1966, Ser. No. 604,955
Int. Cl. B30b *15/00, 5/00, 1/00*
U.S. Cl. 100—256 **12 Claims**



The press has a pneumatically operated piston and cylinder mounted between a height adjustable upper plate and a ram plate for driving the latter downwardly on guideposts into a die set area against resilient, height adjustable, stops whereby the ram plate rebounds upwardly to assist the spring retraction thereof. The piston face carries resilient stops which, together with the die set area stops, reduce the noise at both ends of the ram plate stroke. A height adjustable control switch is actuated by the ram plate before the end of the downstroke to stop inflow of air into the cylinder.

3,450,038
HIGH SPEED PRESS

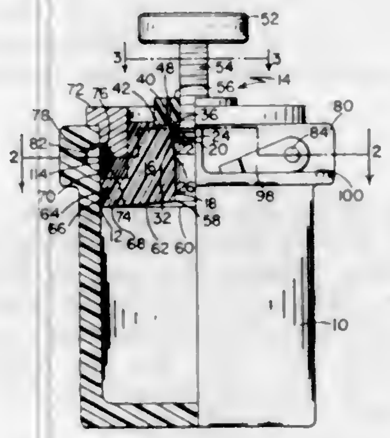
Derald Henry Kraft, Canton, Ohio, and Robert Arthur Helrigel and Robert Gordon Suntheimer, Hastings, Mich., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Apr. 4, 1967, Ser. No. 628,454
Int. Cl. B30b *5/00;* **B41f** *3/20;* **B62d** *5/08*
U.S. Cl. 100—257 **6 Claims**



The disclosure relates to a crank driven press from which a high working speed is obtained owing to a substantial reduction in vibrational forces. The combination includes a slide reciprocated relative to a bed in which all adjustments-axially and transversely-relative to the press center line are made in the bed thus eliminating the need for adjusting mechanisms associated with the slide and in consequence of which V-type gibbing precisely align the slide with the press center line and bed and a reciprocatory mass is provided having the same stroke and reciprocatory force as the slide; both being driven by the crankshaft of the press in timed relationship such that the force of the slide is balanced by the equal but opposite force of the reciprocatory mass.

3,450,039
PRESSURE VESSEL

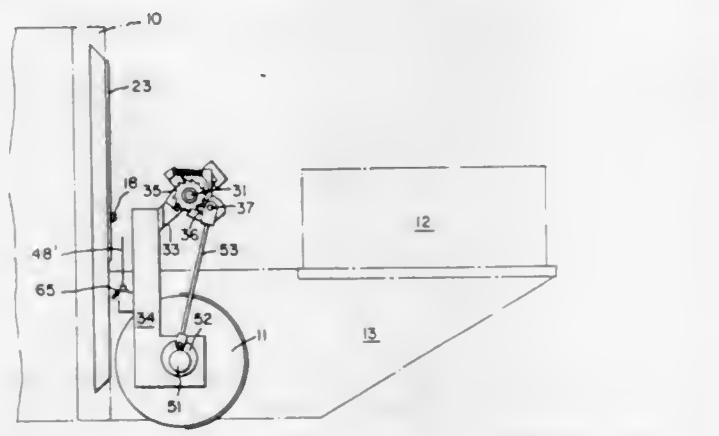
Clifford Logan Ashbrook, 112 Meyerland Plaza Mall, Houston, Tex. 77035
Filed May 18, 1967, Ser. No. 639,429
Int. Cl. B30b *1/32, 1/18*
U.S. Cl. 100—269 **12 Claims**



A resilient pressure vessel for applying hydraulic pressure to objects therein including a container having an opening therein, a cover for sealing the opening, a piston movable in a cylinder in the cover to pressurize fluid in the container, and bleeder passages communicating with the cylinder for receiving air and excess fluid driven out by the piston in the initial portion of its pressurizing stroke.

3,450,040
ELECTRICALLY OPERATED NUMBERING DEVICE IN BED AND CYLINDER PRINTING MACHINES

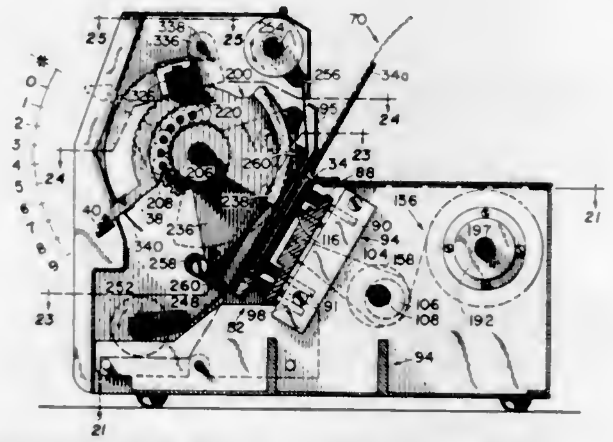
Cecil Paul Kuever, 3815 Pope St.,
Washington, D.C. 20020
Filed Mar. 6, 1967, Ser. No. 620,788
Int. Cl. B41l *45/00;* **B41f** *3/58;* **B41j**
U.S. Cl. 101—88 **4 Claims**



A numbering arrangement for a printing press whereby a conventional numbering machine of the type which includes a set of rotatable discs with indicia mounted on the periphery of the discs are adapted to imprint a number on a printing surface, such as a business form or the like. The rotatable discs with indicia thereon can be made to imprint numbers on a printing surface consecutively or to repeat the same number on a plurality of forms. The sequence of the numbers to be imprinted is made responsive to a programmed sequence control which is in electrical communication with the rotatable discs.

3,450,041
CHECK WRITING AND ENCODING APPARATUS AND METHOD

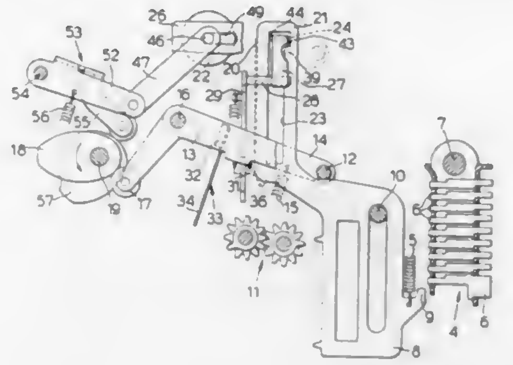
Bryan R. Gentry, 800 Parrott Drive, San Mateo, Calif. 94402, and John R. Nichols, 1777 Valley View Ave., Belmont, Calif. 94002
Filed May 1, 1967, Ser. No. 635,160
Int. Cl. B41j *21/00;* **B41l** *15/00*
U.S. Cl. 101—90 **22 Claims**



Apparatus and a method for simultaneously writing the amount of a check and the corresponding computer encoding indicia on the MICR line of the check. Each MICR printing wheel of the apparatus is linked to a corresponding amount printing wheel so that they move together when the amount is set up in the apparatus.

3,450,042
ZERO PRINTING CONTROL FOR ADDING AND PRINTING MACHINES

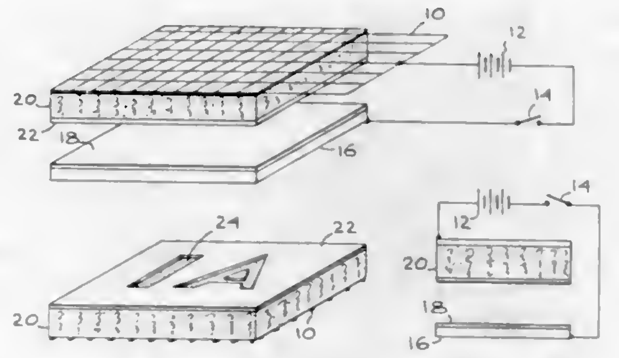
Natale Capellaro, Ivrea, and Carlo Bellis, Strambino, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Jan. 17, 1968, Ser. No. 698,597
Claims priority, application Italy, Jan. 17, 1967, 50,170–A/67
Int. Cl. B41j *1/40;* **G06c** *15/42*
U.S. Cl. 101—93 **4 Claims**



A zero printing control device for adding machines comprises a platen movable to strike against a set of type carriers integral with a corresponding set of differential actuators and adapted to present the zero type in front of the platen when the corresponding actuator is in the zero position, and a spring urged slide transversely variably movable from left to right. The slide is provided with an edge having a first portion adapted to engage the type carrier representing significant digits, substantially at the side opposite the type face to be struck by said platen, and a second portion offset with respect to said first portion to allow the type carriers representing nonsignificant zeros to be removed from the paper during the striking movement of the platen.

3,450,043
ELECTROSTATIC PRINTING USING POROUS MEMBER

Jerome Flax, Ross, Calif., assignor, by mesne assignments, to Monsanto Graphic Systems, Inc., St. Louis, Mo., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,523
Int. Cl. B41l *13/00;* **B41f** *15/00*
U.S. Cl. 101—114 **12 Claims**



The process of electrostatic printing involves employing an electric field for moving a powder to form an image from the location at which the powder image defining structure is located, to a receiving substrate. The powder image, an accordance with this invention, is formed on the surface of a sponge-like material, which is positioned within the electric field employed for transferring the powder image.

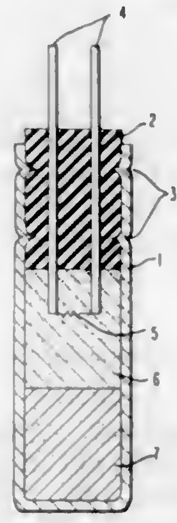
3,450,044
COLOUR PRINTING

William Murray Dixon, Whitley Bay, Northumberland, England, assignor to Formica International Limited, London, England, a corporation of the United Kingdom
Filed May 20, 1966, Ser. No. 551,583
Claims priority, application Great Britain, May 26, 1965, 22,382/65
Int. Cl. B41m *1/10*
U.S. Cl. 101—170 **6 Claims**

A method of colour printing upon sheet material comprises subjecting the material to a first printing operation, whereby it is printed on one side with a first overall pattern comprising rows of closely spaced substantially square-shaped and wholly inked areas, and thereafter subjecting said one side of the material to a second printing operation, whereby the first over-all pattern is overprinted with at least a second overall pattern substantially identical in configuration, size and colour to the first overall pattern but angularly disposed in relation thereto. Preferably, the square-shaped areas are spaced from each other by a distance of from one-eighth to one-quarter of the side of said square-shaped areas.

3,450,045
ELECTRIC EXPLOSIVE IGNITION ASSEMBLY

Robert John Zedalis, Saddle Brook, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 29, 1968, Ser. No. 709,413
Int. Cl. F42c *11/00*
U.S. Cl. 102—28 **12 Claims**

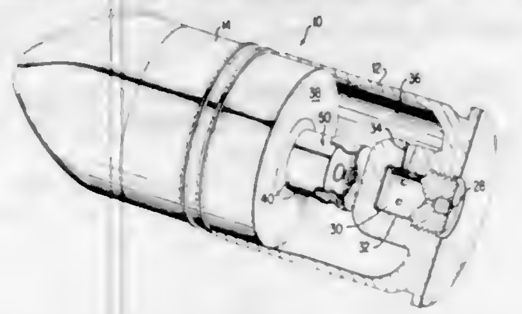


An electric explosive ignition assembly which is unaffected by exposure to one ampere of current and one watt of power for five minutes yet can be actuated reliably by five watts of power which comprises a loose charge of magnesium and tellurium dioxide.

3,450,046
FIRING PRESSURE ACTIVATION SYSTEM FOR FUZES AND COMPONENTS

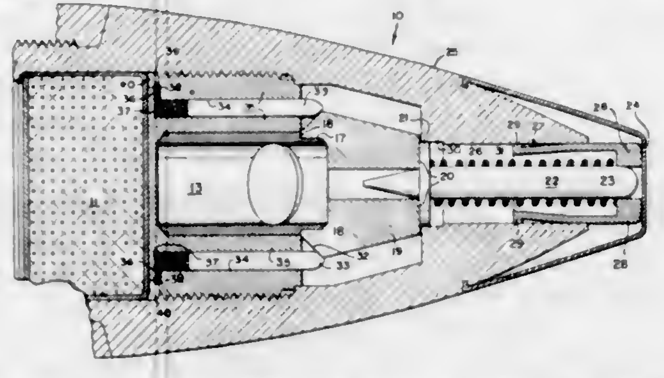
Edward A. Cooke, Mclean, Va., and William H. Carter, White Plains, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 27, 1967, Ser. No. 678,754
Int. Cl. F42c *15/32, 11/00, 1/00*
U.S. Cl. 102—70.2 **2 Claims**

Disclosed is a pressure actuated device for activating or arming a projectile fuze or the like. Propellant combustion gas pressure developed during firing of a projectile is used to dish inwardly the face of a ductile metal cup or peripherally supported disc called a pressure hammer to activate a fuze or other device of the projectile. The abrupt inward dishing of the pressure hammer is used to initiate a percussion primer or other arming device responsive to abrupt increases in combustion gas pressure.



3,450,047
SPIN STABILIZED PROJECTILE WITH SELF-DESTRUCTIVE CAPABILITY

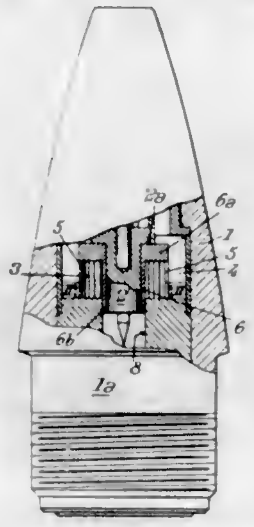
John Piskorski and Everett M. Myers, Independence, Mo., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 8, 1967, Ser. No. 681,963
Int. Cl. F42c *1/04, 15/26*
U.S. Cl. 102—71 **4 Claims**



A spin stabilized projectile with a controlled self-destructive capability has a fuze structure which contains a firing pin that is cocked in response to a set-back force. Wedges in response to centrifugal force are moved out of the operative path of the firing pin in a predeterminedly safe manner by use of a controlling piston retarding arrangement.

3,450,048
SPINNING FUZES, IN PARTICULAR FOR SMALL CALIBER SHELLS

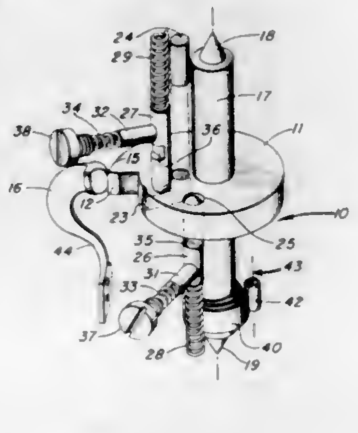
William Guerne, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland
Filed Mar. 13, 1967, Ser. No. 622,642
Claims priority, application Luxembourg, Mar. 16, 1966, 50.666
Int. Cl. F42c *15/22*
U.S. Cl. 102—79 **7 Claims**



A spinning shell fuze includes a body and a firing pin slidable axially in said body. To prevent axial sliding of said firing pin before the projectile is launched, a strip is spiral wound about a sleeve freely rotatable about said firing pin. This spiral wound strip bears through its edges on the one hand against a shoulder of the fuze body and on the other hand against a flange belonging to said sleeve, said flange bearing against a shoulder of the firing pin so that said sleeve is driven axially by said firing pin when the latter is actuated by the impact of the shell against an obstacle.

3,450,049
UNDERWATER DELAY FUZE

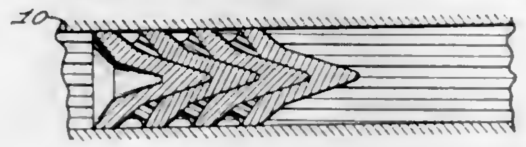
James A. Dare, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 9, 1966, Ser. No. 578,933
Int. Cl. F42c *15/26*
U.S. Cl. 102—80 **9 Claims**

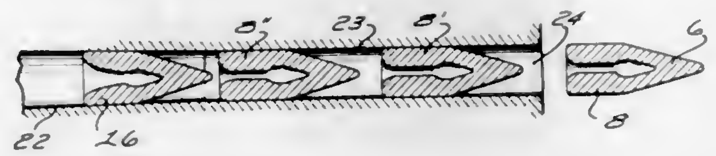


An underwater delay rotating fuze which utilizes setback, spin acceleration, impact and spin deceleration forces to arm, delay and fire the fuze. The fuze includes a preset rotatable cam, having a radial arm thereon, which is held against a position stop by a latch means. Upon impact with the surface of a body of water, the latch means is released thereby allowing the cam to be rotated by a deceleration spin force. The rotation of the cam stores energy in a firing pin which is biased against the cam. The firing pin is allowed to move inwardly after the radial arm of the cam passes thereby, and the inward movement causes the firing pin to strike a detonator element which detonates a projectile charge.

3,450,050
SALVO SQUEEZEBORE PROJECTILES

Russell S. Robinson, Newport Beach, Calif., assignor to Colts Inc., Hartford, Conn., a corporation of Arizona
Filed Aug. 4, 1961, Ser. No. 129,401
Int. Cl. F42b *13/00, 11/00*
U.S. Cl. 102—92.4 **4 Claims**



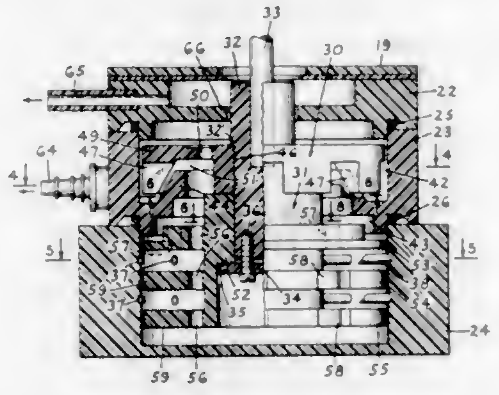


1. A projectile assembly for use in squeezebore firearms comprising, a plurality of coaxially arranged subprojectiles each having an axially disposed body and a radially extending deformable annular flange, means on the flange of each of said subprojectiles for sealingly engaging the squeezebore of a firearm to provide a hermeti-

cally sealed deformable cavity between each pair of adjacent subprojectiles, and a readily deformable material in each of said cavities to effect separation of adjacent subprojectiles upon deformation of said cavities as said assembly is radially squeezed in said squeezebore.

3,450,051
ROTARY PUMP

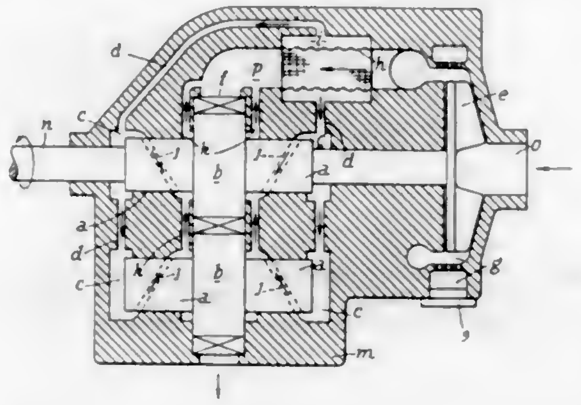
Erik W. Anthon, Kensington, Calif., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Mar. 22, 1967, Ser. No. 625,152
Int. Cl. F04b *23/04, 19/16*
U.S. Cl. 103—5 **5 Claims**



A rotary pump whose casing is divided by a partition into an intake chamber containing an intake impeller and a discharge chamber containing a discharge impeller. One or more intake ports extend into the intake chamber. The intake chamber is primed with liquid and the impeller rotated. The velocity of the liquid moving past the intake ports produces a suction which is capable of drawing both air and liquid into the intake chamber. The liquid drawn in overflows into the discharge chamber and is ejected by the discharge impeller. The air is vented.

3,450,052
LUBRICATION OF ROTARY PUMPS INTENDED FOR THE DELIVERY OF LIQUID CONTAINING SOLID CONTAMINANTS

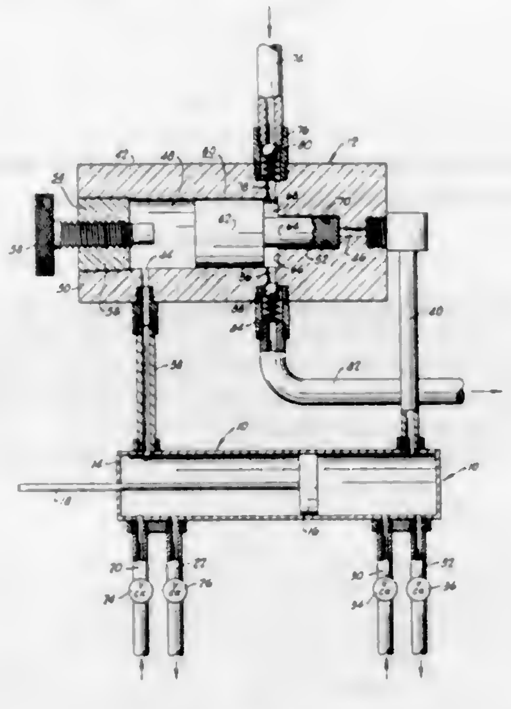
Horace G. Turner and Robert S. Wood, Ilford, England, assignors to The Plessey Company Limited, Ilford, England, a British company
Filed May 31, 1967, Ser. No. 642,538
Claims priority, application Great Britain, June 7, 1966, 25,358/66
Int. Cl. F04b *23/04;* **F04d** *29/70;* **F04c** *1/04*
U.S. Cl. 103—5 **6 Claims**



The bearings of a rotary pump are lubricated by liquid branched off from the pump inlet line by means of a wash-through filter, which withholds solid contaminants from the bearings, while the main flow of liquid acts to scrub the filter surface.

3,450,053
ADDITIVE PROPORTIONING AND INJECTION SYSTEM

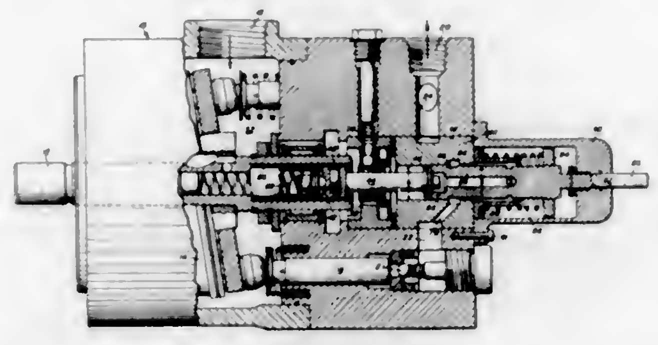
Doyle W. McCulloch, 630 Walnut Circle E., Garland, Tex. 75040
Filed Mar. 10, 1967, Ser. No. 622,212
Int. Cl. F04b *13/02, 19/06, 15/00*
U.S. Cl. 103—6 **7 Claims**



A compound pump for proportionately combining an additive with a flowing fluid stream. A double acting main reciprocating pump delivers a fluid into which a small predetermined amount of a fluid additive is to be introduced. A reciprocating proportioning pump is connected to the main pump so that each stroke of the main pump hydraulically drives a compound piston in the proportioning pump to draw the additive into, and discharge it from, a chamber in which the compound piston moves. The length of stroke of the compound piston can be externally adjusted to control the amount of additive discharged at each stroke. In one form of the invention, the compound piston fits loosely in the chamber in which it moves so that where the fluid pumped by the main pump, and the additive, are both liquids, the driving liquid bypasses the compound piston so that the proportioning pump is self-priming and air locking is avoided.

3,450,054
POWER LIMITER

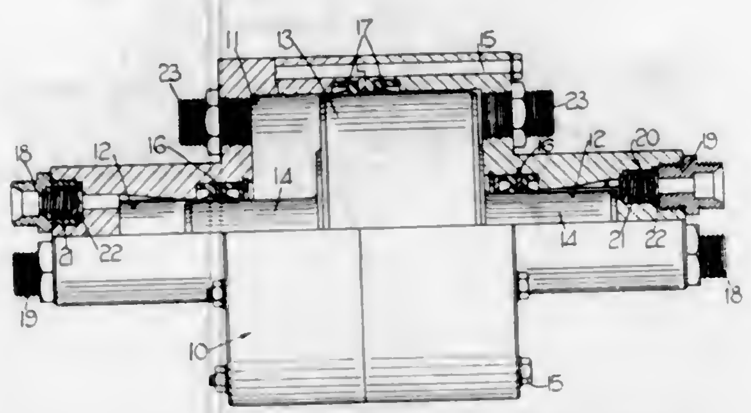
Larry E. Halwas, Pewaukee, and Robert L. Behrens, Waukesha, Wis., assignors to Applied Power Industries, Inc., Menomonee Falls, Wis., a corporation of Wisconsin
Filed Dec. 5, 1966, Ser. No. 599,227
Int. Cl. F04b *49/08, 1/14*
U.S. Cl. 103—42 **2 Claims**



A hydraulic pumping apparatus having a variable flow control, a fluid pressure chamber in which changes of pressure will adjust the flow control and a passageway communicating motor system pressures to this chamber.

3,450,055
FLUID PROPORTIONING DEVICES

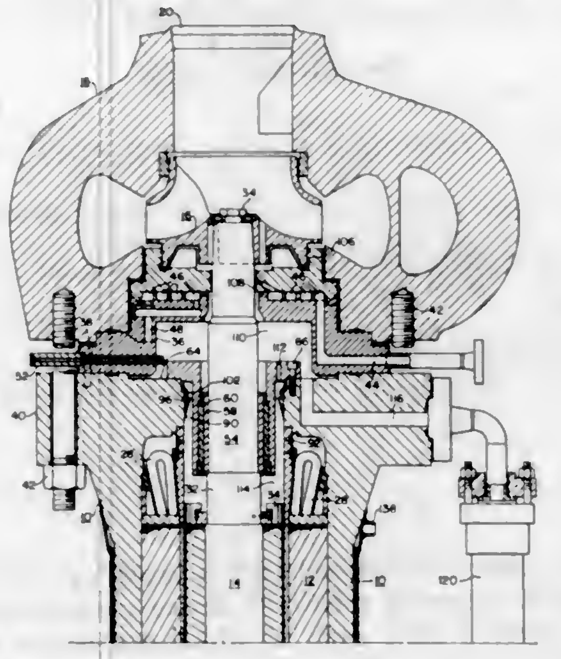
Alan Gordon England, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed June 21, 1967, Ser. No. 647,676
Claims priority, application Great Britain, June 24, 1966, 28,403/66
Int. Cl. F04b *17/00, 17/04, 21/00*
U.S. Cl. 103—51 **1 Claim**



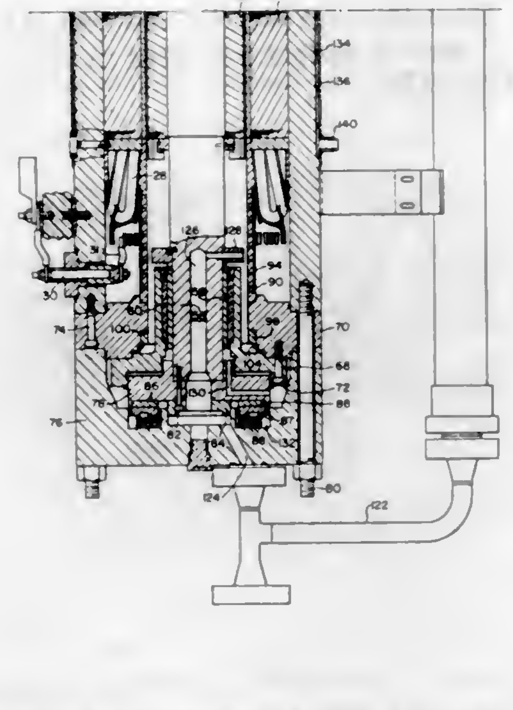
A fluid proportioning device comprising a body part in which is defined a stepped bore having a central portion and two subsidiary portions of reduced diameter, and a complementary piston assembly, slidable in the bore, inlet and outlets to the subsidiary portions of the bore, connectors through which fluid can flow to the ends of the central portion of the bore, sealing means located in the smaller portions of the bore for co-operation with the piston assembly and sealing means located in the central portion of the bore for co-operation with the piston assembly, movement of the piston assembly serving to displace from one of the subsidiary bores a quantity of fluid and from the central portion of the bore a larger quantity of fluid.

3,450,056
CANNED MOTOR PUMP

Thomas J. Heathcote and Michael Stark, Oakmont, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 18, 1967, Ser. No. 654,257
Int. Cl. F04d *13/06*
U.S. Cl. 103—87 **7 Claims**

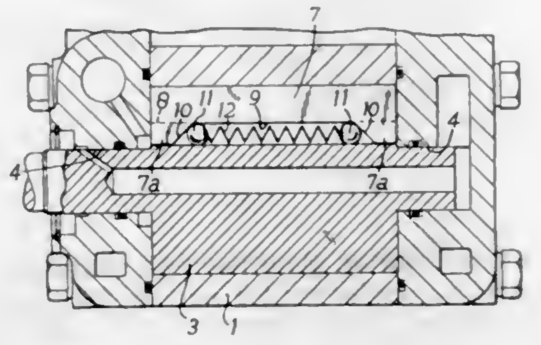


The thrust runner and thrust bearing for a canned motor pump are located on the end of the shaft opposite the main impeller, thereby being in a relatively cool area. The runner is bolted rather than keyed to the shaft and it can be removed without removing the pump from the volute or casing. Since the pump is run upside down, with the volute at the top, the thrust bearing can never run dry. A stator end ring is clamped between the stator housing and a stator cap which is bolted to the stator housing and houses the thrust runner and bearing. A stator can is factory welded to a short ring located at each end of the can. The outside diameter of one ring is smaller than the stator bore. A tool is used to grab this ring with the can attached and pull the can into position in the stator. Each ring has a lip so constructed that the ring can be field welded to the pump by a stick electrode. Thus, the stator can is field replaceable.



3,450,057
DISPLACEMENT PUMPS AND/OR MOTORS HAVING SLIDING VANES

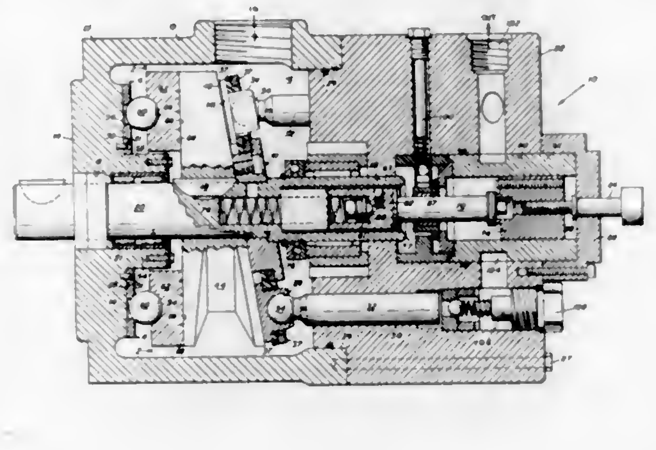
Frederick Baines and Frank Geoffrey Tunnell, Ilford, England, assignors to The Plessey Company Limited, Ilford, England, a British company
Filed Aug. 8, 1967, Ser. No. 659,118
Claims priority, application Great Britain, Aug. 10, 1966, 35,881/66
Int. Cl. F04c *1/00, 3/00;* **F01c** *1/00*
U.S. Cl. 103—136 **4 Claims**



A radial reciprocating-movable-vane pump wherein each vane is biassed radially outwardly by means of an axially disposed helical spring which spring acts, through balls, upon a pair of inclined surfaces which project from the radially inner end of each vane.

3,450,058
SEGMENTED OIL FILM BEARING FOR FLUID TRANSLATOR

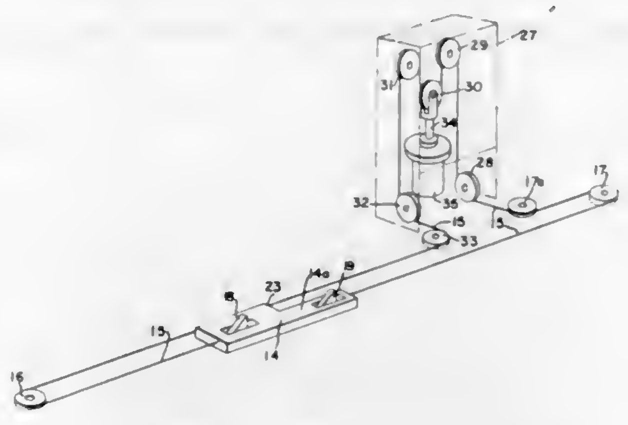
Gary Stein, Brookfield, Wis., assignor to Applied Power Industries, Inc., Menomonee Falls, Wis., a corporation of Wisconsin
Filed Dec. 5, 1966, Ser. No. 599,211
Int. Cl. F04b *1/18;* **B21d** *53/10*
U.S. Cl. 103—173 **2 Claims**



A fluid motor of the axial piston type wherein an inclined rotating cam plate reciprocates said piston, and the resulting axial thrust forces are borne by a plurality of pivotally supported segmental bearings between the motor housing and one side of the cam plate and the thrust forces are also borne by hydrostatic forces developed between the inclined surfaces of the cam plate and the piston slippers.

3,450,059
CABLE HAULAGE SYSTEMS

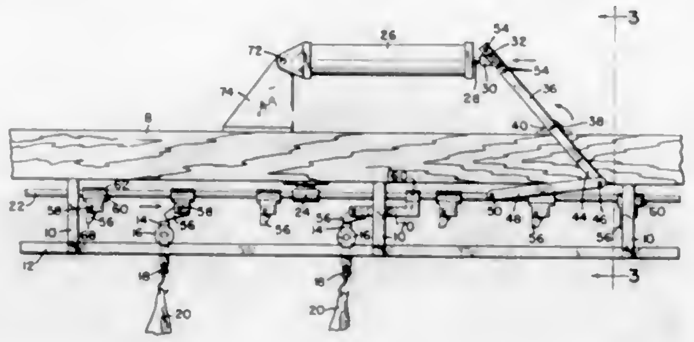
Francis B. Fishburne and James J. Waldrop, Asheville, N.C. (both % Fishburne Equipment Company, Inc., P.O. Box 338, Arden, N.C. 28704)
Filed Jan. 9, 1967, Ser. No. 608,125
Int. Cl. B61b *9/00;* **B61j** *3/04*
U.S. Cl. 104—176 **10 Claims**



A brick manufacturing plant having a plurality of storage tracks, and a transfer car for moving kiln cars to and unloading them onto said storage tracks, the kiln car moving means comprising a cable operated wheeled dolly. Includes a rotary hydraulic motor for driving the cable, and means for automatically varying the tension on said cable in accordance with the load on said motor. Another feature is placing the driving motor and cable tensioning means above ground level between the storage tracks.

3,450,060
TROLLEY SPACING DEVICE

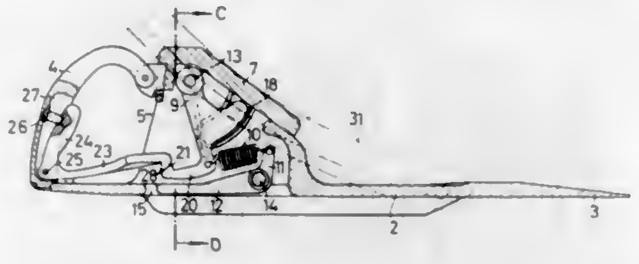
Lowell K. Adams, Rte. 2, Box 136, Greeley, Colo. 80631, and Albert D. Davis, 1614 Banner, Schuyler, Nebr. 68661
Filed Aug. 10, 1966, Ser. No. 571,564
Int. Cl. B61k *7/02;* **E01b** *25/22*
U.S. Cl. 104—250 **7 Claims**



A trolley spacing device for handling heavy loads, incorporates an overhead trolley rail suspended from a stationary support, which same support suspends a reciprocative beam adjustable as to stroke, a motor mounted on a stationary support reciprocates the beam and includes piston operated lever arms and links which are pivotally connected to the piston and beam respectively. The beam carries a succession of selectively spaced pivoted fingers. The fingers normally depend into the path of travel of a succession of trolleys, and advances the trolleys and their loads in one direction along the overhead rail. The reciprocative beam, due to the heavy weight of the loads requiring advancement, is journaled in one or more sturdy bearings likely to interfere with advancement of one or more trolley-advancing fingers, and to prevent such interference the beam is provided with an extension means ensuring unobstructed movement of a finger past the beam-supporting bearing.

3,450,061
DRAG SHOE FOR RAILROAD CARS

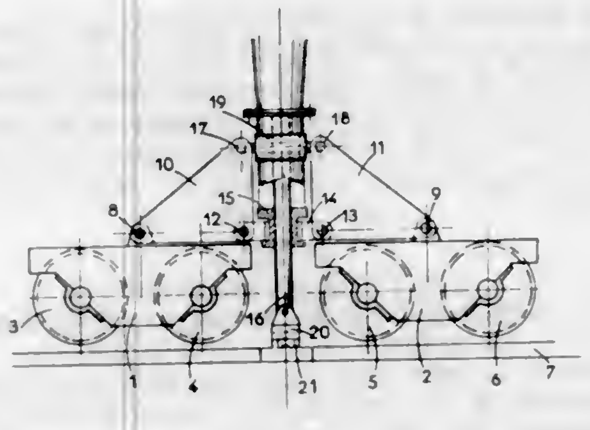
Werner Blomecke, Hagen-Haspe, Wolfgang Freystein, Hannover, and Herbert Gasper, Minden, Germany, assignors to Gusstahlwerke Wittmann AG, Hagen-Haspe, Germany, a firm
Filed Oct. 13, 1967, Ser. No. 675,078
Claims priority, application Germany, Oct. 14, 1966, G 48,179
Int. Cl. A61h *7/10*
U.S. Cl. 104—259 **3 Claims**



A drag shoe for railroad cars is provided with an automatically operating throw-off device composed of two mirror inverted units each of which consists of a load-actuated lever and a throw-off lever connected thereto by means of a tension spring. The load-actuated lever comes against the force of said tension into locking engagement with a locking pawl when a wheel runs onto the drag shoe and the throw-off lever is at the same time pressed against the upper surface of the rail and thus into a position in which it is ready to throw the drag shoe off the rail as soon as the wheel has cleared the drag shoe. The units are located on both sides of the longitudinal center line of the drag shoe so that the drag shoe is always thrown to the outside of the track.

3,450,062
MULTIDIRECTIONAL TRUCK

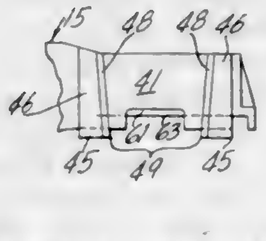
Jacques Pradon, 19 Ave. de la Tourelle, St-Maur-des-Fosses 94, France
Filed July 1, 1966, Ser. No. 562,363
Claims priority, application France, July 1, 1965, 23,114
Int. Cl. B61k *5/02;* **B61f** *5/00*
U.S. Cl. 105—177 **3 Claims**



The disclosure is concerned with a rail vehicle truck arranged for transferring the truck between trackways intersecting perpendicularly in which the truck is supported on four legs positioned to be vertically aligned with the intersection points of the track rails, with each leg being provided with a pair of bogies that ride on the respective track rails and include a jacking arrangement to rest the truck on its legs and raise the bogie wheels above the track rails. The bogies of each leg are mounted to be swung about the respective legs when freed from the track rails so that transfer of the truck between the intersecting tracks can readily take place, when the truck rests on its legs at the rail intersection points, by rotating the respective bogies from alignment with one trackway to the other, and then restoring the weight of the truck and its load to the truck bogies. The jacking arrangement also includes a control device so that the truck may be leveled when the trackway is on uneven ground.

3,450,063
FRICTION DAMPENED RAILWAY TRUCK BOLSTER

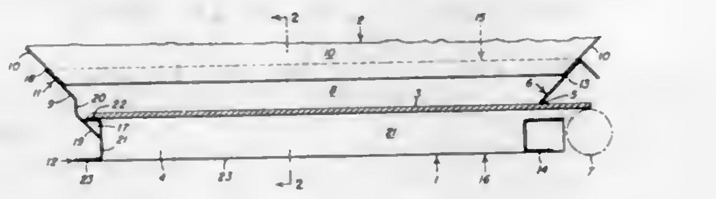
James A. Shafer, East Cleveland, Ohio, assignor to Midland-Ross Corporation
Filed Apr. 27, 1967, Ser. No. 634,317
Int. Cl. B61f *5/04*
U.S. Cl. 105—197 **12 Claims**



A snubbed-bolster railway car truck having a trapezoidal-shaped friction wear plate that is removably connected to the side of the bolster facing an opposed column of the side frame of the truck.

3,450,064
WELDED HOPPER GATE OUTLET FRAME

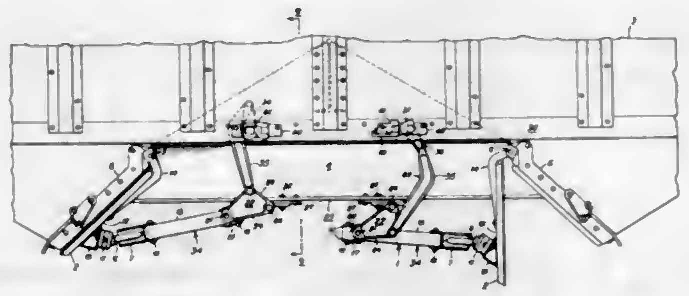
Walter L. Floehr, James D. Hipp, and Ronald W. May, Toledo, Ohio, assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 12, 1967, Ser. No. 652,828
Int. Cl. B61d *3/00, 7/00, 9/00*
U.S. Cl. 105—282 **5 Claims**



A welded frame for a slide gate of a railway car hopper having load-supporting sides each formed of a pair of members so shaped and welded together as to produce between them a reinforcing tube extending along the wall for increasing its strength-to-weight ratio.

3,450,065
POWER ACTUATED DUAL HOPPER DOOR OPERATING MECHANISM

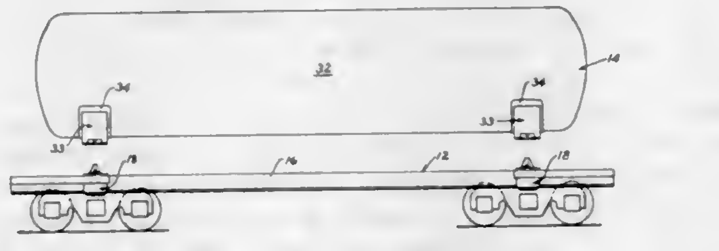
Walter L. Floehr, Toledo, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 31, 1967, Ser. No. 612,884
Int. Cl. B61d *7/26*
U.S. Cl. 105—290 **7 Claims**



A mechanism for operating in unison a laterally aligned pair of longitudinally opening doors of a railway hopper car which in closing distributes equally between the doors by a flexible spreader an adjustable preloading to compensate for the weight of the lading.

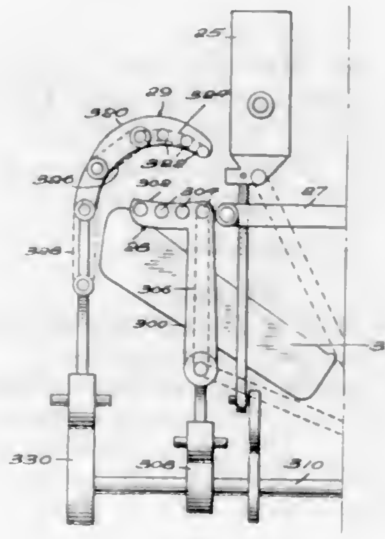
3,450,066
RAILWAY TANK CAR

Joseph T. Kasprzycki and Roy J. Holden, St. Charles, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed May 20, 1966, Ser. No. 551,660
Int. Cl. B61d *5/00, 17/00*
U.S. Cl. 105—362 **1 Claim**



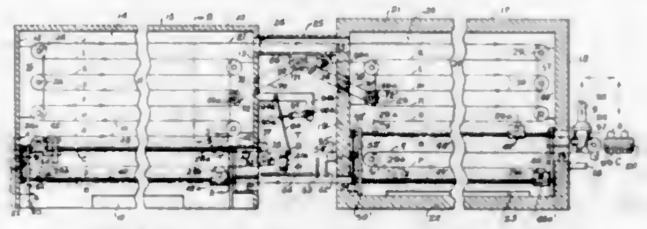
A railway tank car having a tank structure releasably secured to the underframe and being removable from the underframe, if desired. The supports for the tank structure comprise generally conically-shaped projections on the underframe bolster which transfer forces between the tank structure and underframe while permitting the tank structure to be easily removed from the underframe with a minimum of binding.

3,450,067
AUTOMATIC EGG ROLL MACHINE
Chung-Chin Kao, 102–40 67th Drive,
Forest Hills, N.Y. 11375
Filed Feb. 3, 1967, Ser. No. 613,942
Int. Cl. A21c *9/04*
U.S. Cl. 107—1 **2 Claims**



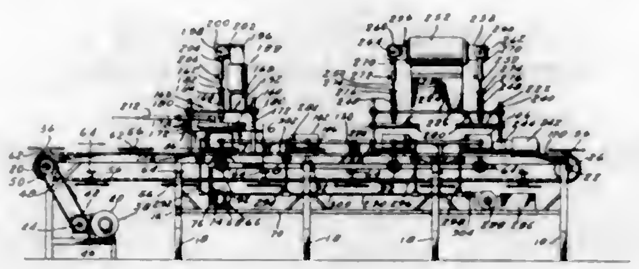
In an egg roll making machine, an upper curved conveyor cooperates with a lower conveyor to turn and roll a partially formed egg roll into final shape.

3,450,068
CONTINUOUS BAKERY PRODUCT HANDLING SYSTEM
Hiram E. Temple, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed Sept. 19, 1966, Ser. No. 580,278
Int. Cl. A21c *5/08, 13/02, 3/04*
U.S. Cl. 107—4 **2 Claims**



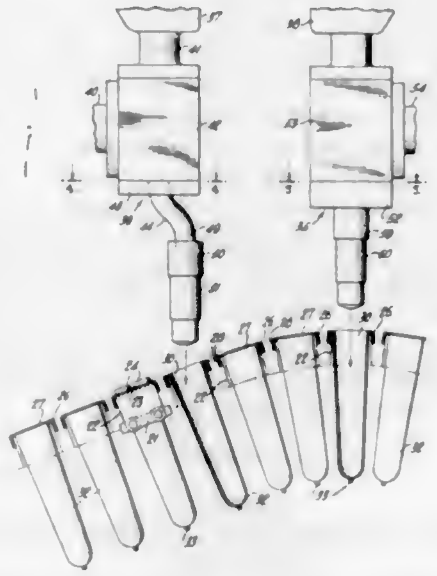
A bakery product handling system wherein a pair of connected, contiguous proofing and baking chambers having entrances and exits are provided with a common conveyor means leading in a direction of travel through the proofing and baking chambers consecutively and back to the proofing chamber, substantially horizontally extruding extrusion means is provided for supplying bread dough, conveyor means leads from the extrusion means to a point adjacent the proofing chamber entrance and has a portion in parallel alignment with the pans which travel the continuous conveyor circuit in spaced apart relation broadside to the direction of travel, slicing means is provided for cutting the dough into pan size lengths, and a transfer member is employed for moving the dough lengths cut by the slicing means successively into the pans at the proofing chamber.

3,450,069
CAKE ICING APPARATUS
Leon M. Santa Cruz, 7067 Pico Vista Road,
Pico Rivera, Calif. 90660
Filed Oct. 16, 1967, Ser. No. 675,696
Int. Cl. A21c *15/00*
U.S. Cl. 107—4 **11 Claims**



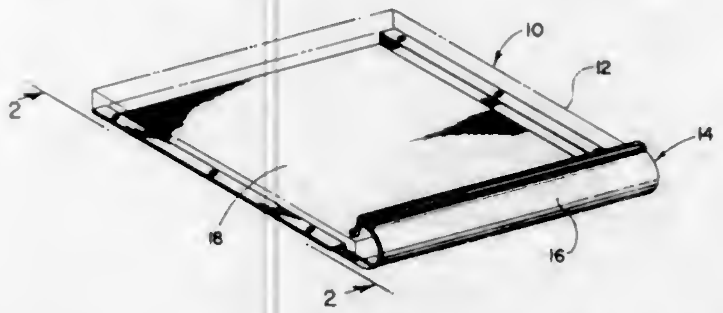
An apparatus for automatically applying icing or frosting to cakes and spreading the icing on the sides and on the top of the cakes. Sprays are positioned adjacent the icing spreaders for spraying a mixture of air and water onto the spreading surfaces of the spreaders when they are disengaged from the cakes to clean the spreader surfaces.

3,450,070
MACHINE FOR THE PRODUCTION OF FROZEN STICK CONFECTIONS
Roscoe T. Fowler, Ellicott City, Md., and Harold B. Kaufman, Jr., New York, N.Y., assignors to DCA Food Industries Inc., New York, N.Y., a corporation of New York
Filed Aug. 23, 1967, Ser. No. 662,696
Int. Cl. A21c *3/04;* **A23g** *1/20*
U.S. Cl. 107—8 **6 Claims**



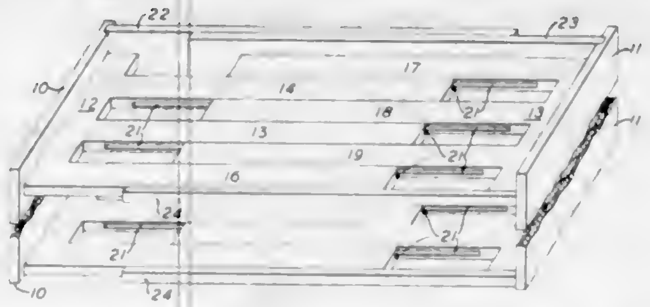
In a machine for continuously forming frozen confections, in which successive mold strips are transported through filling, freezing, stick inserting and extraction stations, the mold strips each include a plurality of laterally spaced pairs of separate open-topped molds, and longitudinally spaced hoppers are provided with longitudinally spaced sets of metering pumps and mold filler nozzles, the nozzles of one set being aligned with one of the molds of each pair and the nozzles of the other set being aligned with the other molds, the nozzles being actuated when respective molds are vertically aligned therewith. The stick extractor includes an extractor bar provided with a jaw member for each pair of sticks which have associated therewith opposing pairs of laterally spaced detent elements urged toward the jaw members to permit the positive engagement of corresponding pairs of sticks which may differ in thickness.

3,450,071
DRAWING BOARD ATTACHMENT
Joseph E. Mack, 247 Jennings Ave.,
Cuyahoga Falls, Ohio 44221
Filed Sept. 28, 1967, Ser. No. 671,283
Int. Cl. B43l *5/00*
U.S. Cl. 108—50 **2 Claims**



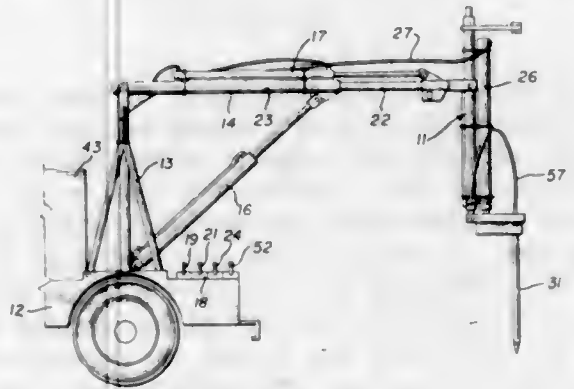
This invention relates to drawing board, and more particularly to apparatus designed for the purpose of protecting the paper against wrinkles and creases by curling the paper through approximately 180° as it is slid off the surface of the board.

3,450,072
EXTENSIBLE FURNITURE
Samuel Z. Farkas, 455 Ocean Parkway, Apt. 14G,
Brooklyn, N.Y. 11218
Substitute for abandoned application Ser. No. 453,370, May 5, 1965. This application Dec. 11, 1967, Ser. No. 703,202
Int. Cl. A47b *1/00;* **B25b** *1/14;* **A47c** *17/04*
U.S. Cl. 108—102 **4 Claims**



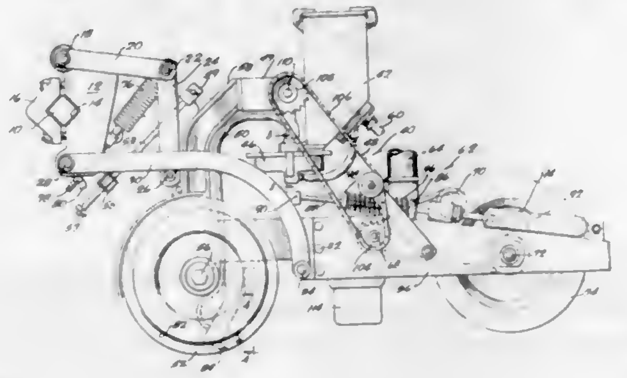
Extensible furniture comprising at least two mating shelf portion means having end portions and relatively displaceable interlocking finger sections, longitudinal communicating grooves, and roller means to form a substantially stable supporting platform.

3,450,073
PRESERVATIVE INJECTION MACHINE
Roy E. Baker, 4370 Kendrick St.,
Golden, Colo. 80401
Filed June 21, 1967, Ser. No. 647,708
Int. Cl. B27k *3/02*
U.S. Cl. 111—6 **12 Claims**



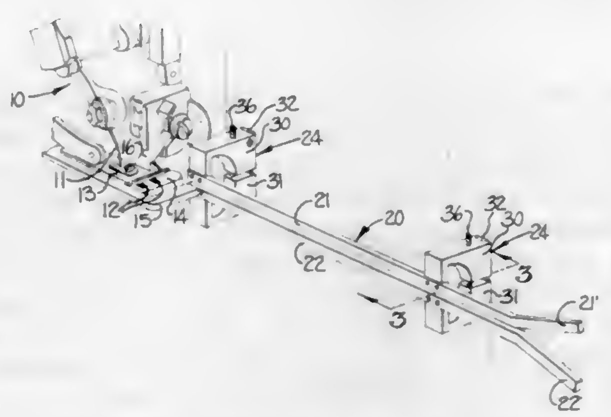
A device for the pressured application of preservative compounds to erected utility poles at below ground levels through use of vehicle mounted boom and hoist components for positioning and holding an injector attachment in position against an upright pole as probe elements of said attachment are power driven into the ground alongside the pole for conducting preservative materials through the probe elements under influence of a pressure increasing apparatus, with an embodiment in which a hydraulic power source is used for all manipulative and processing operations.

3,450,074
SEED PLANTER FOR DEPOSITING FINE SEEDS AT CONTROLLED DEPTH
Harold E. Gatzke, Berlin, Mando S. Ariens, West De Pere, and Vernon G. Doty, Brillion, Wis., assignors to Agri-Tek, Inc., Kaukauna, Wis., a corporation of Wisconsin
Filed Feb. 1, 1967, Ser. No. 613,256
Int. Cl. A01c *7/18, 5/04*
U.S. Cl. 111—52 **7 Claims**



A planter provided with spring biased parallelogram linkage for regulating the total pressure on the earth is pivoted on a transverse axis intermediate its furrow-opening wheels and press wheels. Adjustable spring means apportions the total ground pressure between front and rear wheels, damping means being provided to oppose temporary displacement about said axis and thereby to maintain furrow depth uniform.

3,450,075
APPARATUS FOR CLOSING THE TOE PORTION OF CIRCULAR KNIT HOSIERY
Ules M. Bridgeman, Martinsburg, W. Va., assignor to Martinsburg Mills, Inc., Martinsburg, W. Va., a corporation of Delaware
Filed July 7, 1967, Ser. No. 651,920
Int. Cl. D05b *7/00, 27/00, 35/00*
U.S. Cl. 112—27 **3 Claims**

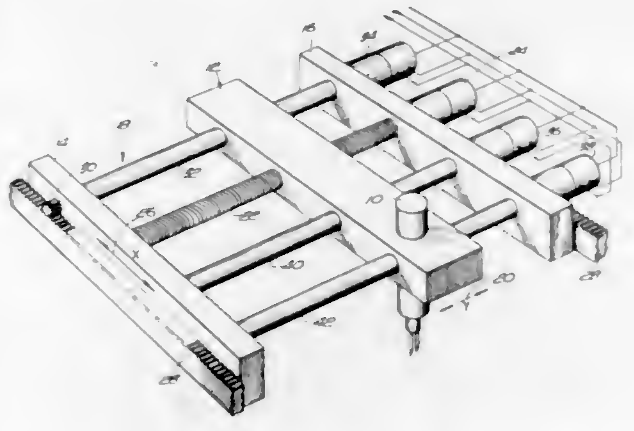


A guiding and aligning means in an overedge sewing machine, adapted for use with circular knit hosiery having an increased thickness looper portion, comprising spaced apart arms adapted to receive the toe portion of circular knit hosiery and allow easy alignment of the superimposed edges thereof and easy guiding thereof into the overedge sewing machine for cutting off the looper portion and closing the toe portion by overedge stitching.

3,450,076

STITCHING, TUFTING AND CARVING MACHINE

Thomas A. E. Bender, 4505 Fairwood Lane,
Chattanooga, Tenn. 37416
Filed Oct. 7, 1966, Ser. No. 585,043
Int. Cl. D05c *15/12;* **D05b** *23/00*
U.S. Cl. 112—79 **13 Claims**

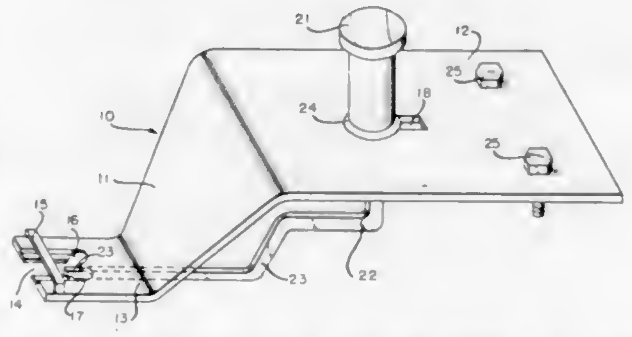


A tufting machine having a needle head supported on a carriage with drive means connected to the head causing the needles to stitch. An analogue system moves the carriage while the drive means is operative, and means operatively connect the drive means and the analogue system for automatically causing the drive means to achieve a stitch rate bearing a selected functional relationship to the velocity of the carriage.

3,450,077

SEWING MACHINE ATTACHMENT

Salvatore G. Bonomo, 32 John St.,
Kingston, Pa. 18704
Filed Oct. 12, 1966, Ser. No. 586,061
Int. Cl. D05b *3/10*
U.S. Cl. 112—114 **3 Claims**

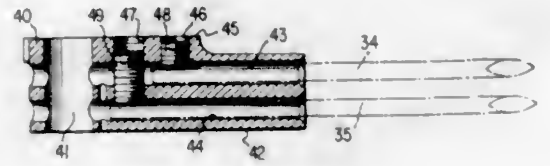


This disclosure describes an attachment for standard, commercial sewing machines which provides the machine with the added ability to readily sew dress hooks in place and to make eyes formed of thread for those hooks. The attachment comprises a portion which is attachable to the sewing machine and which carries a slidable operating member. Another horizontal portion is formed with an opening shaped to accept a dress hook and a bridge over said opening upon which the hook may be engaged. In addition, a horizontally slidable rod is connected to said operating members so that the rod can be manually moved into the center of said opening when the member is operated. With the rod in position in said opening, operation of the sewing machine will result in the formation of a thread loop with the rod maintaining the cloth flat and the two sides of the eye well separated.

3,450,078

LOOPER CARRIER FOR SEWING MACHINE

George B. Armstead, Jr., Glastonbury, Conn., assignor to The Merrow Machine Company, Hartford, Conn., a corporation of Connecticut
Filed Mar. 18, 1968, Ser. No. 713,796
Int. Cl. D05b *1/20, 55/02, 57/06*
U.S. Cl. 112—162 **7 Claims**

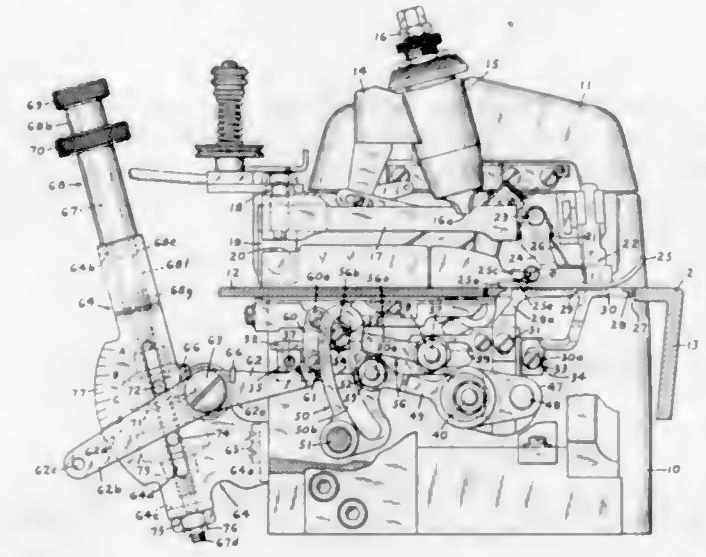


A looper carrier for an overedge sewing machine having a pair of spaced needles aligned in the direction of feed of a work piece through the machine. The looper carrier includes an arm having a pair of spaced looper sockets formed therein for receiving and supporting the shanks of a pair of loopers. A pair of threaded sockets are formed in the arm with the respective threaded sockets each intersecting one of the respective looper sockets, and a set screw mounted in each threaded socket to engage and releasably lock the shank of a looper in the looper sockets independently.

3,450,079

FEED STROKE ADJUSTING MECHANISM FOR SEWING MACHINES

Richard H. Lukin, Glen Ellyn, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 24, 1967, Ser. No. 611,430
Int. Cl. D05b *27/08, 27/16*
U.S. Cl. 112—209 **13 Claims**

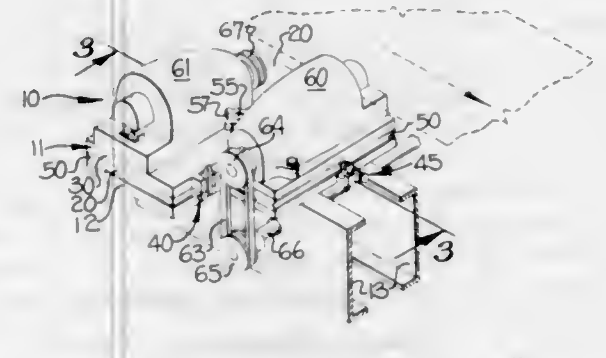


Adjustable devices for controlling the feed stroke of work feeding mechanism of a sewing machine, with provisions for changing from one to another of two selected feed strokes, by the actuation of a knee press or foot treadle or the like, during the operation of the machine. The machine is provided with two feed dogs that are subject to a differential feed action, one of the feed dogs being capable of having its feed stroke changed in relation to the other feed dog during the operation of the machine to produce the differential action. Two concentrically mounted screw elements, having closely adjacent and readily accessible knurled heads, may be manually rotated to determine two different feed strokes to be imparted to one of the feed dogs, one selected feed stroke being normally imparted to the feed dog and another selected feed stroke being imparted thereto upon the operation of a knee press or the like.

3,450,080

DUAL SEWING MACHINE ASSEMBLY

Karl W. Klose, Findlay, Ohio, assignor to Riegel Textile Corporation, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,537
Int. Cl. D05b *75/00, 23/00, 25/00*
U.S. Cl. 112—217.2 **7 Claims**

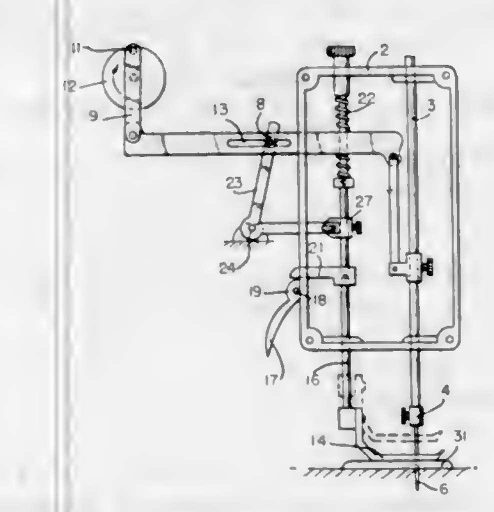


A dual sewing machine assembly characterized by being movable to alternately position one of the sewing machines in an active position for performing its normal operation in a work area and the other sewing machine in a standby position away from the work area for repair or inactivity. The assembly comprises a first stationary member adapted to support the assembly, a second movable member mounted on and carried by the first member and adapted to move linearly with respect thereto, a third movable member mounted on and carried by the second member and adapted to move linearly therewith and to move rotatively with respect thereto, and a pair of sewing machines mounted on and carried by the third member in opposing active and standby positions and adapted to be moved, linearly and rotatively as desired, to reverse the sewing machines occupying the active and standby positions.

3,450,081

SAFETY NEEDLE DEVICE FOR SEWING MACHINE

Jacob Rabinow, Bethesda, Md., assignor of ten percent to Max L. Libman, Reston, Va.
Filed Mar. 5, 1968, Ser. No. 710,550
Int. Cl. D05b *69/00;* **G05g** *1/04*
U.S. Cl. 112—221 **6 Claims**

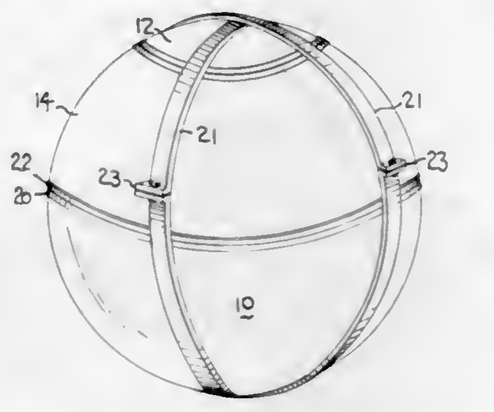


Apparatus for preventing the possibility of a sewing machine needle penetrating the operator's finger during sewing by adjusting the length of the needle stroke as the presser foot is raised and lowered so that there is never sufficient clearance between the needle and the presser foot to permit insertion of a finger.

3,450,082

LOAD-BEARING MEMBER FOR CURVED CERAMIC SEGMENTS SUBJECTED TO HIGH COMPRESSIVE LOADS

Henry M. Demarest, Jr., Natrona Heights, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed Jan. 29, 1968, Ser. No. 701,484
Int. Cl. B63c *11/00;* **B65d** *7/02*
U.S. Cl. 114—16 **10 Claims**

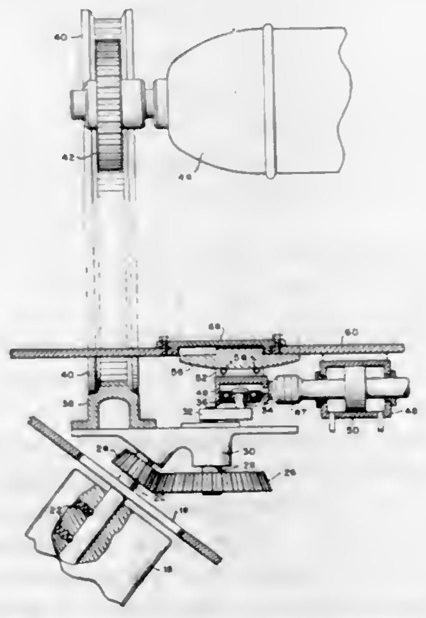


Load-bearing member for curved ceramic segments subjected to high compressive loads under conditions of cyclic loading such as those encountered by deep submergence vehicles. In the case of deep submergence spheres formed from glass hemispheres joined at their peripheral edges, an annular, metal, load-bearing member having certain physical properties is disposed in abutting relationship with the peripheral edges of the hemispheres. It is preferred that the abutting surfaces of the load-bearing member and the edge surfaces of the glass hemispheres be flat, but one or more of the abutting surfaces may be of slightly convex elevation in the absence of a load.

3,450,083

SUBMARINE HYDRODYNAMICS CONTROL SYSTEM

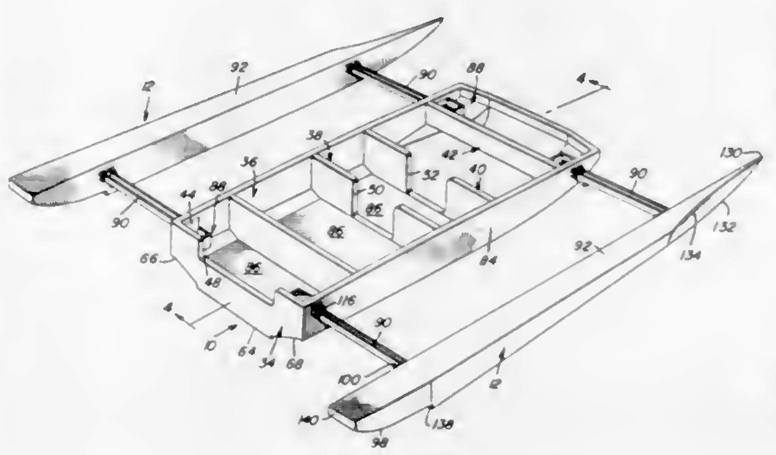
Frederick R. Haselton, Williamsville, N.Y., and Karl H. Keller, Arnold, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1968, Ser. No. 724,892
Int. Cl. B63h *25/42, 5/06*
U.S. Cl. 114—16 **7 Claims**



An improved system, including a fore and after movable spherical bearing surface, for supporting a movable wobble plate ring which controls the collective and cyclic (selective) pitch of a plurality of propeller blades carried by rings rotating aroud the circumference of the hull of a submersible vessel having tandem mounted counter-rotating propulsion systems.

3,450,084
BOAT HULL CONSTRUCTION WITH OUTRIGGER PONTOON ASSEMBLY

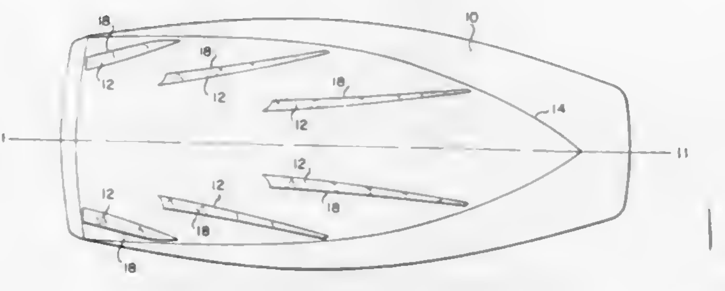
Fred Gerbracht, 2325 Seidenberg Ave.,
Key West, Fla. 33040
Filed Apr. 13, 1967, Ser. No. 630,629
Int. Cl. B63b *1/10*
U.S. Cl. 114—66.5 **7 Claims**



A boat construction in the form of a hull cooperating with removable outrigger pontoons associated with transverse frame members in the boat hull to provide adequate support for the outrigger pontoons and longitudinal trusses co-joined with the transverse frame members to provide support to an impermeable covering fixedly attached thereto. The hull is substantially parallelopiped in configuration and provided with a pair of parallel spaced keels merging into a complexly curved bow.

3,450,085
HYDROPLANE BOAT HULL

Charles Douglas Van Patten, Carp Lake, Mich., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,596
Int. Cl. B63b *1/18*
U.S. Cl. 114—66.5 **10 Claims**



A polyparaboloid hull form having applied to or integrally formed with the hull bottom, edge effect devices or separators symmetrically disposed on opposite sides of the keel at angles to the plane of symmetry, converging aftward. Said devices are triangular in cross section with one side normal to the plane of symmetry of the hull, so as to cause flow separation of the water from the hull.

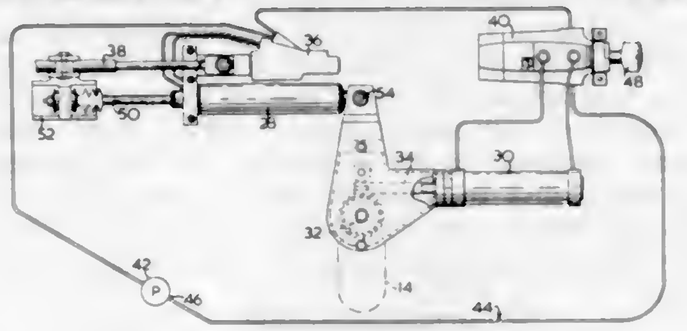
3,450,086
METHOD FOR DISPOSAL OF CRUDE OIL RESIDUES

Edward G. Maddock, Fairlawn, N.J., assignor to Cities Service Tankers Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 546,547, May 2, 1966, now Patent No. 3,364,893. This application Nov. 22, 1967, Ser. No. 685,337
Int. Cl. B63b *57/02*
U.S. Cl. 114—74 **6 Claims**

Crude oil residues remaining in marine tanker cargo tanks are disposed of by washing the tanks with water and settling the resulting water-oil mixture to effect separation into water and oil layers. The clean water from the water layer is pumped overboard and the oil layer plus a small amount of water is then given additional chemical or mechanical treatment to separate additional clean water therefrom and to reduce the salt content thereof, if necessary. The oil, still containing small amounts of water, is then introduced into a secondary settling zone having a relatively small cross-sectional area as compared with its height and a relatively small volume as compared with the volume of the first settling tank. From the secondary settling zone, oil is recovered and used as fuel in the propulsion system of the tanker.

3,450,087
HYDRAULIC STEERING FOR WATERCRAFT

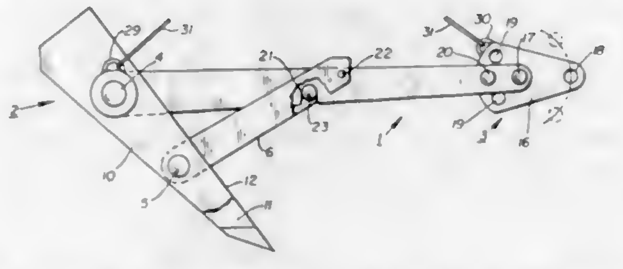
Siegfried Kuether, La Salle, Ontario, Canada, assignor to Tamco Limited, La Salle, Ontario, Canada
Filed Feb. 2, 1968, Ser. No. 702,714
Claims priority, application Canada, June 7, 1967, 992,420
Int. Cl. B63h *25/48*
U.S. Cl. 114—150 **4 Claims**



A power steering system for aqua-jet units which have a rotatable exhaust elbow for steering. The system includes a first steering member for normal swinging of the nozzle of the unit and another hydraulic member combined with the nozzle in a rack and pinion for complete rotation of the nozzle for reversing the craft in which the unit is installed.

3,450,088
ANCHOR HAVING PIVOTABLE FLUKES

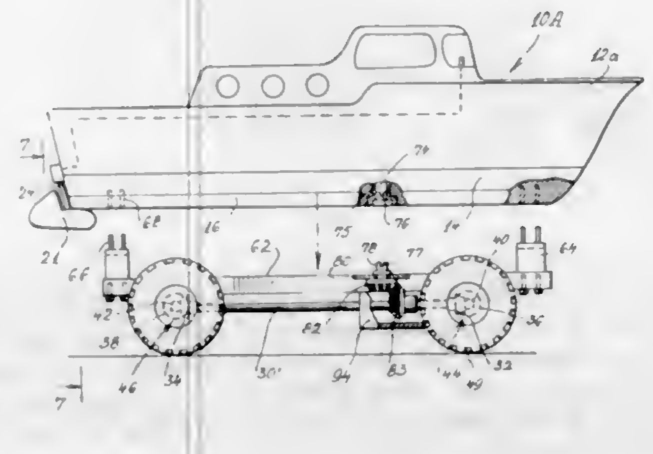
William Guier, 3100 E. 71st St.,
Tulsa, Okla. 74105
Filed June 21, 1967, Ser. No. 647,762
Int. Cl. B63b *21/42*
U.S. Cl. 114—208 **4 Claims**



A marine mooring anchor is shown as assembled from mechanical elements. The fluke portion of the anchor is formed from pre-cut plates having holes through which rods are journaled to retain the plates in assembly.

3,450,089
WHEEL DRIVEN BOAT

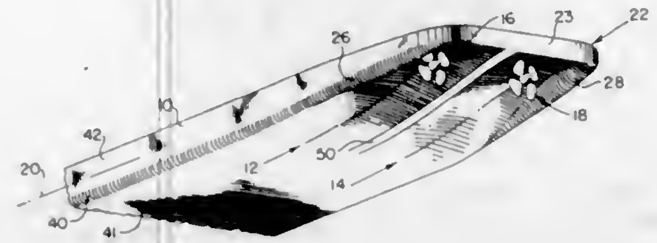
Lloyd Lippincott, Staatsburg, N.Y. 12580
Filed Aug. 15, 1967, Ser. No. 660,647
Int. Cl. B60f *3/00*
U.S. Cl. 115—1 **5 Claims**



The disclosure describes a boat having a four-wheel drive. The wheels have deep treads which effectively drive the boat through the water. The wheels can be mounted on a carriage which can be attached to the boat. The wheels can be steerable so that the boat can be driven on land.

3,450,090
HULL FORM FOR BOATS

Coe M. Best, Jr., 117 Focis St.,
Metairie, La. 70005
Filed Mar. 18, 1968, Ser. No. 713,627
Int. Cl. B63h *5/16;* **B63b** *1/08*
U.S. Cl. 115—39 **8 Claims**

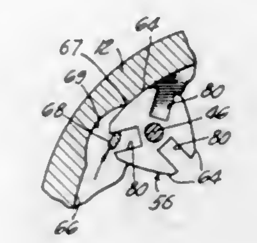


A hull form for the stern of a flat bottom boat consisting of a longitudinally extending dual tunnel configuration for partially shrouding the twin driving propellers of the boat, the tunnels formed in part by appendages located at the outer portions of the hull, and the entire hull construction formed of a combination of cylindrical, conical and flat plate members.

3,450,091
MULTI-TURN INDICATOR DIAL SYSTEM

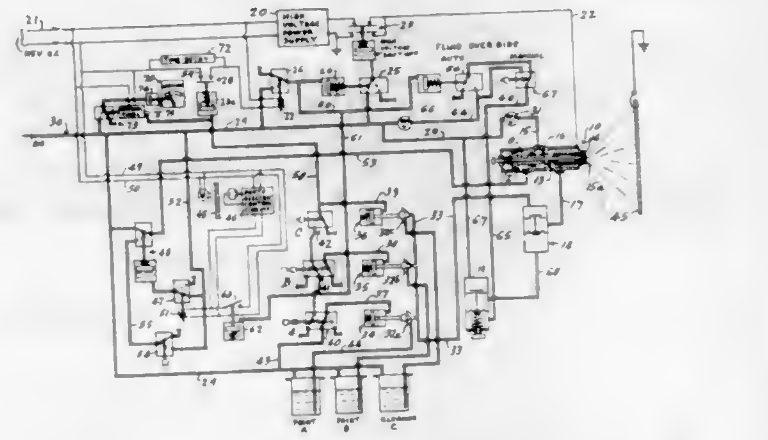
Joseph S. Wajdik, Glendora, Calif., assignor to Spectrol Electronics Corporation, City of Industry, Calif., a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,609
Int. Cl. G09f *9/00*
U.S. Cl. 116—133 **8 Claims**

A direct reading multi-turn dial and turns indicator assembly to count the number of revolutions and portions of revolutions. A first control or "turns portion" driving dial is rotatably coupled by means of a Geneva-like three tooth intermediate gear means to a second "turns" dial. The rear surface of the first driving dial carries a single transfer tooth which rotationally drives the Geneva-like intermediate gear means. A shoulder having a relieved portion is also provided on the rear surface of the first dial in a region radially contiguous to the transfer pin providing a clearance for the rotation of the Geneva-like intermediate gear. A brake shoe mechanism is also provided for the first dial to lock it in any position against rotation.



3,450,092
COLOR CHANGE APPARATUS

Erhard Kock, Toledo, Ohio, assignor to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio
Filed July 8, 1965, Ser. No. 470,497
Int. Cl. B05c *11/00*
U.S. Cl. 118—2 **15 Claims**

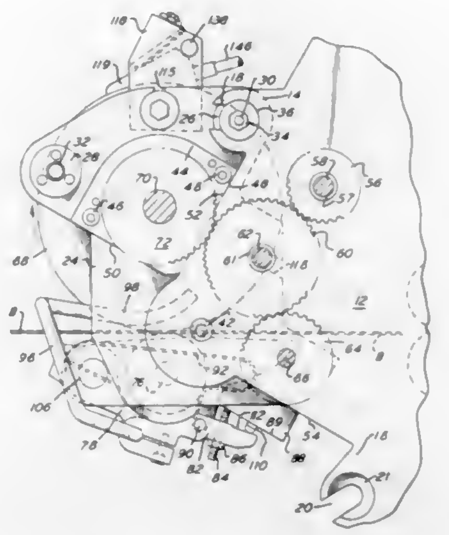


An apparatus including a spray gun for selectively depositing one of a plurality of fluid coating materials upon objects to be coated. The apparatus includes a pneumatically controlled pressure regulator effective to provide a relatively low fluid pressure for the coating materials and pneumatic control means to override the pressure regulator to cause a relatively high fluid pressure when a solvent is used to purge the system prior to change from one of said materials to another.

3,450,093
GLUE APPLYING APPARATUS

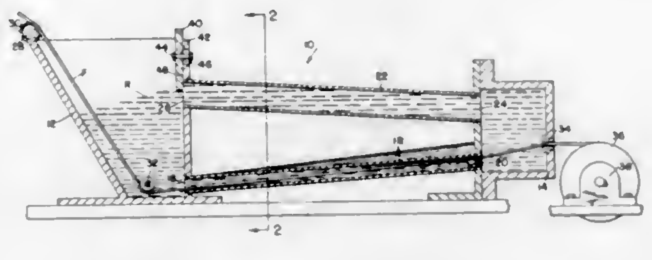
Henry J. Gugolz, Haddonfield, N.J., assignor to Urb Products Corporation, Farmingdale, N.Y., a corporation of New York
Filed Nov. 17, 1967, Ser. No. 684,000
Int. Cl. B05c *11/02, 1/12*
U.S. Cl. 118—7 **8 Claims**

A glue applying apparatus for applying glue to the glue flap on paperboard box blanks in a high speed folder-gluer machine. The glue may be applied to the top or the bottom surfaces of the glue flap. The apparatus includes a glue applying wheel and a glue application block having glue circulating hoses connected thereto. The application block contacts the glue applicating wheel in a manner to prevent leakage and spraying when the wheel is rotating at high speeds. Means in said block are provided for returning and removing excess glue from the outside surface of the glue applying wheel without leaking glue between the block and the wheel thus preventing undesirable dripping and slinging out of glue. Means are provided to prevent glue on the glue wheel from drying up when no box blanks are fed through the machine. The



glue applying mechanism may be pivoted about a shaft to permit adjustment of the glue applying unit so that it can be modified from applying glue to the top of box flaps to applying glue to the bottom of box flaps.

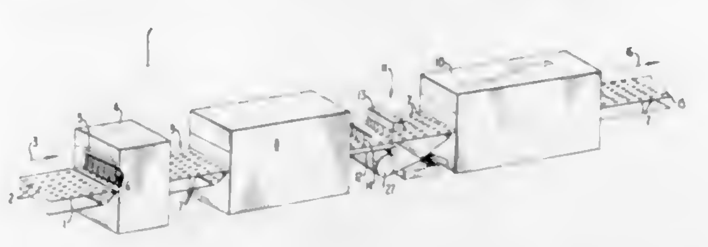
3,450,094
CONTINUOUS STRAND PRESSURE IMPREGNATOR
Richard C. Bryan, Fairhaven, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 9, 1967, Ser. No. 673,689
Int. Cl. B05 *11/00;* **B05c** *3/02*
U.S. Cl. 118—10 **10 Claims**



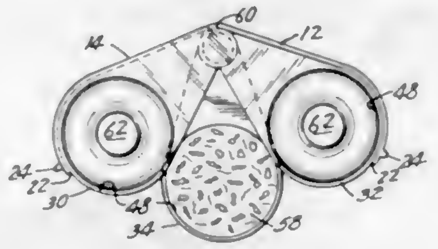
A continuous strand pressure impregnating apparatus having a reservoir connected to a pressure chamber by an impregnating tube. Filamentary strands are drawn from the reservoir through the impregnating tube and out through an orifice in the pressure chamber. A return tube is connected between the pressure chamber and reservoir for returning the excess impregnating fluid adhesively dragged into the chamber by the strands.

3,450,095
APPARATUS FOR THE THREE-DIMENSIONAL DECORATION OF PIECES OF CANDY PARTICULARLY PRALINES
Rolf Greiner, Stuttgart-Vaihingen, Germany, assignor to Winkler & Dunnebier Maschinenfabrik und Eisengiesserei, Neuwied (Rhine), Germany
Filed Sept. 2, 1966, Ser. No. 577,030
Claims priority, application Germany, Sept. 2, 1965, Sch 37,657
Int. Cl. B05c *5/00, 11/14;* **A23g** *3/20*
U.S. Cl. 118—14 **7 Claims**

Apparatus for the three-dimensional decoration of pieces of candy, such as pralines, wherein the pieces of candy are conveyed on a continuous conveyor through a station wherein they are coated by a molten mass of chocolate deposited from nozzles or the like, then passed through a precooling station and cooled down to a point where the outer skin of the coating begins to solidify, then immediately they are conveyed past a decorating station where a decorative coating is applied, and finally they are cooled to room temperature in a further cooling station. The apparatus of the present invention includes scrapers brought into contact with the conveyor belt in the region of the decorating station to clean the excess decorating material from the conveyor belt.



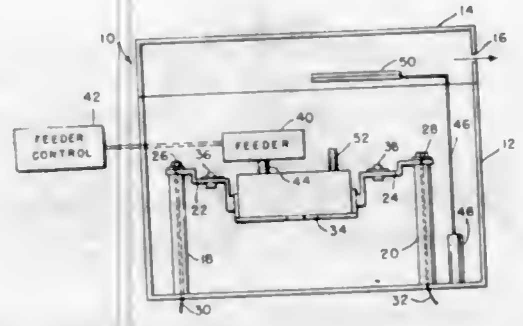
3,450,096
GLASS FROSTING DEVICE
Henry J. Lancette, 400 Holly St., St. Paul, Minn. 55102
Filed Aug. 7, 1967, Ser. No. 658,683
Int. Cl. B05c *3/02, 3/20, 3/09*
U.S. Cl. 118—16 **8 Claims**



A device is provided for facilitating the frosting of the rims of glasses and other vessels from which beverages are to be drunk. The device comprises trays stacked normally one upon the other with each tray having a shallow, bowl-like depression formed therein for receiving a frosting ingredient. The trays are swingably attached to one another so that they can be swung away from one another to open the device and expose the bowl-like depressions of each tray in the stack for pressing of a drinking vessel rim thereagainst to frost the same. The device includes at least three trays stacked one upon the other with the uppermost two of the trays having supporting sidewalls formed thereon for stabilizing the device and maintaining the trays in staggered relation when the device is opened and the trays are in position for frosting drinking vessel rims.

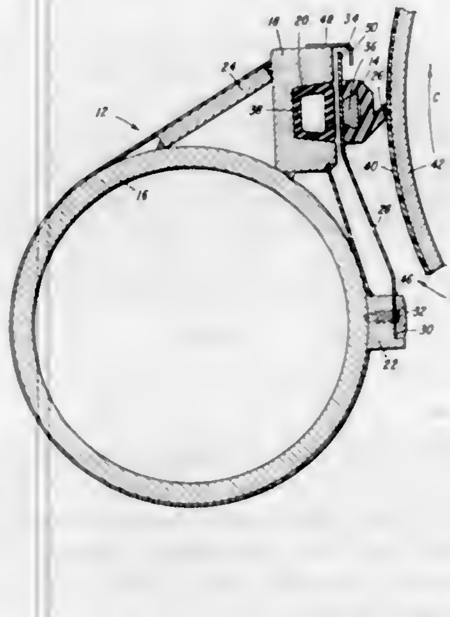
3,450,097
VAPOR DEPOSITION APPARATUS
Stanley Firestone, Neptune, and John McCarthy, Asbury Park, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Sept. 10, 1965, Ser. No. 486,571
Int. Cl. C23c *13/12, 13/08*
U.S. Cl. 118—49 **7 Claims**

A vapor deposition apparatus including a compartmented vapor source defining a tortuous flow path for the evaporant to inhibit particle spatter in the deposition zone and means within the deposition chamber to sequentially



feed, to said source, discrete amounts of material to be evaporated.

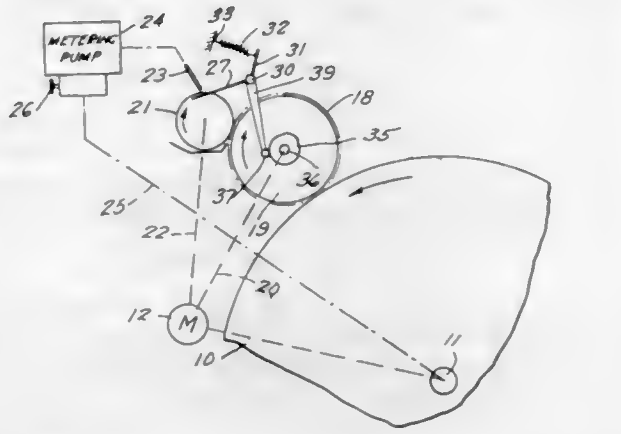
3,450,098
DOCTOR FOR PAPER-MAKING MACHINE
Glenn V. Williams, Jr., Monroe, Ohio, assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 2, 1968, Ser. No. 718,079
Int. Cl. B05c *11/04*
U.S. Cl. 118—126 **7 Claims**



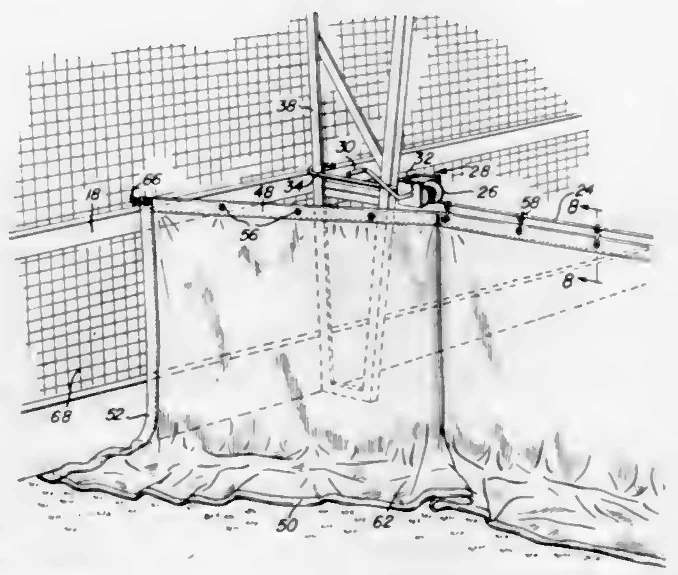
A doctoring device is provided which utilizes a flexible polymer doctor blade element for smoothing and metering a film forming deposit on paper as the paper moves thereby on a suitable backing roller. The doctor blade is backed by an inflatable tube which, through its expansion, uniformly moves the blade into contact with the moving paper web. The doctor blade is mounted on a free edge of a spring strip and the strip is anchored at its opposite edge.

3,450,099
LOW VISCOSITY BOTTOM PASTE APPLICATOR FOR BAG MACHINES
Burdette A. Petersen, Plymouth, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed Aug. 17, 1967, Ser. No. 661,380
Int. Cl. B05c *1/00, 1/16, 1/02*
U.S. Cl. 118—212 **6 Claims**

Applicator for low viscosity paste, having a metering nozzle supplied with paste by a positive displacement adjustable metering pump. The nozzle deposits paste on a transfer roll at the rate of consumption rate of the paste along the region of engagement of a reverse angle doctor with the transfer roll. The doctor serves to maintain the face of the transfer roll clean and to accumulate paste on the roll in the form of a patch. A cam driven by an applicator roll is provided to periodically raise the doctor above the transfer roll, to allow a patch of paste to pass by the doctor to be transferred to an applicator sector on the applicator roll, applying paste to the inner and outer flaps of the bottoms of paper bags on the drum of the bag making machine.



3,450,100
POULTRY CATCH CURTAIN
Gail E. Cuculic, Center, Lynn D. Tatom, Tenaha, and Elwyn L. Murphree, Center, Tex., assignors to Centex Poultry Company, a corporation of Texas
Filed Feb. 16, 1967, Ser. No. 616,518
Int. Cl. A01k *31/00*
U.S. Cl. 119—22 **13 Claims**

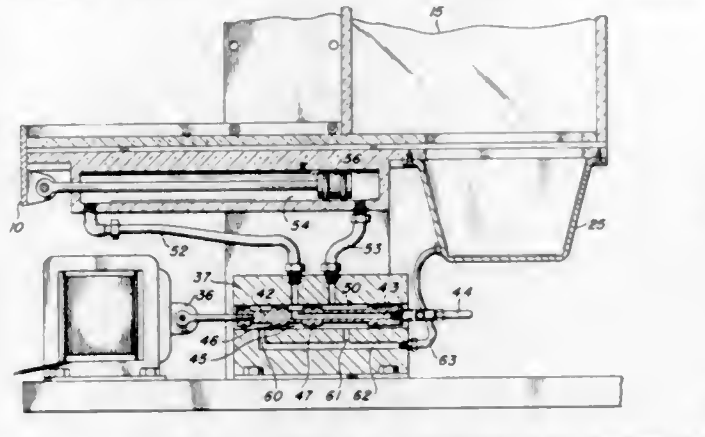


A readily erectable and dimountable flexible curtain-type poultry barrier adapted to be secured across a poultry enclosure with the upper marginal edge portion of the curtain appreciably elevated above the floor of the enclosure and the lower marginal edge portion of the curtain laterally directed toward one side of the plane in which the curtain is hung and resting upon the floor of the enclosure so as to present a barrier past which poultry such as chickens may not readily move, the curtain being adapted to be erected adjacent one end of a poultry enclosure either before or after a large grouping of poultry has been herded into that one end area whereby the curtain will serve to maintain the poultry in a tight group from which selected or random poultry may be readily manually caught.

3,450,101

TIMED DISPENSER OF LIQUID AND SOLID FOOD FOR ANIMALS

William H. Avrea, 8730 E. Dianna Drive,
Scottsdale, Ariz. 85257
Filed Nov. 9, 1967, Ser. No. 682,735
Int. Cl. A01k *5/02;* **B67d** *5/08;* **G04c** *23/38*
U.S. Cl. 119—51.11 7 Claims

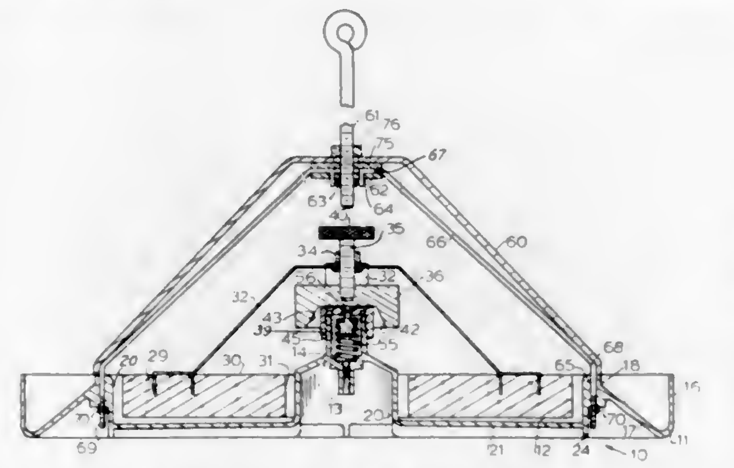


An automatic feeder utilizing a slidable tray having a food dispenser mounted thereon. The tray orients the dispenser with an opening in a food reservoir for filling the dispenser and subsequently extends the dispenser outwardly to permit the animal to feed from the dispenser.

3,450,102

AUTOMATIC POULTRY DRINKER

Albert W. Davis, Bonlee, N.C., and Burton P. Franklin, Danville, Va., assignors, by mesne assignments, to Poly-Matic Fountain, Inc., Siler City, N.C., a corporation of North Carolina
Filed July 17, 1967, Ser. No. 653,757
Int. Cl. A01k *7/02, 39/62*
U.S. Cl. 119—80 15 Claims



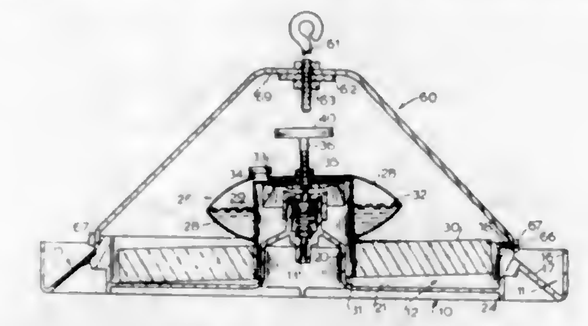
A poultry drinker utilizes a float and a water inlet valve which is controlled by the float to maintain a desired water level in a drinking trench. Both the float and the valve are loaded by a common adjustable weight member. Adjustment of the weight position adjusts the water level. The valve automatically closes in the event the drinker is tilted irrespective of the water level but remains operable over a substantially wide range of inlet water pressures so long as the drinker remains substantially level.

3,450,103

AUTOMATIC POULTRY DRINKER

Albert W. Davis, Bonlee, N.C., assignor to Poly-Matic Fountain, Inc., Siler City, N.C., a corporation of North Carolina
Filed Aug. 18, 1967, Ser. No. 661,650
Int. Cl. A01k *39/02;* **F16k** *31/22*
U.S. Cl. 119—80 10 Claims

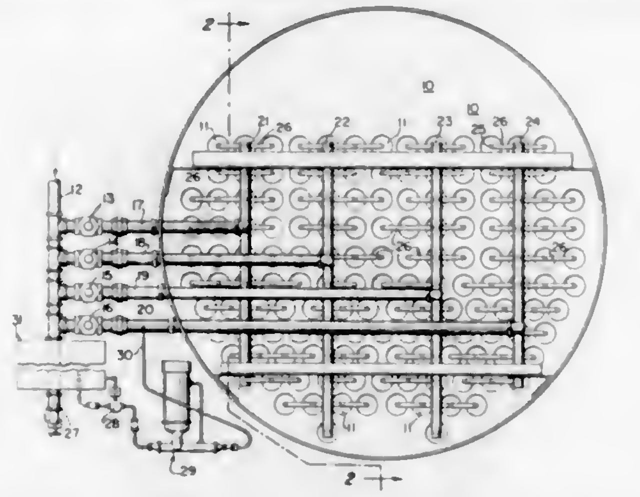
A poultry drinker utilizes a float controlled valve to maintain a predetermined level of drinking water and which automatically closes when the drinker is tilted. Both the valve and float are loaded by a hollow, liquid filled member whose adjustable position controls the drinking water depth and whose liquid provides a sloshing effect which produces positive valve responses when the drinker is tilted.



3,450,104

AUTOMATIC TUBE CLEANER AND CATALYST INJECTOR

Merrill B. Aldrich, 286 Pomeroy Lane, Amherst, Mass. 01002, and Robert H. Wilder, 708 Walker Ave., Baltimore, Md. 21212
Filed Dec. 4, 1967, Ser. No. 687,863
Int. Cl. F22b *37/52, 9/08*
U.S. Cl. 122—391 6 Claims

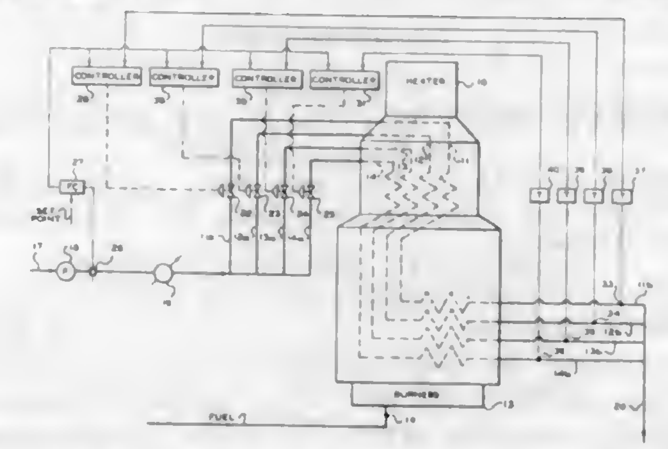


An apparatus for and method of keeping the tubes of a fire tube boiler clean and reducing the normal smoke and soot emissions developed by the combustion of the fuel, including soot blowing nozzles, means to introduce a catalyst into said tubes by said nozzles, and an automatic control for the device.

3,450,105

TEMPERATURE BALANCING OF MULTIPASS HEAT EXCHANGER FLOWS

Carl L. Osburn, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 19, 1967, Ser. No. 646,885
Int. Cl. G05d *23/00;* **F22d** *5/26*
U.S. Cl. 122—451 7 Claims

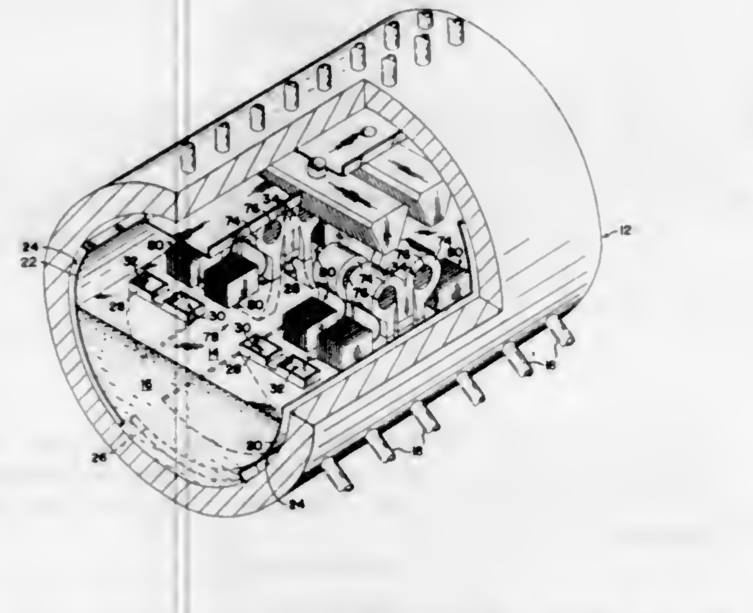


Temperatures of effluent streams from a multipass heat exchanger are equalized by measuring the inlet flow rate and effluent temperatures and adjusting the individual flow rates in response to the measured values.

3,450,106

TANDEM SEPARATOR ARRANGEMENT

Harvey H. Nelken, River Edge, N.J., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed Feb. 23, 1968, Ser. No. 707,762
Int. Cl. F22b *37/26;* **F16t** *1/00;* **B01d** *45/12*
U.S. Cl. 122—491 6 Claims

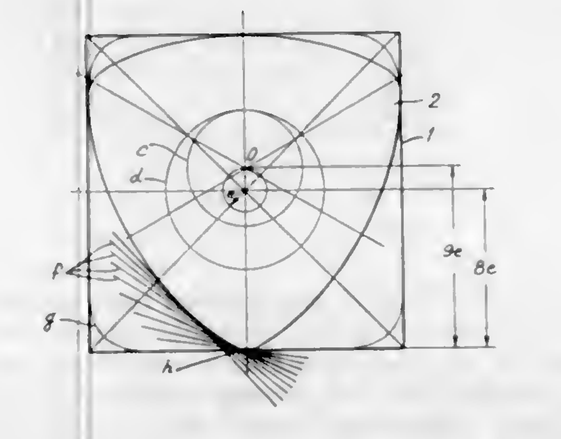


A system for separation of vapor and liquid for use with vapor generators comprising in part an improved arrangement of components to increase the capacity of the system for a given drum size.

3,450,107

ENGINE OR POWER DRIVEN MACHINE WITH ROTARY PISTON

Maciej Radziwill, Przechodnia 2m1512, and Andrzej Broel-Plater, Tmolnastr. 14/10, both of Warsaw, Poland
Continuation of application Ser. No. 322,580, Nov. 7, 1963. This application Feb. 27, 1968, Ser. No. 708,727
Claims priority, application Poland, Nov. 8, 1962, P 97,565
Int. Cl. F02b *53/08;* **F01c** *1/10*
U.S. Cl. 123—8 17 Claims

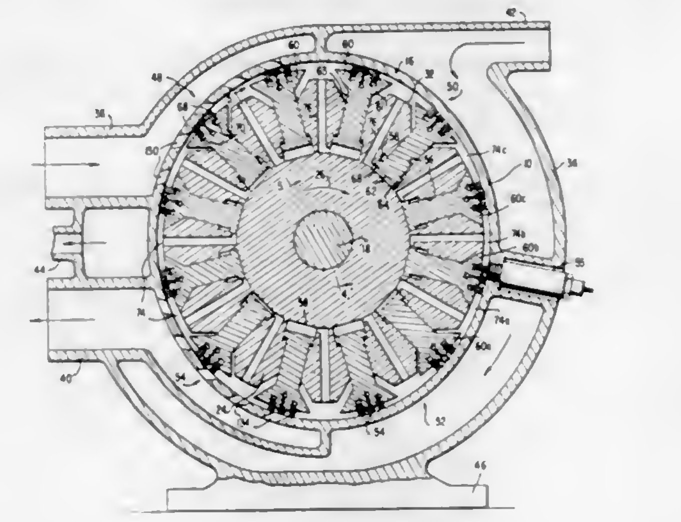


1. A machine comprising a body having an internal surface defining a chamber, a piston in said chamber having relative rotation therein, said piston having peripheral side surfaces which contact the internal surface of the chamber, said chamber being restricted to provide only flat surfaces where it is contacted by the peripheral side surfaces of the piston, said peripheral side surfaces of the piston forming the envelope of the cooperating flat surfaces of the chamber to bound operation chambers therein for a working medium, a drive shaft, said piston being eccentrically and rotatably mounted on the drive shaft, a stationary internally toothed ring gear coaxial with said shaft, and an externally toothed gear coaxial with said piston and internally in mesh with said ring gear to orbit the same upon rotation of the piston such that the latter undergoes movement in the chamber in which the peripheral side surfaces of the piston are in contact with the flat surfaces of the chamber along respective contact surfaces which move reciprocally along the flat surface.

3,450,108

ROTARY INTERNAL COMBUSTION ENGINE

Joe G. Rich, 2996 NW. 62nd St., Miami, Fla. 33147
Filed June 6, 1967, Ser. No. 644,000
Int. Cl. F02b *53/04;* **F01c** *21/04, 19/02*
U.S. Cl. 123—16 11 Claims



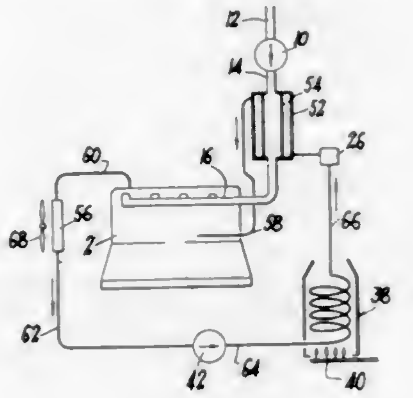
Rotary internal combustion engine includes a rotor mounted in a stationary housing and carrying a plurality of vanes which sealably drive a variable-volume working space between the rotor and the housing into working chambers. The vanes are radially slideable in recesses in the rotor, and passageways formed in the rotor communicate between the radially inner ends of the recesses and the adjacent working chambers. The passageways prevent formation of high radial pressure differentials across the vanes which could force the vanes radially inwardly out of sealing relation with the housing to cause leakage between adjacent chambers. In addition, the passageways make the volume of the inner ends of the recesses available for receiving charge so that the engine can achieve higher orders of compression.

3,450,109

SUPERCHARGED DIESEL MOTORS

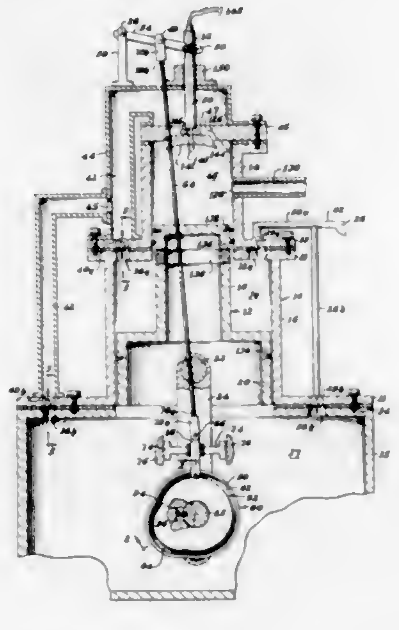
Jean Louis Gratzmuller, 66 Bd Maurice Barres, Hauts-de-Seine, Neuilly-sur-Seine, France
Filed Jan. 30, 1967, Ser. No. 612,394
Claims priority, application France, Feb. 3, 1966, 48,222
Int. Cl. F02m *31/14;* **F02b** *3/08*
U.S. Cl. 123—27 4 Claims

A supercharged diesel motor in which the supercharging is activated by the motor and the air is supplied to the motor cylinders at a pressure higher than that of the atmosphere. The air is heated before admittance to the cylinders and the temperature of the air is regulated and the heating and cooling is controlled for maintaining the temperature at a level appreciably constant whatever the external atmospheric temperature and pressure, the speed of the motor and its load conditions.



3,450,110
POWER UNIT

Eugene R. Barnett, 6268 Windsor Drive 46219, and Willard L. Barnett, 3367 W. Michigan St. 46222, both of Indianapolis, Ind.
Continuation-in-part of application Ser. No. 566,357, July 19, 1966. This application Oct. 16, 1967, Ser. No. 675,698
Int. Cl. F02b *33/10*
U.S. Cl. 123—71 **6 Claims**

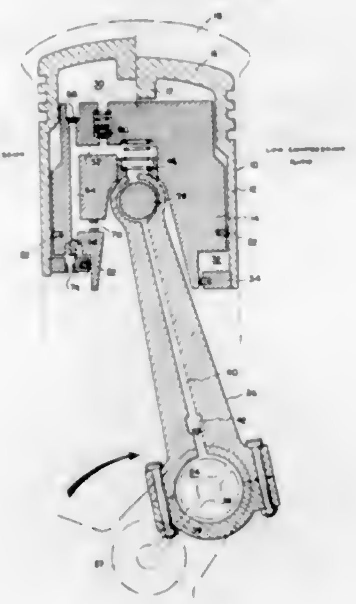


A stepped or double piston engine means having means providing double-acting character. Co-operating features also include means for regulating the fuel-air valve, which means attains a relative rotation with respect to the crankshaft by a relative axial movement with respect thereto; means for regulating the same said valve by adjustably regulating the length of valve-opening travel; and an adjustable reed valve means in the fuel-air supply. All of the said co-operating features are adjustable while the engine is operating.

3,450,111
VARIABLE COMPRESSION RATIO PISTON ASSEMBLY

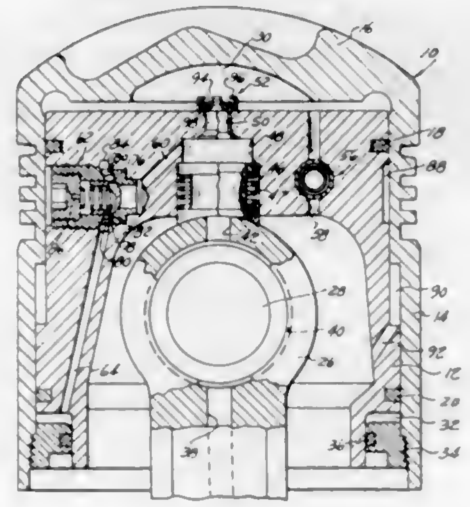
Val Cronstedt, Williamsport, Pa., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Oct. 24, 1967, Ser. No. 677,672
Int. Cl. F02b *75/04*
U.S. Cl. 123—78 **9 Claims**

A two-part variable compression ratio piston having an upper and a lower variable chamber containing incompressible fluid and having interconnecting means with predetermined orifices for dividing the fluid flow from the upper chamber to the crankcase and lower chamber and wherein the ratio of flow from the upper to the lower chamber is substantially equal to the ratio of the volumetric change of the upper chamber to that of the lower chamber.



3,450,112
VARIABLE COMPRESSION RATIO PISTON INCLUDING SURGE ACCUMULATION MEANS

Carl F. Bachle, Grosse Pointe, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Nov. 13, 1967, Ser. No. 682,273
Int. Cl. F02b *75/04*
U.S. Cl. 123—78 **9 Claims**

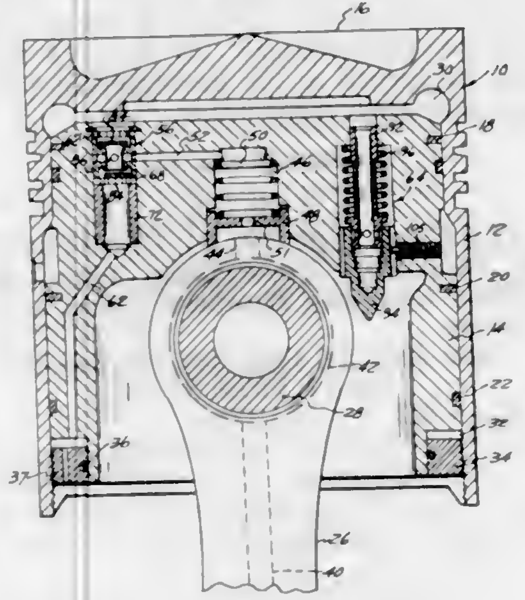


A two-part variable compression ratio piston assembly having an outer member movable relative to an inner member to vary the compression ratio of an internal combustion engine and a hydraulic system for automatically controlling relative movement of the members to maintain a predetermined maximum combustion chamber pressure. The hydraulic circuit includes an upper and a lower chamber which expand and contract conversely upon relative movement of the piston members and a system for supplying and discharging an incompressible fluid from these chambers in a manner which gradually increases the compression ratio of the engine until a predetermined maximum combustion chamber pressure has been

achieved and which tends to maintain the maximum combustion chamber pressure after it has been achieved. The fluid preferably comprises oil from the lubrication system of the engine supplied to the piston through the connecting rod and the hydraulic circuit also includes a novel construction for the slipper collector assembly commonly utilized in these constructions to make the connection between the passages in the inner member of the piston and a passage connected with the lubrication supply source through the connecting rod. The slipper collector assembly of the present disclosure includes a resilient member which acts to dampen pulsations in the hydraulic system and to accumulate surges to thereby smooth the oil flow to the chambers.

3,450,113
VALVE CONSTRUCTION FOR VARIABLE COMPRESSION RATIO PISTON

Carl F. Bachle, Grosse Pointe, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Dec. 8, 1967, Ser. No. 689,201
Int. Cl. F02b *75/04*
U.S. Cl. 123—78 **9 Claims**

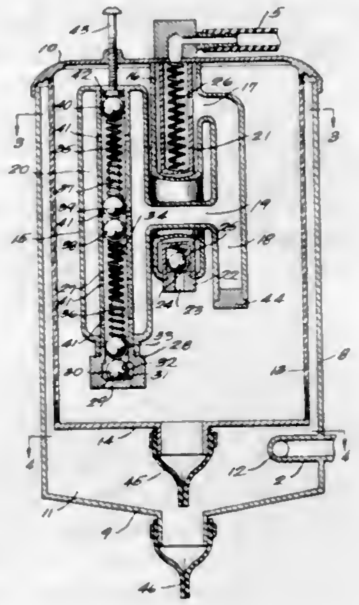


A two-part variable compression ratio (VCR) piston provided with an upper and lower variable volume chamber adapted to contain an incompressible fluid such as oil from the lubrication system of the engine and being interconnected to automatically regulate the compression ratio of the engine to maintain a predetermined maximum combustion chamber pressure by moving one of the parts relative to the other. The pressure regulating discharge valve for the upper chamber includes means for increasing the working surface of the valve upon initial opening thereof and includes a spring tension adjusting member accessible from the underside of the piston for adjusting the spring tension on the valve to thereby vary the combustion chamber pressure at which the valve will open.

3,450,114
ENGINE VAPOR RECYCLING

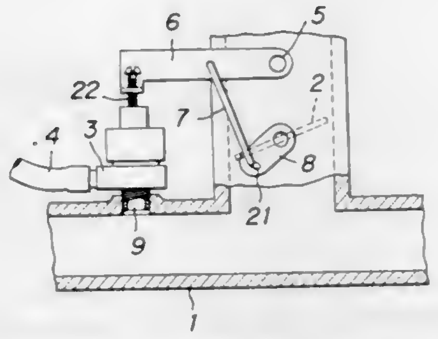
Cecil W. Miles, Green Bay, Wis., assignor to Green Bay Research Corporation, Green Bay, Wis., a corporation of Wisconsin
Filed Apr. 19, 1967, Ser. No. 632,038
Int. Cl. F02m *25/06*
U.S. Cl. 123—119 **11 Claims**

A device for treating engine crankcase gases to remove impurities and return the treated gases to the intake manifold. A cylindrical housing contains a filter which has therein a pair of pressure responsive valves. One valve permits discharge of treated gases at substantially all engine speeds, while the other valve opens for gas discharge only at above idle speeds. The latter valve includes a sleeve with a spring biased ball, and hot gases weaken the springs. Automatic one-way valves in the bottom of the device permit draining of sludge when the engine is off.



3,450,115
AIR-FUEL RATIO CONTROL DEVICE FOR INTERNAL COMBUSTION ENGINES

Tadahide Toda and Kenji Gotoh, Toyota, and Haruyuki Obata, Higashi-Kamogun, Japan, assignors to Toyota Jidosha Kogyo Kabushiki Kaisha, Aichi-ken, Japan, a corporation of Japan
Filed Apr. 24, 1967, Ser. No. 633,197
Int. Cl. F02m *3/00;* **F16k** *15/06, 31/44*
U.S. Cl. 123—119 **4 Claims**

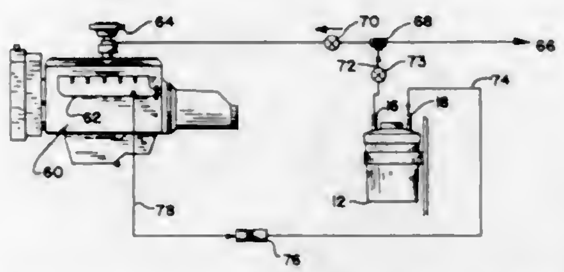


This invention is designed to maintain a constant optimum air-fuel ratio in the mixture supplied to the combustion chamber of an internal combustion engine from its carburettor by providing an air intake valve in the intake manifold downstream of the throttle valve of the carburettor and connecting this air intake valve with the throttle valve through linkage including a dash-pot so arranged that very little force is transmitted to the air intake valve as the throttle valve is opened but closing of the throttle valve beyond a predetermined point results in temporary opening of the air intake valve, thereby introducing into the manifold an amount of air dependent upon the degree of opening of the throttle valve before it began to shut.

3,450,116
VAPOR CHARGING SYSTEM FOR INTERNAL COMBUSTION ENGINES

Alton D. Knight, 2432 Idlewood Lane, and Ezra C. Eddins, 1614 W. 24th St., both of Odessa, Tex. 79760
Filed Aug. 28, 1967, Ser. No. 663,606
Int. Cl. F02m *21/06, 25/06*
U.S. Cl. 123—119 **9 Claims**

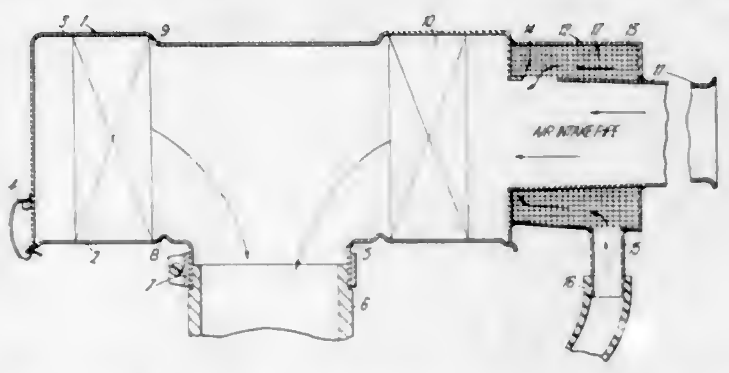
A vapor charging system having a reservoir which contains chemical therein for supplying internal combustion engines with various vaporized chemicals. A gas diffusor is submerged below the liquid level of the chemical contained within the reservoir and connected to a gas inlet. An outlet in the form of a mist extractor is secured to the top of the reservoir with the outlet being attached to the intake manifold of the internal combustion engine.



Flow of gas through the inlet and to the diffusor permits bubbles of air, or gas, to rise towards the mist extractor, whereupon chemically treated gas in the form of a vapor is allowed to flow into the manifold of the engine. The gas inlet is preferably connected to the exhaust manifold of the engine to thereby provide a closed system.

3,450,117
INTERNAL COMBUSTION ENGINE AIR FILTERS

Robert Howard McHattie, Harlington, near Dunstable, and Peter Douglas Greening, Leighton, Buzzard, England, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 691,677
Claims priority, application Great Britain, Dec. 1, 1966, 53,763/66
Int. Cl. F02f *9/02*
U.S. Cl. 123—119 **4 Claims**



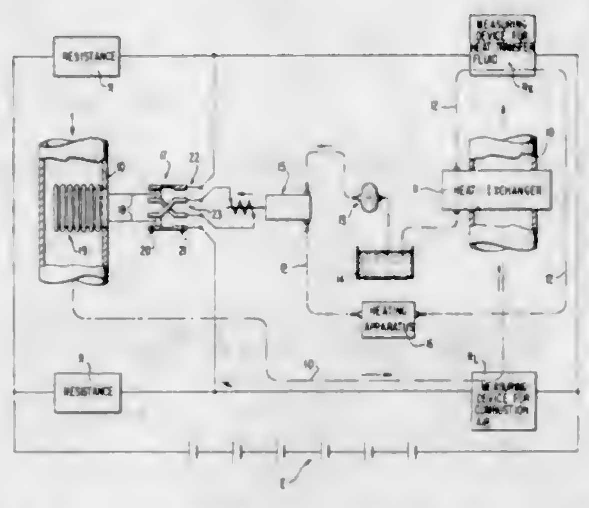
In order to reduce atmospheric pollution by exhaust emission, a condenser chamber is formed around the intake conduit of an air cleaner and communicates with the intake conduit by an opening, another opening in the condenser chamber being connected to the conduit by which crankcase blowby fumes are extracted from the crankcase; the condensing chamber is preferably packed with steel wool or like material.

This arrangement facilitates the condensation of the oil vapour in the fumes, the condensed oil being permitted to drain back to the crankcase. The arrangement also effects a desirable reduction in "hiss" in the air cleaner.

3,450,118
INSTALLATION FOR HEATING THE PRECOMPRESSED COMBUSTION AIR IN INTERNAL COMBUSTION ENGINES

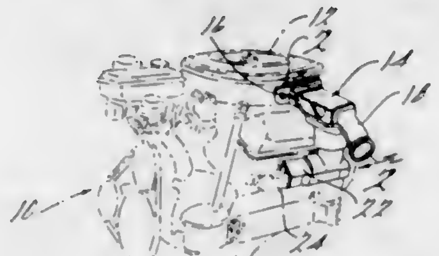
Herbert Lebig, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 21, 1967, Ser. No. 632,810
Claims priority, application Germany, Apr. 22, 1966, D 49,917
Int. Cl. F02m *31/02;* **F02n** *17/02*
U.S. Cl. 123—122 **23 Claims**

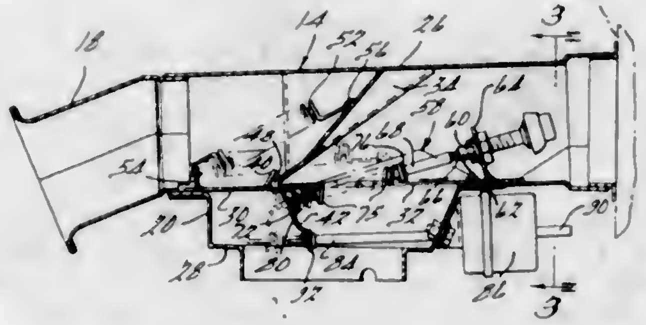
An installation for heating the precompressed combustion air in internal combustion engines in which heat is transferred to the heat-transfer fluid in a first heat-exchanger and heat is given off by the heat-transfer fluid to the combustion air in a second heat-exchanger, and in which the heat-transfer fluid is supplied to the second heat-exchanger controlled by a control device in dependence on a variable magnitude whereby the control device is connected with a measuring device measuring the temperature of the precompressed combustion air, and the second heat-exchanger is in effect closed to the heat-transfer fluid above a minimum temperature of the precompressed combustion air; the second heat-exchanger may again be opened to the heat-transfer fluid above a preselected maximum temperature.



3,450,119
AIR CLEANER AIR INLET CONSTRUCTION

Ralph E. Sendelbach, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 28, 1967, Ser. No. 663,801
Int. Cl. F02m *35/04*
U.S. Cl. 123—122 **3 Claims**

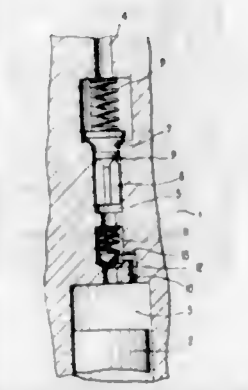




An air inlet duct having an ambient air inlet and a branch exhaust manifold heated air inlet, flow into the duct from the inlets being proportioned by a gate valve pivotally mounted at the junction between the two and controlled, first, by a temperature responsive element that below a predetermined temperature moves the valve towards an ambient air inlet closed position, and above a predetermined air temperature closes the hot air inlet; and, secondly, by an engine intake manifold vacuum controlled servo that overrides the temperature responsive element at high engine loads or low vacuum conditions to close the hot air duct to minimize air flow restriction into the air cleaner.

3,450,120
INSTALLATION FOR THE INJECTION OF FUEL IN INTERNAL COMBUSTION ENGINES

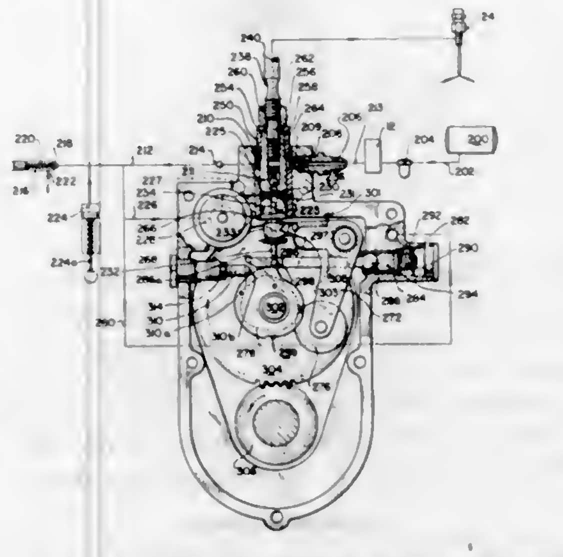
Frank Thoma, Stuttgart-Fasanenhof, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 27, 1967, Ser. No. 649,348
Claims priority, application Germany, July 1, 1966, D 50,444
Int. Cl. F02m *59/46*
U.S. Cl. 123—139 **3 Claims**



An installation for the injection of fuel in an internal-combustion engine which includes an injection pump equipped with a pump space and a relief valve downstream of the pump space, and which is additionally provided with a parallel connection of a check valve and of a throttle forming a so-called relief brake between the pump space and the beginning of the injection line on the pump side of the installation. The parallel connection constituting the relief brake may be arranged directly upstream or downstream of the relief valve or may be constituted by a self-contained adaptor which can be mounted as a self-contained unit on the pressure nipple of the injection pump.

3,450,121
INTERNAL-COMBUSTION ENGINE AND FUEL INJECTION SYSTEM THEREFOR

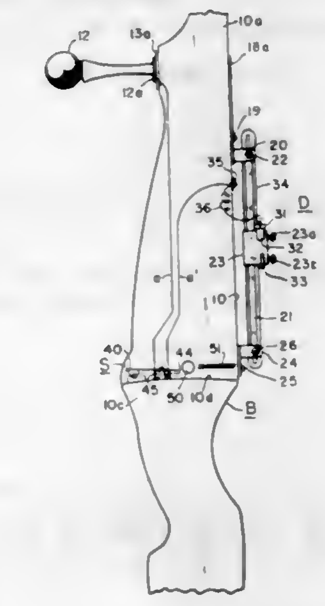
Vernon D. Roosa, West Hartford, Conn. (% Hartford Machine Screw Co., P.O. Box 1440, Hartford, Conn. 06101)
Filed Feb. 13, 1967, Ser. No. 615,782
Int. Cl. F02m *39/02, 59/18;* **F02b** *35/02*
U.S. Cl. 123—140 **24 Claims**



A new monovalve internal-combustion engine of a design specially adapted for screw machine manufacture and a novel fuel injection system therefor including a valve support requiring no lubrication, a combination pull rod and fuel conduit secured to a reciprocating member of a two stage injection pump with the pull rod and both pumps operated by a single compound cam arrangement, a fuel injection nozzle concentric with the valve and with the combustion chamber and having no flexible connections, a fuel injection subassembly integrated in a single housing mounted on the engine casing and including the throttle, governor, injection timing and torque controls, a fabricated piston rod assembly wherein the crankshaft bearing of the piston rod is greater than the throw of the crankshaft, a fluid seal between the piston and the cylinder against compression losses, a compression chamber which ensures an increasing turbulence of the charge in the cylinder with a maximum at top dead center, and a novel air blower and cleaner system including an arrangement for increasing the volumetric efficiency of the engine and the efficient purging of exhaust gases.

3,450,122
ARCHERY BOW WITH ARROW-ACTUATED SIGNALLING MEANS

Clyde Diamond, R.D. 1, Box 234, Rices Landing, Pa. 15357
Filed June 8, 1965, Ser. No. 462,331
Int. Cl. F41b *5/00;* **C01c** *15/00;* **F41d** *11/00*
U.S. Cl. 124—24 **13 Claims**

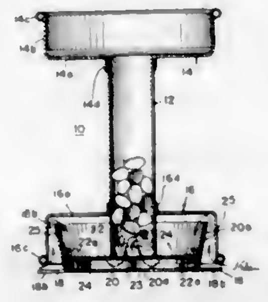


A bow and arrow mechanism or construction is provided that utilizes a magnet carried by a central portion of the bow for energizing a tip end or head of the arrow to, in turn, energize and close a switch when the arrow and its head has been drawn back to a proper, accurate, shooting position. A source of electrical energy such as a battery is carried by the bow and is connected to the switch for energizing a light bulb signaling means that is carried by the bow near its sighting element. As a result, the archer can keep his eyes on the target while aiming through the sighting element, without looking at the arrowhead to determine if it is properly aligned with respect to the bow before release.

3,450,123
COOKING DEVICE FOR BURNING SOLID FUEL

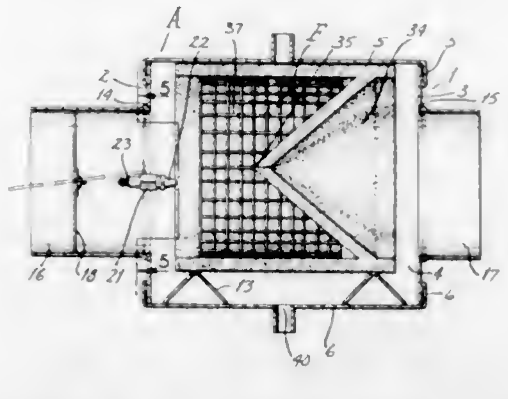
Edwin B. Tidd, 314 Oxford Road, Kenilworth Village, Ill. 60043
Filed Nov. 29, 1967, Ser. No. 686,495
Int. Cl. F24b *3/00;* **A47j** *37/07*
U.S. Cl. 126—25 **20 Claims**

A cooking device adapted to burn solid fuel comprising an upright, hollow flue open at the top and bottom for containing a quantity of fuel in the lower end portion thereof during an initial period of ignition and combustion of said fuel. The flue extends upwardly above the upper level of a quantity of fuel placed therein and directs and confines an updraft of air and combustion gases during said initial period. Base means is secured to the flue and extends outwardly thereof for supporting the flue in an upright position from the ground or other surface. Fire pan means is provided including a bottom wall larger than the lower end of said flue for containing said fuel within the flue during said initial period while the fire pan means is positioned beneath the flue. The fire pan means is adapted to receive and contain the charge of burning fuel after said initial period when discharged or dumped from the flue upon upward relative movement of the flue above the fire pan. The fire pan is thus bodily moveable with the burning fuel thereon to a position resting on top of the upright flue for cooking.



3,450,124
HUMIDIFIER

Gustav A. Mauller, Jr., St. Louis County, Mo., assignor to Controlled Air & Water Co., Inc., St. Louis, Mo., a corporation of Missouri
Filed Oct. 5, 1967, Ser. No. 673,112
Int. Cl. B01d *1/14;* **F24h** *3/00*
U.S. Cl. 126—113 **6 Claims**

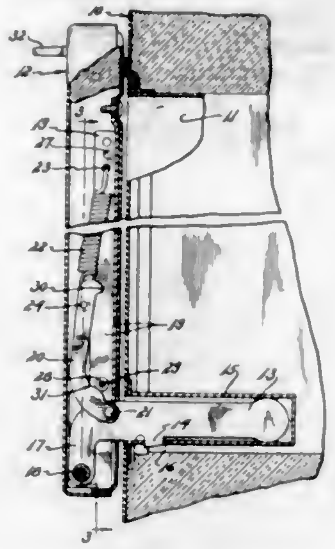


A humidifier for use with air heating systems comprising a housing for disposition within the path of heated air and having a moisture-retaining filter member disposed within said housing for flow therethrough of the said heated air and a spray nozzle presented on the inlet side of said filter for controlled discharge of water into said housing and onto the filter for entrainment thereof by said heated air.

3,450,125
COUNTERBALANCED HINGE FOR OVEN DOORS

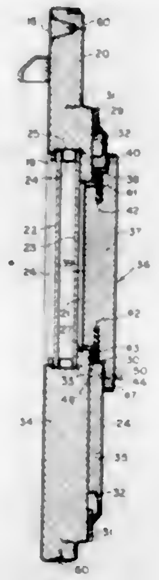
Leland G. Hopkins, Mansfield, Ohio, assignor, by mesne assignments, to Kelvinator, Inc., Cleveland, Ohio, a corporation of Delaware
Filed May 24, 1966, Ser. No. 552,554
Int. Cl. E05d *11/10;* **F24c** *15/02;* **F23m** *7/00*
U.S. Cl. 126—191 **4 Claims**

A counterbalance hinge for a range door which is hinged at the bottom end of a hinge arm detachably secured to the range. A cam link is pivotally secured to the hinged arm above the door hinge and extends generally between the walls of the door and is connected at its other end to a tension spring connected to the door. The cam link carries a cam surface which contacts a roller secured to the door to move along the cam surface as the door opens to regulate the counterbalance force of the spring and by engagement with detents on the cam surface holds the door in a pre-selected position.



3,450,126
WINDOWED DOOR FOR SELF-CLEANING OVEN

Arthur W. Vonderhaar, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 707,247
Int. Cl. F24c *15/04*
U.S. Cl. 126—200 **4 Claims**

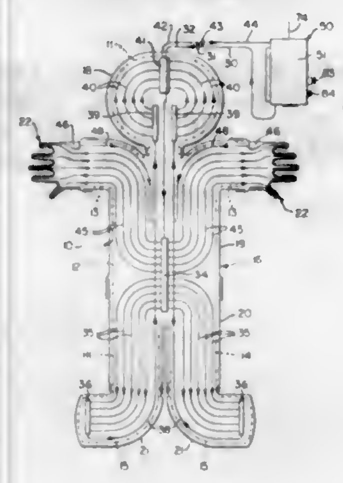


A self-cleaning oven door having a window and a removable pad applied to the inside of the door to prevent heat loss and to shield the window during high temperature cleaning of the oven. The pad is hollow, contains insulation material, and is interlocked with the oven controls so that a heat cleaning cycle cannot be initiated unless the pad is properly in place on the door.

3,450,127
CHEMICAL PACKHEATER FOR DIVER'S SUIT

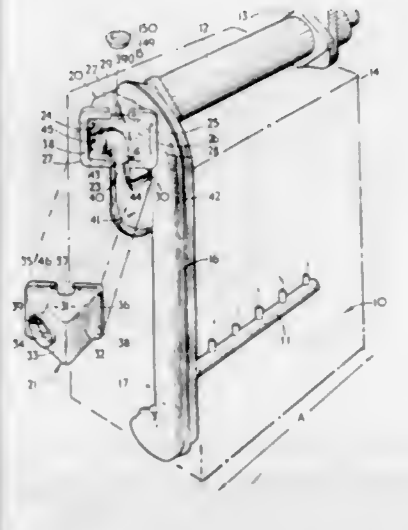
Van Ness Harwood, Jr., Amherst, N.Y., assignor to Aro of Buffalo Incorporated, Buffalo, N.Y.
Filed Feb. 26, 1968, Ser. No. 708,081
Int. Cl. F24j *1/00;* **B63c; F28f** *7/00*
U.S. Cl. 126—204 **7 Claims**

Water as a heat exchange fluid is recirculated in a closed circuit in heat exchange relation alternately with the diver's body and with the subject heating apparatus. The apparatus has a tubular hollow container divided into a first compartment for a first reactant, such as sulfuric acid and a second compartment for a second reactant, sodium hydroxide, the compartments being separated by a rolling diaphragm, that is a tubular flexible membrane connected at one end to a transverse diaphragm and at its other end to the interior of the container at one end thereof so that as the transverse diaphragm moves along the container one compartment increases in size while the other compartment decreases in size. The first reactant, under control, is fed into the second reactant compartment to generate heat without substantially changing the buoyancy of the apparatus. The rolling diaphragm is biased toward one compartment. While sulfuric acid and sodium hydroxide have been selected as exemplary reactants, the invention is not limited to any particular reactants, other than they must react exothermically to provide the required heat.



3,450,128
DUCT ADAPTORS

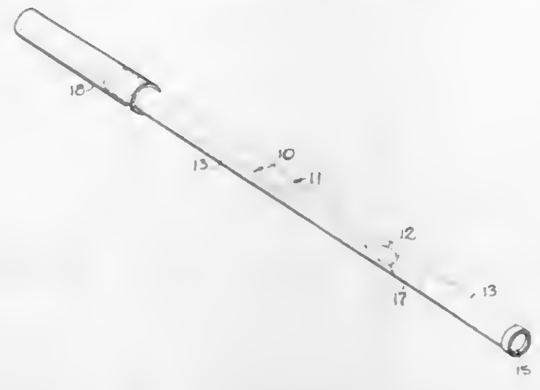
Philip Arthur Wilkins, Codsall, Wolverhampton, England, assignor to Wilkins & Mitchell Limited, Darlaston, England, a British company
Filed June 23, 1967, Ser. No. 648,339
Claims priority, application Great Britain, June 25, 1966, 28,581/66
Int. Cl. F23j *11/00*
U.S. Cl. 126—307 **9 Claims**



This specification discloses an adaptor for concentric ducts, the adaptor comprising a two-part box, the parts of which may be assembled in two different positions to allow for two different orientations of the ducts leaving the adaptor, which orientations may be at right angles. The adaptor is described as connecting a gas heater to a balanced flue.

3,450,129
SWABBING UNIT

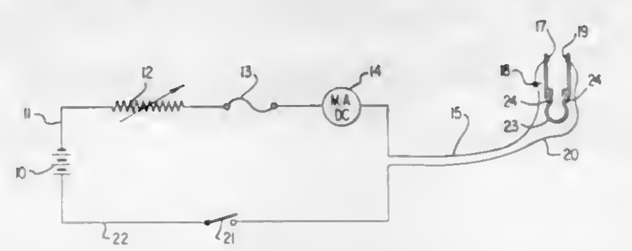
Carl Frederick Avery and Robert J. Brewer, Rockford, Ill., assignors, by mesne assignments, to Medical Supply Company, Rockford, Ill., a corporation of Missouri
Filed July 6, 1966, Ser. No. 563,179
Int. Cl. A61b *7/24, 17/42, 17/50*
U.S. Cl. 128—2 **2 Claims**



A self-contained swabbing unit for collecting cultures from body canals and for keeping the cultures in a live condition until testing. The unit includes a swab with an elongated handle and an absorbent swabbing tip, a flexible plastic tube, and a frangible glass ampoule filled with liquid and fitted within the tube. After a culture has been collected on the tip by swabbing the body canal, the swab is placed in the tube and the latter is squeezed to break the ampoule and release the liquid so that the liquid may moisten the tip and keep the collected culture in a live condition until laboratory tests have been performed on the culture.

3,450,130
HYPERVENTILATION DETECTING AND WARNING METHOD

Thomas M. Runge, 2501 Galewood Place, Austin, Tex. 78703
Filed Mar. 22, 1965, Ser. No. 441,467
Int. Cl. A61b *5/04*
U.S. Cl. 128—2.1 **2 Claims**

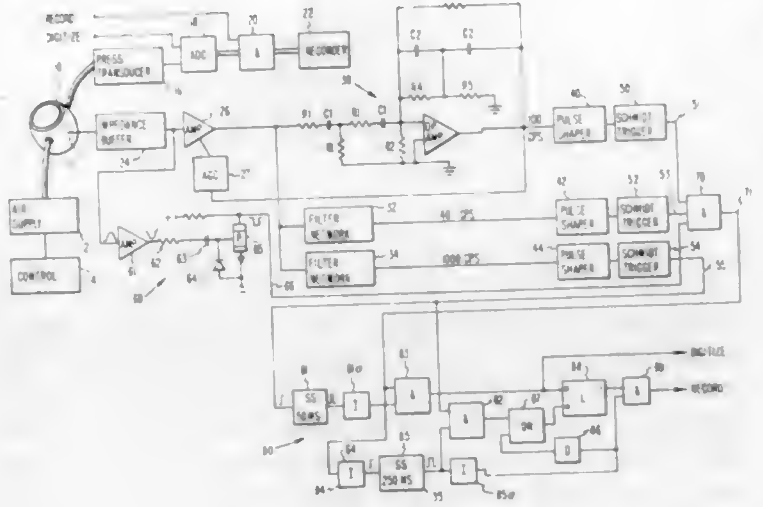


A method for detecting the presence of hyperventilation syndrome involving the connection of a pain-inducing element to a sensitive part of the body and adjusting the intensity of a pain-producing stimulus through the element to a point just below the threshold of pain and then allowing the victim to breathe and observing the onset of pain if the syndrome is present.

3,450,131
BLOOD PRESSURE MEASURING SYSTEM WITH KOROTKOFF SOUND DETECTOR

Jeary R. Vogt, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 9, 1967, Ser. No. 608,130
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 **11 Claims**

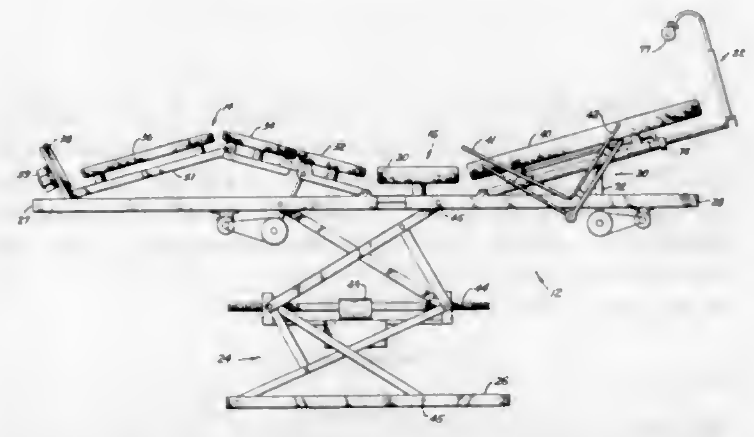
Automatic indirect systolic and diastolic blood pressure measurement is performed by a pair of frequency selection circuits sensitive to 40 and 100 c.p.s. components occurring in an audio input generated by a microphone positioned under an arm cuff placed over the subject's brachial artery. Simultaneous outputs from the frequency circuits occurring at a time when the subject's instantaneous circulatory pressure is stable or increasing cause a Korotkoff sound detection pulse to be transmitted to a digital artifact rejection circuit. This circuit cooperates with a 1000 c.p.s. frequency selection circuit to trigger an analog to digital converter to measure the cuff pressure in response to the Korotkoff detection pulse if the pulse does not occur within the 50 millisecond period immediately following occurrence of a 1000 c.p.s. component in the audio input. Further the artifact rejection circuit prevents recordation of the ADC reading if a 1000 c.p.s. component is detected in the audio input within a 250 millisecond period following the occurrence of the Korotkoff detection pulse.



3,450,132

MOTOR-DRIVEN EXERCISING APPARATUS

Carl A. Ragon, 6204 Alderfer, Odessa, Tex. 79760, and James F. Rogers, deceased, late of Odessa, Tex., by Norine H. Rogers, administratrix, 806 W. 31st., Odessa, Tex. 79760
Filed Oct. 24, 1966, Ser. No. 589,137
Int. Cl. A61h *1/02*
U.S. Cl. 128—25 **8 Claims**



1. In combination with an exercising apparatus including a base, a main frame adapted to support the body of a patient, and a vertically adjustable supporting structure attached between said base and said frame; the improvement comprising:

said main frame including means supporting a leg supporting means, a seat member, a back supporting member, and an arm supporting means attached to said back supporting member;

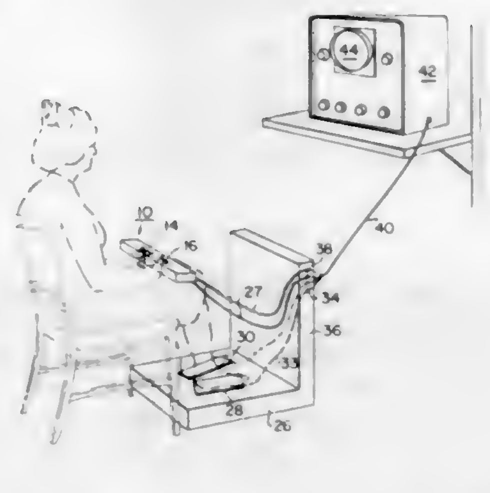
said back supporting member including a first frame member having means forming a pivoted end and a free end, means for rocking said free end about said pivoted end in a limited arc;

said back supporting member including a back supporting pad slidably attached to said first frame member to thereby enable said back supporting pad to remain closely adjacent to a patient's skin when the first frame member is rocked about said pivoted end thereof.

3,450,133

ELECTROCARDIOGRAPH ELECTRODE SYSTEM

Alexander A. Birch, Jr., 111 E. Valleybrook Road, Cherry Hill, N.J. 08034
Filed Mar. 2, 1967, Ser. No. 620,100
Int. Cl. A61b *5/04*
U.S. Cl. 128—2.06 **9 Claims**

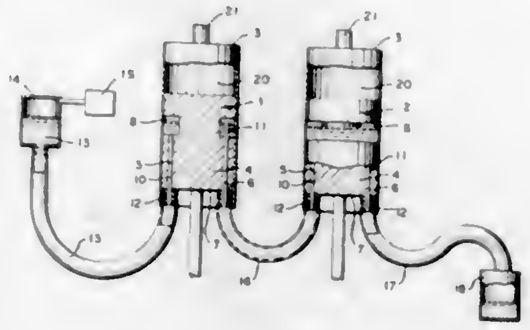


An electrocardiograph system uses a lap bar having a pair of finger or hand electrodes that have receptable openings with converging axes to contact portions of a patient's hands when resting in a neutral position. A floor board carries a pair of electrodes such as plates that contact the feet.

3,450,134

INJECTION DEVICE

Werner Willgerodt, Leipzig, Germany, assignor to VEB Medizintechnik Willgerodt, Leipzig, Germany
Filed July 5, 1966, Ser. No. 562,777
Int. Cl. A61m *5/00, 1/00*
U.S. Cl. 128—214 **6 Claims**

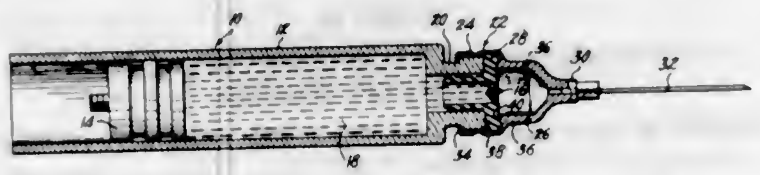


An injection syringe for medical devices. The syringe includes a piston and a cylinder in which the piston head reciprocates. A circumferential groove surrounds the piston, and a supply tube extends axially with respect to the piston and has a discharge end communicating with the circumferential groove. A withdrawing tube also extends axially with respect to the piston, and this latter tube has its intake end communicating with the groove. A means for supplying a liquid sealing medium to the supply tube communicates with the latter during the movement of the piston within the cylinder and a means for withdrawing the liquid sealing medium from the withdrawal tube communicates with the latter tube also during movement of the piston within the cylinder. In this way, it is possible to maintain a liquid sealing medium within the groove to provide a sealed slidable engagement between the piston and the cylinder.

3,450,135

CARTRIDGE ASSEMBLY INCLUDING RIBBED HUB

Stanley J. Sarnoff, 7507 Hampden Lane, Bethesda, Md. 20014
Filed Oct. 6, 1966, Ser. No. 584,835
Int. Cl. A61m *5/00*
U.S. Cl. 128—221 **9 Claims**

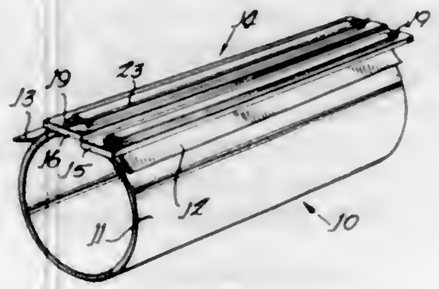


This invention relates to a cartridge and needle assembly including a vial, a needle and a hub for attaching the needle to the vial, said hub having at least two different diameters with longitudinal ribs spaced around the smaller diametered portion; the larger end of the hub being secured to the vial and the other hub end to the needle.

3,450,136

EMERGENCY HEMOSTATIC PATCH BANDAGE

Chester Sig Anderson, 2 North Ave., St. Charles, Ill. 60174
Continuation-in-part of application Ser. No. 459,757, May 28, 1965. This application Sept. 26, 1966, Ser. No. 581,983
Int. Cl. A61b *17/12*
U.S. Cl. 128—325 **9 Claims**

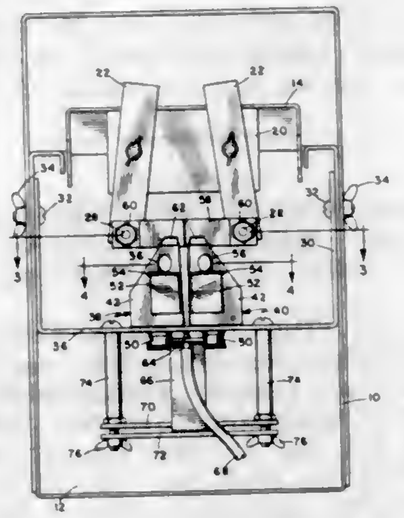


An emergency patch bandage to be applied to a wound or gash to inhibit the flow and prevent leakage of blood from the wound without restricting the blood supply in either direction in the injured member, the bandage comprising a relatively wide and elongated elastic impervious band of material having one component of a buckle assembly adjacent each end of the band. The buckle assembly includes means to adjust the length of the elastic band depending on the part of the body to which it is applied and separate means to couple the two parts of the buckle assembly together.

3,450,137

BEAK TRIMMER AND CAUTERIZING MACHINE HAVING PLURAL ADJUSTABLE BEAK-HOLDING ELEMENTS

James Lyon, 2922 Qualtrough, San Diego, Calif. 92106
Filed Mar. 27, 1967, Ser. No. 626,227
Int. Cl. A61b *17/36*
U.S. Cl. 128—303.1 **5 Claims**

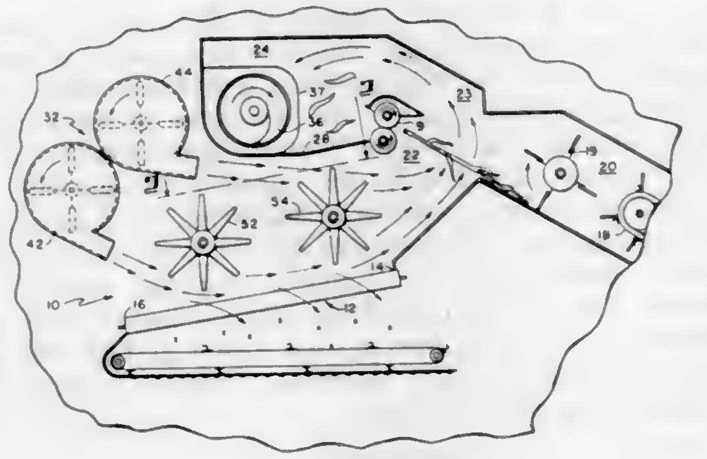


The unit is used for trimming the beaks of chickens and other such birds and utilizes gauge elements which hold and support the beak mandibles at the proper position and angle for cutting both mandibles simultaneously by a slicing action with a heated cauterizing blade, the gauge elements being adjustable to accommodate different sizes of beaks and, for any adjusted setting, the diametric dimension, rather than the length of the beak mandibles, is controlling, making trimming uniform and consistent for large numbers of birds.

3,450,138

MATERIAL-SEPARATING MECHANISM FOR A HUSKING UNIT

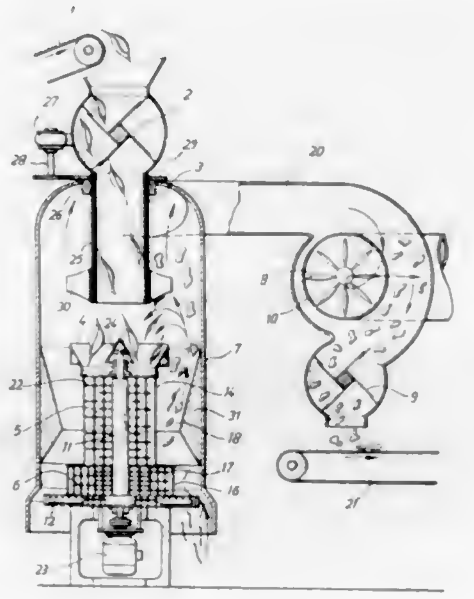
Paul E. Young, Coldwater, and Lyman J. Gunyou, Celina, Ohio, assignors to Avco Corporation, Coldwater, Ohio, a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 573,982
Int. Cl. A01f *11/06*
U.S. Cl. 130—5 **6 Claims**



The invention is a material delivery and separating system for use with corn processing machinery of the type which includes a husking bed having material advancing means disposed within a husking region, and with a conveyor having a delivery mouth arranged to deliver an aggregate of ears and trash material. A trash disposal container has a bottom wall so formed that the container and the mouth and the husking bed define passages to the husking bed and the container. Two blowers are disposed proximate the remote end of the husking region. The first blower forces air down the path between the material advancing means and the bed so that air circulating therein urges material into contact with the bed. The second blower forces air down the other path between the material-advancing means and the bottom of the container. The paths converge at the mouth so that the airborne trash is removed from the husking region, partially deflected by material in the conveyor and carried into the container.

3,450,139
DEVICE FOR SEPARATING THE PARENCHYMA FROM THE WOODY PORTIONS OF PLANT LEAVES AND, IN PARTICULAR, TOBACCO LEAVES

André Pietrucci, Fleury-les-Aubrais, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Continuation of applications Ser. No. 425,032, Jan. 12, 1965, and Ser. No. 652,984, July 12, 1967. This application May 15, 1968, Ser. No. 732,004
Claims priority, application France, Jan. 14, 1964, 960,182; Jan. 18, 1965, 390,341
Int. Cl. A24b *5/10, 7/14;* **A24c** *1/02*
U.S. Cl. 131—146 **34 Claims**

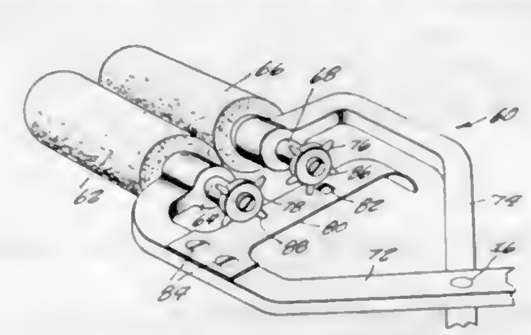


Tobacco leaves are stemmed or destalked in two or more stages by being conveyed through a series of superimposed beaters having apertured cylindrical stators surrounding toothed rotors. The diameter of each lower stator exceeds the diameter of each upper stator and the lower stators receive from the upper stators partially destalked leaves for further and more intensive stemming. The laminae are carried away by a current of air which travels upwardly in a separator disposed around the stators. The feed for admitting tobacco leaves to the uppermost stator comprises a duct which extends into the separator and a rotary distributor which disperses the leaves issuing from the duct.

3,450,140
HAIR AND SCALP ALL-PURPOSE APPLICATOR

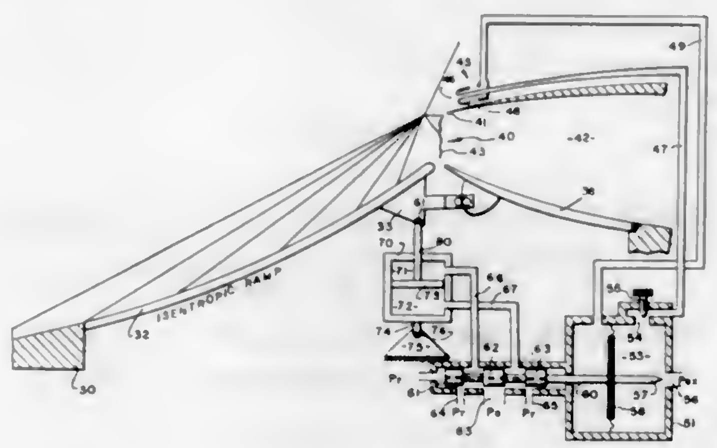
Ellen Marie Shannon Vail, Brooklyn, N.Y.
(708 Philadelphia Ave., Takoma Park, Md. 20012)
Filed Nov. 10, 1966, Ser. No. 593,539
Int. Cl. A45d *19/02*
U.S. Cl. 132—9 **2 Claims**

A hair and scalp protector consisting of a pair of levers centrally pivoted together and a pair of rotatable shafts at the ends of the levers and a pair of sleeves secured to the respective shafts. Means are provided to arrest the free travel of one of the sleeves and to provide a wiping action along a line of contact of the sleeves, when the levers are pivoted in proximity and hair drawn through the sleeves.



3,450,141
COMPRESSION LIMIT CONTROL DEVICE FOR SUPERSONIC INLETS

Robert K. Braendlein, Reseda, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed Aug. 1, 1966, Ser. No. 569,345
Int. Cl. F02k *7/10, 11/00*
U.S. Cl. 137—15.2 **4 Claims**

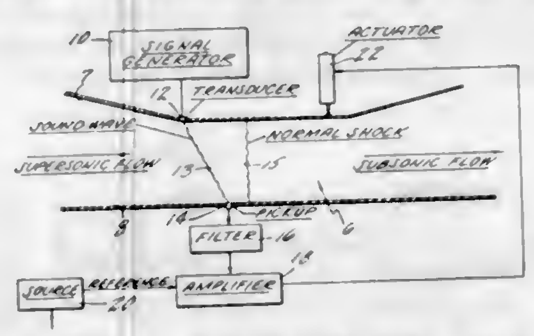


The control device utilizes a probe located outside the lip of a supersonic inlet in a region between the shock of the branch shock structure of the inlet and the vortex sheet of the branch shock structure. The probe senses the static and total pressures in this region and maintains a constant ratio between these two pressures by varying the flow deflection angle of the inlet. The magnitude of the constant ratio is selected to operate the inlet at substantially the compression limit at all supersonic Mach numbers.

3,450,142
MACH NUMBER INTERNAL CONTRACTION CONTROL

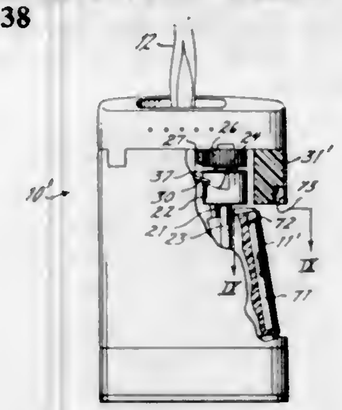
Frank W. Barry, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 617,932
Int. Cl. F02b *27/02;* **F02k** *7/10*
U.S. Cl. 137—15.2 **2 Claims**

A transducer on one wall of an internal contraction of an inlet in an air-induction system sends a sonic signal to a transducer on an opposite wall. The magnitude of the received signal is compared with a reference potential in an amplifier, the difference output of which operates an electromechanical actuator to appropriately alter the size of the throat of the inlet, thereby regulating the Mach number of flow in the inlet.



3,450,143
LIGHTER WITH GRAVITY ORIENTED SAFETY MECHANISM

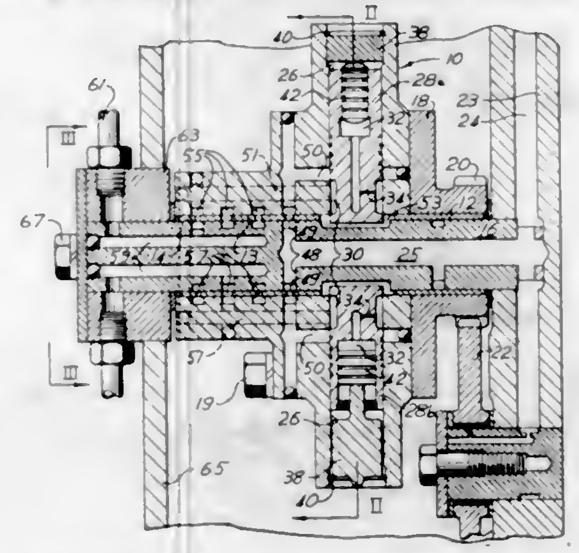
Bernard J. Tamarin, Philadelphia, Pa., assignor of one-third each to Charles A. McClure, Malvern, Pa., and Morris Cutler, Philadelphia, Pa.
Filed Dec. 27, 1966, Ser. No. 604,981
Int. Cl. G50b *9/00;* **F23n** *5/24*
U.S. Cl. 137—38 **14 Claims**



A portable lighter is provided with safety means to prevent the person holding it from lighting it inverted instead of upright. The safety means includes an object subject to gravity-induced change in location along a path of constraint between positions in which the actuating trigger for the spark means and/or fuel valve means is free to operate and alternatively is blocked from operating.

3,450,144
PLURAL INDEPENDENT SIGNAL PRODUCING HYDRAULIC GOVERNOR

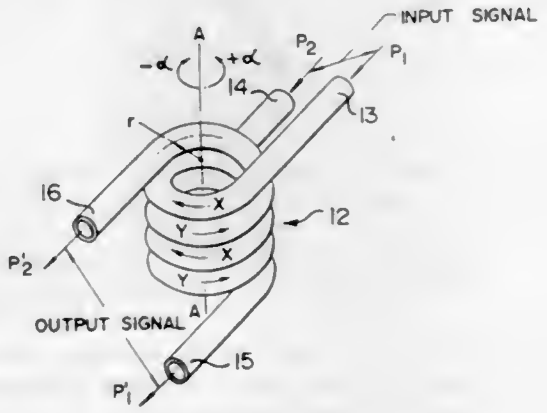
Joachim Horsch, Washington, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 20, 1966, Ser. No. 580,731
Int. Cl. G05d *13/26*
U.S. Cl. 137—54 **2 Claims**



A centrifugal force hydraulically operated governor produces a plurality of independent signals in response to rotational speed wherein each signal produced can be utilized to provide a pressure-speed curve the pressure value of which extends over the same range for each curve.

3,450,145
ACCELEROMETER

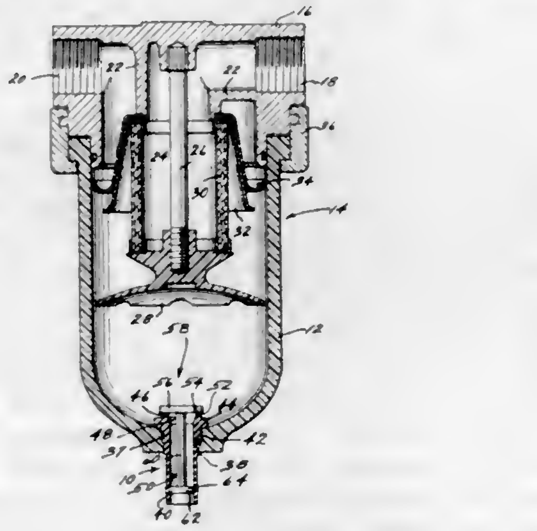
John R. Colston, Pittsburgh, Pa., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed June 13, 1966, Ser. No. 557,114
Int. Cl. F15c *1/08, 1/14;* **G01p** *15/00*
U.S. Cl. 137—81.5 **8 Claims**



1. A fluidic accelerometer comprising a pair of coaxial helical passages wound in opposite senses, means for applying a differential fluid signal to one end of each of said helical passages such that fluid flows in said passages in opposite senses, said passages being capable of rotation about their axis as a function of an angular acceleration to be sensed.

3,450,146
DRAIN VALVE

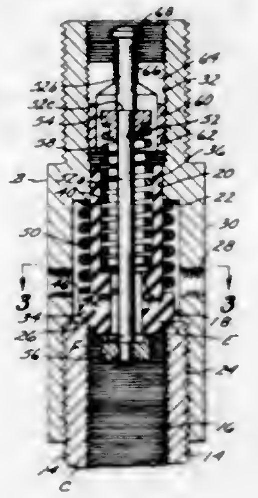
Richard A. Edwards, Denver, Colo., assignor to Wilkerson Corporation, Englewood, Colo., a corporation of Colorado
Filed July 10, 1967, Ser. No. 652,310
Int. Cl. F16t; F16k *31/00;* **B05b** *1/30*
U.S. Cl. 137—203 **9 Claims**



This invention relates to a drain valve for internally-pressurized vessels having a drain opening in the bottom thereof. The valve includes an externally-flanged elastic tube mounted in fluid-tight sealed relation within the drain opening. The flanged end of the tube has an upstanding continuous-annular knife-edge seat adapted to form a high-pressure seal with a flat head formed on the upper end of a rigid valve member. Projecting from the underside of the head is a stem that extends down into the tube and terminates in an annular flange that has a greater diameter than the inside of the tube so as to stretch the latter and form a second low-pressure seal therewith.

3,450,147
PRESSURE-LIMITING DEVICE FOR TIRES

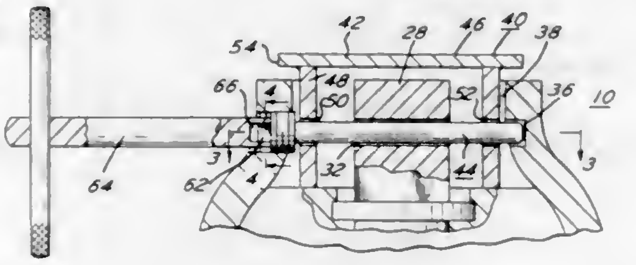
Donald A. Webb, 7723 Hosford Ave.,
Los Angeles, Calif. 90045
Filed Nov. 29, 1966, Ser. No. 597,691
Int. Cl. F16k *15/20*
U.S. Cl. 137—226 **5 Claims**



A device for mounting on the tubular valve stem of a pneumatic-tired vehicle which permits inflation of the tire with air, and discharges surplus air from the tire after a predetermined pressure has been reached.

3,450,148
VALVE LOCKING MEANS

Ralph Vincent Mongelluzzo, 2234 S. Shields St. 19142, and Charles DC Gay, 5610 Catherine St. 19143, both of Philadelphia, Pa.
Filed Aug. 31, 1966, Ser. No. 576,280
Int. Cl. E03b *9/02*
U.S. Cl. 137—296 **10 Claims**

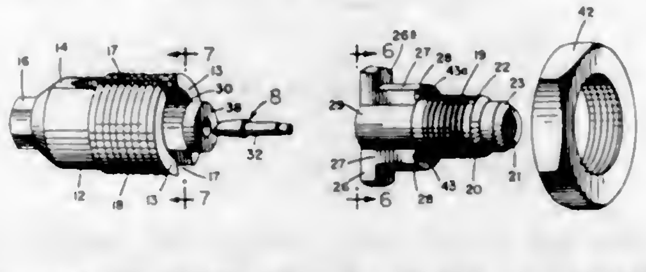


A hydrant with valve locking means comprising a housing providing a stem opening and a bolt opening, an operating stem having an end portion positioned within said stem opening of said housing for rotary actuating between open and closed positions, said stem having an opening therethrough which is alignable with the bolt opening of said housing when said stem is in its closed position, a cap means removably received within the stem opening of said housing enclosing the said stem, and having an opening alignable with said bolt opening of said housing and said opening of said stem, and lock bolt means removably received through said bolt opening in said housing, the aligned openings of said cap means and said stem for securing said cap means in position enclosing said stem end portion and preventing movement of said stem.

3,450,149
TUBE-PIERCING VALVE ASSEMBLY

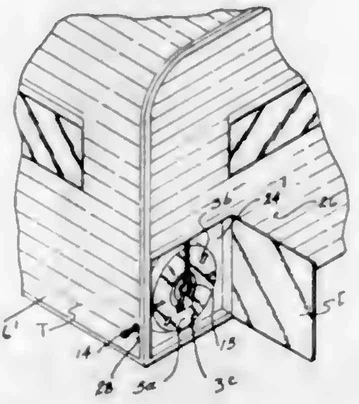
Gregory Brinda, 107 Long Ave.,
North Aurora, Ill. 60542
Filed July 12, 1967, Ser. No. 652,746
Int. Cl. F16l *55/18, 41/04;* **F16k** *51/00*
U.S. Cl. 137—318 **9 Claims**

A tube-piercing valve assembly particularly adapted for use in hermetically sealed systems. The valve assembly includes an elongated tube-centering member having a pair of spaced-apart fingers which receive and center a tube. A valve body is also received between the fingers, and the valve body includes a clamping portion which extends transversely outwardly through the space between the fingers. A tube-piercing needle is carried by the valve body and extends longitudinally toward the tube. A locking nut is threadedly engaged with the fingers, and as the nut is tightened, the clamping portion of the valve body and the needle are urged toward the tube to clamp and pierce the tube.



3,450,150
HOSE REEL AND ENCLOSURE THEREFOR

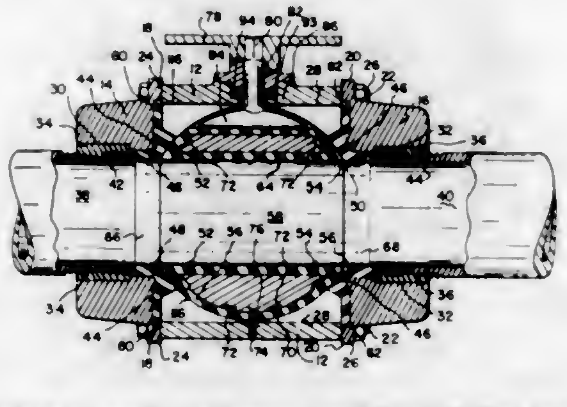
Howard P. Miller, 2238 N. San Antonio Ave.,
Pomona, Calif. 91767
Filed July 25, 1966, Ser. No. 567,425
Int. Cl. B65h *75/46;* **F16l** *3/16*
U.S. Cl. 137—355.16 **1 Claim**



A hose device concealingly mounted within the body of a mobile camper-trailer for enabling the water reservoir thereof to be filled and providing a water supply for use outside of the camper, wherein a hose reel and an extensible outlet fitting are arranged within adjacent compartments and connected to the reservoir through the reel hub. The outlet fitting serves as a closure for one compartment and a removable closure member covers the reel compartment.

3,450,151
ABRASION AND CORROSION RESISTANT VALVE CONSTRUCTION AND METHOD

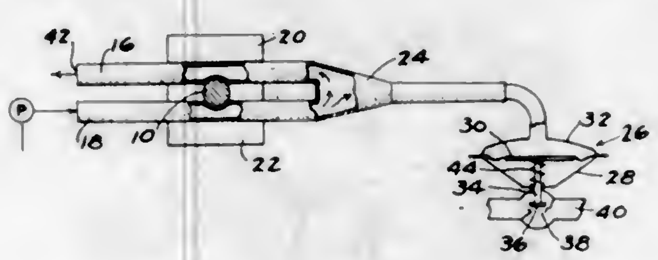
Dale E. Heutzenroeder, 606 Solana Drive,
Tempe, Ariz. 85281
Filed July 28, 1966, Ser. No. 568,539
Int. Cl. F16k *51/00, 5/00*
U.S. Cl. 137—375 **2 Claims**



An abrasion and corrosion resistant valve having a valve body and a valve member movably mounted therein, the valve body having inlet and outlet openings adapted to align with a bore portion of the valve body which is movable into and out of register with the openings in the valve body, and abrasion and corrosion resistant material in the form of a coating surrounding said valve member and lining the bores of said inlet and outlet openings of said valve body.

3,450,152
FLUID PRESSURE OPERATED PROPORTIONING TRANSMITTER AND CONTROLLER

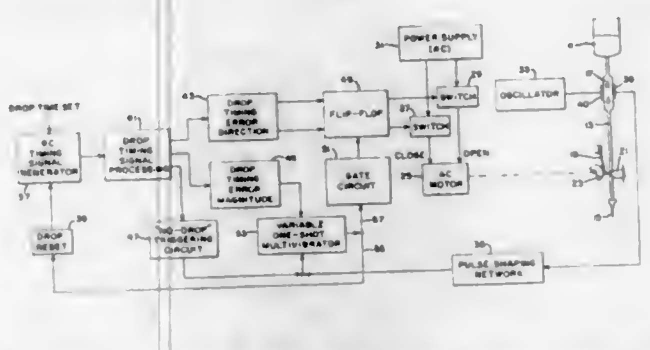
Phillip E. Ouellette, % Acrolab Instrument Co., Box 425,
Walkerville P.O., Windsor, Ontario, Canada
Filed Feb. 20, 1967, Ser. No. 617,171
Int. Cl. G05b *11/44;* **F16k** *31/34, 31/365*
U.S. Cl. 137—414 **8 Claims**



A proportioning transmitter and controller of the fluid pressure operated type having a pair of flexible wall conduits connected at one end to a pressure chamber of the diaphragm type. Movement of the diaphragm in response to a change in pressure in the pressure chamber is adapted to actuate a member for controlling the value of an operating condition, such as temperature, pressure, etc. A device for sensing the value of the operating condition has a movable arm disposed between the two flexible conduits and arranged such that, when the movable arm moves in one direction, it restricts one of the conduits to a greater extent and the other conduit to a lesser extent and, when the movable arm moves in the opposite direction, the restriction in the two flexible conduits is reversed. One of the flexible conduits is connected to a source of fluid pressure and the other to exhaust.

3,450,153
ELECTRICAL PULSE GENERATOR AND REGULATOR FOR FLUID FLOW AND LIKE CONTROL SYSTEMS

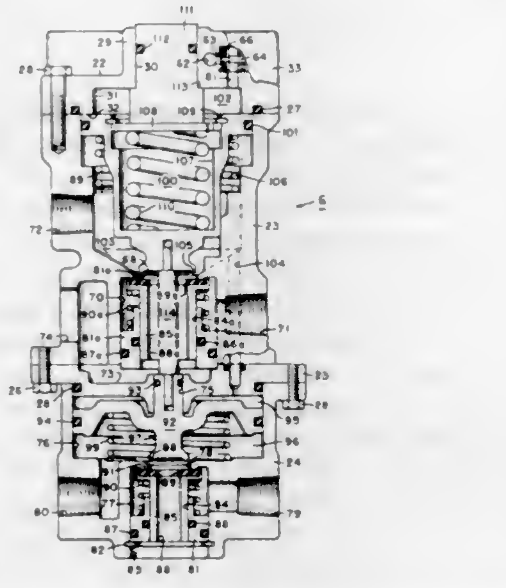
Herbert John Hildebrandt, Baldwinsville, and Tage Peter Sylvan, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed June 26, 1967, Ser. No. 648,885
Int. Cl. F16k *31/02;* **A61m** *5/16*
U.S. Cl. 137—486 **17 Claims**


POWER SUPPLY (AC)
DROP TIME SET
RC TIMING SIGNAL GENERATOR
DROP TIMING SIGNAL PROCESSING
DROP TIMING ERROR DIRECTION
FLIP-FLOP
SWITCH
SWITCH
OSCILLATOR
DROP TIMING ERROR MAGNITUDE
GATE CIRCUIT
CLOSE
OPEN
AC MOTOR
DROP RESET
"NO-DROP" TRIGGERING CIRCUIT
VARIABLE ONE-SHOT MULTIVIBRATOR
PULSE SHAPING NETWORK

This disclosure is of a fluid flow rate control for intravenous feed and like applications wherein flow occurs in drop-wise fashion. The occurrence of each drop is sensed by means operative to generate an electrical pulse in time coincidence with it, and flow rate control then is accomplished in response to error signals indicative of the direction and extent of any timing error of each drop pulse. Electrical capacitance means are described for drop sensing, and the flow rate error signals are produced by comparison of the sawtooth voltage output of an RC timing signal generator against a reference, the timing signal generator having its RC time constant adjustable to enable balance against the reference at any of a range of called-for flow rates. An electrical servo system which operates through one complete control cycle in response to the pulse timing error signals produced by each drop is provided for readjusting the flow control device to correct flow rate errors to within any system deadband provided. Various provisions for enhancing stability, reliability and response speed of the system are described, as is its utility in other control applications wherein pulse timing provides an available measure of the parameter to be controlled.

3,450,154
CONTROL VALVE

Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,200
Int. Cl. B60t *11/24;* **F16k** *31/165*
U.S. Cl. 137—492.5 2 Claims



An application valve for use in controlling the actuation of braking mechanisms in a fluid pressure system is provided with a push rod for the standard mechanical actuation to provide pressure fluid flow to and exhaustion from the braking mechanisms. The application valve is also provided with an emergency valve which is responsive to a loss of fluid pressure in the system to establish pressure fluid flow from an emergency reservoir to an expansible fluid pressure chamber and the introduction of the pressure fluid into the expansible chamber serves to actuate the application valve in the same manner as the push rod does mechanically.

3,450,155
FRICTIONLESS RELIEF VALVE

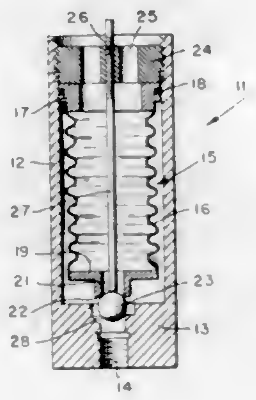
Warren P. Froebner and Robert E. Swallow, China Lake, Calif., and Delbert W. Huffman, Gold Hill, Oreg., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 6, 1964, Ser. No. 343,160
Int. Cl. F16k *17/04*
U.S. Cl. 137—508 **1 Claim**

1. A relief valve adapted for use with a pressurized fluid system for controlling the pressure of the system comprising:

a cylindrical body casing having an inlet passage way formed with a valve seat at one end and exhaust ports at the other end;

said inlet passage way and exhaust ports being axially aligned with the center axis of the body casing;

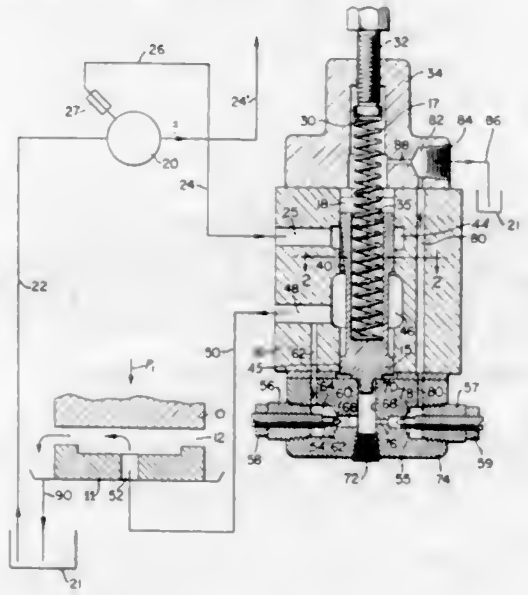
a bellows assembly supported within an spaced from the inner walls of said body casing comprising a flexible convoluted envelope having ends;
one end of said assembly terminating adjacent said exhaust ports in a sealing member;
said sealing member having an opening in communication with the interior of said bellows assembly and said exhaust ports;
the other end of said bellows assembly terminating in another valve seat having a passageway therethrough;



a valve element associated with said valve member and engageable with the valve seat on said inlet passage way and said another valve seat in rest condition so that fluid from the inlet passageway is precluded from flowing to the exhaust ports;
said inlet passageway also having a relief portion thereby allowing fluid from said inlet passageway to flow into said casing and fill space between said bellows assembly and said body casing; and
adjustable means adjustably attached to the end of said body casing having exhaust ports therein and
engaging said valve element for unseating said valve element from said another valve seat when fluid pressure at said inlet passageway is sufficient to overcome said bellows assembly and move it axially.

3,450,156
HYDROSTATIC BEARING

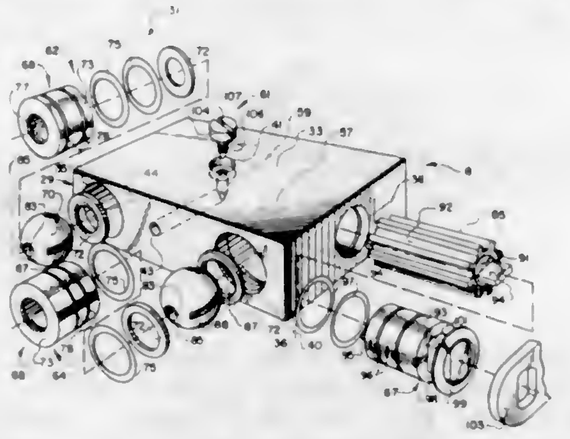
William R. Miller, Jr., Rochester, N.Y., assignor to Farrel Corporation, Rochester, N.Y., a corporation of Connecticut
Filed June 24, 1966, Ser. No. 560,327
Int. Cl. F16k ***31/143***
U.S. Cl. 137—509 **8 Claims**



A hydrostatic bearing is provided for supporting the table of a vertical boring mill. Flow of oil to the bearing is controlled by a rectilinearly-reciprocable valve which has a wedge-shaped peripheral gash extending in the direction of reciprocation of the valve. The valve position controls supply of oil to the bearing. The valve is spring-pressed in one direction, and the pressure of the oil in the bearing is applied to move the valve in the opposite direction. Thus the load on the bearing determines the rate of flow of the oil to the bearing.

3,450,157
VALVE MANIFOLD

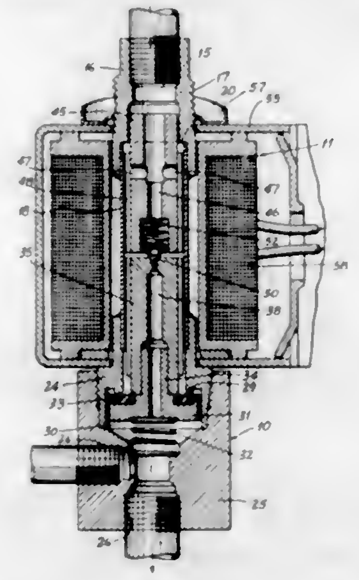
John E. Hewson, 12211 Broken Arrow, Houston, Tex. 77024
Filed July 31, 1967, Ser. No. 657,346
Int. Cl. E03b; E03c; F17d
U.S. Cl. 137—595 **10 Claims**



This invention relates to valving means used in fluid conveyance systems to assist in measuring conditions of operation through a differential pressure meter, transmitter, or the like, and more particularly, this invention relates to a valve manifold placed between a fluid flow line and a differential pressure measurement instrument to selectively control fluid thereto. Still, more specifically, this invention relates to a valve manifold including a pair of rotatable ball valve assemblies having spherical ball valve members conjointly rotatable to regulate direction of fluid flow by partial ball valve rotation.

3,450,158
PARALLEL CHECK VALVE SUCH AS USED FOR VEHICLE BRAKING

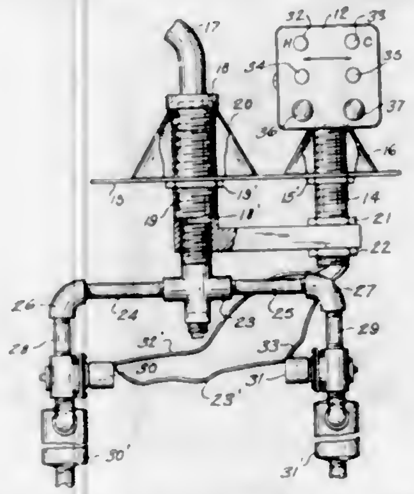
Ralph B. Tilney, Clayton, and George H. Chapman, Olivette, Mo., assignors to Alco Controls Corporation, Creve Coeur, Mo., a corporation of Missouri
Filed Oct. 14, 1966, Ser. No. 586,826
Int. Cl. F16d ***65/24;*** **B60t** ***11/10***
U.S. Cl. 137—598 **11 Claims**



A magnetically controlled check valve has a primary poppet valve closed against applied pressure. It has a magnetic core for a stem projecting through the valve seat and having a bypass passage through it; a second magnetic core contains a floatingly mounted bypass valve that can close the end of the bypass opening in the primary valve magnetic core stem. When the magnetic coil surrounding the cores is not energized, the primary valve can be opened by applied pressure. When the applied pressure is released, the primary valve is normally closed by a spring but the back pressure is relieved through the bypass, the pressure of the fluid pushing the bypass plunger away from the primary valve stem to open the bypass valve. When the magnetic coil is energized, it acts on both cores to hold the bypass valve firmly in closing position and prevents return flow of liquid and also holding the primary valve firmly against its seat.

3,450,159
CONTROL BOX FOR WATER FAUCETS

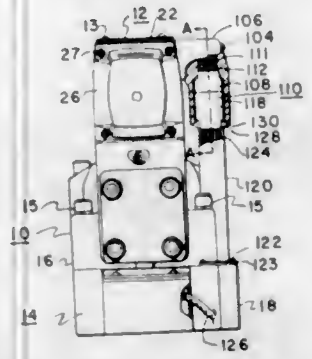
Ira Elmore Wilkin, Sycamore St., Lynchburg, Ohio 45142
Filed Apr. 5, 1966, Ser. No. 540,271
Int. Cl. F16k ***19/00, 31/06***
U.S. Cl. 137—606 **1 Claim**



A regulating device for water faucets delivering hot and cold water having a unitary mounting structure, the regulating device providing selectively controlled mixed water temperatures, the device including a control box electrically connected in series circuit with a solenoid valve on the hot water line and a solenoid valve on the cold water line, each solenoid valve being located in series with a regulating valve.

3,450,160
ELECTRICALLY OPERATED VALVE

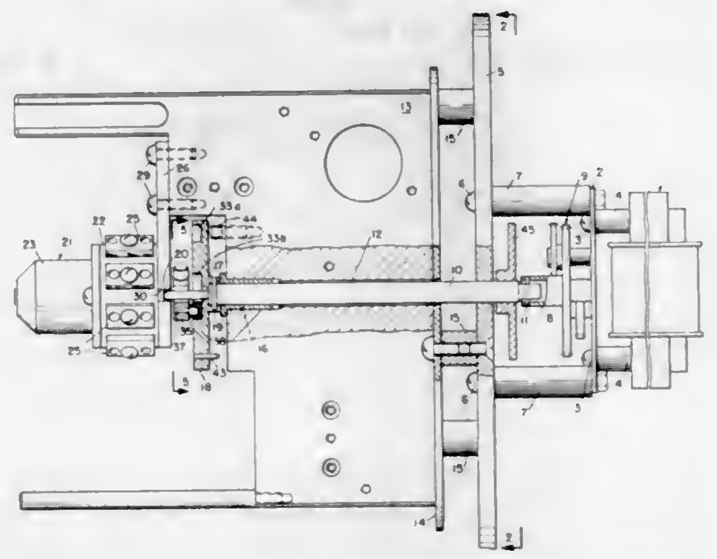
Gerald Francis Tess, Warren, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 631,088
Int. Cl. F16k ***11/24***
U.S. Cl. 137—625.64 **12 Claims**



An electrically controlled pilot valve operated directional control valve and a manifold member, or, an electrically operated directional control valve and a manifold member, one on top of another in a sandwich or stack-up arrangement having mating surfaces between the pilot valve and the directional valve and between the directional valve and manifold base with fluid conducting passages opening to the mating surfaces; each stack-up or sandwich arrangement of valving having a single quick disconnect electrical connector with a plug and receptacle member, preferably of the resilient type, which are both remote and elevated with respect to the mating surfaces for connecting the electro-magnetic operating means of the pilot valve or directional valve to a source of electrical energy.

3,450,161
DUAL VALVE ACTUATOR

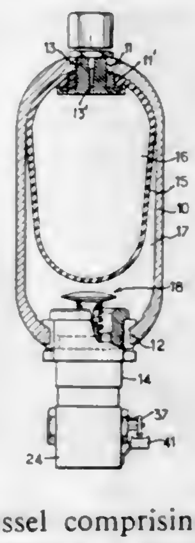
J Rondle Wright, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Dec. 12, 1966, Ser. No. 601,124
Int. Cl. E03b; E03c; F17d
U.S. Cl. 137—636.1 **8 Claims**



Two valves are arranged to be selectively actuated by means of a single camming disc. Rotation of the disc in one direction from a "neutral" position actuates one valve, and rotation in the opposite direction from neutral actuates the other valve.

3,450,162
PRESSURE VESSEL WITH CONTROL DEVICE

Jacques H. Mercier, New York, N.Y., assignor to Olaer Patent Company, Walram, Luxembourg, a corporation of Luxembourg
Filed May 3, 1966, Ser. No. 547,204
Claims priority, application France, May 11, 1965, 16,534
Int. Cl. F16l ***55/04, 55/02***
U.S. Cl. 138—30 **9 Claims**

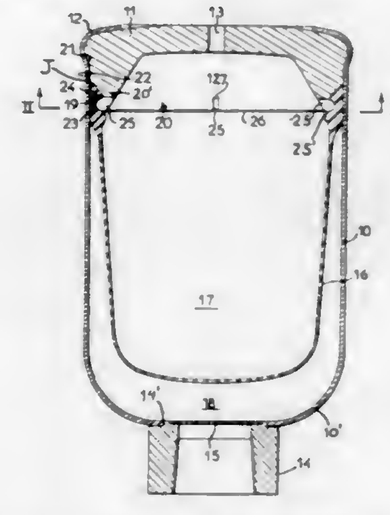


1. A pressure vessel comprising a rigid container for two fluids under pressure, a separator in said container defining two chambers therein, each adapted to be charged with one of said fluids, one of said chambers having a

port, said separator being movable to a position adjacent said port, a movable member associated with said port, said movable member comprising a head portion adapted to be engaged by said movable separator, said head portion having an axial stem, control means actuated by said movable member, said control means comprising a rotatable pin extending transversely with respect to said stem, means operatively connecting said stem and said pin to rotate the latter, a cam carried by said pin, and a switch controlled by said cam.

3,450,163
PRESSURE VESSELS

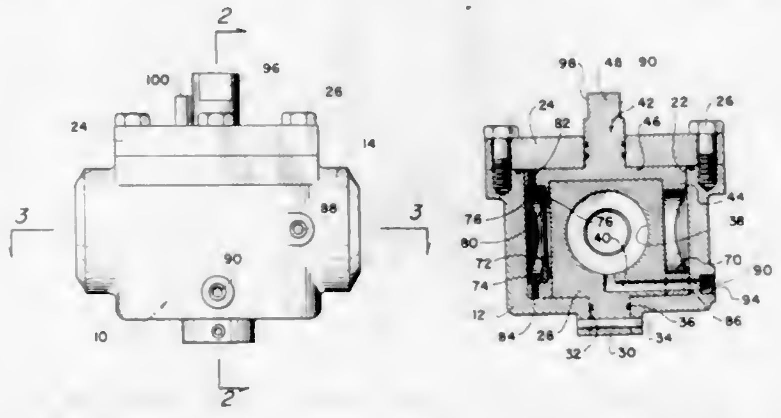
Jacques H. Mercier, New York, N.Y., and Carlo Corbellini, Paris, France, assignors to Olaer Patent Company, Walram, Luxembourg, a corporation of Luxembourg
Filed July 21, 1966, Ser. No. 566,913
Claims priority, application France, Aug. 2, 1965, 26,865
Int. Cl. F16l *55/04, 55/02*
U.S. Cl. 138—30 **5 Claims**



This invention relates to the art of pressure vessels, more particularly of the type having a deformable bladder therein with a relatively large mount having a peripheral bead encompassing the depending cylindrical skirt of a cover member positioned in the correspondingly large mouth of the pressure vessel, the skirt being conformed so that the pressure in the bladder will react against the bead to force the latter into dependable sealing position with respect to the space between the wall of the pressure vessel and the adjacent surface of the skirt.

3,450,164
DUAL ORIFICE PLUG FITTING

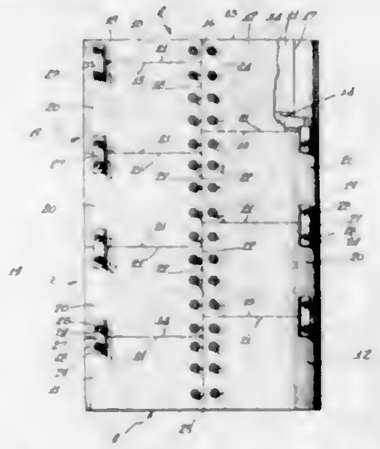
William E. Walker, Jr., Freer, Tex., assignor to Charles Wheatley Company, Tulsa, Okla., a corporation of Oklahoma
Filed May 12, 1966, Ser. No. 549,509
Int. Cl. F15d *1/02*
U.S. Cl. 138—44 **7 Claims**



A dual orifice plug fitting for a pipeline comprising an outer housing interposed in the pipeline and provided with a stationary plug body disposed therein having a bore extending therethrough in substantial alignment with the interior of the pipeline. A rotatable orifice sleeve is disposed within the housing and around the stationary plug, and is provided with a plurality of orifice plates with each orifice plate being of a different diameter. The orifice plates are movable with the rotation of the orifice sleeve for selectively positioning the orifices in alignment with the bore of the plug body for cooperation with metering ports provided in the outer housing for facilitating the measurement of pressure drop of the fluid moving through the orifice plate. The diameter size of the orifice plate through which the fluid flows may be readily altered by rotation of the orifice sleeve whereby another orifice plate is positioned in alignment with the bore of the stationary plug body.

3,450,165
MILL HOLE AND TUNNEL LINING STRUCTURE

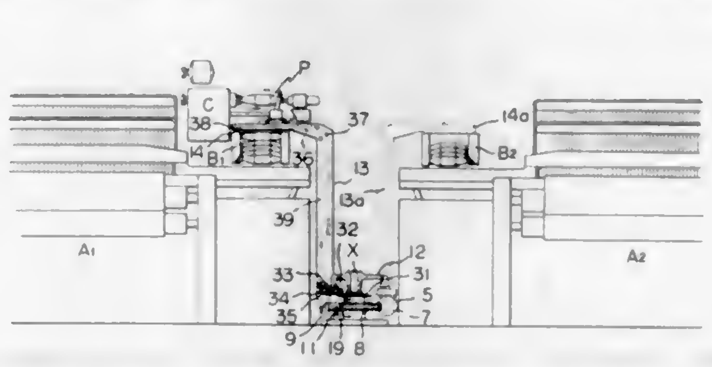
Joseph Bardswich, 18 Durham St. S., Sudbury, Ontario, Canada
Filed Jan. 16, 1967, Ser. No. 609,653
Int. Cl. E21d *11/14, 5/06;* **F16l** *9/22*
U.S. Cl. 138—100 **5 Claims**



A tubular liner for mill holes and tunnels in the mining and tunnelling industries comprising a segment assembly wherein the lateral joint planes are staggered from segment to segment along the length of a continuous longitudinal joint of the tube. The longitudinal joint is spliced together as by means of a connector bar extending from end to end of the longitudinal joint and bolted to each of the segment end portions along the joint.

3,450,166
WEFT-REPLENISHING MECHANISM FOR ADJACENT LOOMS

Eizaburo Negishi, Yono-shi, Japan, assignor to Kabushiki Kaisha Negishi Kogyo Kenkyusho, Urawa-shi, Saitama-ken, Japan, a joint-stock company of Japan
Filed Sept. 20, 1967, Ser. No. 669,024
Claims priority, application Japan, Sept. 24, 1966, 41/62,905; Mar. 12, 1967, 42/15,480
Int. Cl. D03d *45/10*
U.S. Cl. 139—1 **3 Claims**

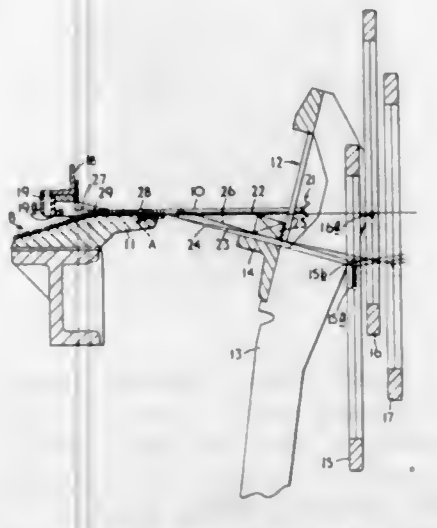


A single pirn winder is provided common to adjacent looms and is controlled according to the number of pirns

in the respective magazines of the looms. A pirn transfer device rotatable approximately 180° is provided to receive pirns from the pirn winder to alternately supply them to respective magazines of the looms.

3,450,167
LOOMS FOR WEAVING CUT-PILE FABRICS

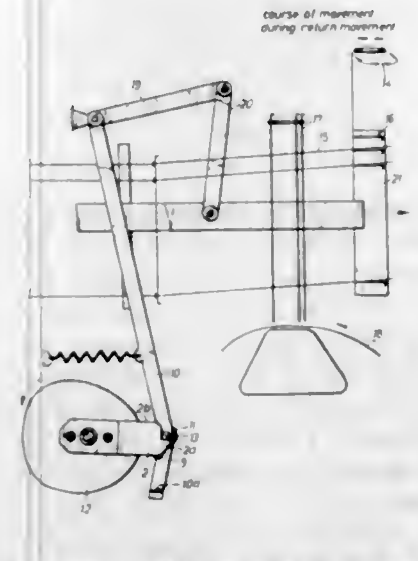
Geoffrey Norman Lygo, 28 Cardiff Road, Aberdare, Glamorgan, Wales
Filed Mar. 15, 1967, Ser. No. 623,398
Claims priority, application Great Britain, Mar. 15, 1966, 11,193/66
Int. Cl. D03d *39/02*
U.S. Cl. 139—47 **1 Claim**



A loom for weaving cut-pile fabrics in which deflecting surfaces are formed on stationary pile wires to cause pile yarns to form loops by passing to opposite sides of the pile wires as the yarns are raised and lowered.

3,450,168
DEVICE FOR TURNING OFF THE VERTICAL MOVEMENT OF THE PRINTING BAR OR GRID DURING THE RETURN MOVEMENT OF A DOUBLE-STROKE JACQUARD MACHINE

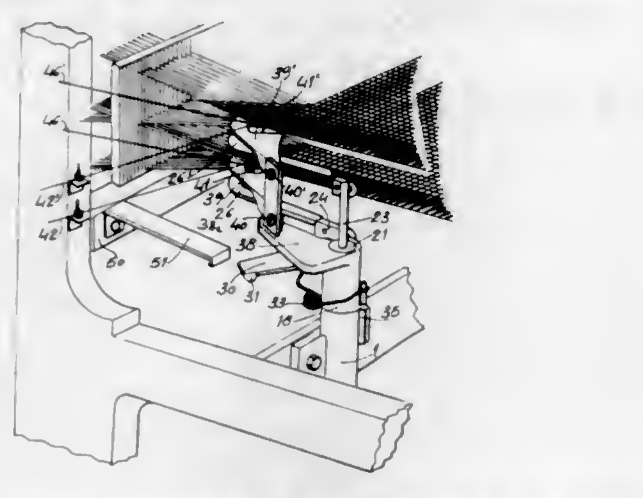
Karl Haberhauer, St. Tonis, and Heinz Konigs, Krefeld-Fischeln, Germany, assignors to Maschinenfabrik Carl Zangs Aktiengesellschaft, Krefeld, Germany
Filed July 6, 1967, Ser. No. 651,571
Claims priority, application Germany, July 8, 1966, M 70,166
Int. Cl. D03d *3/00*
U.S. Cl. 139—59 **7 Claims**



Double-stroke open shed jacquard loom in which a printing grid lifts drop wires away from a punched control element and moves the drop wires into engagement with the punched control element, with linkage connected to the printing grid for so moving it and under the control of a shaft driven cam, with a blocking lever connected to the shaft by a one-way drive operable when the shaft turns in forward direction to permit the cam to operate the linkage while in the reverse direction of the shaft the blocking lever engages the linkage when the printing grid lifts the drop wires away from the punched control member and holds the printing grid in that position as long as the shaft turns in reverse direction.

3,450,169
SELVEDGE FORMING DEVICE IN SHUTTLELESS LOOMS

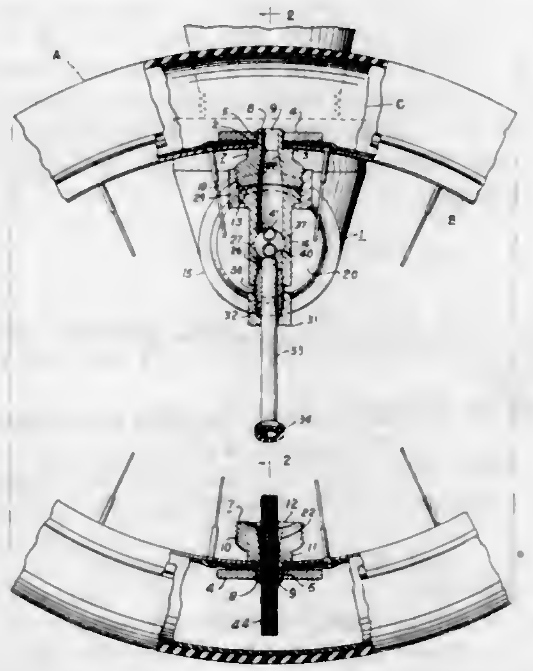
Ramon Balaguer Golobart, Calle Caspe 86, Barcelona, Spain
Filed Apr. 21, 1967, Ser. No. 632,798
Claims priority, application Spain, May 5, 1966, 326,732
Int. Cl. D03d *47/46*
U.S. Cl. 139—122 **7 Claims**



Apparatus for forming selvedges at the edge of a fabric woven on shuttleless looms which operates to insert into said edge an independent thread and includes an inserting arm for said thread and a retaining arm for retaining positioned said thread. The apparatus may be adapted to form two selvedges simultaneously on looms weaving superimposed fabrics.

3,450,170
METHOD OF AND MEANS FOR FILLING PNEUMATIC TIRES WITH COMMINUTED ELASTIC MATERIAL

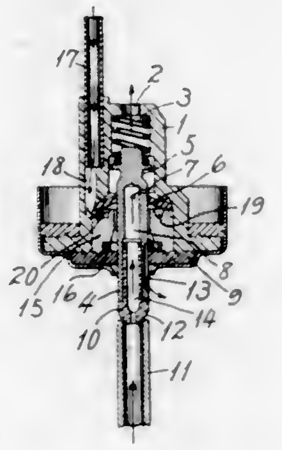
Keith M. Andersen, 1629 Glen Valley, Irving, Tex. 75060
Filed June 21, 1967, Ser. No. 647,797
Int. Cl. B29h *13/00;* **B65b** *31/00*
U.S. Cl. 141—5 **13 Claims**



A method of and apparatus for filling with rubber dust a pneumatic tire mounted on a rim and having an inner tube or being tubeless wherein a pair of substantially diametrically opposed openings are formed in the rim for communicating with the interior of the tire. Rubber dust under air pressure is injected through one of the rim openings at a time while screening the other opening to permit air exhaustion without escape of the dust, the injection including the supply of rubber dust to a passage for conducting said dust to one of said openings. The air being jetted at spaced points into the passage to force the rubber dust into the tire interior and prevent bridging of said dust resulting from back pressure.

3,450,171
DISPENSING VALVE SUITABLE FOR FILLING A CONTAINER UNDER LOW PRESSURE

Ryutaro Takiguchi, 51–1 Asagayadanchi, 232, 1-chome Narimunecho, Suginamiku, Tokyo, Japan
Filed Jan. 23, 1967, Ser. No. 611,108
Claims priority, application Japan, Feb. 8, 1966, 41/11,261
Int. Cl. B65b *1/04, 3/04*
U.S. Cl. 141—20 **1 Claim**

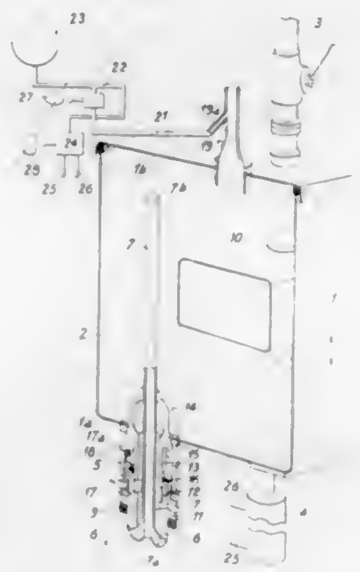


A dispensing valve suitable for filling a container under low pressure. A hollow valve body has a stem extending into it which is movable to flex a packing. The stem has a passage along the outside surface thereof, said passage descending through a packing in the top of the valve body during filling to exhaust gas past said top packing. The flexible packing is held in the valve body to obturate a passage from a dip tube through the interior of the stem. When filling or replenishment is effected, the actuator normally present on the stem is removed and the container is inverted and the injection port of a bomb or the like is placed over the end of the stem and the stem is depressed, thereby to effect filling or replenishment; and the air in the container which is displaced flows out through said passage on the outside of said stem past said top packing.

3,450,172
DEVICE FOR FILLING CONTAINERS OF SEMI-RIGID OR SOFT MATERIAL SUCH AS PLASTIC BOTTLES

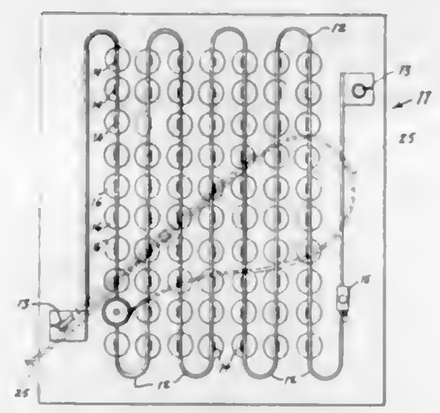
Antoine Di Settembrini, Moulin de la Drille, Epouville, France
Filed Nov. 8, 1966, Ser. No. 597,193
Claims priority, application France, Nov. 10, 1965, 37,985
Int. Cl. B65b *31/00, 1/04*
U.S. Cl. 141—59 **1 Claim**

Device for filling containers of soft or semi-rigid material such as plastic bottles with a foaming liquid, which comprises a suction pipe open at either end and extending through each filling nozzle and opening at its lower end into the container being filled, and at its upper end above the level of the liquid contained in a cistern. A filter pump carried by said cistern, at the upper part thereof, communicates with the interior of said cistern and with a source of compressed air through a valve controlled by a programming unit. Said unit opens the valve for creating a partial vacuum in said cistern only at the end of the filling cycle, that is when the container is filled sufficiently, during a time interval sufficient to permit the suction through said suction pipe of the foam produced in the container during the filling thereof.



3,450,173
FRACTION COLLECTOR

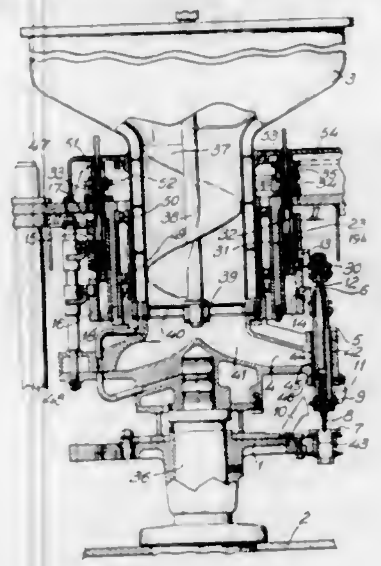
Jacob V. Maizel, Jr., Scarsdale, N.Y., assignor to Yeshiva University, New York, N.Y., a corporation of New York
Filed Dec. 22, 1966, Ser. No. 608,059
Int. Cl. B65b *3/34;* **B67c** *3/24*
U.S. Cl. 141—130 **9 Claims**



A fraction collector is shown having a conductive track and a support which is movable along the track through a drive wheel in contact with one side of the track and a free moving wheel on the opposite side. A motor is connected to the drive wheel. The track has a number of spaced non-conductive portions thereupon. The conductive and non-conductive portions of the track abut the free moving wheel. The free moving wheel is in turn connected to a control relay which also intervenes a current source and the motor. A solenoid is carried by the support having a downwardly depending arm. Connected to the arm is an open conduit which also joins a fluid supply source (such as a bottle). The size of the conduit is small enough so that no liquid will pass therethrough while the support is movable along the track. A pulse generator sends a current pulse through the control relay at a timed interval after the support reaches one of the non-conductive portions of the track.

3,450,174
DISTRIBUTING DEVICE FOR MELTED CHEESE PACKAGING MACHINES

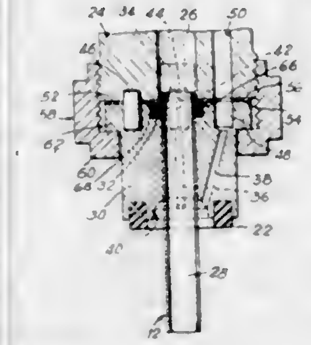
Robert Henri Jules Flevet, Paris, France, assignor to Fromageries Bel-La Vache Qui Rit, Paris, France
Continuation-in-part of application Ser. No. 403,257, Oct. 12, 1964. This application Oct. 3, 1967, Ser. No. 672,491
Int. Cl. A23c *19/00;* **B67c** *3/24*
U.S. Cl. 141—146 **4 Claims**



A distributing device comprising a cylinder receiving a liner which is movable vertically in response to a first cam, a piston being displaceable vertically through said liner in response to a second cam, whereby the melted cheese is discharged through a nozzle rigid with said liner, means being provided for adjusting the stroke of each piston to control the quantity of melted cheese to be discharged.

3,450,175
BOTTLE FILLER TUBE

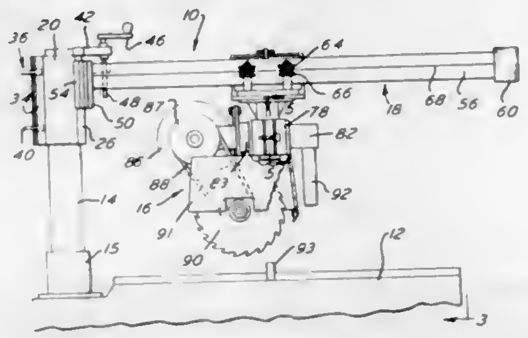
James C. Norwood, Stewart Manor, N.Y., assignor to Volckening, Inc., Brooklyn, N.Y., a corporation of New York
Filed July 28, 1966, Ser. No. 568,600
Int. Cl. B65b *1/04;* **B67c** *3/00*
U.S. Cl. 141—392 **10 Claims**



A filler tube apparatus for beverage bottle filler machines including a base housing having an aperture therein, a tube stem having a longitudinal aperture therethrough and having its upper portion disposed within said housing aperture, the lower portion of said tube stem extending therefrom and being adaptable for insertion into a beverage bottle, and a releasable retaining ring fixedly secured to said base housing and releasably mounted in a peripheral recess in the upper portion of said tube stem. The retaining ring is adapted to release the tube stem for upward movement thereby in the base housing aperture in response to an upward impact force on said tube stem.

3,450,176
RADIAL ARM MACHINE TOOL

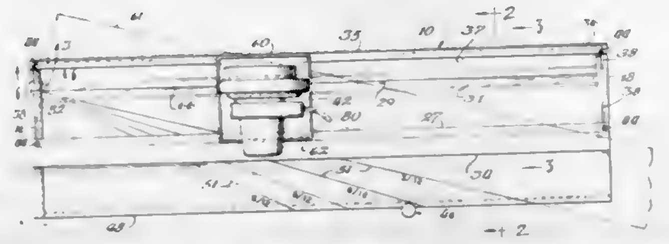
Henry M. Pollak, 1235 Queen St., and Robert S. Pollak, 1007 N. Warren St., both of Pottstown, Pa. 19464
Continuation-in-part of application Ser. No. 521,388, Jan. 18, 1966. This application Mar. 22, 1966, Ser. No. 536,371
Int. Cl. B27b *27/06*
U.S. Cl. 143—6 **6 Claims**



A radial arm saw is disclosed wherein the saw and its motor are supported from a reciprocally mounted carriage by means of first and second sleeve members. The sleeve members are split clamps substantially identical in cross section and having an integral mounting plate. The mounting plates are connected to each other so that one sleeve member is horizontally disposed and the other is vertically disposed. The carriage is supported by a cantilever track formed from hollow rectangular tubes. The surfaces of the tubes are angularly disposed in a manner so that wheels on the carriage mounted for rotation about an upright axis are in rolling engagement with the angularly disposed surfaces on the track.

3,450,177
PORTABLE SAW TABLE

Burton L. Siegal, Skokie, and George A. Carlberg, Northbrook, Ill., assignors to Porta-Table Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 3, 1966, Ser. No. 583,845
Int. Cl. B27b *27/06, 5/18, 27/08*
U.S. Cl. 143—6 **5 Claims**

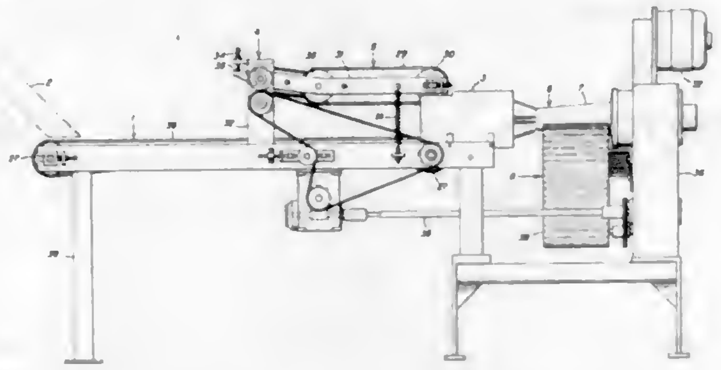


A portable saw table for use in cutting construction materials with a portable saw positioned upon guide rails above the table. The saw table has a bed constructed of two plates, the uppermost plate having a recess within which the blade of the portable saw is received when said saw is positioned upon the table. As top guage is movably positioned along one elongate edge of the table to serve as a guide member for positioning the construction material upon the table at the proper angle to be cut.

3,450,178
PINEAPPLE SIZING APPARATUS

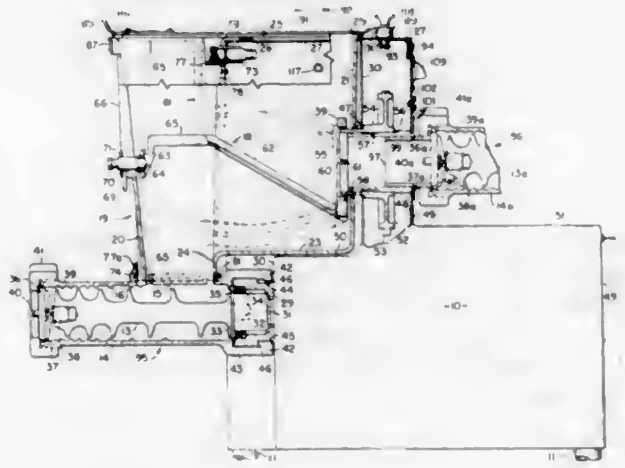
John Farmer, Honolulu, Hawaii, assignor, by mesne assignments, to Ward Foods, Inc., New York, N.Y., a corporation of New York
Original application Sept. 29, 1961, Ser. No. 141,680, now Patent No. 3,246,678, dated Apr. 19, 1966. Divided and this application Oct. 23, 1965, Ser. No. 503,856
Int. Cl. A23n *15/00, 7/00*
U.S. Cl. 146—6 **4 Claims**

Pineapple sizing apparatus having a rotary sizing knife and shell eradicator and feeding pineapples endwise through a centering device to the knife by vertically aligned and spaced pairs of laterally spaced belts, one pair supporting the pineapples endwise against lateral displacement and the other cooperating therewith for gripping and positively feeding the pineapples.



3,450,179
MIXER-CHOPPER

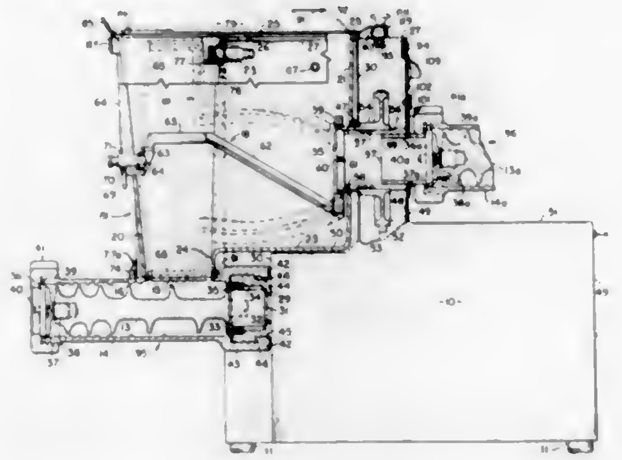
Frank E. Golding, Toledo, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 16, 1966, Ser. No. 602,196
Int. Cl. B02c *18/30;* **B01j** *7/20, 15/02*
U.S. Cl. 146—182 **9 Claims**



The disclosure describes the combination of a conventional food comminuting machine or chopper defining an inlet, a novel tub having a discharge connection with the inlet, and paddle means rotatably mounted in the tub. The comminuting machine and the tube each is readily detachable from the apparatus as independent units. When the comminuting machine is operatively connected in the apparatus, particularly for the preparation of ground meats, the paddle means functions as mixing means and as input conveying means for the comminuting machine. When the comminuting machine is disconnected from the apparatus, a cover is attached at the discharge connection to retain food in the tub for mixing such foods as salads; removal of the cover permits the paddle means to feed the mixed food into a receptacle placed below the tub outlet. The paddle means includes arm means arranged to lift and let drop food for mixing while advancing the food through the tub. The paddle means and its drive means are mounted for rotation about the axis of a tube which functions both as a means to feed material to be mixed into the tub and a means for rotatably mounting the paddle drive means. A control circuit for two motors which drive the comminuting machine and the paddle means includes a switch for selecting several modes of operation and has safety interlocks for preventing operation of the apparatus if the tub's cover is opened or if the tub is loosened from the apparatus and for preventing operation of the comminuting machine's motor unless the motor for the mixing paddle means also is operating.

3,450,180
MIXER-CHOPPER

Herbert D. Braun, Toledo, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 16, 1966, Ser. No. 602,237
Int. Cl. B02c *18/30*
U.S. Cl. 146—182 **5 Claims**

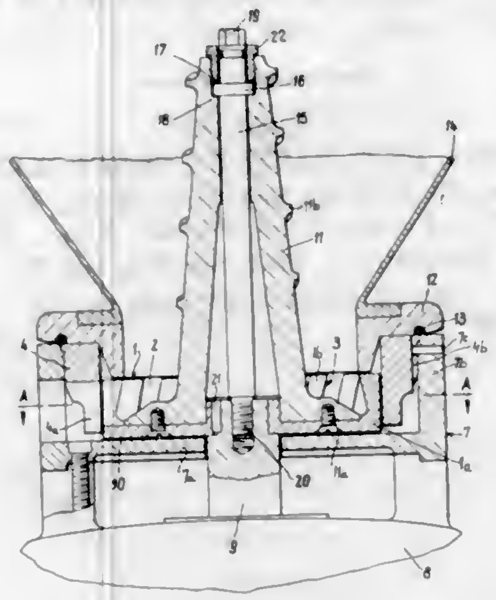


The disclosure describes the combination of a conventional food comminuting machine or chopper defining an inlet, a novel tub having a discharge connection with the inlet, and paddle means rotatably mounted in the tub. The comminuting machine and the tub each is readily detachable from the apparatus as independent units. When the comminuting machine is operatively connected in the apparatus, particularly for the preparation of ground meats, the paddle means functions as mixing means and as input conveying means for the comminuting machine. When the comminuting machine is disconnected from the apparatus, a cover is attached at the discharge connection to retain food in the tub for mixing such foods as salads; removal of the cover permits the paddle means to feed the mixed food into a receptacle placed below the tub outlet. The paddle means includes arm means arranged to lift and let drop food for mixing while advancing the food through the tub. The paddle means and its drive means are mounted for rotation about the axis of a tube which functions both as a means to feed material to be mixed into the tub and a means for rotatably mounting the paddle drive means. A control circuit for two motors which drive the comminuting machine and the paddle means includes a switch for selecting several modes of operation and has safety interlocks for preventing operation of the apparatus if the tub's cover is opened or if the tub is loosened from the apparatus and for preventing operation of the comminuting machine's motor unless the motor for the mixing paddle means also is operating.

3,450,181
APPARATUS FOR COMMINUTING MEAT OR THE LIKE

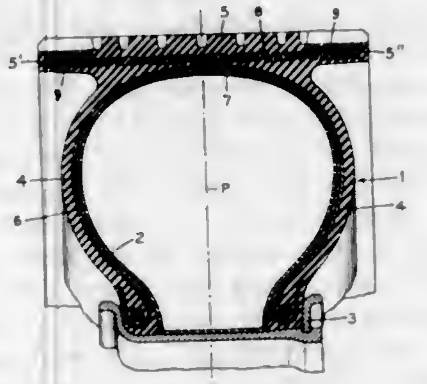
Fritz Otto, Hameln, Germany, assignor, by mesne assignments, to Belder Trust, Reg., Vaduz, Liechtenstein
Filed Nov. 3, 1966, Ser. No. 591,884
Claims priority, application Germany, Nov. 25, 1965, St 24,687
Int. Cl. A22c *5/00*
U.S. Cl. 146—192 **9 Claims**

An apparatus for comminuting materials has a housing provided with a bottom wall. A drive shaft extends through the bottom wall into the interior of the housing. A rotary cutter overlies the bottom wall to define therewith a narrow gap. A quick-release coupling couples the output shaft of the rotary drive with the cutting member so that the latter may be readily removed from the interior of the housing to gain access to material which has accumulated in the gap.



3,450,182
PNEUMATIC TIRE CASINGS

Henri Verdier, Beauregard-L'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed July 13, 1966, Ser. No. 564,839
Claims priority, application France, July 13, 1965, 24,636
Int. Cl. B60c *19/00, 3/00*
U.S. Cl. 152—352 **4 Claims**

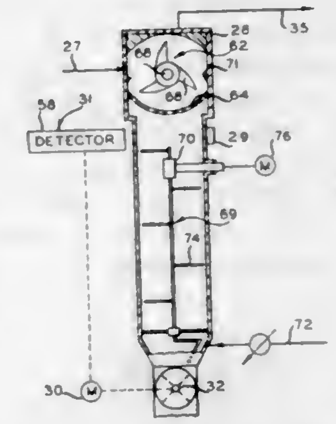


A pneumatic tire is provided with a tread having one or both edge portions extending outwardly beyond the sidewalls respectively adjacent thereto when the sidewalls are flexed under normal load. Reinforcing is provided in and spanning the tread substantially from edge to edge thereof. The tread thus protects the sidewalls from damage by shock or abrasion caused by obstacles striking the sidewalls.

3,450,183
POLYMER RECOVERY APPARATUS

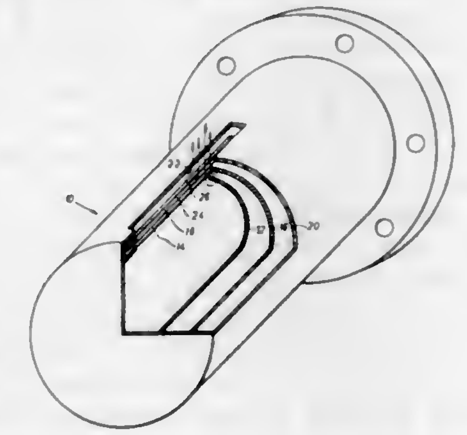
Robert A. Hinton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 25, 1965, Ser. No. 467,022
Int. Cl. B01d *1/00*
U.S. Cl. 159—2 **1 Claim**

Apparatus for the recovery of polyolefin solids from a solution containing same which comprises in combination means for flashing the polyolefin solution into the top of a vertical column where the precipitated polymer is chopped into fine particles, for permitting a sized solid particle to pass downwardly through a stirred purge zone countercurrent to an inert purge gas, and for regulating the amount of solid polymer removed from the vertical column.



3,450,184
APPARATUS FOR SEPARATING POLYMERS FROM THEIR SOLUTIONS

Hildegard Schnoring, Wuppertal-Elberfeld, Willy Classe and Gottfried Pampus, Cologne-Stammheim, and Nikolaus Schon, Leverkusen, and Josef Witte, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed July 18, 1966, Ser. No. 566,034
Claims priority, application Germany, July 24, 1965, F 46,749
Int. Cl. B01d *1/14*
U.S. Cl. 159—16 **5 Claims**

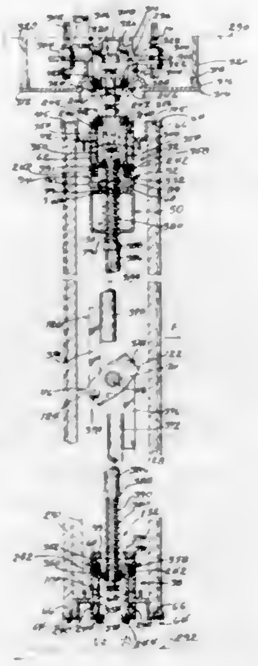


Arrangement for separating polymers from organic solvents comprises inner polymer conveying tube closed at one end having charging opening at its other end. Outer eccentric tube surrounds inner tube to convey encasing liquid and discharge openings in sides of inner tube and outer eccentric tube are located along line where tubes achieve maximum proximity so that encasing liquid is discharged around polymer solution as solution flows through opening in inner tube. Steam conveying tubing outside outer eccentric tube has discharge opening in close proximity to outer eccentric tube for discharging steam onto encasing liquid surrounding polymer solution to vaporize organic solvent and separate polymer from solvent.

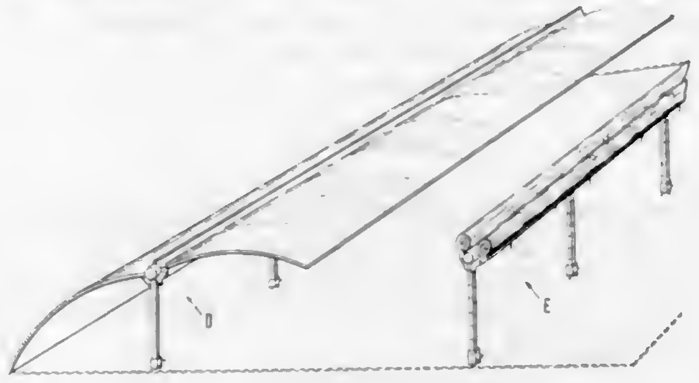
3,450,185
ACOUSTICAL OPERABLE PANEL ARRANGEMENT WITH REMOVABLE PANEL COVERS

Don C. Holloway, Janesville, Wis., assignor to Hough Manufacturing Corporation, a corporation of Connecticut
Filed Feb. 10, 1967, Ser. No. 615,204
Int. Cl. E05d *15/26*
U.S. Cl. 160—199 **8 Claims**

This invention has to do with operable panel type room partitions and is concerned with a special panel frame construction that provides a simplified frame structural arrangement which permits the panel covers to be readily replaced or changed. The individual panel frames are made up of top, bottom, and side frame members formed from extruded sections of aluminum or the like, which interfit at the corners of the frame and are detachably secured together at such corners by angle members which are arranged to permit either side member to be readily removed from the frame so as to provide for changing of the covers on either side of the panel. The frame members about either face of the panel defines special cover receiving recesses that, when a frame is assembled, are disposed in circumambient relation about each panel face and are formed to mount the covers in physical isolation from each other except at their edges and receive several different alternate types of covers designed for sound transmission inhibiting effects. The individual panels include upper and lower retractable seals for securing the panel in place between a ceiling track and the room floor, and the panels are individually supported by their own roller supporting devices from which the frames are respectively suspended through a novel top frame member load transmitting device. The panel arrangement also includes novel frame member sectioning configurations for top sound inhibiting results and a pass door arrangement that includes the simplified features of the basic panel frame.

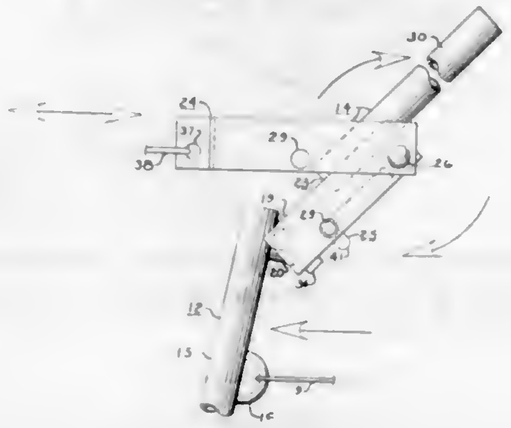


3,450,186
REELABLE BEAM
Angelo Caffa, Letizia Caffa, and Carla Caffa, all of 12, Corso Matteotti, Alba, Cuneo, Italy
Filed July 19, 1966, Ser. No. 566,384
Claims priority, application Italy, July 28, 1965, 17,031/65
Int. Cl. A47h *1/00;* **A47g** *5/02;* **E04b** *1/346*
U.S. Cl. 160—241 **6 Claims**



A reelable beam composed of two series of box-like individual elements with teeth and slots on their adjacent faces, the teeth of one series being adapted to be inserted in the slots of the other series and firmly locked therein by passing through an assembly head mounted on a post and provided with manually or mechanically operable gear means engaging in notches provided in one of the two bands formed by said individual elements.

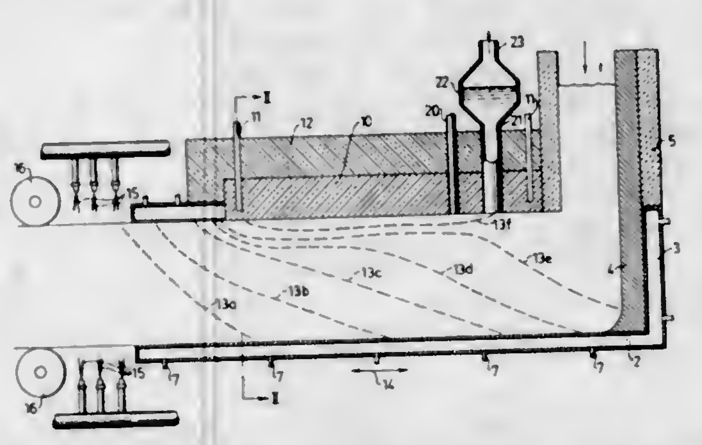
3,450,187
WIRE TYPE PASTURE FENCE GATE
Donald M. Foltz, Sedgwick County, Kans.
(11004 E. Pawnee Road, Wichita, Kans. 67207)
Filed May 1, 1967, Ser. No. 640,771
Int. Cl. E06b *3/80;* **E05c** *19/14*
U.S. Cl. 160—328 **13 Claims**



A tensioning and latching construction for a wire gate of the type disposed between fixed gate posts. The gate is formed of fencing wire extending between a pair of gate stems. One of the gate stems is flexibly attached to one gate post, and the other gate stem has a lower end removably received in a loop embracing a lower portion of the other gate post. An improved device is provided for detachably connecting the upper portions of said other post and other gate stem. The improved device comprises a clevis having its open end flexibly attached to said other gate post, and a lever or handle pivotally connected wtihin its open end. The lever includes a pair of spaced plates that extend toward the closed end of the clevis and the end portions of the plates are connected by a member engageable with the upper end portion of said other gate stem, the latter being receivable within the clevis. The member is engageable between a pair of studs fixed to said gate stem. The plates carry a stop engageable with the clevis to limit pivotal movement of the lever corresponding to a predetermined pivotal relationship, and means are provided for releasably retaining or latching the lever and the clevis in such predetermined pivotal relationship.

3,450,188
CONTINUOUS CASTING METHOD AND ARRANGEMENT
Enn Vallak, 82, route de Florissant, Geneva, Switzerland, and Sven Gustaf Harald Eketorp, Karsta, Sweden; said Eketorp assignor to said Vallak
Filed Aug. 23, 1966, Ser. No. 574,476
Int. Cl. B22d *11/10, 11/12, 27/04*
U.S. Cl. 164—82 **11 Claims**

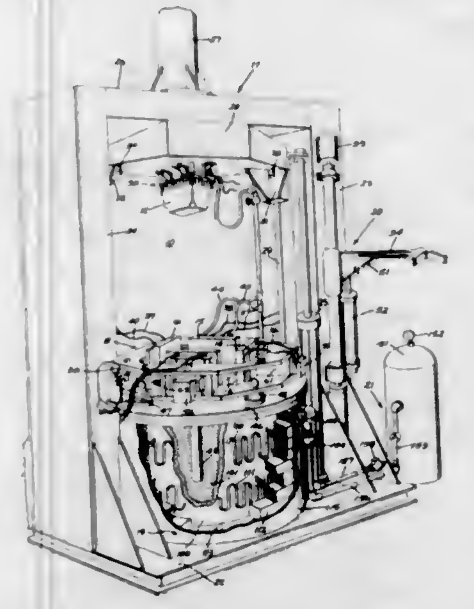
A method and apparatus for the continuous horizontal casting of metal billets are provided, wherein molten metal is continuously poured into a vertical pouring-in section and then fed through an essentially horizontal mold section. The sides and bottom of the horizontal mold section are cooled, while the top side thereof is heated so that the sequence in solidification of the billet is from the bottom to the top. This eliminates pipes in the billet and allows dross, slag and gases to rise to the molten surface rather than being entrapped in the center of the casting.



3,450,189
PROCESS OF COATING METAL CASTINGS
Donald Francis MacDonald, Suffern, N.Y., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 22, 1966, Ser. No. 573,782
Int. Cl. C23c *1/10;* **B22d** *23/00*
U.S. Cl. 164—95 **8 Claims**

A protective or decorative metal coating is provided on metal castings by applying a slurry containing metal particles to a mold or core surface, drying the slurry to provide a coating on at least a portion of the mold or core surface, and thereafter pouring molten metal into contact with such surface. Upon solidification, the metal particles adhere to, and become a part of, the surface of the casting.

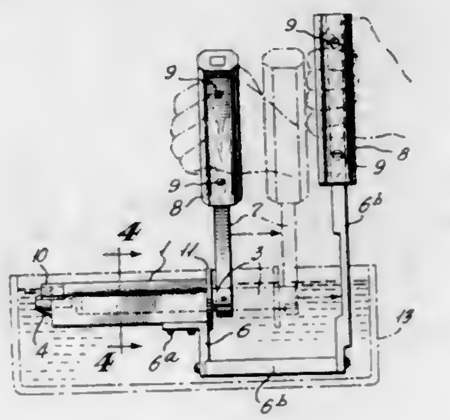
3,450,190
LOW PRESSURE CASTING APPARATUS
Armin F. Mittermaier and Robert D. Mees, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed June 7, 1967, Ser. No. 644,132
Int. Cl. B22h *17/06*
U.S. Cl. 164—309 **10 Claims**



A low pressure casting machine having a fluid pressure operated press with a sealed hold furnace located under the movable platen of the press. The cover plate of the hold furnace serves as a mounting table for assembly of the mold. The mold includes a fixed base plate section supported on the mounting table, a plug section carried by the platen of the press and four movable side plate sections. The side plate sections of the mold are moved in and out of assembled relation with the fixed base plate section by a unitary side plate actuator assembly which is carried on adjustable elements attached to the mold mounting table for selectively positioning the side plate actuator assembly in vertical relationship with respect to the mold. The actuators for driving the movable side plate sections of the mold are supported by a rigid stress-absorbing frame freely supported on the mounting table so that stresses resulting from the closure of the mold under pressure are not transmitted to the table or the press superstructure.

A stalk supported by the mold mounting table extends below the surface of the molten metal in the crucible of the hold furnace and has its upper end in communication with a removable sprue insert portion of the mold base section to feed molten metal into the mold cavity. The stalk is formed with a flanged portion which is sandwiched between an upper and a lower gasket and is supported in an annular groove formed in a split collar which takes up pressure applied by the press or actuator assembly to the middle portion of the base plate section. The hold furnace also includes a skewed fill tube with a mounting plate having stud-receiving slots extending in a direction to permit the fill tube to be replaced without need for removing the mold mounting table.

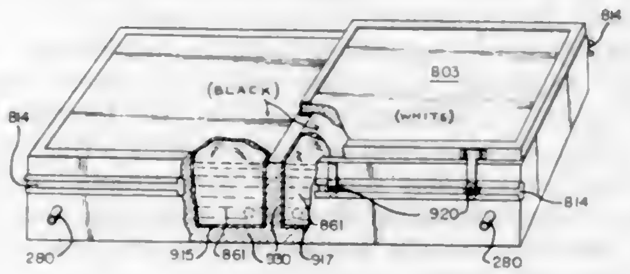
3,450,191
SUBMERGING INJECTOR FOR MOLTEN MATERIAL
Michael Dolinsky, Sr., Reading Texile Casting Corp. Bldg., R.D. 1, Birdsboro, Pa. 19508
Filed Mar. 17, 1966, Ser. No. 535,124
Int. Cl. B22d *17/00;* **B29f** *1/06*
U.S. Cl. 164—312 **4 Claims**



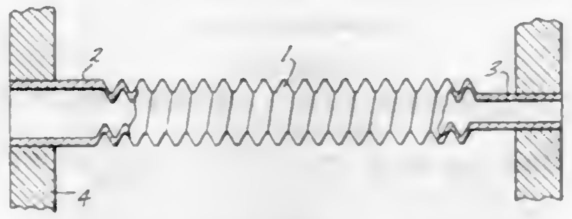
This improvement relates to a manually operated device by which the molten metal may be drawn into a barrel and forced from the latter into a mold without waste or loss of molten material and without contact between the atmospheric air and the molten material. Consequently there is absence of heat loss and a saving is effected by confining the molten material within closed walls.

3,450,192
PROCESS AND APPARATUS FOR MODULATING THE TEMPERATURE WITHIN ENCLOSURES
Harold R. Hay, Tempe, Ariz. (795 Roble, Menlo Park, Calif. 94025)
Continuation-in-part of application Ser. No. 668,202, June 26, 1957, which is a continuation-in-part of applications Ser. No. 163,381, Dec. 19, 1961, Ser. No. 482,027, Aug. 16, 1965, and Ser. No. 482,032, Aug. 16, 1965. This application Jan. 20, 1967, Ser. No. 610,597
Int. Cl. F28d *21/00*
U.S. Cl. 165—1 **14 Claims**

A process for collecting heat from, and radiating heat to, the sky using insulation moved from a first to a second enclosure or portion of an enclosure. A body of liquid is confined in a horizontal plane and open to the zenith sky. A movable thermal barrier is moved over the liquid in one situation and over another liquid or area during a second condition.

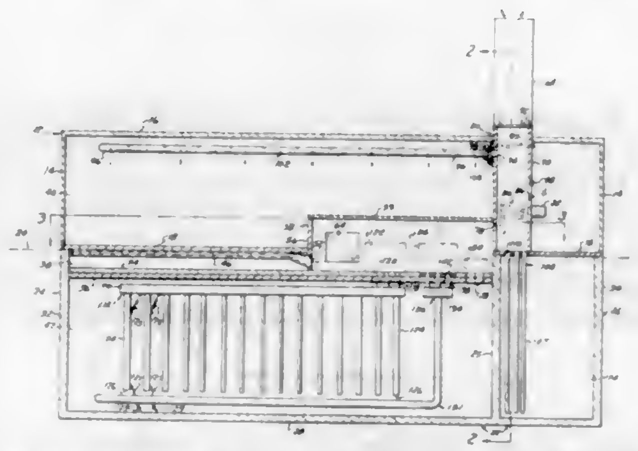


3,450,193
CORRUGATED TUBING
Wade Wolfe, Jr., Mount Carmel, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 31, 1967, Ser. No. 679,458
Int. Cl. F28d *7/00*
U.S. Cl. 165—1 **4 Claims**



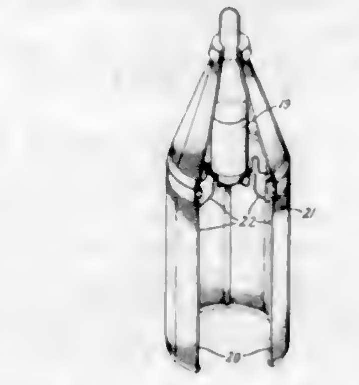
The instant disclosure teaches an improved corrugated tubing and an improved heat exchange system utilizing same. The corrugated tubing is characterized by a corrugated central section and two relatively smooth uncorrugated ends, with the diameter of the entrance end being larger than the diameter of the exit end.

3,450,194
GREENHOUSE AIR-COOLING SYSTEM
Gerhard Barthel, 14657 Juliana Ave., East Detroit, Mich. 48021
Filed Dec. 5, 1967, Ser. No. 688,038
Int. Cl. F24d *11/00*
U.S. Cl. 165—18 **10 Claims**



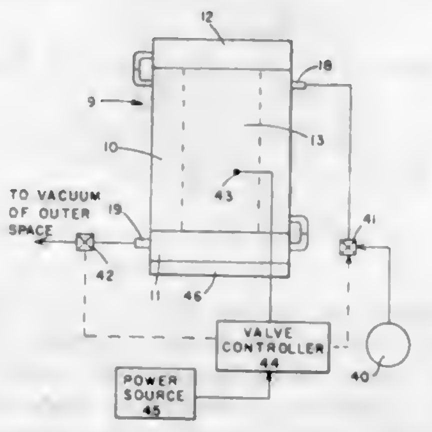
In this greenhouse air-cooling system, during the wintertime outside air at freezing temperatures is passed into and bubbled through water in an underground reservoir beneath the greenhouse floor until the water is frozen into ice. During the subsequent summer, air from the greenhouse is passed through another conduit system in the reservoir, where the ice extracts heat from this air to cool it before returning it to the greenhouse. When all of the ice has been melted in this manner, and the temperature of the water in the reservoir has been raised to room temperature, cool outside air is drawn through the water-cooling pipes by a fan from the outside atmosphere during the hours between midnight and sunrise when the outside air temperature has reached its minimum, thereby again reducing the temperature of the reservoir water by extracting heat therefrom before returning this cooling air to the outside atmosphere. An auxiliary subterranean water reservoir is also cooled or heated, as required, by air passed through an auxiliary piping system to maintain the temperature of its water at approximately moderate room temperature in order that this water may be used for watering the plants, the growth of which is retarded when the greenhouse atmosphere becomes too hot.

3,450,195
MULTIPLE CIRCUIT HEAT TRANSFER DEVICE
Arthur W. Schnacke, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 510,565, Nov. 30, 1965. This application Mar. 16, 1967, Ser. No. 623,733
Int. Cl. F24h *11/06*
U.S. Cl. 165—47 **10 Claims**



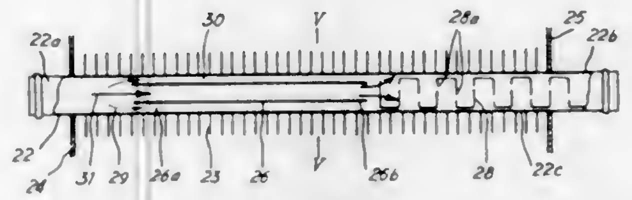
Heat exchange devices with high heat transfer-weight efficiency are required for aerospace applications. For this purpose, devices comprised of sealed chambers in which vaporizable heat exchange mediums are transported to vaporization surfaces by capillary transfer means have been suggested. The present invention involves improved designs based on this concept. Generally these improved designs include a multiplicity of sealed chambers, shaped to the outer contours of a space vehicle, with integral ducts therethrough for carrying a fluid to be cooled and a novel capillary pumping means located at the vaporization surfaces.

3,450,196
GAS PRESSURE CONTROL FOR VARYING THERMAL CONDUCTIVITY
Paul Bauer, Reseda, Calif., assignor to TRW Inc., Redondo Beach., Calif., a corporation of Ohio
Filed Aug. 30, 1967, Ser. No. 664,393
Int. Cl. G05d *23/27,* **F28f** *13/02*
U.S. Cl. 165—32 **5 Claims**



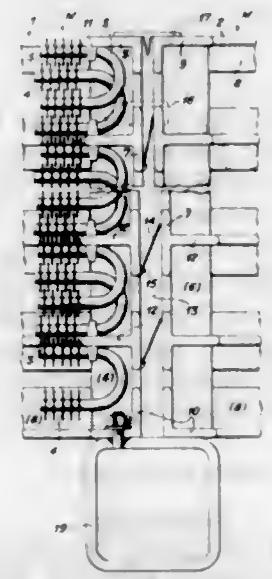
Apparatus varying the rate of heat loss or absorption from a spacecraft component such as a battery. The component is surrounded with multiple layers of thermal insulation having a finite displacement therebetween. The outer layer of thermal insulation forms a pressurizable container about the component. A gas or fluid is passed between the layers of thermal insulation. The pressure of the gas or fluid is varied in a controlled manner which in turn varies the thermal conductivity of the gas or fluid, thereby regulating the heat loss or absorption of the component.

3,450,197
HEAT EXCHANGERS
Walter Fieni, Paris, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a company of France
Filed Feb. 3, 1966, Ser. No. 524,775
Claims priority, application France, Feb. 6, 1965, 4,664; Jan. 25, 1966, 47,205
Int. Cl. F01p *7/14;* **F28f** *27/02, 13/06*
U.S. Cl. 165—142 **3 Claims**



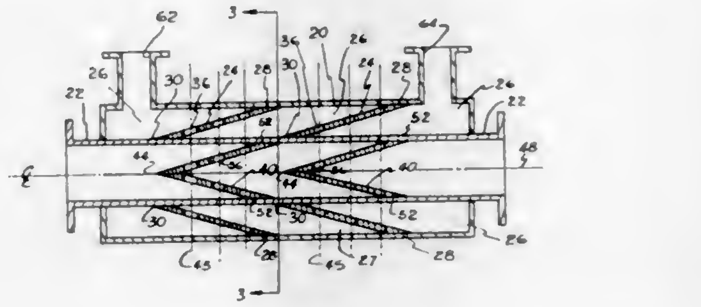
A heat exchanger is described comprising an elongated tubing which is fed with hot water at one side thereof to heat a stream of air flowing transversely thereto and characterized by an auxiliary duct leading hot water to a point of the tubing which is remote from the said one side thereby heating both sides of the stream of air when the exchanger is fed with hot water at a very low flow rate.

3,450,198
HEAT EXCHANGER
Alfred Brunner, Winterthur, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Mar. 8, 1966, Ser. No. 532,721
Claims priority, application Switzerland, Mar. 12, 1965, 3,499
Int. Cl. F28f *27/02*
U.S. Cl. 165—101 **9 Claims**



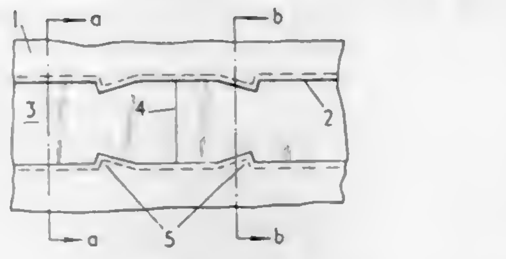
The open-ended heat exchanger units are spaced from each other within the coolant flow passage while throttling elements are positioned at various levels in the spaces between the heat exchanger units. The throttling elements serve to throttle any flow of coolant within these spaces so that a substantially equal pressure exists in the spaces and in the coolant path within adjacent portions of the heat exchanger units.

3,450,199
HEAT EXCHANGER
Fred J. Warrell, Mount Clemens, Mich., assignor to Continental Aviation & Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed July 10, 1967, Ser. No. 652,175
Int. Cl. F28d *7/10;* **F28f** *9/22, 13/00*
U.S. Cl. 165—159 **12 Claims**



A heat exchange structure which prevents the formation of boundary layers of fluid along the exchange wall while attaining a transverse flow of fluid jets to impinge directly on the exchange wall.

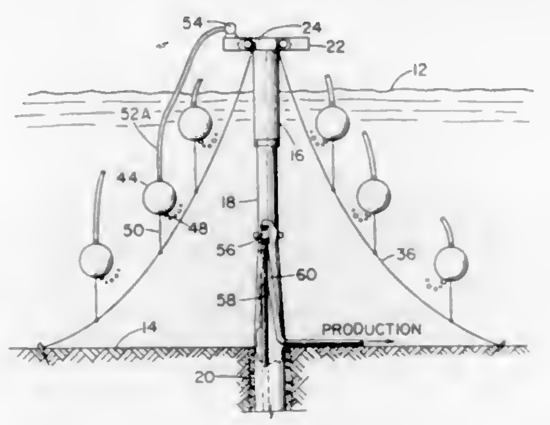
3,450,200
HEAT TRANSFER PLATES
Felix William Wright, Crawley, England, assignor to the A.P.V. Company Limited, Crawley, England, a British company
Filed Feb. 28, 1967, Ser. No. 619,440
Claims priority, application Great Britain, Mar. 21, 1966, 12,326/66
Int. Cl. F28f *3/08*
U.S. Cl. 165—167 **8 Claims**



The invention comprises an arrangement for sealing the ends of discontinuous gaskets, i.e., gaskets having abutted ends, in plate type heat transfer apparatus. According to the invention, one or more protrusions are formed in the wall of the gasket recess adjacent one or both of the abutted ends to constrict the gasket laterally and compress the abutted ends longitudinally into a firm sealing engagement.

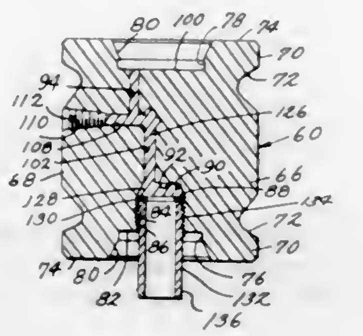
3,450,201
EXTENSIBLE CAISSON FOR UNDERWATER WELL
Kenneth A. Blenkarn, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Aug. 3, 1967, Ser. No. 658,151
Int. Cl. E21b *33/035, 43/01;* **E02d** *25/00*
U.S. Cl. 166—.5 **9 Claims**

This describes a telescopic or extensible underwater caisson having a cap enclosing its upper end. The caisson is placed over the well head of a well which has been drilled in the floor of a body of water. The caisson has an upper extensible portion which when extended reaches above the surface of the water. Workovers or other required maintenance of the well or well head can then be made through the extended caisson, the interior of which is then at atmospheric pressure. Anchor lines extend from the upper part of the upper section of the caisson to anchors in the ocean floor spaced from the floor end of the caisson. When it is desired to perform maintenance on the well, the upper section of the caisson is extended, the cap removed and the anchor lines made taut. This is to maintain the upper end of the caisson relatively still while the maintenance operations are being conducted. If a sudden storm should appear, the anchor lines are let loose so that the upper end of the caisson can move freely and withstand great storms. Means can be added to the anchor lines to introduce damping for suppressing motion.



3,450,202
PETROLEUM WELL THERMALLY ACTIVATED SAFETY RELIEF DEVICE FOR DIFFERENTIAL PRESSURE CLOSING TUBING SAFETY VALVE

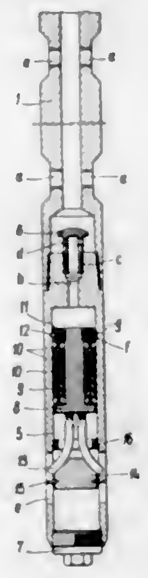
John Slack, Houston, Tex., assignor to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Jan. 25, 1968, Ser. No. 700,591
Int. Cl. E21b *35/00;* **F16k** *17/40*
U.S. Cl. 166—53 11 Claims



On a petroleum well having a tubing safety valve in the tubing string, constructed to remain open so long as the differential pressure across the valve does not exceed a predetermined amount and to close when the pressure drop exceeds said predetermined amount: a surface well head element having means defining at least one tortuous passageway therethrough, an inner end of the passageway being in communication with the tubing string bore and an outer end of the passageway being in communication with the atmosphere exteriorly of the well head; a plug of fusible material such as lead is cast in situ in the tortuous passageway. The plug resists extrusion from the passageway under high pressure and leakage of well pressure around the plug; however, a fire in the vicinity of the surface well head element will melt the plug, opening its passageway. The diameter of the passageway allows a sufficient flow rate to cause the pressure drop to exceed said predetermined amount, closing the valve and thus shutting in the well.

3,450,203
DEVICE FOR WELL CASING PERFORATION WITH AN ABRASIVE FLUID JET

Teodor Patron and Ion Alexandru Niculescu, Bucharest, and Efrem Anastasescu, Ploiesti, Rumania, assignors to Ministerul Petrolului, Bucharest, Rumania, a firm
Filed Mar. 9, 1967, Ser. No. 621,950
Int. Cl. E21b *43/114*
U.S. Cl. 166—55.1 6 Claims

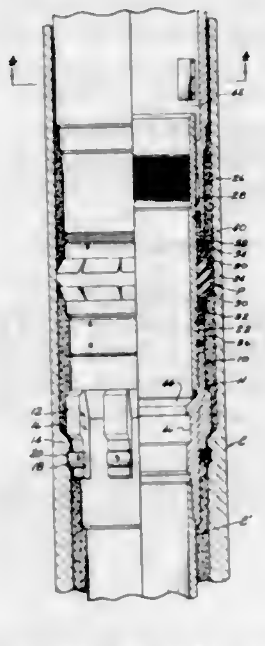


A device for perforating wells by means of an abrasive fluid jet comprising a tubular collar secured to the lower end of the well tubing string. A tubular check valve means having a mating collar mounted at the lower end of the tubing string so that the tubular check valve is supported in the well tubing string, but can be moved through the string in an upward direction. The tubular check valve means are adapted to permit the flow of the fluid downwardly, but are adapted to close when the fluid flow is reversed and the fluid in the well tubing string flows in an upward direction, thereby the well perforating device can be pumped through the well tubing string to the surface. The device further includes a centering mechanism which is preferably connected to the check valve means. This centering means comprises a tubular member in which there is mounted a piston. The piston is secured to the tubular member by means of an elastic lock ring which is adapted to release the piston when the fluid pressure in the tubular member has reached a predetermined level. At the lower end of the piston at least one pair of opposite blades are pivotally mounted. The pair of opposite blades are caused to project outwardly when the piston is lowered in the tubular member after it has been released by the elastic lock ring means. The blades, after projecting outwardly, cause the entire well perforating device to be centered in the well casing. A plurality of jet nozzles are disposed between the check valve and the well centering mechanism.

3,450,204
WELL CASING HANGER

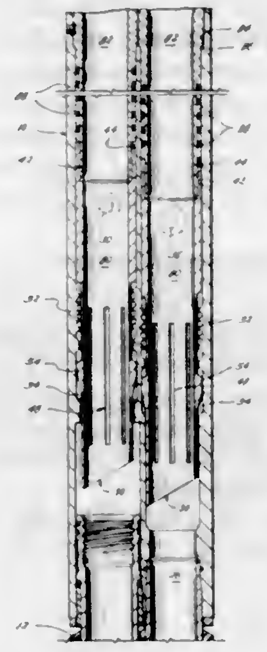
Cicero C. Brown and James D. Mott, Houston, Tex.; said Mott assignor to Brown Oil Tools, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 6, 1967, Ser. No. 665,857
Int. Cl. E21b *33/12, 23/00*
U.S. Cl. 166—124 6 Claims

This specification discloses a well casing hanger having a mandrel and a packer which may be set after it is landed in a casing head and the packer may be relaxed and retrieved after the hanger has been cemented in place in the casing head.



3,450,205
MULTI-LATCH DUAL PRODUCTION WELL PACKER

James H. Current, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Dec. 4, 1967, Ser. No. 687,631
Int. Cl. E21b *23/00, 33/00*
U.S. Cl. 166—189 7 Claims

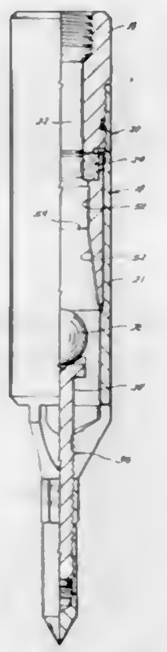


The present invention is directed to the means of attaching pipe strings to a duel packer. It incorporates a variety of attaching means in the packer passageways which receive the strings, whereby the packer may be used with four, five or even six different types of stingers for each string.

3,450,206
FLOW CONTROL VALVE

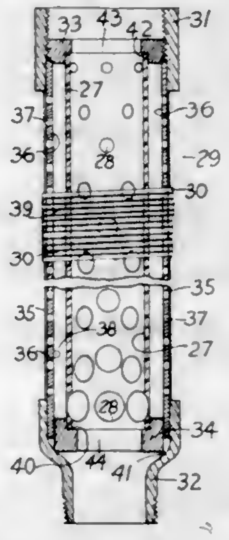
Fred E. Watkins, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Sept. 28, 1967, Ser. No. 671,271
Int. Cl. E21b *33/12, 15/04*
U.S. Cl. 166—224 4 Claims

A flow control valve limiting the flow of fluid in a production string in a petroleum well having a valve seat positioned in a flow passageway, a float positioned in the passageway below the valve seat in which the cross-sectional area of the passageway below the seat and about the float is sized such that when the flow rate of fluid through the passageway reaches the desired maximum, the fluid flow will raise the float onto the seat closing the valve. A plurality of telescoping tubular sections below the valve seat for varying the size of the passageway for setting the flow rate at which the valve closes. A portion of the passageway below the valve seat being tapered and movable relative to the valve seat for adjusting the flow rate at which the valve closes. A portion of the passageway below the valve seat being tapered inwardly toward the valve seat to provide a fast acting closing of the valve. A tubular member slidably extending downwardly through and protecting the valve seat from abrasive fluid flow. A vertically adjusted support under the ball float for positioning the vertical position of the float. A second valve seat in the passageway below the fioat providing a check valve.



3,450,207
INFLOW EQUALIZER FOR WELLS AND ELONGATED SIEVES

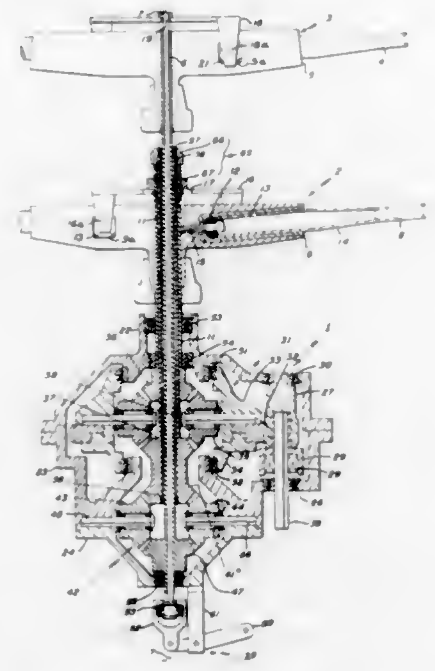
Abraham Adler Hirsch, 141 Norwood St.,
Shreveport, La. 71105
Filed Jan. 26, 1967, Ser. No. 612,044
Int. Cl. E21b *43/08;* **B01d** *29/10*
U.S. Cl. 166—233 6 Claims



Since encrustation and corrosion of screens in wells are velocity dependent effects, and the inflow of liquid is predominantly greatest at the top portion, reduction in yield will first occur there, and gradually work downward toward the bottom as the screen progressively becomes blocked. A flow equalizing insert, having an appropriate orifice pattern, running the length of the screen and spaced therefrom, prevents inequalities in influx, thus protecting the screen against spotty high velocities and consequent deterioration.

3,450,208
DUAL DRIVE MECHANISM

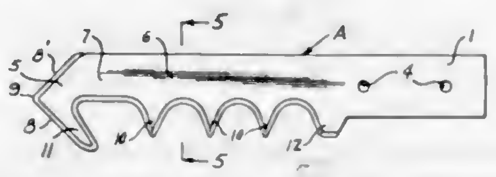
Richard E. Barton, 187 Kent St., Scituate, Mass. 02066
Filed Apr. 7, 1967, Ser. No. 629,230
Int. Cl. B64c *27/10*
U.S. Cl. 170—135.27 11 Claims



The dual drive mechanism includes two output drive shafts which rotate at a fixed steady state speed ratio and a fixed torque ratio during steady state and during periods of transition between steady state conditions. The two output drive shafts are driven by a differential gear mechanism designed so that the ratio of torques delivered by the differential gear mechanism is always constant and the ratio of speeds of the two output shafts during steady state conditions is constant. When the load on one of the output shafts changes, that shaft speed changes even while the ratio of torques on the output shafts remains unchanged. Structure is provided for detecting the resulting change in output shaft speed ratio and for changing the load on the other output drive shaft. Thus, feedback is provided which operates during transition periods when the speed ratio deviates from the fixed value to return the speed ratio to the fixed value and during these periods of transition and steady state the ratio of torques delivered to the two output drive shafts remains constant.

3,450,209
EASY SIDEWALK EDGER

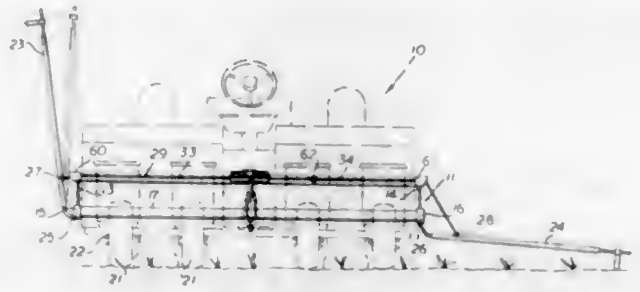
Alexander B. Lowery, West Point, Va., assignor to Greenlife Products Company, West Point, Va., a corporation of Virginia
Filed Apr. 28, 1966, Ser. No. 546,002
Int. Cl. A01b *45/00;* **B26b** *3/00*
U.S. Cl. 172—18 10 Claims



A garden tool for providing a neat appearance between a sidewalk and the adjacent sod which comprises a cutter body attached to a handle. The cutter body is flat and shaped to provide a V-shaped terminal portion, a portion from which a group of cutting teeth extend and a portion that connects the terminal portion with the toothed portion. The connecting portion is provided with a recess in one of its edges shaped to provide a blade extending outwardly toward the teeth. A bevel is provided on one face of said elongated flat cutter body that extends along said teeth, the edge of said recess and completely around said terminal portion.

3,450,210
PLANTER MARKER LATCH AND ALTERNATING MEANS

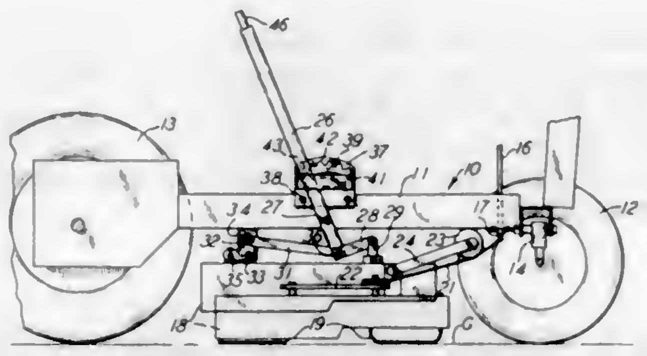
Hugh Edward Smith, Downers Grove, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,340
Int. Cl. A01b *35/32, 33/16, 29/06*
U.S. Cl. 172—130 7 Claims



A pair of markers mounted at the ends of an implement are alternately raised and lowered when raising and lowering the frame, by a chain connecting the markers having a central portion passing over spaced pulleys and reciprocated by the hydraulic-lifting cylinder. Automatic alternation is achieved by an overcenter trip arrangement between the pulleys including an actuator alternately engaged by balls affixed to the chain sections leading to the markers and a latch swingable from one position to another to engage one of the balls and hold one marker in raised position.

3,450,211
ADJUSTABLE SET AND FLOTATIONAL SUPPORT FOR A TRACTOR-MOUNTED IMPLEMENT

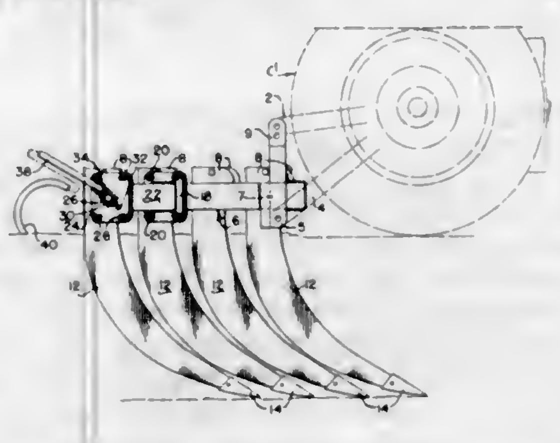
Gordon D. Becker, Larsen, and Andrew Blaauw, Winneconne, Wis., assignors to Colt Manufacturing Company, Inc., Winneconne, Wis., a corporation of Wisconsin
Filed Mar. 30, 1967, Ser. No. 627,043
Int. Cl. A01d *35/26*
U.S. Cl. 172—483 6 Claims



A garden-type tractor having an implement vertically adjustably mounted thereon. Lever means connect the implement to the tractor for the vertical adjustment, and index means connects between the tractor and the lever for selective setting of the lever in either a fixed pivoted position or in a freely pivotal condition. The implement is, therefore, maintained in either a selected vertically adjustable position with respect to the tractor, or it is free to float vertically with respect to the tractor.

3,450,212
MULTIPLE TOOTH SUBSOIL PLOW

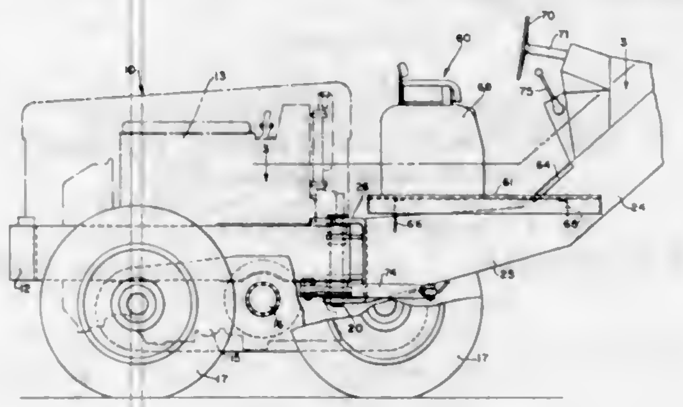
Alfred Glenn Sylvester, P.O. Box 964, Avoca, Tex. 79503
Continuation of application Ser. No. 405,445, Oct. 21, 1964. This application Oct. 18, 1967, Ser. No. 681,043
Int. Cl. A01b *13/08, 29/06, 33/16*
U.S. Cl. 172—699 11 Claims



A subsoil plow with multiple, soil engaging teeth, which teeth are arranged on a frame which diverges rearwardly and outwardly. The soil engaging teeth being curved downwardly and forwardly and terminating in an angulated wedge point to lift the soil as the teeth move therethrough. The forward or lead tooth initially breaks the soil, then each successive tooth. rearward and to a side thereof, loosens the soil of each succeeding land, which enables the soil for the entire width acted upon by the teeth, to be easily crumbled inward toward the central or lead furrow, initially opened by the lead tooth. Provision is made for marking the area traversed to enable more accurate coverage of the area being plowed.

3,450,213
SCRAPER IMPLEMENT

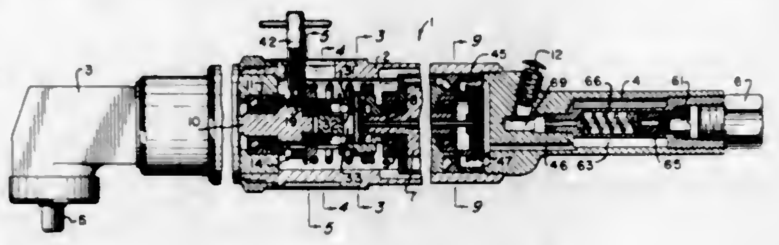
John H. Creighton, Davenport, Iowa, and Francis M. Brinkmeyer and Paul E. Hanser, Rock Island, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 1, 1965, Ser. No. 468,744
Int. Cl. E02f *3/12;* **B60k** *17/30*
U.S. Cl. 172—785 15 Claims



A grader type implement composed of a rear frame supported on traction wheels and an elongated beam supported at its forward end on support wheels and pivotally connected at its rear end on the rear frame to swing laterally, extensible and retractable links extending between the frame and beam, and a platform supported on the beam and extending from the beam over the links.

3,450,214
FLUID-POWERED WRENCH WITH AUTOMATIC SHUT-OFF

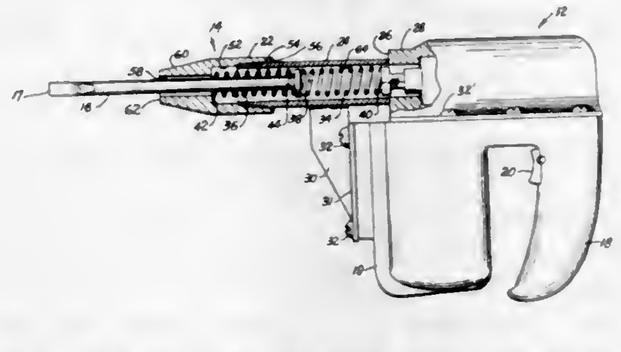
Kenneth R. Bangerter, Ithaca, and Otmar M. Ulbing, Berkshire, N.Y., and John P. Krouse, Athens, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Original application Mar. 3, 1966, Ser. No. 531,485, now Patent No. 3,370,680, dated Feb. 27, 1968. Divided and this application Nov. 14, 1967, Ser. No. 682,864
Int. Cl. B23q *5/06;* **F16d** *67/00, 13/50*
U.S. Cl. 173—12 7 Claims



A fluid-powered wrench which automatically opens its clutch and stops its motor in response to a predetermined torque load and including a torque-responsive clutch having a wrap spring frictionally gripping and interconnecting driving and driven members and a torque measuring means for sensing torque and unwinding the wrap spring to release the clutch in response to a predetermined torque. The fluid motor of the wrench is automatically shut off by a valve which closes in response to the release of the clutch. This valve holds the clutch released until the tool throttle is closed and the valve returns to an open position.

3,450,215
MOTOR DRIVEN CLEANING TOOL

John V. Emery, 2103 Walnut, Odessa, Tex. 79760
Filed July 12, 1966, Ser. No. 564,619
Int. Cl. B25d *11/02;* **H02k** *7/14*
U.S. Cl. 173—117 5 Claims

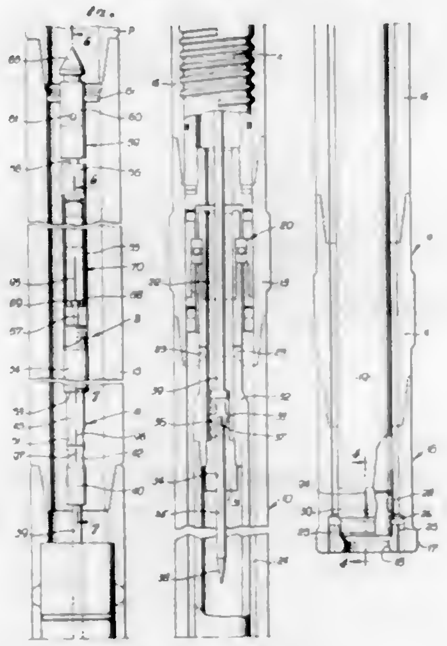


A motor driven cleaning tool for producing reciprocal motion in an implement which includes a motor driven section having a housing within which springs are spaced apart from one another by an enlarged portion of the implement. The motor can be operated by either A.C. or D.C. current. The motor imparts motion to one spring which in turn imparts motion into the implement with the remaining spring enabling the implement to cycle in a reciprocating manner at a rate which is proportional to the reciprocation of the motor.

3,450,216
CORE ORIENTING APPARATUS AND METHOD

Helmut Hügel, Salvador-Bahia, Brazil, and Tom Manuel, Stanmore, New South Wales, Australia, assignors to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah
Filed May 21, 1965, Ser. No. 457,696
Int. Cl. E21b *47/02*
U.S. Cl. 175—44 10 Claims

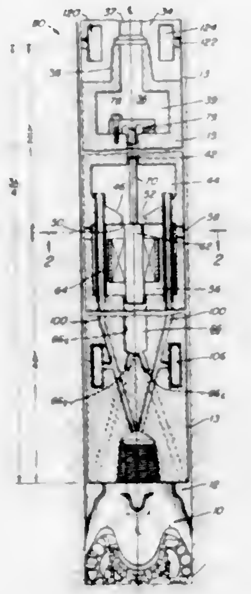
Method and apparatus for cutting and orienting cores in a bore hole, in which a knife or the like marks a groove in the core substantially along its entire length during the coring operation, and a multiple shot camera, at desired intervals during the coring operation, photographs a reference mark with respect to a magnetic compass, the reference mark being in a known relation to the marking knife, thereby producing a series of photographs giving the magnetic bearings of the groove marked in the core at a plurality of stations along its length.



3,450,217

HYDROACOUSTIC APPARATUS WITH FILTER ISOLATION MEANS

Boyd A. Wise, Webster, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Feb. 10, 1967, Ser. No. 615,132
Int. Cl. E21b *7/04*
U.S. Cl. 175—56 **11 Claims**

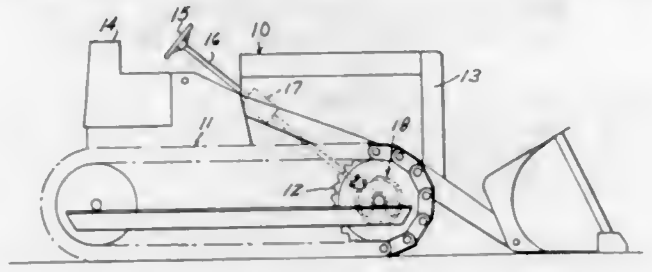


A hydroacoustic drilling apparatus is described. The apparatus modulates a column of liquid acted upon by a self-excited valving member in the apparatus. A driven rotating drill string, coacting with the modulating fluid column penetrates the earth formation while fluid jets urge chips and cuttings up the bore hole. Modulation of the fluid is substantially confined to the bottom of the bore hole by filter elements on the driven drill string.

3,450,218

PLANETARY GEAR TYPE STEERING DEVICE FOR TRACK VEHICLES

Ivan L. Looker, 560 E. Mulberry St., Watseka, Ill. 60970
Filed May 24, 1967, Ser. No. 640,913
Int. Cl. B62d *11/04, 11/10;* **F16h** *37/06*
U.S. Cl. 180—6.44 **10 Claims**

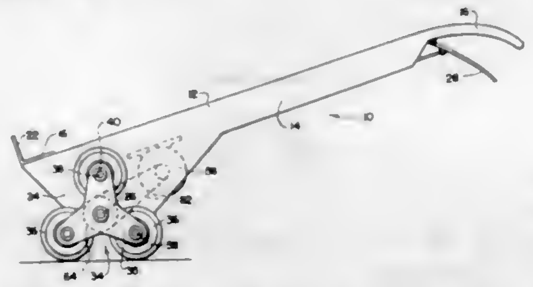


A steering system for a track vehicle having a planetary gear set attached to each of the track driving wheels wherein a sun gear is driven at each of the gear sets through a common axle and a ring gear drives the respective tracks through a set of planets meshed between the sun gear and the ring gear. The planets have their axes fixed relative to one another, and means are provided to revolve the axes of each planet set in opposite rotational directions about the respective sun gears to back peddle or forward peddle thereby generating a relative speed between the respective ring gears. The steering drive shafts which revolve the respective planet sets in opposite rotary senses is operated by a drive motor which is responsive to the angular deviation of a steering wheel from a neutral position.

3,450,219

STAIR-CLIMBING VEHICLE

John F. Fleming, 1191 Del Mar Parkway, Aurora, Colo. 80010
Filed Mar. 13, 1967, Ser. No. 622,700
Int. Cl. B62d *57/02, 51/06;* **B62b** *5/02*
U.S. Cl. 180—8 **9 Claims**

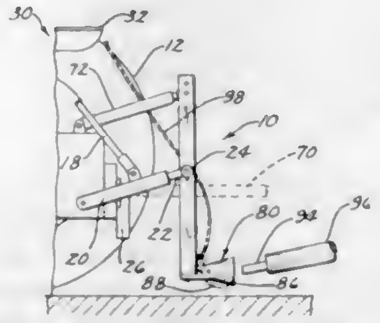


This invention relates to a power assisted stair-climbing vehicle or dolly for use in transporting heavy objects and the like up and down stairs or traversing surfaces having abrupt changes in elevation.

3,450,220

AUTOMATIC DRAWBAR HITCH

Jack W. Frandsen and Wallace C. Frandsen, both of Roland, Iowa 50236
Filed Apr. 4, 1967, Ser. No. 628,334
Int. Cl. B60d *1/00;* **A01b** *63/00, 33/00*
U.S. Cl. 180—14 **1 Claim**

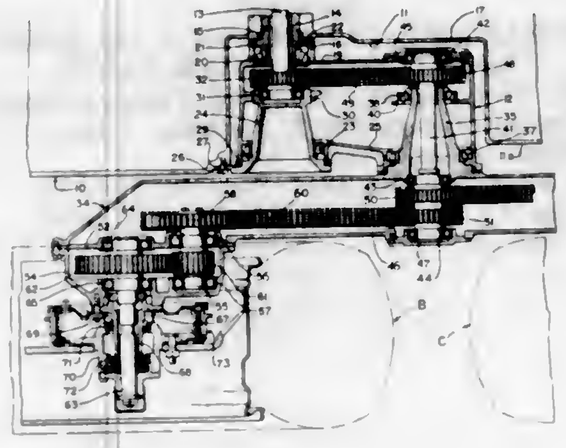


A drawbar detachably connected to the lift arms and stabilizer arm on the rear end of a tractor and a coupling unit on the lower horizontal portion of the drawbar detachably connected to the tongue of a trailer vehicle, the drawbar being selectively vertically positioned as required to connect the coupling unit to the trailer tongue. The drawbar has a completely open interior area through which a shaft connected to the power take-off on the tractor may movably extend.

3,450,221

SPRING-BIASED, ADJUSTABLE, POWER-DRIVEN TRAIL ARM FOR VEHICLE

Stanley O. Nelson, Santa Clara, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Jan. 2, 1968, Ser. No. 695,116
Int. Cl. B62d *61/00, 21/00, 21/14*
U.S. Cl. 180—22 **8 Claims**



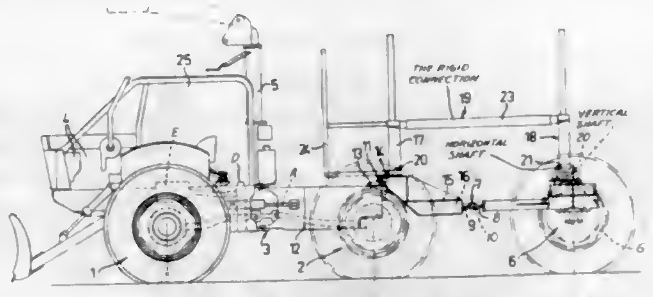
A pair of trail arm housings are pivotally mounted, one on each side of a vehicle, and the free end of each trail arm is connected by a link to an outboard lever arm mounted one on each end of a torsion spring rod which extends transversely across the vehicle. A power adjusted lever arm is secured to a central portion of the torsion rod, and the free end of this latter arm is connected to the piston rod of a hydraulic cylinder to adjust the position of the torsion rod, and thereby control the spring action and the height of the vehicle body. A pair of walking beam housings are fulcrumed, medially of their respective lengths, one on the free end of each trail arm housing, and a pair of support wheels are mounted in tandem, one on each end of each walking beam. For driving the wheels, a power drive shaft is mounted co-axially of the pivotal mounting of each trail arm housing, and a jackshaft is journaled in the free end of each trail arm housing and extends into the associated walking beam housing with its axis coincident with the fulcrum of each walking beam on its associated trail arm housing. Each jack-shaft has driven connection with the power drive shaft, and in turn has driving connection, preferably through reduction gearing, with its associated pair of support wheels.

3,450,222

SELF-PROPELLED VEHICLE HAVING THREE-WHEELED SECTIONS

Stig Mattis Lennart Ohlson, Vintrie, Sweden, assignor to Kockums Mekaniska Verkstads Aktiebolag, Malmo, Sweden
Filed Sept. 12, 1966, Ser. No. 578,789
Claims priority, application Sweden, Sept. 20, 1965, 12,170/65
Int. Cl. B62d *61/10*
U.S. Cl. 180—23 **3 Claims**

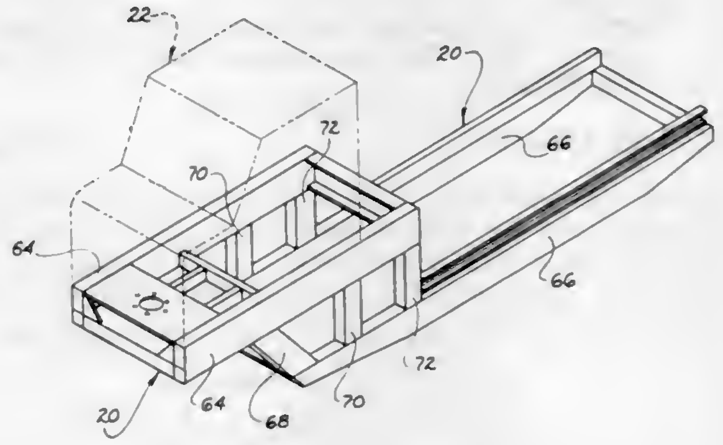
A self-propelled vehicle having front and rear sections with a fixed wheel set on each. A first hinge means substantially midway between the sections is provided for steering the vehicle. A further section having a fixed wheel set and a second hinge means is located between such further section and an adjacent section connecting said further section to such adjacent section.



3,450,223

FERTILIZER APPLICATOR APPARATUS

Russell E. Jones, Rte. 1, Kingston, Ohio 45644
Filed July 3, 1967, Ser. No. 650,840
Int. Cl. B62d *61/08, 39/00*
U.S. Cl. 180—27 **3 Claims**



A self-propelled fertilizer applicator apparatus which is adapted for use in cultivated fields even under very wet, muddy soil conditions. The frame of the apparatus is constructed in a manner to minimize the total weight and to lower the center of gravity to increase stability when hillsides or field depressions are to be negotiated. The frame comprises in general a forwardly extending upper platform that supports a truck type cab and a rearwardly extending lower platform that supports a large fertilizer container and fertilizer applying means. The self-propelling engine is mounted on the lower platform beneath a portion of the upper platform and the cab. The applicator apparatus also includes a dual brake system which employs both shoe brakes and disc brakes in a parallel hydraulic circuit for simultaneous actuation by a manually operated foot pedal.

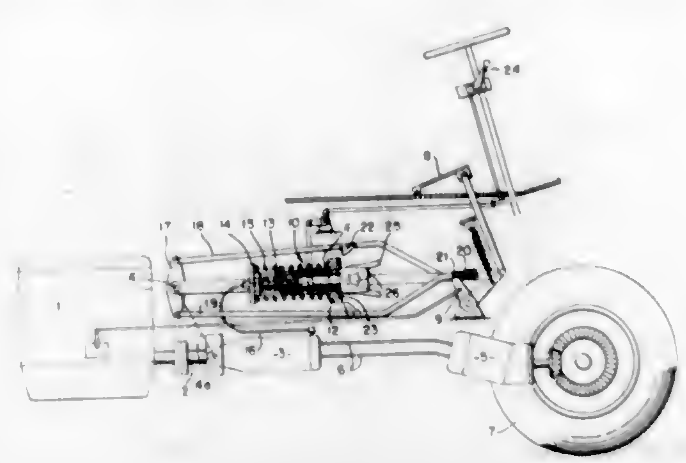
3,450,224

CONTROL MEANS FOR A HYDROSTATIC VEHICLE DRIVE

Karl-Heinz Griesenbrock, Duisburg, Germany, assignor to Eaton Yale & Towne Inc., Velbert-Rhineland, Germany, a corporation of Germany
Filed Feb. 2, 1967, Ser. No. 613,468
Int. Cl. B60k *3/02;* **F02b** *41/00*
U.S. Cl. 180—66 **11 Claims**

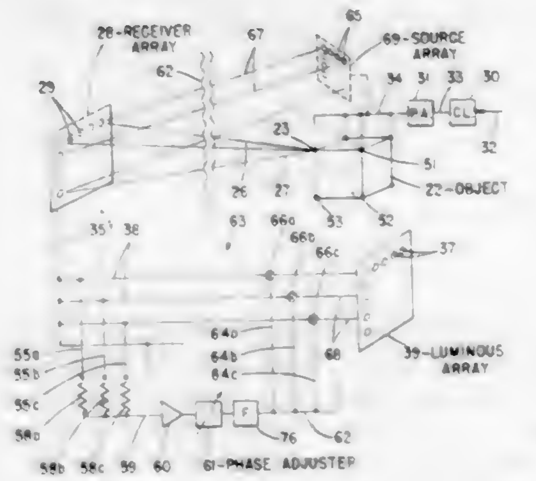
A control linkage interconnects an engine treadle and the pump of a hydrostatic drive powered by the engine.

A hydraulic device responsive to pump pressure is associated with the linkage to decrease displacement of the pump independently of engine treadle operation when the pump pressure exceeds a predetermined amount.



3,450,225
ELASTIC-WAVE HOLOGRAPHY

Daniel Silverman, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 512,689, Dec. 9, 1965. This application June 7, 1968, Ser. No. 735,294
Int. Cl. H04b *13/00*
U.S. Cl. 181—.5 **13 Claims**

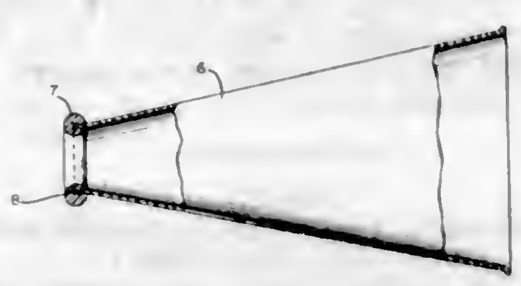


By an adaptation of holography, a remote object is visualized by causing it to emit (or strongly reflect from a nearby source) coherent, continuous, elastic waves that are received at an array of elastic-wave detectors. The outputs of part or all of the detectors are summed, and the summation signal is combined with each individual detector output as a constant-phase reference or bias. The biased detector outputs are translated into a corresponding pattern of luminous intensity that is converted into a photographic transparency, which is inserted in a beam of coherent light to reconstruct an image of the object.

3,450,226
ALL-PLASTIC MEGAPHONE

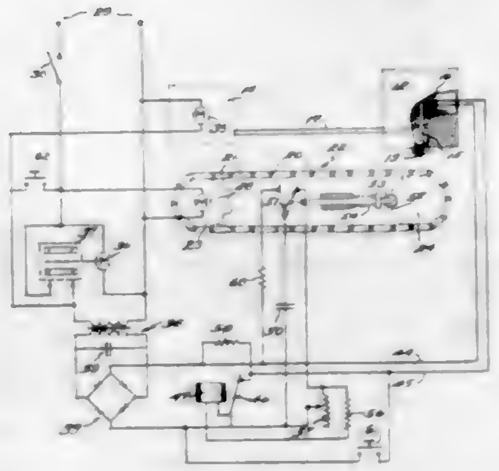
Milton Kessler, 6690 Harrington,
Youngstown, Ohio 44512
Filed June 13, 1967, Ser. No. 645,647
Int. Cl. G10k *11/10, 11/08*
U.S. Cl. 181—27 **1 Claim**

An all-plastic megaphone for sports events comprising a plastic horn and a plastic mouthpiece formed of a suitably-sized plastic ring having an annular groove for snugly receiving the mouth end of the megaphone so as to form the mouthpiece thereof, replacing the usual metal mouthpiece which is uncomfortable and unsuitable in cold weather.



3,450,227
PROGRAMMED LUBRICATION OF BODILY TRAVELING MACHINE PARTS

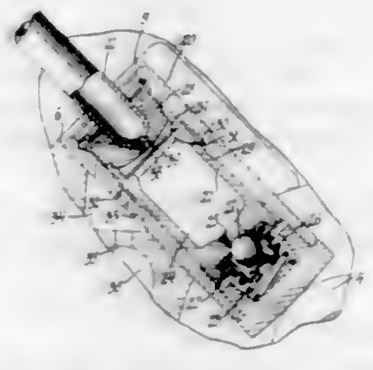
John R. Montgomery, Trumbull, Conn., assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,730
Int. Cl. F01m *1/00;* **F16n** *17/06, 29/00*
U.S. Cl. 184—6 **7 Claims**



A liquid dispensing and metering device to dispense a volume of liquid dependent on a given amount of receptacle movement according to a predetermined but variable schedule.

3,450,228
HYDRAULIC VALVE LIFTER

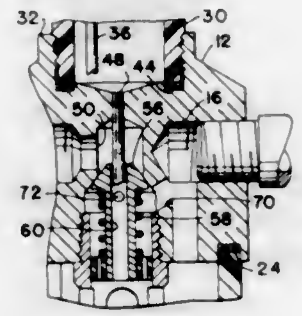
Donald E. Wortman, Barry W. Norton, and Elias W. Scheibe, Grand Rapids, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,609
Int. Cl. F01l *1/24;* **F01m** *1/00;* **F16n** *29/00*
U.S. Cl. 184—6 **4 Claims**



A push rod and rocker operating mechanism including a cam driven hydraulic valve lifter having side oil feed provisions which have direct open communication only intermittently with an oil pressure supply port in the tappet guide, and having a pressure responsive metering valve interiorly of the tappet which meters oil flow to the push rod and rocker, the cam engagement with the tappet being eccentric of the tappet axis to induce tappet rotation.

3,450,229
AIR LINE LUBRICATOR

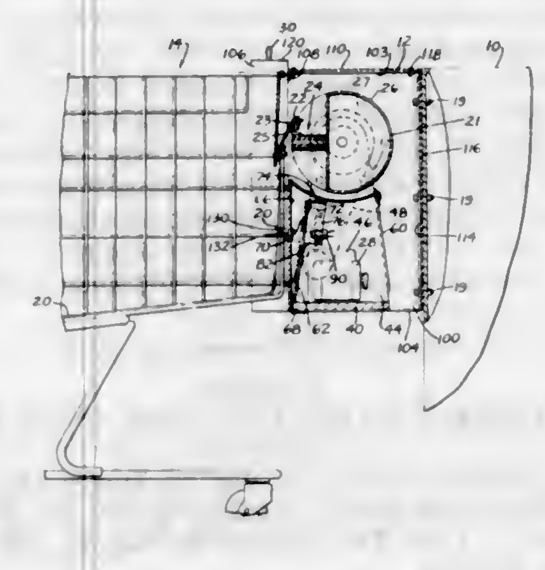
John R. Moore, Marine City, and Daniel J. Dyle, Mount Clemens, Mich., assignors to Monnier Bros., Inc., Algonac, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 403,751, Oct. 14, 1964. This application June 21, 1967, Ser. No. 647,834
Int. Cl. F16n *7/34;* **F01m** *1/08;* **C10j** *1/12*
U.S. Cl. 184—55 **1 Claim**



An air line lubricator for supplying oil to compressed air, having an air passage provided with a constricted portion into which oil is supplied and entrained into the air stream, and a valve for automatically regulating the air flow through the constricted portion to regulate the quantity of oil in accordance with the supply of air. By-pass passages are also provided and are operable under certain conditions to maintain the desired pressure and flow characteristics over a wide range of conditions.

3,450,230
COUNTERMOUNTED POWER UNIT FOR UNLOADING MERCHANDISE CART

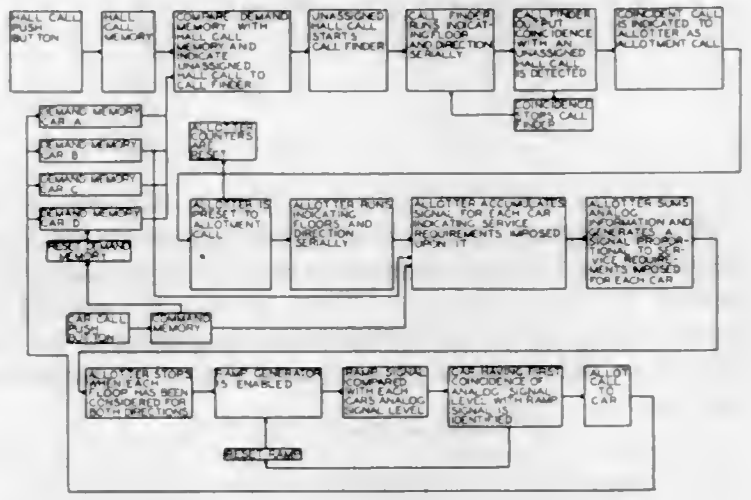
Willie M. Shoffner, R.R. 2, 318 S. Lutheran Church Road, New Lebanon, Ohio 45345
Filed Mar. 15, 1967, Ser. No. 623,301
Int. Cl. A47f *9/02;* **B65g** *67/24*
U.S. Cl. 186—1 **6 Claims**



Self-contained power unit adapted for mounting on the end of a merchandise check-out counter and having a motor driven reel adapted for engaging the end of a belt in a merchandise cart to draw the belt from the cart and thereby elevate merchandise to a level where it can be picked up by the check-out desk.

3,450,231
GROUP ELEVATOR CONTROL HAVING CAR CALL RESET OF ADVANCE HALL CALL ASSIGNMENT

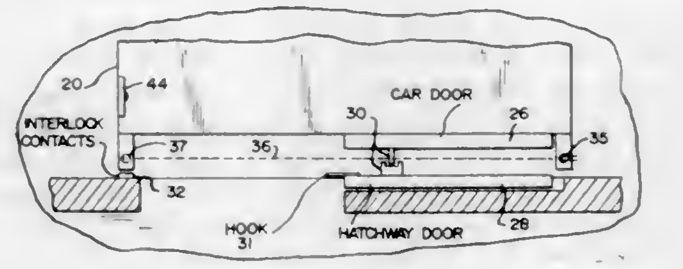
James H. Kuzara, Sylvania, Ohio, assignor to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 20, 1967, Ser. No. 610,574
Int. Cl. B66b *1/00*
U.S. Cl. 187—29 **9 Claims**


HALL CALL PUSH BUTTON
HALL CALL MEMORY
COMPARE DEMAND MEMORY WITH HALL CALL MEMORY AND INDICATE UNASSIGNED HALL CALL TO CALL FINDER
UNASSIGNED HALL CALL STARTS CALL FINDER
CALL FINDER RUNS INDICATING FLOOR AND DIRECTION SERIALLY
CALL FINDER OUTPUT COINCIDENCE WITH AN UNASSIGNED HALL CALL IS DETECTED
COINCIDENT CALL IS INDICATED TO ALLOTTER AS ALLOTMENT CALL
COINCIDENCE STOPS CALL FINDER
DEMAND MEMORY CAR A
DEMAND MEMORY CAR B
DEMAND MEMORY CAR C
DEMAND MEMORY CAR D
ALLOTTER COUNTERS ARE RESET
RESET DEMAND MEMORY
ALLOTTER IS PRESET TO ALLOTMENT CALL
ALLOTTER RUNS INDICATING FLOORS AND DIRECTION SERIALLY
ALLOTTER ACCUMULATES SIGNAL FOR EACH CAR INDICATING SERVICE REQUIREMENTS IMPOSED UPON IT
ALLOTTER SUMS ANALOG INFORMATION AND GENERATES A SIGNAL PROPORTIONAL TO SERVICE REQUIREMENTS IMPOSED FOR EACH CAR
CAR CALL PUSH BUTTON
COMMAND MEMORY
ALLOTTER STOPS WHEN EACH FLOOR HAS BEEN CONSIDERED FOR BOTH DIRECTIONS
RAMP GENERATOR IS ENABLED
RAMP SIGNAL COMPARED WITH EACH CARS ANALOG SIGNAL LEVEL
CAR HAVING FIRST COINCIDENCE OF ANALOG SIGNAL LEVEL WITH RAMP SIGNAL IS IDENTIFIED
ALLOT CALL TO CAR
RESET RAMP

An elevator control which allots each hall call to an individual car and, in response to each car call imposed upon an individual car, releases the hall calls allotted thereto for floors for which no corresponding car calls are registered. Hall calls thus released are then reallotted.

3,450,232
ELEVATOR DOOR CONTROL

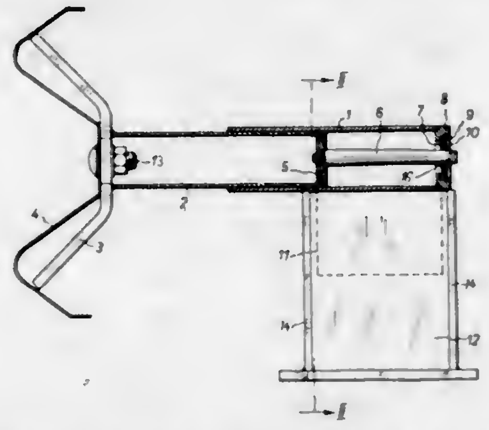
Alan M. Hallene, Henry J. Holuba, and John J. Drexler, Moline, Ill., assignors to Montgomery Elevator Company, a corporation of Delaware
Filed Aug. 18, 1967, Ser. No. 661,655
Int. Cl. B66b *13/08*
U.S. Cl. 187—61 **5 Claims**



An elevator control continuously moves a car door through an opening and closing operation, without pausing at a full open position, and moves the car door at substantially different speeds to control the total door open time. The breaking of a photobeam across the doorway modifies the speed and direction of movement of the door. When the door photobeam circuit becomes inoperative, the speed of operation of the car door is modified until the condition is remedied. Should a door lock fail to unlatch, opening direction power is discontinued and closing direction power is applied to the car door motor to reestablish electrical interlock contacts in the hoistway.

3,450,233
DEFORMABLE SHOCK ABSORBER

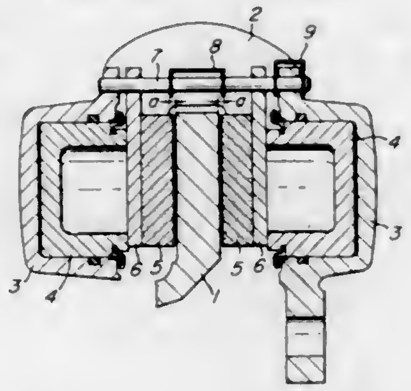
Cesar Massa, Klingnau, Switzerland, assignor to Aktiengesellschaft Conrad Zschokke, Stadtgasse, Dottingen, Aargau, Switzerland
Filed May 11, 1967, Ser. No. 637,680
Claims priority, application Switzerland, May 13, 1966, 6,994/66
Int. Cl. F16d *63/00;* **B60r** *19/00, 21/14*
U.S. Cl. 188—1 **7 Claims**



This invention relates to shock absorber of the type comprising a damping member which is permanently deformed by the action of a shock, so that the energy of impact acting on the shock absorber is consumed by the permanent deformation of a structural part of the shock absorber.

3,450,234
DISC BRAKE DEVICE FOR VEHICLES

Koji Takata, Amagasaki-shi, Japan, assignor to Sumitomo Electric Industries, Ltd., Higashi-ku, Osaka, Japan
Filed Oct. 13, 1967, Ser. No. 675,121
Int. Cl. F16d *55/00*
U.S. Cl. 188—73 **6 Claims**

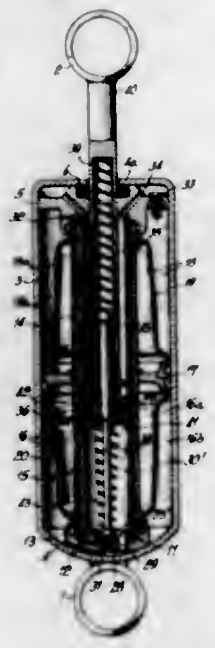


A disc brake device having a stationary pin extending through metal plates provided on the back of friction pads, and a U-shaped stop ring mounted on the pin so as to restrain the movement of the back metal plates in the axial direction of the pin. The relation between the stop ring and the back metal plates is such that the stop ring prevents direct contact between the back metal plates and the brake disc to thereby avoid possible damage to the brake disc due to wear of the friction pads beyond an allowable limit of wear.

3,450,235
SELF-LEVELING SHOCK ABSORBER

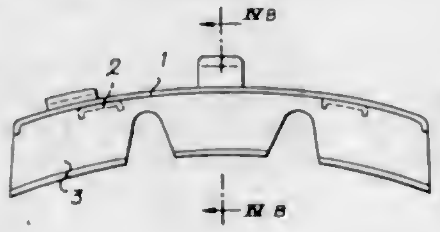
Manfred Lohr, Letmathe, Germany, assignor to Hoesch Aktiengesellschaft, Dortmund, Germany
Filed June 12, 1967, Ser. No. 645,298
Claims priority, application Germany, June 15, 1966, H 59,675; Nov. 24, 1966, H 61,084
Int. Cl. F16d *57/00;* **B60g** *11/26;* **F16f** *13/00*
U.S. Cl. 188—88 **7 Claims**

A self-levelling hydropneumatic shock absorber wherein a pin normally prevents flow of fluid between the working and storage chambers. The pin is reciprocable in the piston rod and is biased against a seat by one or more helical expansion or contraction springs. The piston rod can lift the pin off the seat when it moves outwardly whereby the pin establishes a connection between the two chambers and the pressure differential in the two chambers compels the piston rod to move inwardly and to assume a neutral position.



3,450,236
COMPOSITION MATERIAL FOR RAILWAY VEHICLE BRAKE SHOES AND A METHOD OF FABRICATION OF BRAKE SHOES

Stefan Nadasan, Str. Tusnad nr. 26, and Paul Sulea, Str. Vilcea nr. 4, both of Timisoara, Rumania, and Dumitru Popescu, Str. T. Vladimirescu nr. 10A, Carol Schaumburger, Str. Eminescu nr. 36, and Coloman Bakonyl, Str. Ghiba-Birta nr. 10, all of Arad, Rumania
Filed July 5, 1967, Ser. No. 651,288
Claims priority, application Rumania, July 7, 1966, 51,830
Int. Cl. F16d *69/00, 11/00, 13/60*
U.S. Cl. 188—251 **8 Claims**

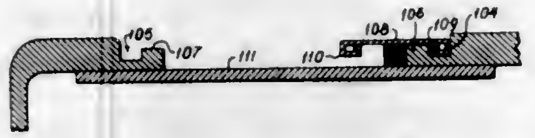


A brakeshoe-lining composition consisting of 18 to 26% by weight novolak phenol-formaldehyde resin, 2 to 3% hexamethylenetetramine, 22 to 42% by weight asbestos flakes, 8 to 16% by weight kaolin, 9 to 17% by weight small-grain rubber flakes of less than 1 mm. mesh from automobile-tire rubber and the balance graphite (0 to 41% by weight), the composition being bonded to a steel spine and subjected to compression at about 400 to 500 kp./cm.^{2} at 150° C. to 160° C. for about 30 minutes to yield a wear-resistant layer with a frictional coefficient of about 0.2 to 0.4.

3,450,237
EXPANSIBLE CARRYING CASE WITH BAND LATCH

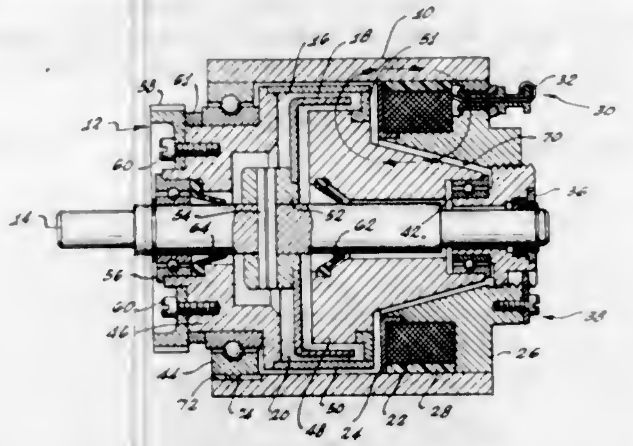
Herbert Gordon Dyke, P.O. Box 14, Dover, Del. 19901
Continuation-in-part of application Ser. No. 500,942, Oct. 22, 1965. This application Aug. 24, 1967, Ser. No. 663,078
Int. Cl. A45c *13/30;* **B65d** *33/06*
U.S. Cl. 190—44 **19 Claims**

This carrying case is expansible at a peripheral joint between two of its portions through an entire cross-section. It has a peripheral wall member all the way around the case that is movable relative to at least one of the two portions and which bridges the space between opposed peripheral edges of the two portions when the case is expanded. A closed loop latch band runs peripherally around the case and is movable bodily along its own peripheral length for at least a short travel. That band is operatively connected to latch the opposed edges of the peripheral joint together when it is in one position of peripheral travel and to release them so they can spread apart when it is in another position of peripheral travel. The band may carry spaced teeth while one of the portions of the case carries coacting spaced teeth.



3,450,238
ADJUSTABLE-TORQUE ELECTROMAGNETIC CLUTCH

John S. Adkins, Santa Monica, Calif., assignor to Force Limited, Santa Monica, Calif., a corporation of California
Filed Sept. 26, 1966, Ser. No. 581,782
Int. Cl. F16d *37/02*
U.S. Cl. 192—21.5 **9 Claims**

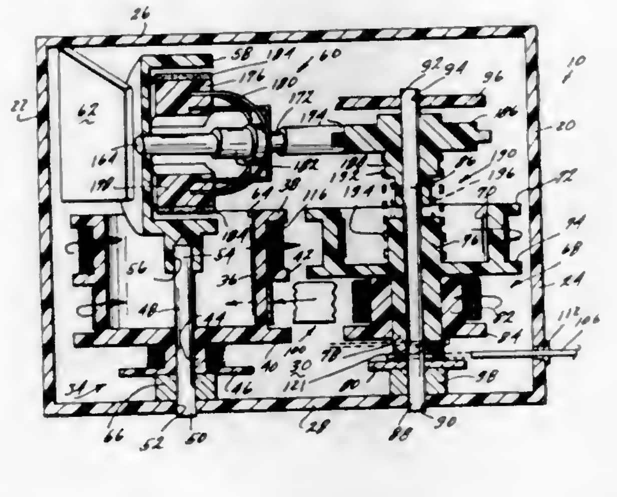


An electromagnetic clutch having a stationary energizing coil, a rotatable driving member containing magnetic powder and a rotatable driven member carrying a drag cup located in the magnetic powder and adapted to be coupled to the driving member therethrough. A flux transfer ring is mounted on the driving member to define and surround the space occupied by the magnetic powder and the drag cup on the driven member, substantially all of the rotating parts being enclosed within a stationary housing. One form of the invention provides for variation of the torque current characteristics of the clutch by varying the air gap between the stationary and driving magnetic surfaces but without changing the characteristics of the magnetic circuit adjacent the magnetic powder gap, thereby directly changing the flux in the magnetic circuit.

3,450,239
CLUTCH DEVICE FOR SOUND REPRODUCING MEANS

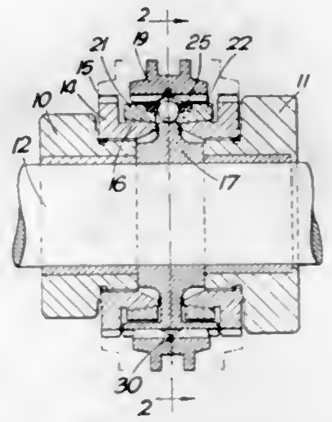
John W. Ryan, Los Angeles, and Richard Shih-Teng Chang, Gardena, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Original application Nov. 17, 1966, Ser. No. 595,132. Divided and this application May 21, 1968, Ser. No. 730,835
Int. Cl. F16d *11/06, 13/04, 43/00*
U.S. Cl. 192—41 **5 Claims**

A motor arranged to advance a tape having a plurality of groove sound tracks, a needle and speaker reproduces the sound from one of the tracks when the tape advances. A drawstring is used to wind the motor and return the tape in the other direction and tension in the drawstring also acts to retract the tape from contact with the needle. The motor drive to advance the tape includes a helical spring one-way clutch having unsupported convolutions to function also as a vibration-dampening coupling.



3,450,240
SYNCHROMESH GEARS

John Lewis and Brian Thomas Lissaman, Coventry, England, assignors to Humber Limited, Warwickshire, England, a British company
Filed May 15, 1967, Ser. No. 638,547
Int. Cl. F16d *11/00, 13/00*
U.S. Cl. 192—53 **3 Claims**

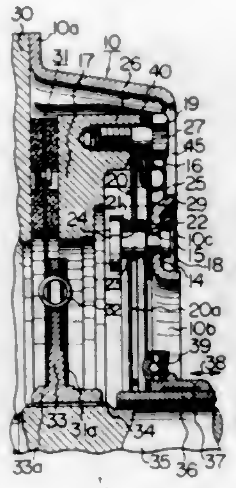


A synchromesh gear mechanism in which movement of one dog clutch member to engage a companion dog clutch member is resisted by a ball which is caused to roll along a radially outwardly inclined ramp and engages a groove in one of the members when the two members are not in synchronism.

3,450,241
CLUTCH ASSEMBLY

Syozo Kuno, Kariya, Japan, assignor to Aisin Seiki Company Limited, Kariya-shi, Aichi-ken, Japan
Filed Nov. 15, 1967, Ser. No. 683,317
Claims priority, application Japan, Nov. 18, 1966, 41/106,523
Int. Cl. F16d *13/18, 13/44, 19/00*
U.S. Cl. 192—70.18 **7 Claims**

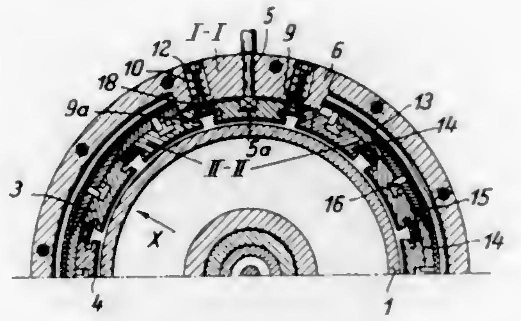
A clutch assembly for use on an automobile having a plurality of polygonal straps radially arranged within the space defined by the end wall of the clutch cover and the diaphragm spring for connection between the



clutch cover and the pressure plate which acts to bring a clutch disc in engaging and disengaging condition.

3,450,242
FLUID PRESSURE ENGAGED FRICTION COUPLING

Gunther Heidrich, Munich, Germany, assignor to Alexander Wilhelm Stoeckicht, Munich-Solln, Germany
Filed Jan. 29, 1968, Ser. No. 701,245
Claims priority, application Germany, Feb. 7, 1967, St 26,468
Int. Cl. F16d *19/00, 21/00, 23/00*
U.S. Cl. 192—88 11 Claims

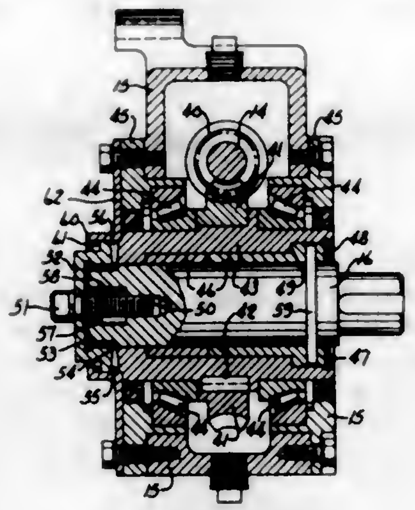


The shoe and drum mechanism for a clutch or a brake consists of several friction shoes radially movable into engagement with the drum by action of a pressure medium which can be supplied to an annular recess provided in the case. The shoes are retracted into the disengagement position by springs when the annular recess is depressurized. Special bolts radially guided in the case extend with their heads into coaxial guide grooves on the rear sides of the shoes. The mechanism allows to transfer the friction force to the case without impairment of the radial shoe movement and to automatically compensate small surface irregularities of the drum and/or the shoes.

3,450,243
EXTERNAL DISCONNECT FOR SPEED CHANGER CLUTCH

John B. Kraeling, Meadville, Pa., assignor to Drafto Corporation, a corporation of Pennsylvania
Filed Feb. 23 1967, Ser. No. 618,015
Int. Cl. F16d *19/00, 21/00, 23/00*
U.S. Cl. 192—97 11 Claims

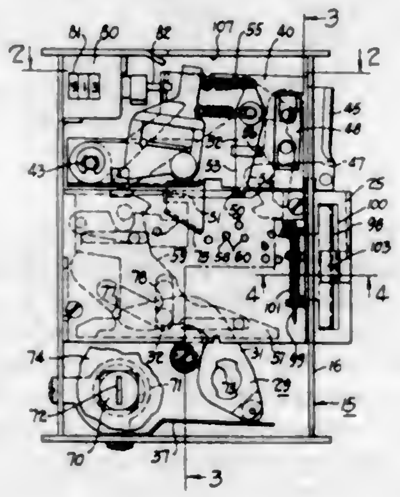
The art of hoist line implements including a traveling block motorized to open and close hook jaws and to rotate a hook from which the load is suspended, through interrelated power delivery speed changer and clutch wherein the clutch is operable externally to open the



power delivery and manually operate the hook jaws or swing the hook to turn the load.

3,450,244
COIN OPERATED LOCK MECHANISM

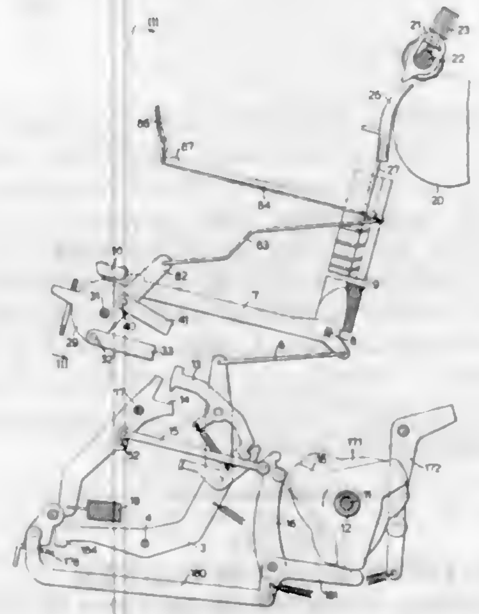
Joseph Austin Smith, 1 Nob Hill, Loudonville, Ohio 44842
Continuation-in-part of application Ser. No. 570,267, Aug. 4, 1966. This application Dec. 11, 1967, Ser. No. 689,609
Int. Cl. G07f *17/12*
U.S. Cl. 194—59 15 Claims



The disclosure shows a coin and key operated lock mechanism wherein the lock mechanism may be mounted on the inside of a locker door and the coin enters through a coin chute into coin retention means in the lock bolt. The key may be turned to extend the lock bolt into a lock post to lock the locker. Upon unlocking, the coin is released and is transferred into the lock post as the lock bolt is retracted. A coin receptor is slidable inside the lock bolt as a part of the coin retention means. Latch means operates between the coin receptor and the lock bolt to securely lock together these parts during extension of the lock bolt and then the latch is unlatched at the completion of this extension movement so that a lost motion means may operate to first retract the receptor to release the coin and thereafter the lost motion means retracts the lock bolt. A flap covers the coin exit end of the lock bolt to prevent access to the coin and coin retention means.

3,450,245
PRINTING PREVENTING DEVICE FOR PREDISPOSING THE JUSTIFICATION OF THE RIGHT MARGIN IN A TYPEWRITER

Bernardino Francisco, Fiorano, Turin, Italy, assignor to Ing. C. Olivetti & C. S.p.A., Ivrea, Italy, a corporation of Italy
Filed June 2, 1966, Ser. No. 554,766
Claims priority, application Italy, June 9, 1965, 13,125/65
Int. Cl. B41j *19/58, 19/08, 29/42*
U.S. Cl. 197—84 2 Claims

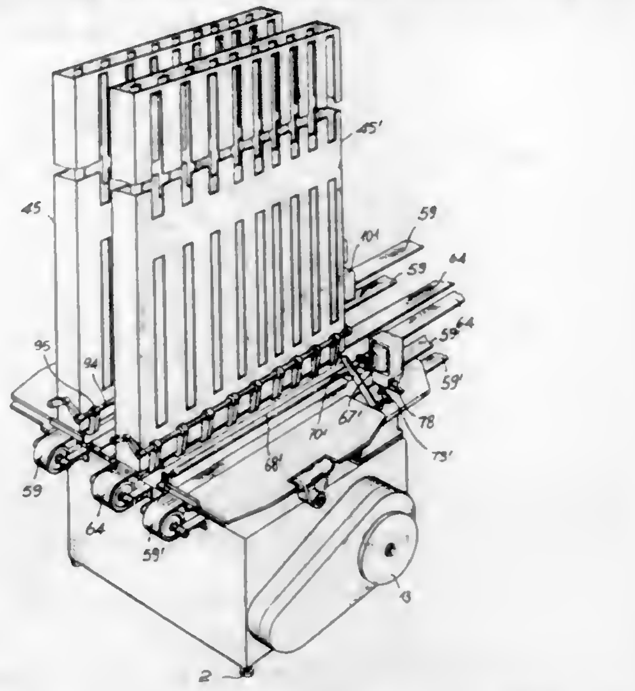


A variable spacing typewriter, wherein the type bars are operated by a spring actuated universal bar, is provided with a manually settable justification predisposing lever. This lever when so set prevents the ribbon vibrating and feeding device from being operated and causes an intermediate member controlled by a cam to reduce the speed of the universal bar to prevent the type bar from printing, without preventing the letter spacing of the carriage. The predisposing lever is also connected to an indicating lever fulcrumed on the basket and shaped similar to the type bar. When the predisposing lever is so set, the indicating lever is rocked toward the carriage to indicate the position reached by the carriage.

3,450,246
APPARATUSES FOR TRANSFERRING ARTICLES

Ariosto Seragnoli, Via Bellinzone 31, Bologna, Italy
Filed May 5, 1967, Ser. No. 636,491
Claims priority, application Italy, May 6, 1966, 10,405/66
Int. Cl. B65g *47/82, 47/26*
U.S. Cl. 198—24 4 Claims

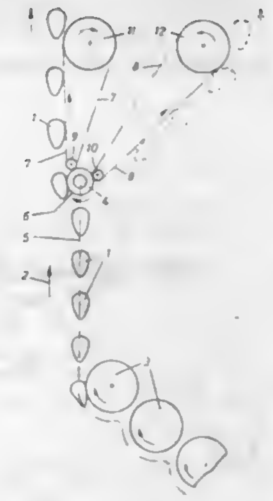
This disclosure relates to an apparatus of the type used for transporting or transferring articles from delivering machine to receiving machines, this apparatus comprising first conveyor means for supplying the articles from delivery machines to a transfer station and second conveyor means for supplying said articles from said transfer station to a reception machine, pusher means for transferring the articles to said transfer station from said first conveyor means and to said second conveyor means from said transfer station, above said transfer station storage means, in which the articles are transferred by elevator means, interception means, means for intercepting the flow of articles under predetermined operative conditions, driving means for actuating the pusher means and the



elevator means and control means for controlling the actuation of the operative parts of the apparatus.

3,450,247
APPARATUS FOR DISTRIBUTING CANDIES OR THE LIKE

Rolf Greiner, Stuttgart-Vaihingen, Germany, assignor to Schoko-Buck G.m.b.H., Stuttgart, Germany
Filed Apr. 10, 1967, Ser. No. 629,767
Claims priority, application Germany, Apr. 13, 1966, Sch 38,821
Int. Cl. B65g *47/26*
U.S. Cl. 198—31 8 Claims

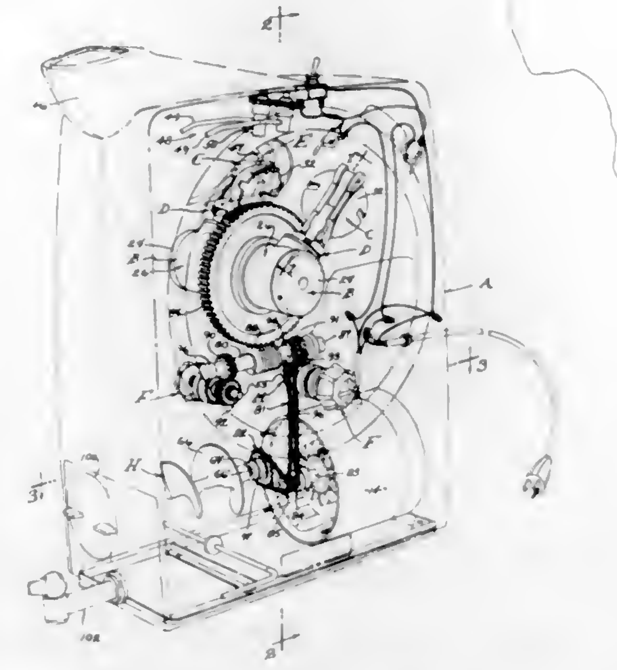


A simple and inexpensive mechanism for dividing a single row of candies or other objects while being conveyed on a conveyer belt into two or more rows for feeding them to different processing or packing stations.

3,450,248
FRUIT TRANSFER MECHANISM FOR CITRUS FRUIT JUICERS AND THE LIKE

John H. Batchelor, Condado, Puerto Rico, assignor to Roto Rico Co., Inc., Sabana Adajo, Carolina, Puerto Rico, a corporation of California
Original application Jan. 6, 1965, Ser. No. 423,686, now Patent No. 3,329,189, dated July 4, 1967. Divided and this application May 29, 1967, Ser. No. 642,090
Int. Cl. B65g *47/24, 29/00*
U.S. Cl. 198—33 13 Claims

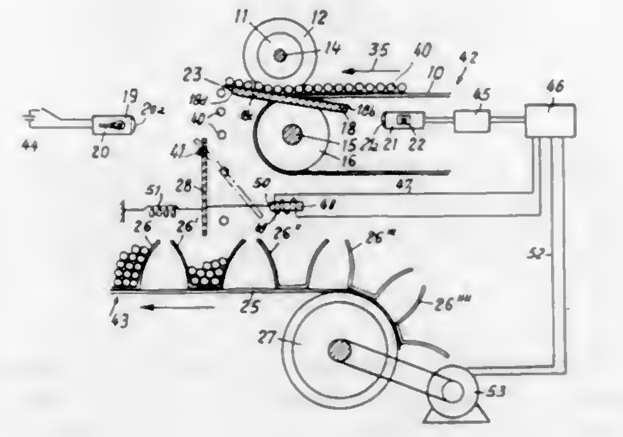
This invention relates to an improved fruit transfer mechanism in fruit juice extracting devices and is particularly concerned with citrus fruit juicers wherein each piece of fruit is cut in half and is carried by a pair of turrets into engagement with reamers, respectively, and by which action each piece of fruit is processed so as to yield a heavy juice without crushing the peel of the fruit.



A general object of this invention is to provide the geometrical relationship of elements necessary in such a device, whereby a practical compact and serviceable machine is the result.

3,450,249
APPARATUS FOR COUNTING AND PRE-SORTING RODS

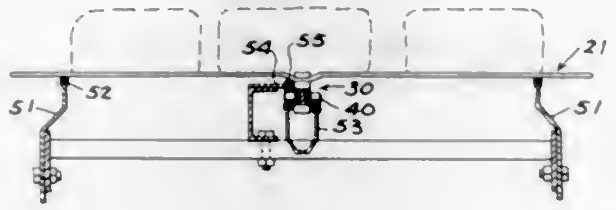
Willy Pöll, Zurich, Switzerland, assignor to Holding Intercito SA., a corporation of Panama
Filed Jan. 5, 1966, Ser. No. 518,844
Claims priority, application Switzerland, Jan. 12, 1965, 378/65
Int. Cl. B65b *57/20;* **G06m** *3/02*
U.S. Cl. 198—40 6 Claims



An apparatus for counting and transporting articles such as rods which consists of a first endless conveyor that receives rods at one end and delivers them transversely disposed to its other end where they fall by gravity onto second conveyor means. The second conveyor means is provided with spaced receiving containers that are arranged to successively receive a counted number of the rods. Mechanism is provided to move the second conveyor in a step-by-step manner so that a predetermined number of rods are delivered to a given receiving container after which it is moved along so that a succeeding receiving container can then be moved so as to receive a counted number of rods. The counting means comprises a contactless counter means that incorporates a light source and a photoelectric cell.

3,450,250
CONVEYOR SYSTEM

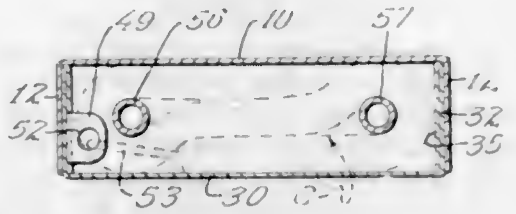
Leslie L. Frisk, Marshall, Mich., assignor to Union Steel Products Company, Albion, Mich., a corporation of Michigan
Filed Apr. 24, 1967, Ser. No. 633,167
Int. Cl. B65g *15/00, 17/00, 19/00*
U.S. Cl. 198—136 **24 Claims**



The conveyor system disclosed herein comprises an endless conveyor chain having load supporting members thereon. Portions of the conveyor extend horizontally and change direction horizontally, other portions of the conveyor are inclined and change elevation while still other portions of the conveyor extend in a generally elongated spiral path to provide a storage zone, for example, as needed in the cooling of bread. The conveyor includes a chain comprising a plurality of pairs of links which are interconnected for relative horizontal and vertical pivotal movement relative to one another.

3,450,251
CLOTHES BAG CONTAINER

Gerald B. Simmons, Deerfield, Ill., assignor to Hoerner-Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed Feb. 26, 1968, Ser. No. 708,029
Int. Cl. B65d *85/18*
U.S. Cl. 206—7 **3 Claims**



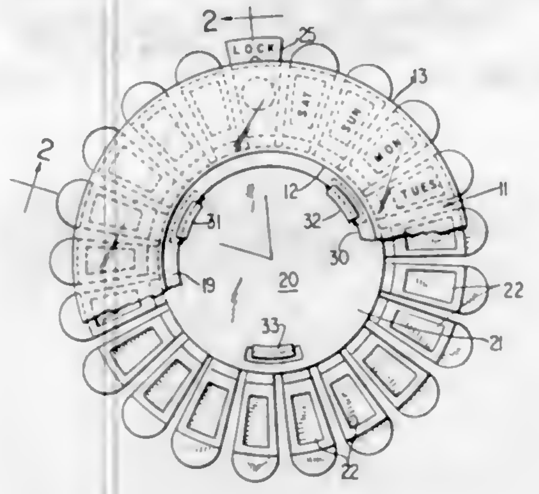
The present invention resides in the provision of a telescope container designed to enclose a garment bag in folded condition so that the garment bag may be inserted in the storage hold of an airplane during flight. The base portion of the container includes a pair of parallel rollers which are detachably engaged to the end walls of the container. The upper portion of the garment bag is inserted along the bottom of the container base, and one roller is inserted near one side wall so that the bag may be folded around the roller end toward the opposite side. The second roller is then inserted over the bag, and the bag is reversely folded over this roller to contain the bag in folded condition when the top section is applied.

3,450,252
DISPENSING CONTAINER

Dieter Hallerbach, Danbury, Conn., assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 17, 1968, Ser. No. 722,094
Int. Cl. B65d *83/04*
U.S. Cl. 206—42 **5 Claims**

A circular pill box comprising a cover and pill-holding base member of molded construction having a plurality

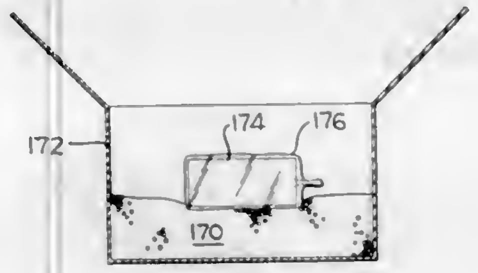
of tabs radially extending from the base, each having a cavity adapted to hold a pill or similar object and one



indexing and locking tab which permits the cover member to be rotated to a fixed position with regard to indexing means and thereafter locked in place.

3,450,253
PROCESS FOR PACKAGING AND PACKAGING MATERIAL

Paul O. Nielsen, Malibu, Calif., assignor to Polymer Engineering Corporation, Azusa, Calif., a corporation of California
Continuation-in-part of application Ser. No. 72,136, Nov. 28, 1960. This application Jan. 12, 1966, Ser. No. 520,181
Int. Cl. B65d *85/30*
U.S. Cl. 206—46 **10 Claims**

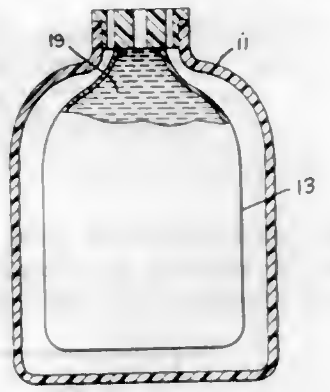


A method of packaging a fragile article by spraying from separate sources and into a container so as to surround the article light-weight beads of expanded polystyrene and an aqueous latex dispersion. The beads are coated with a water-setting material which removes the excess moisture from the latex dispersion to allow the latex to adhesively bind the beads together and set up a solid mass, resilient cushioning structure about the article.

3,450,254
PACKAGE AND RECEPTACLE

Gilbert Dewayne Miles, Ossining, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,737
Int. Cl. B65d *85/00, 1/04, 23/00*
U.S. Cl. 206—46 **6 Claims**

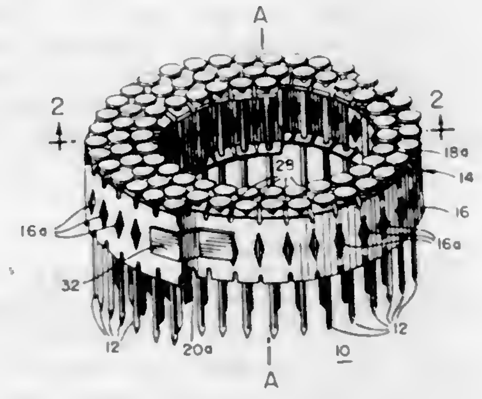
The receptacle disclosed herein includes an inner portion of relatively highly plasticized synthetic resin, such as polyvinyl chloride, so that said inner portion is initially flexible. The inner portion is fitted internally of said receptacle which may be in spaced relationship to said receptacle. Then either the inner portion or the space defined between the inner portion and said receptacle is filled with a liquid having the ability to leach out the



plasticizer of the inner portion whereby the inner portion loses substantially its plasticized state and concomitantly its flexibility.

3,450,255
BUNDLE OR PACKAGE OF FASTENERS

Joseph Mosetich, Westchester, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Mar. 8, 1968, Ser. No. 711,586
Int. Cl. B65d *71/04*
U.S. Cl. 206—56 **10 Claims**

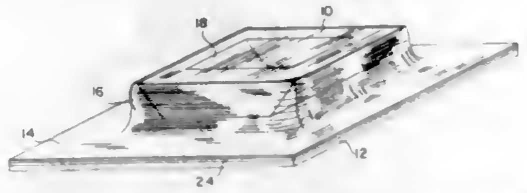


A bundle or package of fasteners comprising a plurality of fasteners and a coiled carrier for holding the fasteners in a compact bundle with their shanks in spaced parallel relation. The carrier comprises an elongated web of flexible material coiled around a central coiling axis parallel and inwardly of said fastener shanks. First and second lines of shank-holding tabs are integrally and hingedly connected to the opposite longitudinal edges of said web and each of said tabs includes a fastener shank-receiving opening. The tabs are angularly disposed with respect to said web and extend toward said coiling axis with each fastener shank extending through an opening in a pair of supporting tabs, one on each edge of the web. The fasteners are spaced between a portion of the web connected to the adjacent pair of supporting tabs and the coiling axis, and removable means are provided for holding said carrier in coiled condition to form a compact bundle with a large number of fasteners therein suitable for easy insertion into the magazine of a driving tool.

3,450,256
HEAT-SEALED BLISTER PACKAGE

Charles G. Chandler and Rex Eells, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 610,896
Int. Cl. B65d *73/00;* **B32b** *27/10;* **C08f** *45/04*
U.S. Cl. 206—78 **3 Claims**

A package consisting of a thermoplastic cover having blisters formed therein which is heat-sealed to a coated, paperboard substrate. The coating on the paperboard consists of a mixture of clay, pigment, and a heat activatable resin binder. As the thermoplastic cover is placed in contact with the coated substrate, heat and pressure are applied thereto to activate the resin binder and form an adhesive bond between the cover and substrate.



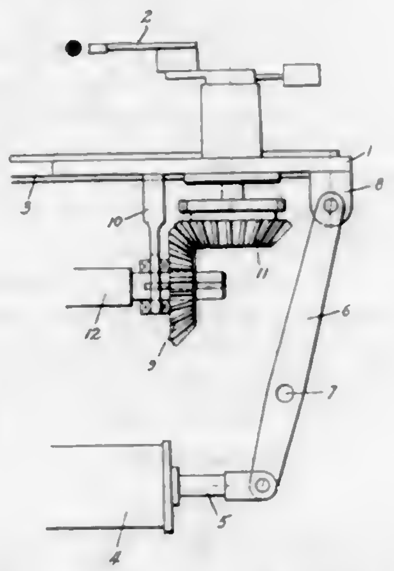
3,450,257
PROCESSING OF CLAY

Edwin Kenneth Cundy, Cornwall, England, assignor to English Clays Lovering Pochin & Company Limited, Cornwall, England, a British company
No Drawing. Continuation-in-part of application Ser. No. 435,340, Feb. 25, 1965. This application Nov. 15, 1967, Ser. No. 683,149
Claims priority, application Great Britain, Mar. 2, 1964, 8,745/64
Int. Cl. B03d *1/02*
U.S. Cl. 209—5 **4 Claims**

A method of removing titanium mineral impurities from a clay containing at least 40% by weight of particles smaller than 2 microns equivalent spherical diameter which comprises conditioning the clay at a solids content of at least 30% by weight for a time sufficient to dissipate therein at least 25 horsepower hours of energy per ton of solids and thereafter subjecting the clay to a froth flotation process in the presence of an activator consisting of a water-soluble salt of an alkaline earth metal or a heavy metal.

3,450,258
DEVICE FOR SELECTIVELY EXTRACTING OBJECTS FROM A CONTINUOUS STREAM OF OBJECTS AND ESPECIALLY CIGARETTES

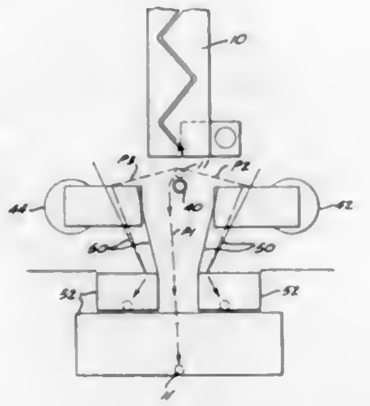
Raymond Poupin, Fleury-les-Aubrais, Loiret, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed May 17, 1966, Ser. No. 550,677
Claims priority, application France, May 18, 1965, 17,358
Int. Cl. B07c *5/34;* **B65g** *37/00*
U.S. Cl. 209—74 **4 Claims**



Device for removing defective objects from a continuous stream of objects delivered from a producing machine and for separating periodically samples of these objects from the stream for checking, while the device is transferring the objects under normal running conditions continuously from a first conveyor to a second conveyor.

3,450,259
AUTOMATIC CLASSIFYING DEVICE

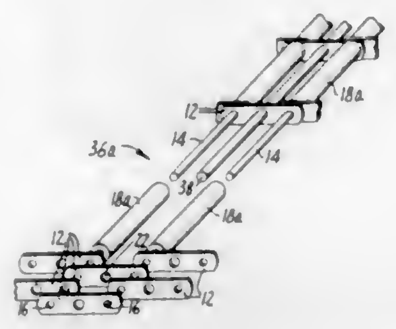
Albert Richard Waltz, Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 604,028
Int. Cl. B07c *1/00, 9/00*
U.S. Cl. 209—74 **19 Claims**



An apparatus for automatically sorting and classifying elements such as a semiconductor device. The elements are transported from a storage and dispensing mechanism to a test station where predetermined physical parameters are monitored through a conventional electronic tester. The test station includes an electromagnetic element operated by the tester to control the direction of movement of the element as a function of the monitored parameter.

3,450,260
CONVEYOR AND SEGREGATING BELT CONSTRUCTION

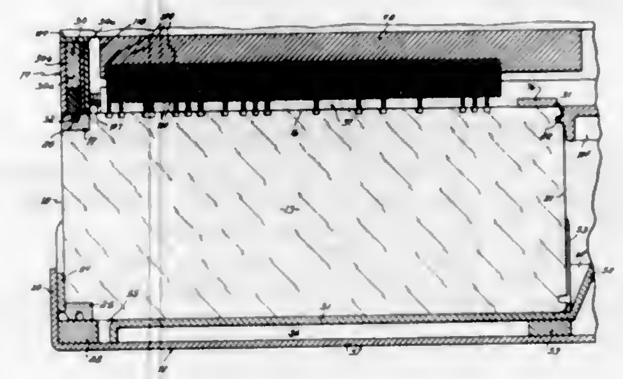
Bentley B. Mathews, Box 335, Arbuckle, Calif. 95912, and Paul T. Frentzen, Arbuckle, Calif.; said Frentzen assignor to said Mathews
Filed Aug. 23, 1967, Ser. No. 662,662
Int. Cl. B07b *13/04;* **B65g** *17/40*
U.S. Cl. 209—84 **12 Claims**



A continuous belt construction comprised of rows of end-to-end overlapping plates arranged in transversely aligned spaced parallel rows. The transversely aligned plates define links making up the belt and are pivotally interconnected by transversely extending rectilinear rods extending through their overlapping ends. Various embodiments of the construction employ, either in combination or alternatively: rods extending transversely through the plates intermediate the rods extending through their overlapping ends; cylindrical spacers received around the connecting and/or intermediate rods; extruded openings in the plates to provide bearing areas for the rods extending therethrough of a depth greater than the plate thickness; plate arrangements and structure providing protruding leading edges on the links formed by the transversely aligned plates; and, structure wherein the intermediate rods are disposed laterally of the planes defined by the connecting rods extending through the overlapping ends of the plates.

3,450,261
DATA RETRIEVAL APPARATUS AND METHOD

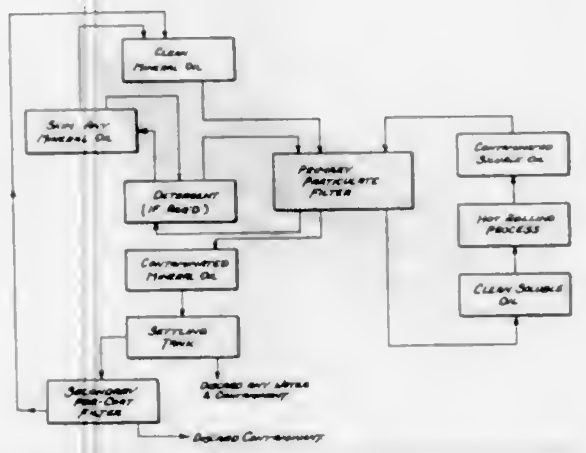
Robert J. Kalthoff, Frederic R. G. Sanborn, and Robert D. Parry, Cincinnati, Ohio, assignors to O.K. Partnership, Cincinnati, Ohio, a limited partnership of Ohio
Filed Apr. 4, 1966, Ser. No. 539,716
Int. Cl. B07c *5/344;* **B42f** *21/12*
U.S. Cl. 209—110 **55 Claims**



A data retrieval system for sorting edge notched, randomly stored cards. The cards are provided with two ferromagnetic implants, one adjacent the notched coding edge and the other on the opposite edge. A pivot notch is provided in a transverse edge remote from the ferromagnetic implants. The apparatus includes a horizontal suspension magnet, a horizontal pivot rail and a plurality of selectively shiftable "selector" bars extending parallel to the selector magnet. A pivotally mounted tray is provided for holding a stack of notched cards with their notches uppermost. In a sorting operation, the tray is raised to bring the cards into engagement with the pivot rail and selector magnet so that the cards are suspended at two points. The selector bars are actuated to reject the unwanted cards from the magnet, the cards dropping downwardly with the tray. The selected cards remain suspended on the magnet and pivot rail which are shifted outwardly as a unit to present the selected cards for complete removal.

3,450,262
METHOD OF FILTERING

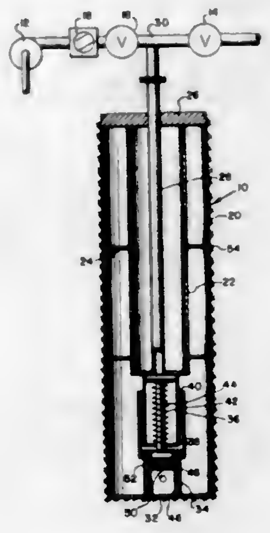
Gene Hirs, 6865 Meadowlake, Birmingham, Mich. 48010
Filed Dec. 20, 1966, Ser. No. 603,191
Int. Cl. B01d *27/12*
U.S. Cl. 210—80 **9 Claims**



A process of filtering liquid containing fine particles comprising passing the liquid through a filter medium. Flushing the medium with a second liquid having greater affinity for the particles than the first liquid. Purifying the second liquid for reuse in a subsequent flushing step.

3,450,263
FILTER ELEMENT

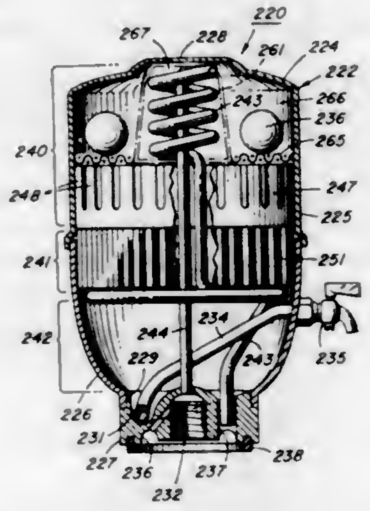
Francis Dambrine, Marcq-en-Baroeul, and Jean Claude Giorgi, Lille, France, assignors to Societe Fives Lille Cail, Paris, France
Filed Apr. 28, 1967, Ser. No. 634,548
Claims priority, application France, Apr. 29, 1966, 59,633
Int. Cl. B01d *35/16*
U.S. Cl. 210—108 **8 Claims**



A suction filter element with cake discharge by backwashing of the filtered liquid in which a pliable filter medium is supported on a perforated casing of the element, and cake discharge is facilitated by tensioning of the filter medium when two portions of the casing are moved apart under the pressure of the backwashing liquid.

3,450,264
METHOD OF AND APPARATUS FOR CLEANING LIQUIDS

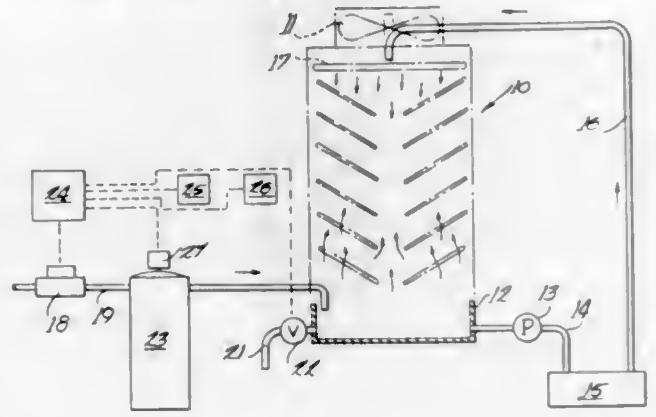
Paul J. Graybill, 61 Sunset Hill Drive, Pine Orchard, Conn. 06405
Continuation-in-part of application Ser. No. 381,080, July 8, 1964. This application Nov. 28, 1967, Ser. No. 686,055
Int. Cl. B01d *27/02*
U.S. Cl. 210—137 **16 Claims**



A method of and apparatus for purifying industrial fluids such as lubricating oil. Impure fluid is caused to flow circularly and laminarly within a vessel containing baffles, a stabilizing foraminous partition, a sludge sump and a reactant for neutralizing acid. The circular, laminar fluid flow in cooperation with gravitational forces, the baffles and reactant, and the availability of a large amount of attractor surface for ionized colloid attraction, facilitate the removal of virtually all dispersed phase contaminants including the coarse or suspended contaminants, colloidal contaminants and emulsified contaminants.

3,450,265
RECIRCULATING WATER TREATMENT AND CONTROL SYSTEM

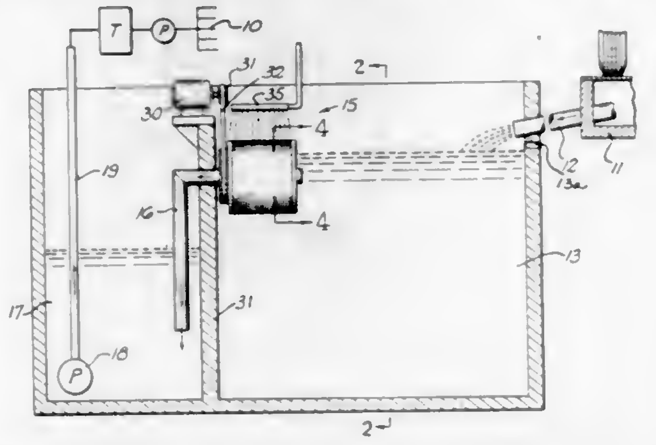
Edward G. Kreusch, Arlington Heights, and Edwin A. Morrison, Highland Park, Ill., assignors to Culligan, Inc., Northbrook, Ill., a corporation of Delaware
Filed May 11, 1967, Ser. No. 637,731
Int. Cl. B01d *15/00*
U.S. Cl. 210—140 **7 Claims**



A control system for a recirculating water treatment system, such as a cooling tower or steam generator, for the addition of water and chemical additives to the water in the system and for the blow-down of water from the system to prevent mineral build-up therein. The control system includes a pacing water meter providing a signal when a predetermined quantity of water has passed therethrough to initiate a timer in a control circuit controlling a series of switches for varying time intervals with each switch actuating a chemical feeder, a blow-down solenoid valve, or a brine make-up water valve for a water softener. The control circuit includes a holding circuit initiated by a switch to operate the timer for a complete cycle even though the signal from the water meter has terminated.

3,450,266
AUTO WASH SYSTEM

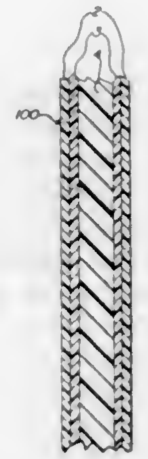
Russell B. Allen, 18253 Evergreen Road, Detroit, Mich. 48219
Filed Nov. 22, 1966, Ser. No. 596,301
Int. Cl. B01d *35/18, 35/16;* **C02b** *5/00*
U.S. Cl. 210—167 **9 Claims**



An auto wash system including a settling tank to which liquid draining from the car is directed, a supply tank from which the liquid is pumped to a heating tank from which it is pumped to nozzles for directing the liquid against the car and a filter unit of novel construction positioned at the surface of the liquid in the settling tank. The pump which directs liquid to the heating tank draws the liquid through the filter unit from the settling tank to the supply tank. The filter unit includes a horizontally extending pipe on which a drum filter unit of novel construction is rotatably mounted. An interconnecting standpipe extends downwardly from the horizontal pipe into the supply tank.

3,450,267
POROUS MEMBRANE SUPPORT

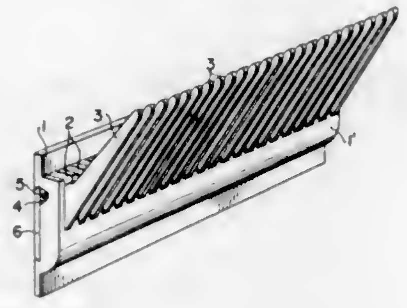
Marvin A. Jarvis, Walnut, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Interior
Filed Aug. 28, 1967, Ser. No. 664,243
Int. Cl. C02b *11/82;* **B01d** *13/00*
U.S. Cl. 210—321 **1 Claim**



A laminated porous membrane support in which the faces of the support have pores of smaller diameter than the interior portion.

3,450,268
BOOKSHELF DIVIDER AND HOLDER

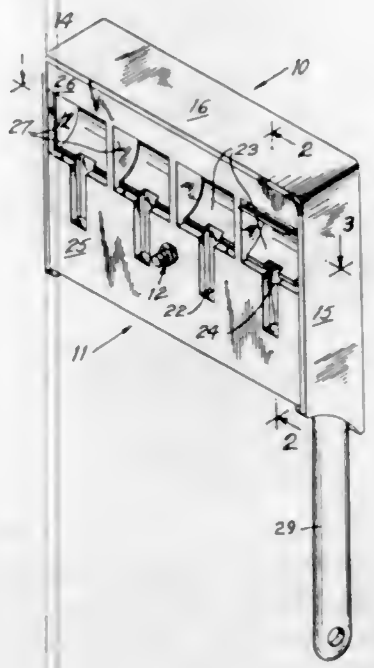
Kenzo Sakamoto, 12 Nishi 2-chome, Hoshutsucho, Goto-ku, Osaka-shi, Japan
Filed Nov. 3, 1966, Ser. No. 591,825
Int. Cl. A47b *65/00*
U.S. Cl. 211—42 **2 Claims**



A bookshelf divider and holder. A baseboard has a rib member extending therealong with a plurality of parallel vertical slots in the upper edge thereof. A plurality of brackets at one end pivotally mounted in respective slots so that when a book is positioned against the free end thereof, the bracket will be raised, and when the book is removed, the bracket will drop to a position where it will support books on either side of the removed book so that they will not fall over into the vacant space.

3,450,269
TOOTHBRUSH HOLDER

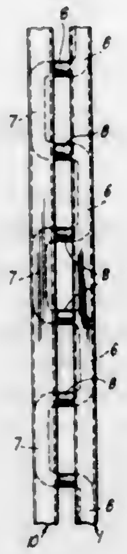
Samuel Simetl, 41 Ave. I, Farmingdale, N.Y. 11735
Filed Jan. 10, 1967, Ser. No. 608,320
Int. Cl. A47b *81/02;* **A46b** *17/02*
U.S. Cl. 211—65 **4 Claims**



This invention relates to a spring loaded all plastic toothbrush holder wherein suitably resilient plastic is used for the entire holder. In this invention the plastic spring is of a unique cantilever construction, producing an effective spring action for a very long time.

3,450,270
SUPPORT STANDARD

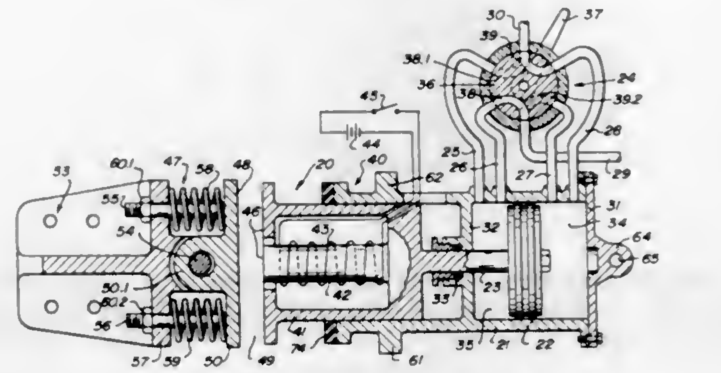
Alan E. Brown, London, Ontario, Canada, assignor to E. J. Wright Central Limited, Strathroy, Ontario, Canada
Filed Oct. 24, 1966, Ser. No. 588,828
Claims priority, application Canada, Dec. 10, 1965, 947,542
Int. Cl. A47f *5/10*
U.S. Cl. 211—176 **2 Claims**



A shelving standard formed of two elongated sheets of metal in spaced parallel relationship connected by two metal rods bent into a series of square-wave configurations and extending along the length of the elongated sheet metal members, whereby shelf support brackets may be inserted between the elongated sheet metal members and interlockingly engage the bent rod members.

3,450,271
RAILCAR COUPLING

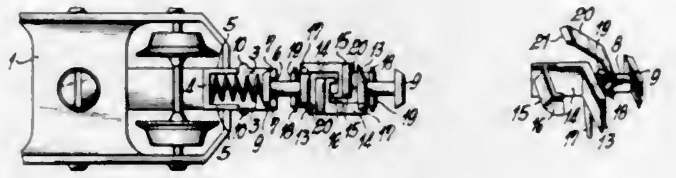
Ernest E. Bissett, 3616 Ontario St., Vancouver, British Columbia, Canada
Filed Feb. 13, 1967, Ser. No. 615,494
Int. Cl. B61g *9/08, 3/00*
U.S. Cl. 213—75 **4 Claims**



A railcar coupling having an electromagnet at an outer end of a piston rod of a double acting pneumatic cylinder, the electromagnet coupling a car to an armature of an adjoining car, the pneumatic cylinder serving to absorb shock of the coupling impact and also to draw the cars together to provide close coupling.

3,450,272
COUPLING FOR VEHICLES OF TOY AND MODEL RAILROADS WITH A DEVICE FOR PREDISENGAGEMENT OF THE COUPLING

Robert Munzing, Nuremberg, Germany, assignor to Max Ernst, Nuremberg, Germany
Filed June 12, 1967, Ser. No. 645,189
Claims priority, application Germany, June 20, 1966, E 31,892
Int. Cl. A63h *19/18*
U.S. Cl. 213—75 **6 Claims**

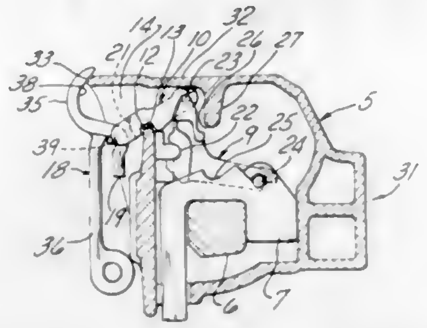


Model rail vehicle coupling wherein coupling members on adjacent vehicles will cam together into coupling engagement when pushed together and can be disengaged by lifting one thereof in which a cover member on each coupling member will lift to ineffective position during a normal coupling operation whereas if the couplings are presented to each other with one elevated to uncoupling position, the cover member on the unlifted coupling member will prevent coupling together of the coupling members.

3,450,273
LATERAL PULL-TYPE KNUCKLE COUPLER

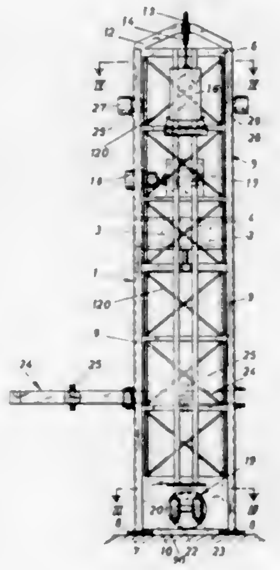
William J. Metzger, East Cleveland, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 24, 1967, Ser. No. 685,419
Int. Cl. B61g *3/06, 1/04*
U.S. Cl. 213—162 **10 Claims**

A knuckle coupler of a type normally constructed to a smaller size than the standard couplers used on public railways, provided with a lock-operating mechanism operated by pulling on the mechanism from a position at the side of the car. The mechanism as described herein below includes a lever not heretofore provided which greatly reduces manual effort hitherto required to unlock the coupler.



3,450,274
PILE DRIVING CRANE

Per Evald Johansson, Storgatan 1, Ed, Sweden
Filed May 1, 1967, Ser. No. 634,934
Claims priority, application Sweden, May 13, 1966, 6,587/66
Int. Cl. B66f *11/02;* **B25d** *9/00,* **E21b** *1/00*
U.S. Cl. 214—3 3 Claims

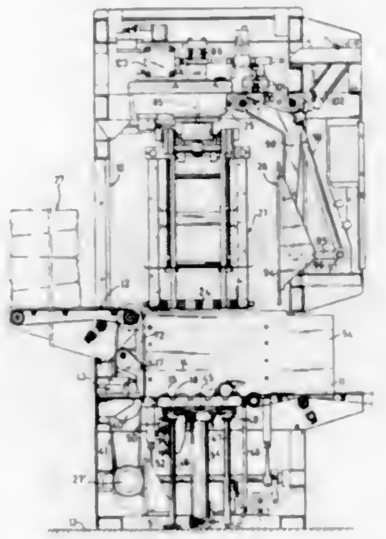


This invention has reference to a pile driving crane of the kind having boom, displaceable by means of a tractor or similar vehicle and comprising telescopic sections and a pile catching device for raising and keeping the pile such that the handling of the piles is considerably facilitated.

3,450,275
METHOD AND MACHINE FOR STACKING BATCHES OF NEWSPAPERS

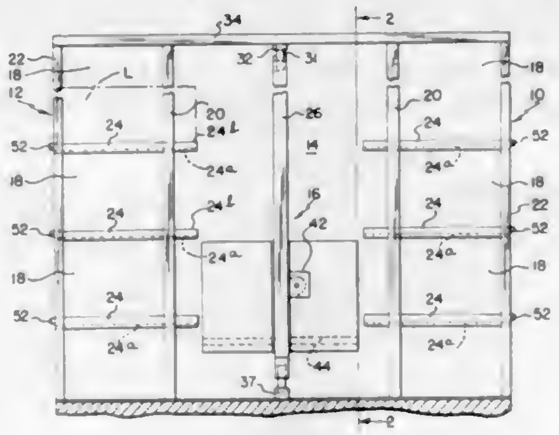
Bo Robert Carlén, Jr., Solna, Sweden, assignor to AB Bonnierforetagen, a corporation of Sweden
Filed Dec. 5, 1966, Ser. No. 599,049
Claims priority, application Sweden, Dec. 23, 1965, 16,737/65
Int. Cl. B65g *57/22*
U.S. Cl. 214—6.5 7 Claims

According to the invention there is provided a compact machine for stacking batches of daily newspapers, weeklies and like flat articles. The batches are located at spaced intervals on a first conveyor and are fed one by one to a vertically movable lifting table. The batches are then lifted one by one by raising the lifting table from its lower end position to a predetermined upper end position where two gripping arms engage the batch and retain it when the lifting table is returned. The two gripping arms are rotatable about a vertical axis in order to turn the pile held by the gripping arms into different angular positions before the next batch is supplied to the bottom of the pile. The complete pile is finally pushed out onto an outlet conveyor at level with the lower ends of the gripping arms.



3,450,276
WAREHOUSE SYSTEM WITH INCLINED STORAGE RACKS

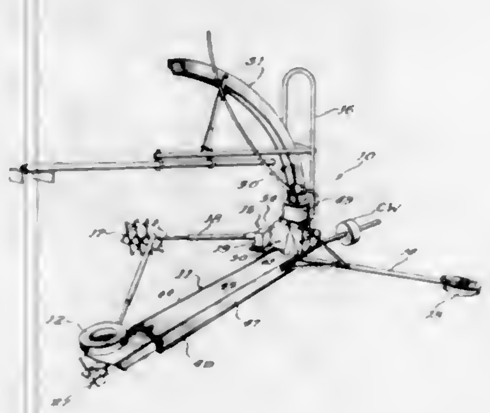
Roy W. Ferrari, Mayfield Heights, Ohio, assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 20, 1966, Ser. No. 580,684
Int. Cl. B65g *1/16, 7/00, 7/12*
U.S. Cl. 214—16.4 4 Claims



A warehousing system comprising laterally spaced storage sections defining travel zones extending along the sides of the storage sections, and a load carrier movable in the travel zone for depositing loads into and removing loads from the storage sections. The storage sections are of framework construction defining storage bins, and including load support rails extending generally transverse to the direction of lengthwise extension of the travel zones and providing upwardly facing load support surfaces for supporting loads thereon in bridging relation across pairs of the support rails. The support surfaces slope downwardly in a direction away from the respective travel zone for resisting inadvertent movement of loads supported on the support surfaces in a direction toward the respective travel zone. In one embodiment, the storage section comprises storage bins disposed in juxtaposed end-to-end relation with the load receiving end of each bin facing a respective travel zone, and with the load support rails for the end-to-end bins defining a generally V-shaped configuration in side elevation.

3,450,277
SILO UNLOADER

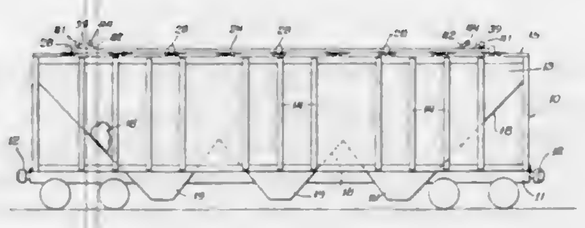
Loren P. Boppart, Harvard, Ill., assignor to Starline, Inc., a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,901
Int. Cl. B65g *65/40;* **A01f** *25/16*
U.S. Cl. 214—17 9 Claims



An unloader for removing material from the top of a supply of material within a silo, wherein a sweep arm having a material gathering and conveying auger thereon is rotatable about the axis of the silo. The auger includes a portion of enlarged diameter and pitch which communicates with an impeller housing, and inclined deflector plates direct material toward the center of the impeller wheel.

3,450,278
LOADING ARRANGEMENT FOR COVERED HOPPER CARS

Franklin P. Adler, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,298
Int. Cl. B65g *53/36;* **B60p** *1/52*
U.S. Cl. 214—83.2 9 Claims

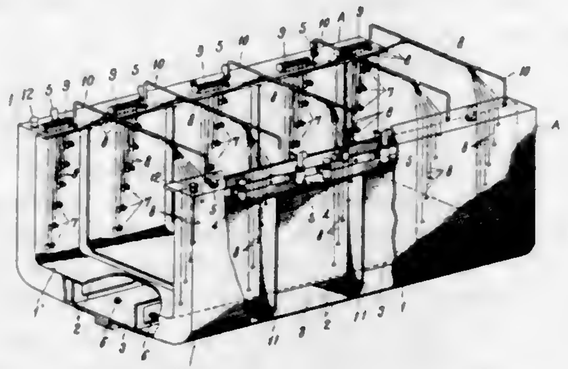


A loading arrangement for a covered hopper car having a plurality of hatch covers provided in the roof which are movable between open and closed position, the hatch covers each being provided with at least one tubular section, with said sections in the closed position of the covers longitudinally registering with each other to provide a continuous conduit extending over the hoppers within the car and being provided with discharge openings which permit the material which is delivered to the conduit to be distributed to the hoppers of the car.

3,450,279
METHOD FOR TRANSPORTING TIMBERS BY SEA

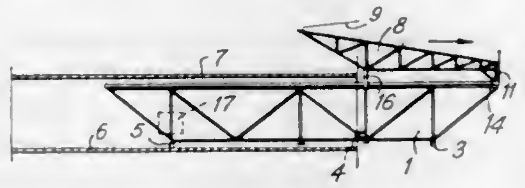
Shinichi Yukawa, 312 Uenoshibacho 1-cho, Sakai, Osaka, Japan
Filed July 14, 1967, Ser. No. 653,467
Claims priority, application Japan, July 22, 1966, 41/48,073
Int. Cl. B65g; B63b *27/00*
U.S. Cl. 214—152 2 Claims

A floating vessel is open on at least one end so that water internally and externally of the vessel are in communication. A raft of timbers is floated into the vessel and secured thereto. The vessel is forced down further in the water and a second raft is floated in over the first raft and secured to the vessel. The vessel then carries its load to a destination where it is unloaded in the reverse manner.



3,450,280
METHOD FOR HANDLING ELONGATED MEMBERS

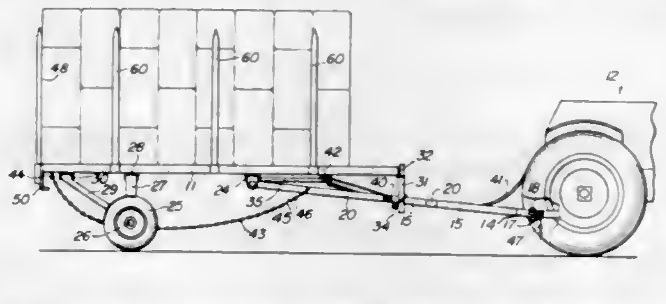
Raymond Marcel Emile Colnot, Boulogne-sur-Seine, France, assignor to E.P.M. International, Levallois-Perret, Hauts-de-Seine, France
Filed Aug. 29, 1967, Ser. No. 664,037
Claims priority, application France, Aug. 29, 1966, 74,464
Int. Cl. B66c *1/10;* **E04g** *11/36, 21/00*
U.S. Cl. 214—152 5 Claims



An arrangement for removal of an elongated member from between upper and lower masking elements which render the elongated member in accessible from above and below, by a boom which is connectable with the elongated member to withdraw the same partially, after which the boom is further connected with an uncovered part of the partially withdrawn member and a hoist is connected to the boom at a location in a plane containing the center of gravity of the connected boom and elongated member so that the latter can be completely withdrawn from the masking elements and transported intact.

3,450,281
METHOD AND APPARATUS FOR STACKING HAY AND THE LIKE

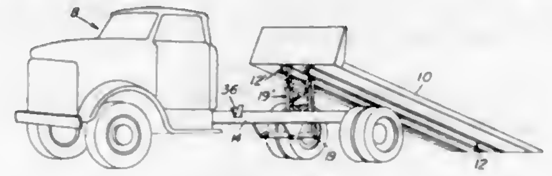
John R. Groberg, Rte. 1, Box 85,
Kaysville, Utah 84037
Filed Oct. 31, 1966, Ser. No. 590,788
Int. Cl. B60p *1/16, 1/22;* **B65g** *57/28*
U.S. Cl. 214—352 12 Claims



The present invention involves a method of stacking bales of hay and the like and preferred apparatus for practicing the method. The method consists of placing the bales on a load-carrying bed, tipping the bed to place the rear edge thereof on the ground, backing a prime-mover for the bed to push it to an upended or past vertical position and then pulling the bed away from the bales to leave a standing stack. The apparatus, in its presently most preferred forms includes a wagon bed that can be pulled by a tractor. Means controlled by the tractor operator are provided to tilt the wagon bed until its rearmost edge is in contact with the ground, and pivot connections are provided between the wagon bed and the tractor such that as the tractor is backed the wagon bed is upended to a vertical or past vertical position. Removable tines carried by the wagon bed are adapted to be left under the stack of bales formed when the bed is upended and pulled away from the stack. The tines are connected to the wagon bed by flexible connectors of varying lengths so as to be removed without affecting the stack.

3,450,282
SLIDABLE AND TILTABLE TRUCK BED

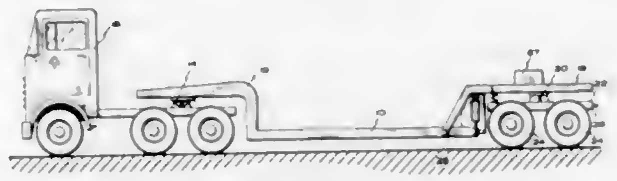
James J. Ezolt, State Line, Pa., assignor, by mesne assignments, to Grove Manufacturing Company, Shady Grove, Pa., a corporation of Pennsylvania, a wholly-owned subsidiary of Walter Kidde & Company, Inc.
Filed Mar. 7, 1967, Ser. No. 621,216
Int. Cl. B60p *1/04;* **B66c** *23/00*
U.S. Cl. 214—505 **10 Claims**



A tilting and slidable bed for a vehicle having an extendable lever pivotally connected between the chassis frame and the bed and having an automatic positive locking cam to secure these members together when said bed is in its horizontal forward travel position.

3,450,283
TRAILER WITH DETACHABLE REAR WHEELS

Henry C. Helland, 1138 Augusta Way,
Salt Lake City, Utah 84108
Filed May 2, 1967, Ser. No. 635,537
Int. Cl. B60p *1/04*
U.S. Cl. 214—505 **7 Claims**

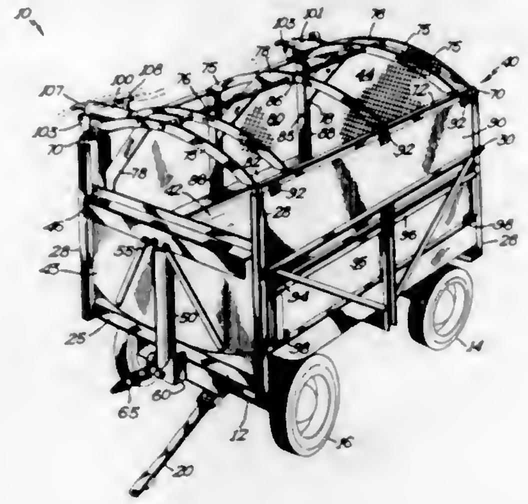


A low bed trailer connected at its front end to a traction vehicle and mounted at its rear end to a detachable rear gooseneck mounted on wheels. The gooseneck is provided with hydraulic pistons for raising the trailer bed and securing it in a travel position and for lowering it to ground level. The gooseneck can be mounted with springs to the wheels for absorbing road shock as the trailer is transported.

3,450,284
TOTALLY EVACUATING FORAGE WAGON

Oskar Diem, Richardton, N. Dak. 58652
Filed Oct. 19, 1967, Ser. No. 676,417
Int. Cl. B60p *1/00*
U.S. Cl. 214—514 **8 Claims**

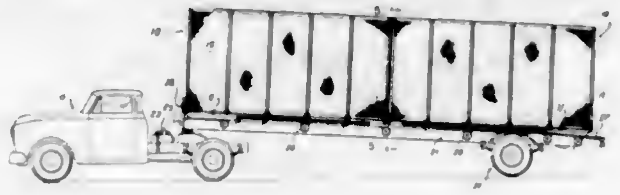
The evacuating forage wagon of the present disclosure includes a bin structure mounted on a carriage frame and supported upon a wagon chassis with the bin structure being elevatable on the carriage frame to raise the same for evacuation of material therefrom. The bin structure includes solid end walls and a curved bottom wall with one sidewall being movable across the bottom of the bin and between the ends thereof in the evacuation process.



The opposite side wall includes a pair of hinged doors which will normally be held in closed position except when the bin is elevated in the carriage frame.

3,450,285
PORTABLE RECEPTACLE FOR HARVESTED UNGINNED COTTON

Cecil C. Robinson, deceased, late of Poteet, Tex., by Gladys Isbelle Robinson, administratrix, P.O. Box 375, Poteet, Tex. 78065
Filed Feb. 24, 1967, Ser. No. 619,134
Int. Cl. B60p *1/64*
U.S. Cl. 214—517 **2 Claims**



Briefly stated the invention comprises a relatively large receptacle having a rectangular frame of light construction supporting a wire mesh enclosure, and whose side and end members are detachably connected so that, when the receptacle is empty, these elements can be easily disconnected and compactly stacked with the bottom element for storage and transportation. The bottom element is provided with skid members by which the receptacle can be moved about with its burden by a tractor, or other draft means. The receptacle is designed to be ported, with like devices on a specially equipped trailer on whose frame may be provided rollers engageable by the skid members, and a diminutive boom adjacent its rearmost end for assistance in loading the receptacle, as by a cable carried on a drum operatively mounted on a road tractor by which the trailer is drawn. The boom is retractable into the trailer frame while in movement. It is contemplated that at least two of the loaded receptacles can be carried on the trailer, in tandem arrangement, each capable of retaining the equivalent of from two to four bales of unginned cotton.

3,450,286
CHAFF AND STRAW HANDLING ATTACHMENT

Clarence R. Tessman, Goodrich, N. Dak. 58444
Filed Jan. 2, 1968, Ser. No. 694,994
Int. Cl. A01f *12/46, 12/40*
U.S. Cl. 214—522 **1 Claim**

The invention comprises a chaff and straw handling attachment for a combine wherein said combine has an

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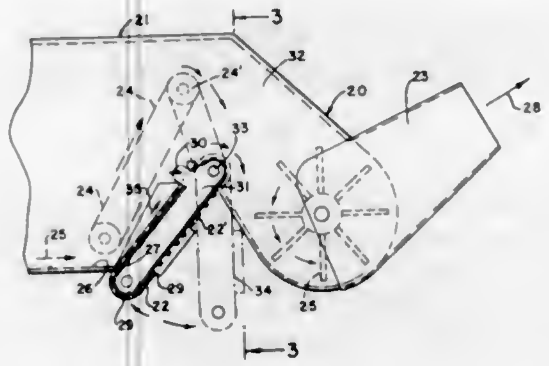
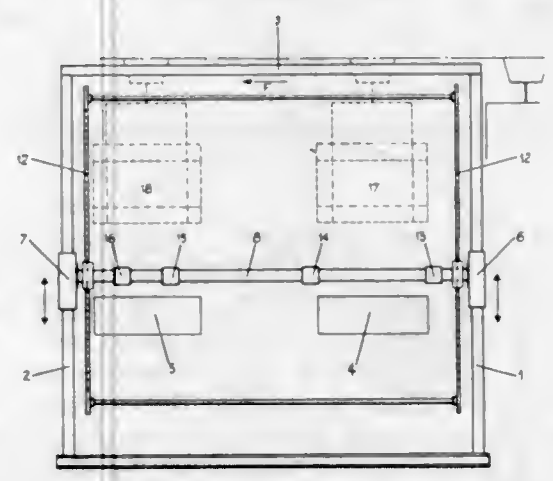
inclined straw conveyor adjacent its rearward end with a straw chopper rearward of said straw conveyor, a chaff conveyor pivotally mounted at its upper end of said combine between said chopper and straw conveyor, means for powering said chaff conveyor, and means to secure said chaff conveyor in an inclined position to receive the chaff at the chaff outlet of the combine and convey it into the straw chopper where the chaff may be thrown out of the combine by the straw chopper along with



the straw, and means for releasing said chaff conveyor whereby said chaff conveyor may pivot away from said chaff outlet and said chaff may travel out of said combine separate from said straw, and an inclined chute attachment mounted to the combine adjacent the rearward end of the straw chopper, said chute attachment being inclined rearwardly and upwardly so that the straw and chaff being thrown out of the chopper may arc along an upward path for easier reception of the straw and chaff by a vehicle towed behind the combine.

3,450,287
TRANSFERRING ARTICLES TO OR FROM CONVEYORS

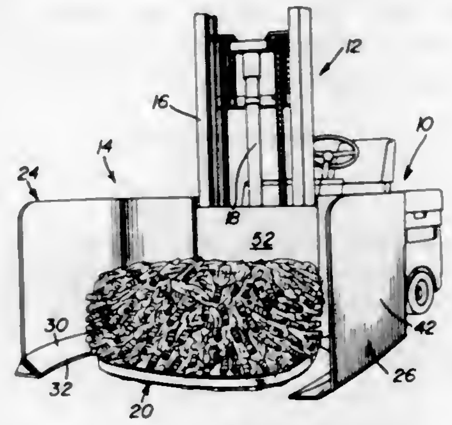
Gerard Dubus, Combes-La-Ville, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed Aug. 4, 1966, Ser. No. 570,321
Claims priority, application France, Aug. 6, 1965, 27,461
Int. Cl. B66f *9/06;* **B68j** *1/12*
U.S. Cl. 214—622 **4 Claims**



A device for transferring a plurality of bins containing products from a first conveyor to a second one which is located at a different level and which is independent from the first one. Mechanism by which full bins of products are unloaded from the first conveyor and transferred to the second conveyor while by the same movement of the mechanism empty bins are transferred from the second conveyor back to the first conveyor and are loaded thereon.

3,450,288
LOAD HANDLING ATTACHMENT FOR HYDRAULIC LIFTS

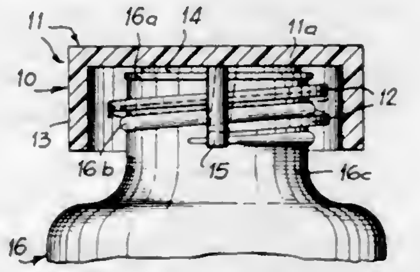
Namon A. Walsh, Rte. 4, Roxboro, N.C. 27573
Filed June 16, 1966, Ser. No. 557,999
Int. Cl. B66f *9/18, 9/14*
U.S. Cl. 214—731 **9 Claims**



Special attachments replacing the usual load engaging forks on an industrial truck are contoured for engagement with tobacco loaded baskets to elevate the same off the floor without damage or spillage. The attachments include curved arms having upper, downwardly inclined supporting surfaces movable relative to each other in a horizontal plane and vertically together.

3,450,289
INTEGRAL CHILD-PROOF CAP

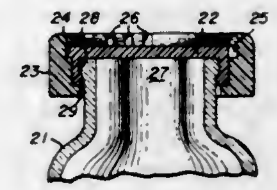
Vincent J. Esposito, Jr., 31 Jackson Ave.,
Wayne, N.J. 07470
Filed July 24, 1967, Ser. No. 655,535
Int. Cl. B65d *55/02, 41/52*
U.S. Cl. 215—9 **8 Claims**



A one piece plastic molded cap comprising a top wall and peripheral skirt and having threads loosely suspended from the top wall and separated from the surrounding skirt so that the threads distort and resist unscrewing from a threaded engagement with a container neck when the unscrewing is attempted by application of simple torque to the top wall and skirt. The skirt is inwardly deformable and has means which lockingly engage the threads to prevent said distortion simultaneously with the application of said torque to enable unscrewing and removal of the cap.

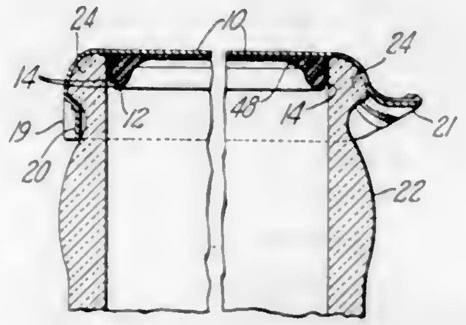
3,450,290
SAFETY CLOSURE FOR A CONTAINER

Lloyd S. Turner, Los Gatos, Calif., assignor to The Basic Products Development Company, Oakland, Calif., a corporation of California
Filed June 19, 1968, Ser. No. 738,164
Int. Cl. B65d *55/02*
U.S. Cl. 215—9 **9 Claims**



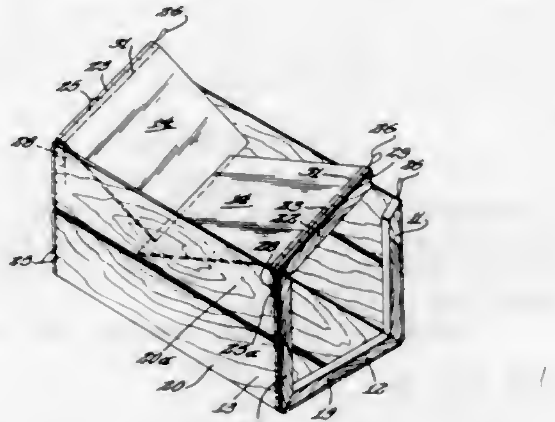
A bottle or like container is formed with an enlarged lip over which a pliable cap may be pressed. An outer ring constricts the cap and prevents removal thereof over the enlarged lip of the bottle. The outer ring is rotatable with respect to the cap and the bottle with a circumferential groove receiving one or more keys which extend outwardly from the cap. The outer ring may be rotated into a position of alinement, and thence moved axially with the keys of the cap being received into mating keyways in the outer ring. When the outer ring is moved axially, the cap is released from constriction and may be expanded over the enlarged lip for removal from the bottle.

3,450,291
BOTTLE CAPS
Walter C. Lovell, 302 Williams St.,
Longmeadow, Mass. 01106
Filed Nov. 29, 1966, Ser. No. 597,739
Int. Cl. B65d *41/00, 41/16*
U.S. Cl. 215—39 **6 Claims**



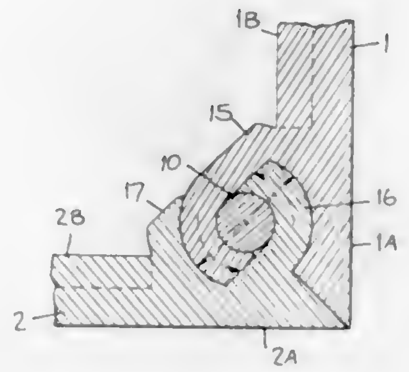
A crimped skirt type bottle cap formed of a circular blank and applied to the bottle mouth by crimping a portion only of the skirt so that the uncrimped portion will form a projection or visor adapted to be engaged by the thumb of the user for removing the cap, the cap being further provided with a resilient sealing plug extending into the mouth of the bottle and engaged solely with the inner wall of the bottle mouth when the cap is in position.

3,450,292
FLAT MAT AND CRATE ASSEMBLED FROM SAME
Lem D. Truesdel and William P. Simmons, Jr., Macon, Ga., assignors to Southern Crate & Veneer Company, Macon, Ga., a corporation of Georgia
Filed May 31, 1967, Ser. No. 642,546
Int. Cl. B65d *9/14*
U.S. Cl. 217—47 **6 Claims**



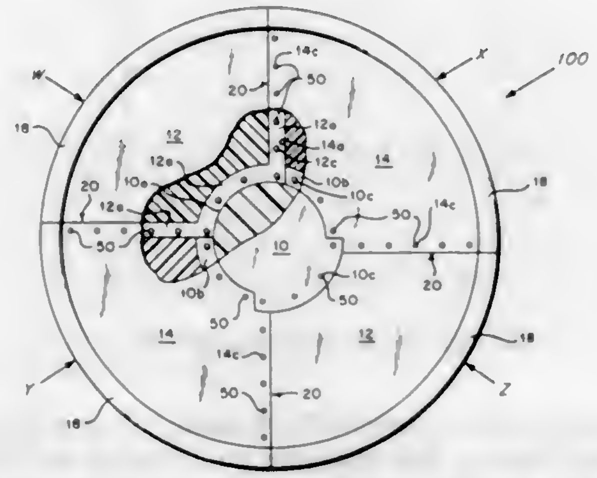
A flat mat and a crate folded therefrom having a tab on a paperboard end wall extending between an end of the cleat supporting the end wall and a side wall to give support to the cleat in addition to that provided by a flexible wire interconnecting the side wall and the end of the cleat.

3,450,293
INTERLOCKING JOINT FOR COLLAPSIBLE STRUCTURES
Orlando L. Seda and Selena Goudeau, New York, N.Y. (both % Sarex Corporation, 1001 Roosevelt Ave., Carteret, N.J. 07008)
Filed Sept. 26, 1967, Ser. No. 670,606
Int. Cl. B65d *7/00, 7/42*
U.S. Cl. 220—4 **5 Claims**



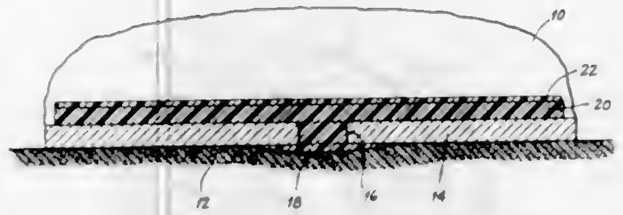
This invention is directed to a collapsible box-like structure, such as an electrical chassis box or minibox, having unique interlocking members. Each side plate has a generally C-shaped flange at one end, which opens inwardly toward the center of the plate and a generally tilted J-shaped flange at the other end, which opens outwardly away from the center of the plate, i.e. ↄ. The C-shaped flange of each of the four side plates meshes and interlocks with the J-shaped member of each said side plate adjacent thereto. The interlocking flange members at their bottom lips form a generally circular opening for the insertion of a fastening member which tightens the joints between the side plates and provides a means for attaching face plates to close the box-like structure.

3,450,294
LIQUID RETAINING TANK
Louis Benson and Charyl S. Benson, both of 1075 Old Ford Road, Huntingdon Valley, Pa. 19006
Filed Oct. 24, 1965, Ser. No. 504,867
Int. Cl. B65d *7/02*
U.S. Cl. 220—5 **5 Claims**



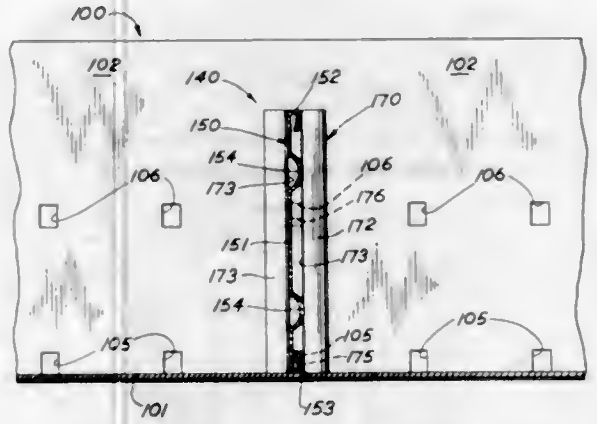
A liquid retaining tank having its floor and upright surrounding wall composed of interfitting panel sections; each joined together in such a manner as to form a liquid-tight seal at the various points of juncture.

3,450,295
REPAIRING METAL TANK BOTTOMS
Fred C. Weber, Jr., St. Louis, Mo., assignor to Phelan-Faust Paint Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed June 4, 1965, Ser. No. 461,346
Int. Cl. B65d *25/24*
U.S. Cl. 220—18 **1 Claim**



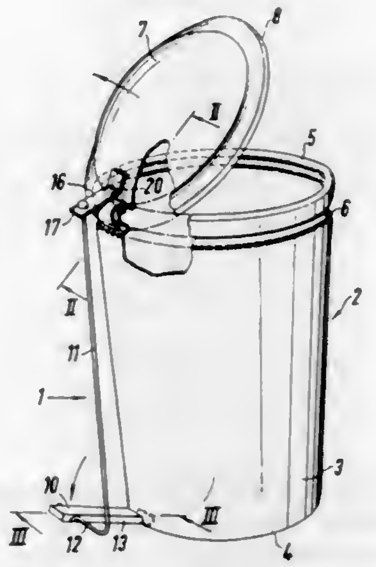
A method for patching metallic tank bottoms which may have pitted holes of substantial size embodying the employment of a foamed plastic material. The foamed plastic material such as a polyurethane, epoxy or vinyl resin is employed in a thickness of about at least three-eighths of an inch and has a density of 1.5 to 20 pounds per cubic foot. The foam has a viscosity to penetrate the holes and where the metallic tank bottom rests upon a sand substrate to bridge over the underneath side of the hole to form a plug. The foamed coating has a tough smooth and skin-like exterior surface facilitating cleaning and may be topped with an impervious chemically inert urethane epoxy or vinyl paint as a further sealant.

3,450,296
DRAWER CONSTRUCTION AND DIVIDER THEREFOR
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois
Filed May 9, 1966, Ser. No. 548,692
Int. Cl. B65d *1/24, 1/36, 57/00*
U.S. Cl. 220—22.1 **6 Claims**



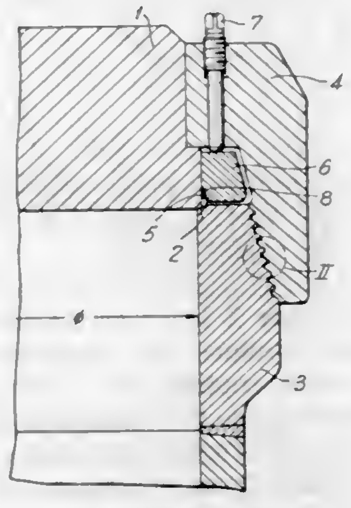
There is disclosed a divider construction for use in a drawer wherein the side walls have upper and lower longitudinally extending rows of slots therein, with each slot in each row being in horizontal and lateral alignment with the corresponding slot in the opposite side wall, the divider construction comprising a generally rectangular divider and a pair of mounting members disposed on the opposite ends of the divider for mounting same in any one of a plurality of adjusted positions with respect to the associated drawer, each of the mounting members including a generally rectangular plastic body having a longitudinally extending groove in one side thereof arranged vertically in use for grippingly receiving the adjacent end of the divider therein, each body having at least one finger extending laterally outwardly therefrom and into at least one of the slots in the adjacent side wall so as to adjustably position the divider within the associated drawer.

3,450,297
REFUSE BINS
Ernest J. Clerk, 18 South Ave., Kingston, Jamaica
Filed Aug. 15, 1966, Ser. No. 572,444
Claims priority, application Great Britain, Feb. 3, 1966, 4,833/66
Int. Cl. B65d *43/16*
U.S. Cl. 220—36 **14 Claims**



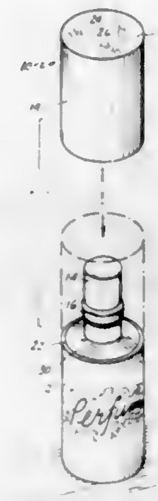
A pedal mechanism for a refuse bin having a pull rod detachably connected at one end to a pedal which is pivotally mounted on the refuse bin, and at the other end to a closure lid for the refuse bin, so that the closure lid can be raised to and from the closure position by the pivotable movement of the pedal.

3,450,298
FAST RELEASING CONNECTION FOR HIGH PRESSURE CONTAINER PARTS
Helmut Strohmeier and Karl-Heinz Schmitz, Essen, Germany, assignors to Rheinstahl Huttenwerke AG, Essen, Germany
Filed June 13, 1968, Ser. No. 736,820
Claims priority, application Germany, June 24, 1967, R 46,328
Int. Cl. B65d *41/04, 45/00, 53/00*
U.S. Cl. 220—39 **4 Claims**



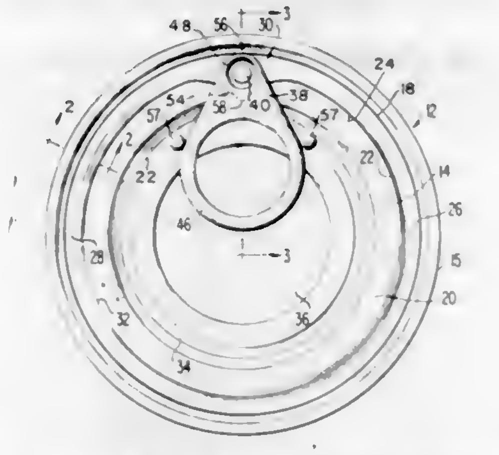
A fast releasable connection for joining a cover to a high pressure container or vessel which includes a clamping nut having a conical saw tooth thread along its internal circumference to engage a corresponding conical thread on the external circumference of said container. The connection also includes a plurality of pressure screens disposed around the clamping nut for exerting pressure against a pressure ring and gasket to seal the container parts.

3,450,299
UNITARY MOLDED RESILIENT PLASTIC CAP
Mannie La Barbera, Armonk, N.Y.
(160 Hunts Lane, Chappaqua, N.Y. 10514)
Filed Feb. 16, 1968, Ser. No. 706,134
Int. Cl. B65d *41/16, 41/62, 51/18*
U.S. Cl. 220—42 **1 Claim**



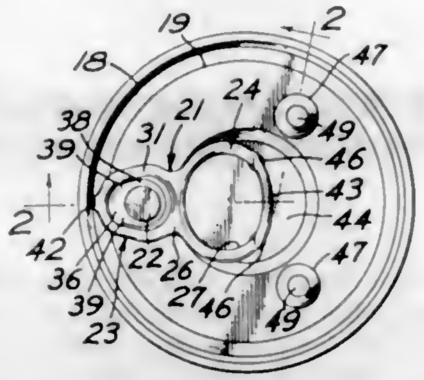
A removable cap for a container having a liquid under pressure therein. The cap allows for a wide variation in manufacturing dimensions without danger of damage to the cap. The cap has a cylindrical body with vanes projecting tangentially of the side wall of the body, the vanes being formed of flexible plastic material for collectively gripping the neck or reduced portion of the container so as to releasably hold the cap in position. The vanes have beads on one long edge thereof.

3,450,300
EASY-OPEN STRUCTURE FOR CONTAINERS
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,732
Int. Cl. B65d *17/24*
U.S. Cl. 220—54 **28 Claims**



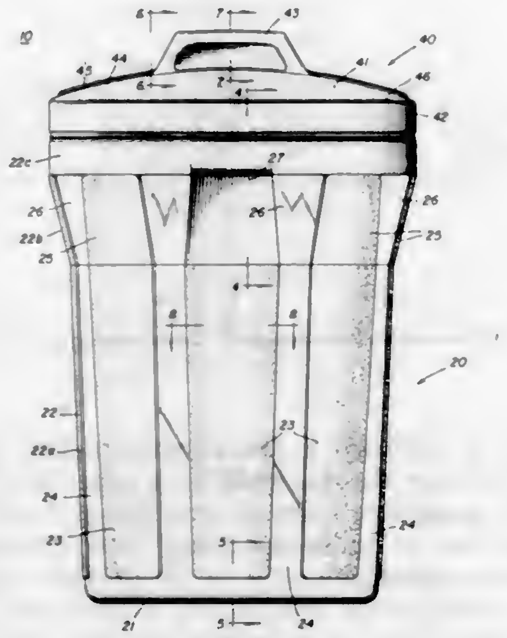
Class 1 and Class 2 lever action are combined in a novel easy-open structure for containers. The combined lever action causes rupture of a container wall along preformed scorelines in two locations on opposite sides of securing means for an integral opener. An arch-shaped tear segment results from movement of the handle end of the integral opener in a direction away from the container. Further removal of the container wall is determined by scoreline configuration. For removal of a wall or a major portion of a wall of a container, a tear segment is formed around a substantial portion of the wall prior to total removal. In a pour feature embodiment, the length of the tear segment can be limited dependent on the size of the opening. The invention provides easy-open features for full-open containers, and the like, without inhibiting use of profiling as required for strengthening walls of pressure pack containers.

3,450,301
EASY OPENING CONTAINER
Frederick J. Stec, Oak Lawn, and Teddy M. Westphal, Park Forest, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 19, 1968, Ser. No. 706,446
Int. Cl. B65d *17/24, 21/02*
U.S. Cl. 220—54 **3 Claims**



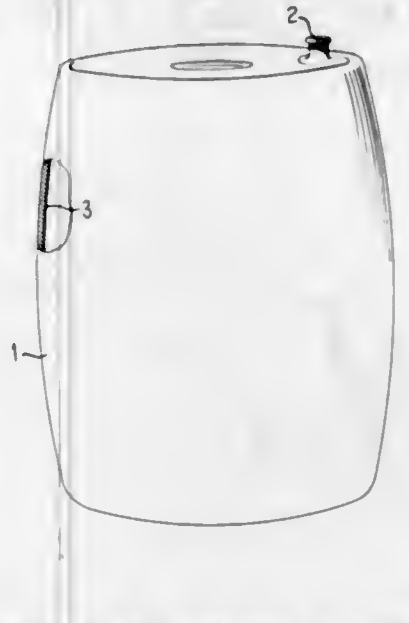
The disclosure relates to an easy opening container having a cover member formed with a removable tear portion located in the panel. A pull tab is attached to the tear portion for separating the latter from the panel. To compensate for the uneven supporting surface resulting from the presence of the tab on the panel, projections are formed in the latter to provide a supporting surface on which other containers may be stacked in vertical alignment with the underlying easy opening container.

3,450,302
RECEPTACLE OF MOLDED PLASTIC MATERIAL
John D. Braught, Northbrook, Ill., assignor to United States Steel Corporation, Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 578,788, Sept. 12, 1966. This application Apr. 4, 1968, Ser. No. 718,748
Int. Cl. B65d *43/10, 11/06*
U.S. Cl. 220—60 **12 Claims**



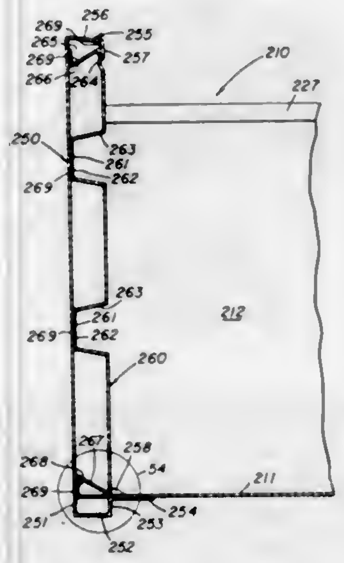
There is disclosed a receptacle of separable two-piece construction comprising a lower body of deep bucket-like configuration and an upper cover of shallow dish-like configuration, wherein the body is of one-piece molded construction and formed of linear high-density polyethylene and the cover is of one-piece molded construction and formed of linear high-density polyethylene; improved closure elements are provided on the body and the cover which cooperate to accommodate ready placement and removal of the cover with respect to the top of the body.

3,450,303
REUSABLE LINED BEVERAGE CONTAINERS
Joseph F. Bosso, Lower Burrell, and Gene Gerek, Cheswick, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Filed Jan. 17, 1966, Ser. No. 520,948
Int. Cl. B65d *25/14, 25/34*
U.S. Cl. 220—64 **13 Claims**



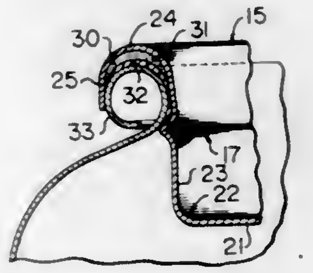
Metal containers for beverages in which the internal surface is coated with a composition consisting essentially of from 30 to 80 parts of polyglycidyl ether having an epoxide equivalent between 100 and 400 and from 20 to 70 parts of a dimerized fatty acid having an epoxide equivalent between 350 and 950, the composition having been cured with a non-volatile polyfunctional aromatic amine catalyst. These coatings have a unique combination of properties, including excellent taste properties and resistance to repeated cleaning with sodium hydroxide solution.

3,450,304
DESK DRAWER CONSTRUCTION
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois
Original application Oct. 23, 1965, Ser. No. 503,157, now Patent No. 3,363,955. Divided and this application Apr. 5, 1967, Ser. No. 635,942
Int. Cl. B65d *7/42*
U.S. Cl. 220—68 **7 Claims**



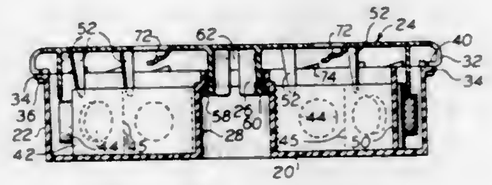
The present invention is directed to a desk drawer comprising a bottom wall and a pair of longitudinal side walls extending upwardly from the side edges thereof, an outer front wall, closing the front area, a rearwardly and downwardly directed retaining flange on the upper edge of the outer front wall, an inner front wall disposed between the side walls extending from the bottom wall upwardly into the retaining flange, an upstanding projection struck from the bottom wall retaining the lower end of the inner front wall in fixed relation to the outer front wall.

3,450,305
VENTING MEANS FOR CONTAINERS
James W. Kinnavy, Oak Lawn, Ill., and John J. Buchanan, Pittsburgh, Pa., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 12, 1966, Ser. No. 586,157
Int. Cl. B65d *25/00;* **B05b** *7/32;* **F23d** *13/04*
U.S. Cl. 220—89 **11 Claims**



This disclosure relates to a dispensing container having a valve cup secured to a peripheral curl of a container body by a generally inverted U-shaped peripheral edge which defines a chamber with the curl in which is disposed means for forming a hermetic seal at room temperature and also being effective for releasing the hermetic seal when the container is subjected to elevated temperatures whereby media can be vented from within the container and rupture thereof thereby precluded.

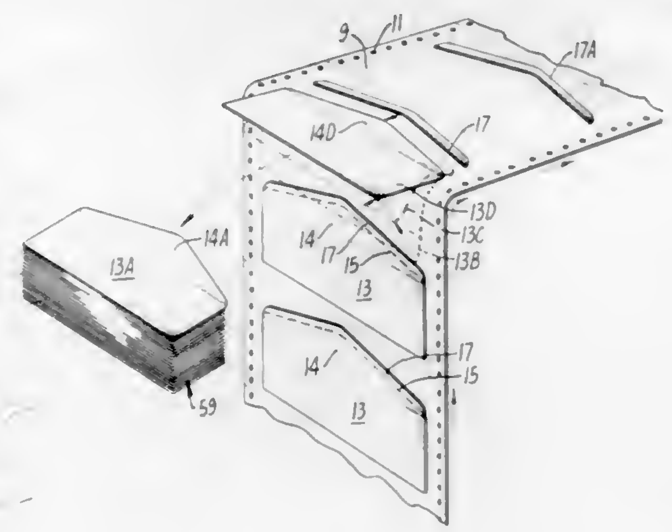
3,450,306
PILL DISPENSER WITH ROTATING TOP FOR DISCHARGING SUCCESSIVE PILLS
Lester D. Gill, 302 North Road, Kinnelon, N.J. 07405
Filed Aug. 16, 1967, Ser. No. 661,071
Int. Cl. B65d *83/04*
U.S. Cl. 221—71 **17 Claims**



This specification discloses a dispenser for pills that are packaged in a strip. A shallow cylindrical box holds a strip wound in a loose spiral. A ridge extending up from the bottom of the box is spaced from the side to form a guideway along which the strip is fed toward a discharge opening. The box has a rotatable cover which is held on the box by a center stud; and there are lugs extending down from the cover into the guideway and with the same spacing from one another as the pills so that the lugs propel the strip by pushing the pills that are in the guideway. The names of days of the week, or other time intervals, marked on the rotatable cover, serve as reminders whether the pill has been taken as intended. The discharge opening has an edge across which the strip can be torn to remove each successive pill. A ratchet prevents reverse movement of the cover. One modification locks to prevent operation by children and the cover pushes down to release the lock.

3,450,307
ENVELOPE SEPARATOR

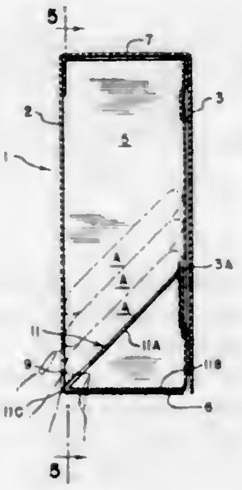
Charles O. Sutton, San Francisco, Calif., assignor to The American Binder Company, a corporation of California
Filed July 26, 1967, Ser. No. 656,271
Int. Cl. B65h *29/22*
U.S. Cl. 221—74 **3 Claims**



A device for separating envelopes from a continuous web wherein the envelopes held by their flaps to the web are propelled along a path, the flaps leading, and a rubber belt with fingers, moving at a higher rate of speed than the web picks up the trailing edge of the envelope and propels it into the nip between two rollers whereupon it is detached from the web.

3,450,308
ARTICLE DISPENSER HAVING AN INCLINED BOTTOM RAMP AND A FRONT WALL ARTICLE OUTLET OPENING

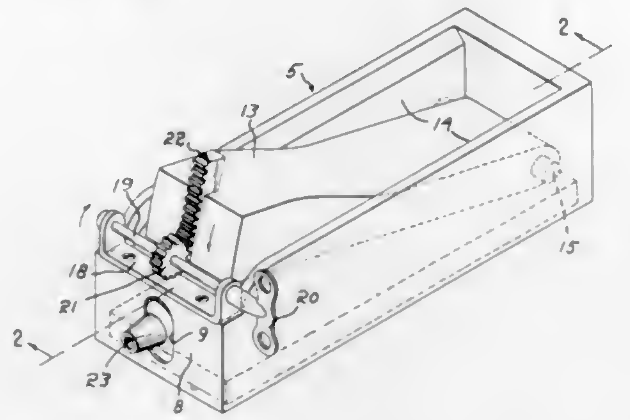
William C. Schoenefeld, P.O. Box 256, Greenwood Lake, N.Y. 10925
Filed Oct. 6, 1967, Ser. No. 673,329
Int. Cl. A47f *1/08;* **B65d** *5/06*
U.S. Cl. 221—305 **8 Claims**



A dispenser for containing and dispensing individually a plurality of stacked articles, the dispenser being constructed from a unitary sheet folder to form a container and an internal ramp member for directing the lowermost of the stacked articles to an opening having dimensions to permit articles to pass individually therethrough and to permit each article to be grasped while it is within the container.

3,450,309
DISPENSER FOR PRODUCTS CONTAINED IN COLLAPSIBLE TUBES

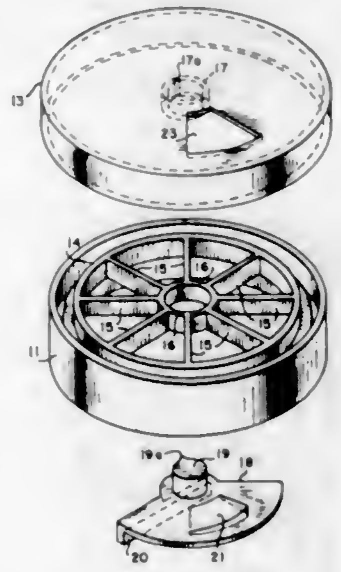
Luigi Di Millo, 14 Hammond St., Portland, Maine 04101
Filed Feb. 21, 1968, Ser. No. 707,135
Int. Cl. B65d *35/28*
U.S. Cl. 222—103 **5 Claims**



Dispenser for products contained in collapsible tubes, the dispenser having a holder supporting a tube, a tube-pressing member pivotally connected to the holder for movement into and out of a tube-crushing position, and a rack and pinion connection between the holder and the tube pressing member.

3,450,310
MEASURING AND DISPENSING DEVICE HAVING A PLURALITY OF ROTARY TRAP CHAMBERS

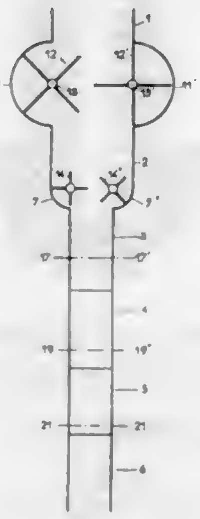
Cleveland A. Dayton, 16603 Marchmont Drive, Los Gatos, Calif. 95030
Filed June 19, 1967, Ser. No. 647,074
Int. Cl. G01f *11/20, 13/00*
U.S. Cl. 222—221 **2 Claims**



A measuring and dispensing device which may be used in place of screw-type covers for jars and the like. The device is made up of three parts, one of which is provided with threads to engage the threads of the jar, and another of which is made of resilient material so that it may be deformed as the cover is rotated to provide snap action for ejecting material from compartments formed in the cover as the compartments are rotated in sequence past an opening formed in the cover.

3,450,311
DISTRIBUTING DEVICE FOR TOBACCO AND THE LIKE

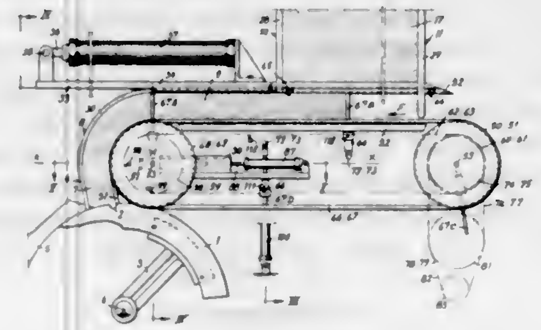
Francis Bonnéric, Fleury-les-Aubrais, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed Mar. 13, 1967, Ser. No. 622,794
Claims priority, application France, Mar. 14, 1966, 53,253
Int. Cl. G01f *13/00;* **B65g** *65/46*
U.S. Cl. 222—280 **9 Claims**



A distributing device for tobacco for permitting the uniform supply of processing machines with a continuous flow of material which has a contant bulk density without damaging the material. A duct composed of a series of sections, the cross sections of the sections decreasing in consecutive order, and paddle wheel carrying drums rotatably located in shoulders in each one of the sections, which drums are rotated with speeds increasing from one to the other successive section.

3,450,312
METHOD AND INSTALLATION FOR THE AUTOMATIC FEEDING OF FIBRES INTO MACHINES FOR PROCESSING FIBRE MATERIAL

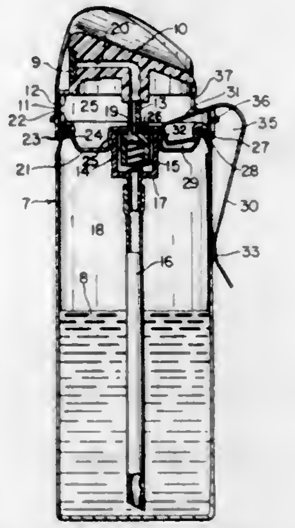
Gerard Benoni Boucherie, Potaardestraat 1, Rumbeke, Belgium
Filed July 6, 1967, Ser. No. 651,494
Claims priority, application Belgium, Oct. 20, 1966, 46,155, Patent 688,532; Dec. 30, 1966, 46,377, Patent 691,981
Int. Cl. G01f *11/14;* **B65h** *3/66;* **A46d** *1/08*
U.S. Cl. 222—363 **32 Claims**



Method for the automatic supply of fibres to a fibre material processing machine, consisting in successively picking small amount of fibres from a supply mass of fibres, in conveying each small amounts of fibres, under constant pressure toward a bundle separator which feeds a fibre processing machine. Installation applying said method.

3,450,313
HOLDING CLIP FOR PRESSURIZED FLUID SPRAY CONTAINER

Clarence F. Jonas, 2614 18th St., Rockford, Ill. 61108
Filed July 24, 1967, Ser. No. 655,398
Int. Cl. B65d *83/14*
U.S. Cl. 222—402.13 **7 Claims**

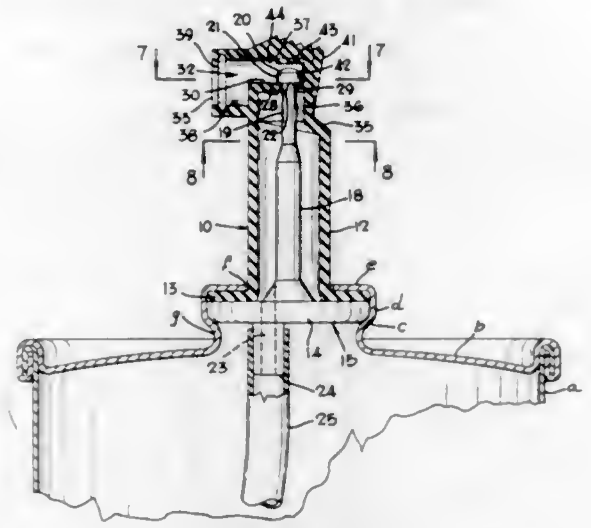


This spring metal holding clip for aerosol type containers has a generally U-shaped hooked end on the extremity of the substantially right angle bent upper end portion that is made to fit snugly inthe annularly recessed top of the metallic spray container hooking under an annular shoulder to resist upward displacement, a plastic cap which fits closely around the top portion of the container having a slot on one side diametrically opposite the opening spray nozzle that forms a part of an integral depressible central plunger part of the cap, the main body portion of the spring clip projecting through this slot downwardly alongside the wall of the container, so that after the spring clip has been hooked into the annularly recessed top of the container, the plastic cap can be assembled on the container over the main body portion of the clip upwardly into place and pressed down, the cap then serving to hold the clip in place on the container, and vice versa. With the clip in this position relative to the spray nozzle the user, who for example may carry the container, filled with dog repellent under pressure, in his shirt pocket or coat pocket, where it is ready for instant use if a dog attacks him, can quickly slip the container out of the pocket and, by feel, use the clip as an indicator in directing the spray from the nozzle into the face of the onrushing animal by pressing the plunger part of the cap down. The clip, therefore, besides serving to hold the container in place in the pocket, also serves as a spray direction indicator and prevents accidental removal and possible loss of the cap with the spray nozzle in it.

3,450,314
DISPENSING VALVE HAVING RUBBER-LIKE DISPENSING HEAD

Jerome A. Gross, St. Louis, Mo., assignor to Clayton Corporation, St. Louis, Mo., a corporation of Missouri
Filed May 31, 1967, Ser. No. 642,594
Int. Cl. B65d *83/14*
U.S. Cl. 222—402.24 **14 Claims**

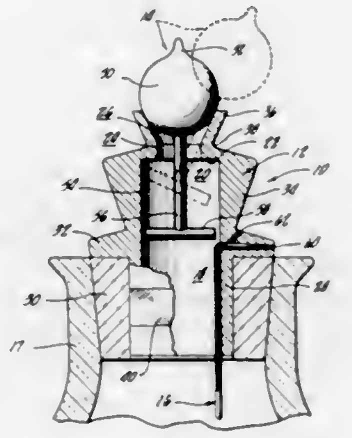
A two-piece dispenser valve for single-use pressure dispensers employs an outward-projecting headed valve stem rigidly retained by a base flange. A hollow rubber dispensing head encloses the headed stem and has an internal washer-like web which seals against the head. Beneath the web is an outward step; finger pressure will flex the step eccentrically downward, peeling the web away from the valve head. Where the dispenser contents are to be held in a bag to be collapsed by the gas pressure, a downward-extending bag-alignment shoe is formed onto the base flange.



3,450,315

LIQUID DISPENSING CONTAINER HAVING A GRAVITY ACTUATED CLOSURE

Vernon D. Wright, deceased, late of San Bernardino, Calif., by Lola K. Wright, administratrix, San Bernardino, Calif.; and Lewis E. Eldridge, deceased, late of Riverside, Calif., by Lillian E. Eldridge, administratrix, Riverside, Calif., assignors to Boykin-Warner Enterprises, San Bernardino, Calif., a partnership
Filed Sept. 25, 1967, Ser. No. 670,478
Int. Cl. B67d *3/00;* **B65d** *5/72, 25/40*
U.S. Cl. 222—479 **5 Claims**



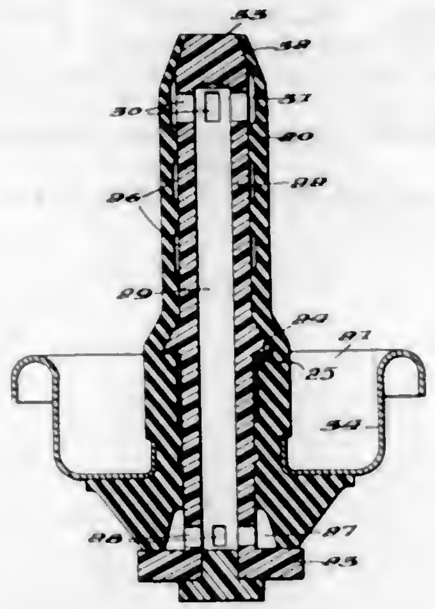
A device for use with bottles and the like in the sealing and dispensing of the bottle's liquid contents has a teardrop head which controls the flow of a liquid from the bottle. The head is coupled to a body which is adapted to fit in the neck of the bottle. The body has an axial bore for passage of the liquid. The bore at its upper terminus is defined by a frusto-conical section. This section provides a seat for a spherical portion of the head to seal the bottle's contents. A breather tube is employed which has two outlets to atmosphere. These outlets are oriented to prevent their plugging by the user of the device.

3,450,316

AEROSOL TILT VALVE FOR COMESTIBLES

Arthur Frederick Barker, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,777
Int. Cl. B67d *3/00*
U.S. Cl. 222—513 **1 Claim**

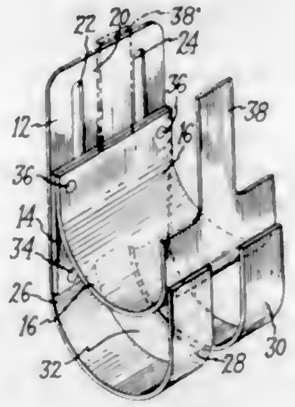
Valve assembly for a pressurized aerosol container comprising tiltably operable valve closing means, discharging means and means for separating sealing surfaces of the discharging means, said means being constructed and arranged such that an air-exclusion seal is effected at the closed discharge orifice when the valve assembly is not discharging.



3,450,317

LOCKING TOOL HOLDER

Paul C. Ramer, Box 237, New Lebanon, N.Y. 12125
Filed Nov. 30, 1967, Ser. No. 687,040
Int. Cl. A45f *5/02;* **A45c** *1/04*
U.S. Cl. 224—5 **4 Claims**



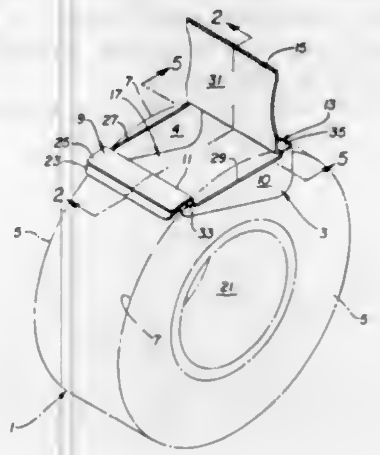
A tool holder for headed tools to be carried on the belt of a person. The holder consists of a plastic member having a portion for suspending from the belt, and including a bifurcated, semi-circular portion extending from the belt holding portion. A two part locking member has one portion in the form of a square-shaped tab, which is secured at one end to the plastic member at the juncture of the belt portion and the bifurcated portion. The other end of the tab member has secured thereto a second semicircular member, forming the other part of the locking member, the second semi-circular member being movable with the tab portion. The second semicircular member receives the head of a tool and rotates along the plastic member, with the tab, allowing the handle of the tool to extend between the bifurcated portion with the second semi-circular member wrapping over the head of the tool, securely locking the tool in the holder.

3,450,318

TAPE SHEAR

John E. Turner, 57 Canyon Drive, Port Costa, Calif. 94569
Filed Feb. 16, 1967, Ser. No. 616,673
Int. Cl. B65h *35/10;* **B26f** *3/02*
U.S. Cl. 225—65 **2 Claims**

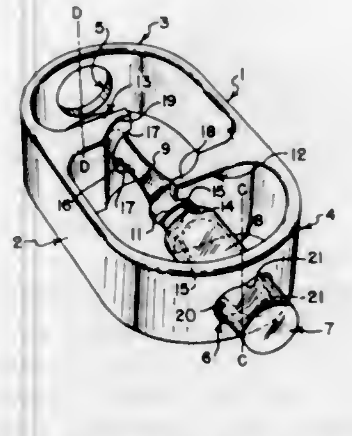
A tape dispensing and cutting device including a frame having a first means engaging the opposed edges of the tape roll, second means for supporting an end of the device and including a tape engaging edge and a third means supporting the other end of the device and including a tearing edge. The device and the roll cooperate so that as the tape is peeled from the roll at the tape engaging edge, the device rides the circumference of the tape roll and is always in position for tearing a strip of tape from the roll.



3,450,319

AMPOULE BREAKER

Richard W. Ray, Waltham, and Stephen P. Campbell, Jr., Brookline, Mass., assignors to Millipore Corporation, Bedford, Mass., a corporation of Massachusetts
Filed Mar. 16, 1967, Ser. No. 623,573
Int. Cl. B26f *3/00;* **B02c** *19/12*
U.S. Cl. 225—104 **8 Claims**



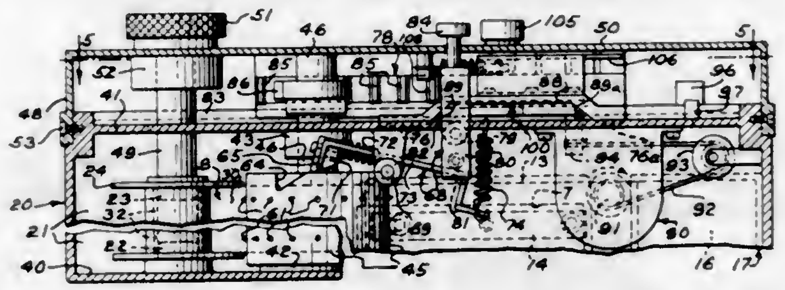
An ampoule breaker for breaking an ampoule at a specified location intermediate its ends. The breaker includes two spaced leg members flexibly connected together at one end for receiving the ampoule in longitudinal alignment therebetween and ampoule engaging surfaces engaging against the ampoule on one side thereof at the specified location where it is to be broken and at two spaced locations on the diametrically opposite side of the ampoule offset longitudinally of the specified location.

3,450,320

FILM CONTROL APPARATUS IN A CAMERA

Joseph J. Roubal, 5135 W. 22nd Place, Cicero, Ill. 60650
Continuation of application Ser. No. 420,342, Dec. 22, 1964. This application Feb. 21, 1967, Ser. No. 635,631
Int. Cl. B65h *25/00*
U.S. Cl. 226—46 **1 Claim**

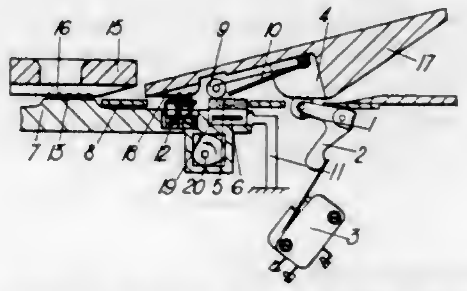
Apparatus in a camera in the winding and taking up operating to stop a backing paper carried photographic film in picture photographable portions and embodying means to permit a non-stop winding and taking up of the advanced paper portion and of the trailing paper portion of the backing paper carried photographic film.



3,450,321

APPARATUS FOR HANDLING SPROCKET-FED CARDS AND THE LIKE

Frederick James Leslie Turner, Arthur John Compton Soper, and Harold Louis Morel, Hollingbury, Brighton, England, assignors to Creed & Company Limited, Hollingbury, England, a British company
Filed Apr. 21, 1967, Ser. No. 632,711
Claims priority, application Great Britain, May 3, 1966, 19,419/66
Int. Cl. G03b *1/22*
U.S. Cl. 226—67 **4 Claims**

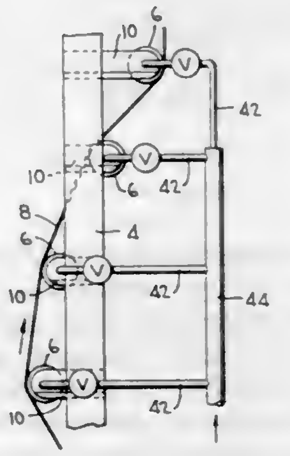


Sprocket-fed cards are automatically fed into a card reader by means which "inch" an inserted card onto a set of spring-loaded feeder pins. The insertion of the card automatically starts the mechanism. The arrangement can be modified to allow tape to be fed to the reader over the outside of the automatic loader.

3,450,322

WEB SUPPORTING SYSTEM

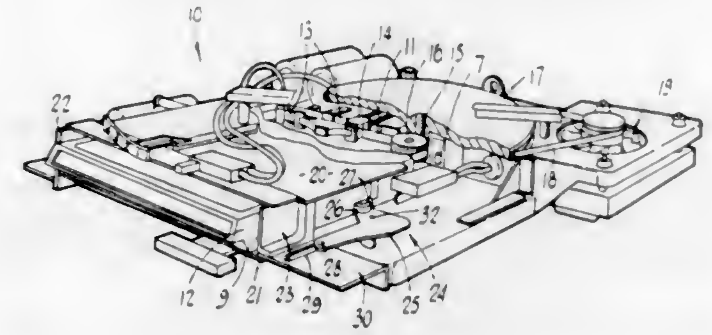
Harold Weber, Bloomfield, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,398
Int. Cl. B65h *17/32, 25/04*
U.S. Cl. 226—97 **9 Claims**



Apparatus for conveying a web of sheet material with a plurality of rolls or shoes arranged transversely to the direction of advance of the web. The surface of the roll or shoe has a pair of slots extending longitudinally of the surface and air or other fluid is pumped outwardly through the slots to support the web. The slots are very narrow and are constructed by a key and keyway arrangement.

3,450,323
TAPE-PLAYING APPARATUS

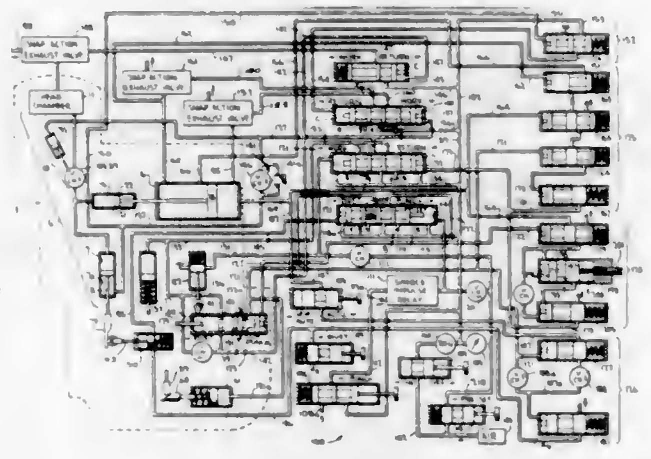
Philip H. Evans, Wollaston, Stourbridge, England, assignor to BSR Limited, Old Hill, England, a British company
Filed Sept. 12, 1967, Ser. No. 667,232
Int. Cl. B65h *17/22;* **G11b** *15/32*
U.S. Cl. 226—176 **10 Claims**



Apparatus for playing tape provided in a cartridge wherein the cartridge is releasably engageable with a transporter means which moves the cartridge towards and away from its operative position wherein the tape is resiliently urged into contact with a capstan spindle, the transporter means is driven from the capstan and the capstan is disengaged from driving engagement with the transporter means in the operative position.

3,450,324
PUNCH RIVETING MACHINE

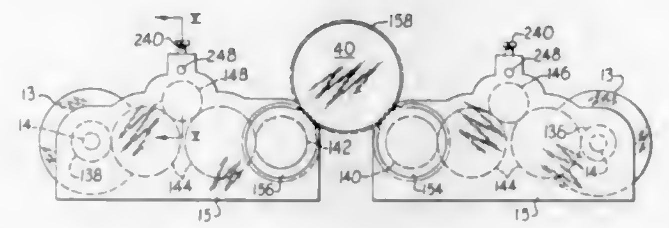
Carl O. Baerhold, Randallstown, and David K. Griffith, Towson, Md., assignors to Unitec Industries, Timonium, Md., a corporation of Maryland
Filed Nov. 16, 1966, Ser. No. 594,770
Int. Cl. A43d *69/00;* **B27f** *7/00*
U.S. Cl. 227—73 **17 Claims**



An automatic punch riveting machine of the type having a single drive plunger and alternatively selective tools to be engaged by the plunger for performing the punching and riveting operation in rapid sequence. The tools are positioned in alignment with a drive plunger in sequence for performing the punching and riveting operations. The drive plunger directly communicates with a hydraulic power system which is operated and cycled by a novel pneumatic control circuit, which circuit also selectively positions the punching and riveting tools at the proper times. Provision is made for automatically causing the drive plunger to have a substantially rapid low pressure approach to the work and then to have its final punching and riveting work movement conducted under intensified pressure and thus with increased force.

3,450,325
MULTIDRIVE FOR BONDING MACHINE

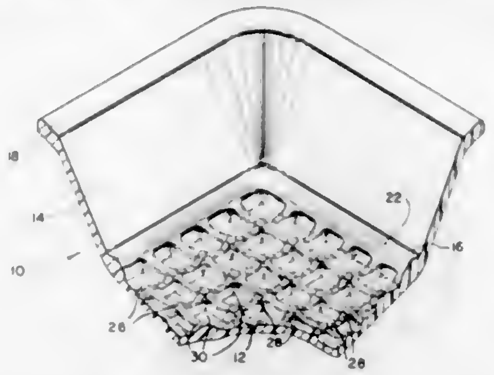
Wilmer E. Funk, Roanoke, and Eugene R. Martin, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 20, 1967, Ser. No. 654,880
Int. Cl. B23k *27/00*
U.S. Cl. 228—2 **5 Claims**



Improved friction bonding construction having a multidrive spindle arrangement with disconnect mechanisms to adapt the machine for welding parts having widely varying diameters.

3,450,326
FOOD CONTAINER

James E. Foote, Westport, Conn., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 662,053
Int. Cl. B65d *1/48;* **B65f** *25/06*
U.S. Cl. 229—2.5 **7 Claims**

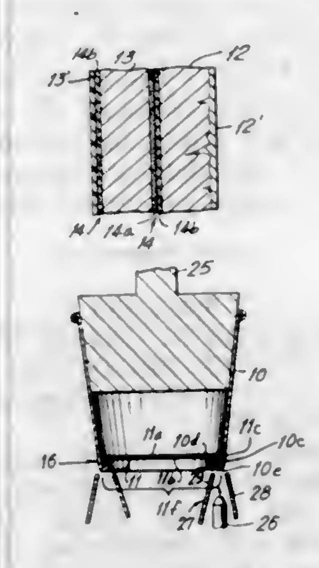


The present disclosure relates to a molded foamed polystyrene food tray for the packaging of liquid exuding foods, which tray has a reenforcing peripheral bead extending upwardly from the bottom thereof, a thickened bottom for denesting, and a particular bottom configuration to both retain exuded liquid and provide air circulation under the packaged food product. The particular bottom section accomplishing these results has upwardly upstanding nubs which are located at the corners of polygonal depressions, the polygonal depressions serving to retain the exuded liquid, and being separated from adjacent depressions by saddle-shaped rib portions.

3,450,327
ROUND NESTABLE PAPER CONTAINER HAVING A HIGH GLOSS EXTERIOR FINISH AND AN INTERIOR AND BOTTOM WAX COATED SURFACE

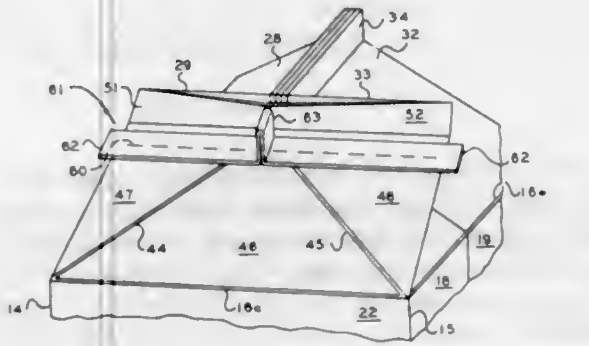
Rodney E. Ludder, Glen Head, N.Y., assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 605,338, Dec. 28, 1966. This application Oct. 25, 1967, Ser. No. 677,906
Int. Cl. B65d *5/40, 25/14, 5/56, 5/62, 3/00*
U.S. Cl. 229—3.1 **6 Claims**

A paper container having its interior coated with wax, means for preventing said wax from penetrating to the exterior surface of the side wall of the container and the exterior side wall of said container having a glossy scuffproof surface; means for preventing moisture penetration from penetrating towards the interior of the container through the bottom and lower end thereof; and method of producing same.



3,450,328
PULL TAB FOR GABLE TOP CONTAINER

Willis R. Barrett, Overland Park, Kans., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,829
Int. Cl. B65d *5/72, 5/74*
U.S. Cl. 229—17 **7 Claims**

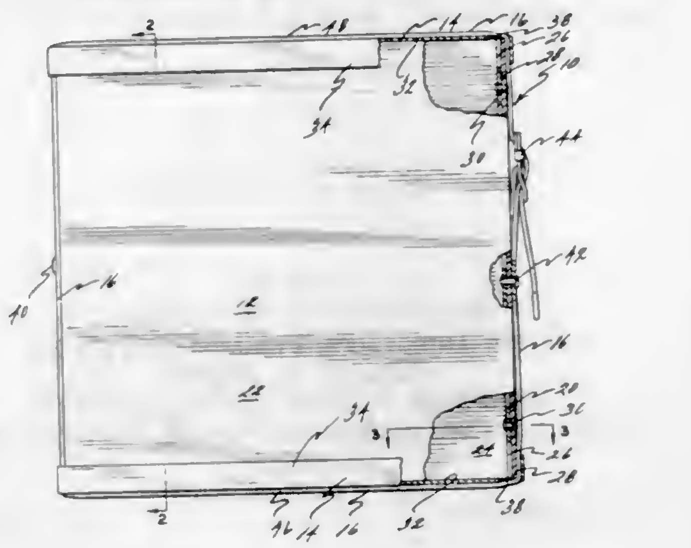


A pull tab is attached to the pouring spout panel of a gable top container to aid in opening the container. In containers utilizing a weakened line of severance to form the pouring lip, the weakened line of severance being covered by a cover tape to seal the container, the tab can be formed as a part of the cover tape.

3,450,329
SHIPPING CARTON FOR FILM REELS AND THE LIKE

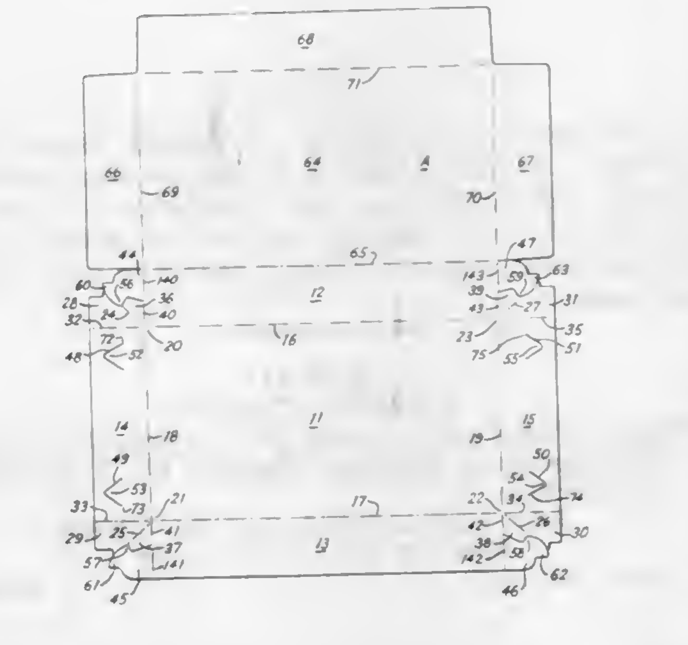
Morris Goldberg, Denver, Colo., assignor to Goldberg Brothers, Inc., Denver, Colo., a corporation of Colorado
Filed Jan. 8, 1968, Ser. No. 696,366
Int. Cl. B65d *13/04, 45/00;* **B65h** *75/16*
U.S. Cl. 229—23 **4 Claims**

This invention relates to a novel protective carton for film reels and the like characterized by a box-like body having top, bottom and side walls but being open on both ends. These open ends are covered by removable metal caps having transverse slots at both ends through which a strap is threaded that completely envelops the sides and ends. The strap is preferably permanently attached to one sidewall of the box and is secured by a conventional buckle.



3,450,330
CONSTRUCTION OF A FOLDING BOX CORNER, AND METHOD OF ASSEMBLY

Chester J. Pierce, Jr., Palo Alto, Calif., assignor to Klik-lok Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,570
Int. Cl. B65d *5/26, 5/22, 5/42*
U.S. Cl. 229—33 **6 Claims**

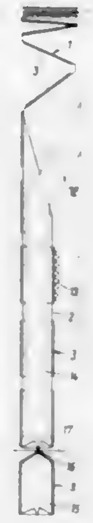


The present improvements provide a folding box corner construction capable of glueless assembly and provided with an interior corner gusset for liquid proofness and increased mechanical rigidity and resistance, particularly to inwardly directed compressive force exerted, for example, during the gluing to the box body walls of flaps on the cover. The box body walls are locked together by an exteriorly disposed lock flap articulated to one wall panel and partially inserted in a slot in the other wall panel. The lock flap has a hook formed in it which is of such configuration in relation to the slot that its tip fails to clear the slot unless the upper portion of the wall panel from which it extends is flexed into an angular position with respect to the lower wall portion, thereby raising the tip sufficiently high to clear the slot. A tab on the lock flap pointing in a general direction opposite to the hook tip is resiliently snapped past an edge of the slot and acts as a safety catch for the hook preventing disengagement of hook and slot even under conditions under which the wall panel is flexed.

ERRATUM

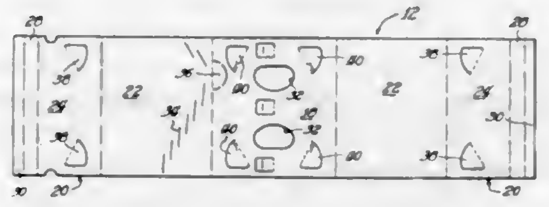
For Class 229—34 see:
Patent No. 3,450,347

3,450,331
PACKAGING MATERIAL
Osmo Tapiovaara, Pajalahdentie gB 27, Helsinki 20, Finland
Filed Sept. 7, 1966, Ser. No. 577,739
Claims priority, application Finland, Sept. 10, 1965, 2,185/65
Int. Cl. B65d *5/02*
U.S. Cl. 229—37 **4 Claims**



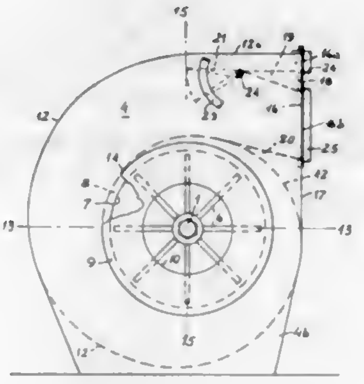
This invention comprises a packaging material comprising a continuous band of flexible material, preferably plastic, with stiffening elements longitudinally on one side of the band. The edges of the band are sealed together to form a tube which is then twisted off to form separate packages.

3,450,332
CARRIER CARTON
William Padovano, Addison, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,548
Int. Cl. B65d *5/12, 33/16*
U.S. Cl. 229—40 **6 Claims**



A carrier carton for enclosing articles such as cans having recessed ends, and having opposed pairs of top and bottom end walls, and side walls hingedly connected to form a sleeve-like structure open at the ends, at least one tab cut from at least one of the end walls and foldable under the end wall, the tab being connected to the wall by a hinge line and having a configuration defined by the hinge line and a continuous cut line extending from one end of the hinge line around the free edge of the tab to the opposite end of the hinge line, the tab having a cut therein and being spaced a short distance from the hinge line for permitting the portion of the tab lying between the hinge line and the cut to be deflected out of the plane of the remaining portion of the tab, when the tab is folded under the end wall thereby forming a shoulder for engaging the inside edge of the recess of the can positioned adjacent the tab.

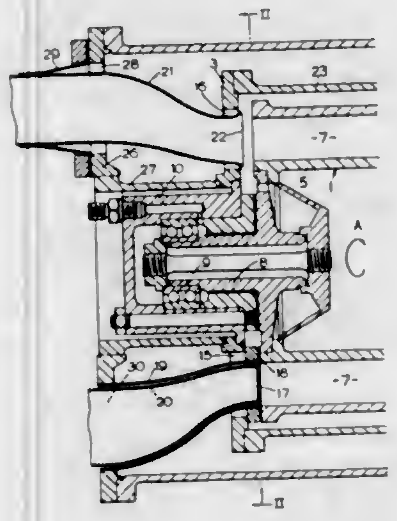
3,450,333
INSTALLATIONS FOR SUCKING OFF AND SEPARATION OF WASTE PRODUCTS OF WORKING MACHINES AND CENTRIFUGAL AIR PUMPS FOR USE WITH IT
Casper Nihot, Pieter Borstraat 36, Amsterdam, Netherlands; Evert Rudolf Nihot, Vinkenstraat 2, Zandvoort, Netherlands; and Petrus André Hénri Saueressig, G. van Amstellaan 47, Amstelveen, Netherlands
Filed Jan. 23, 1967, Ser. No. 611,004
Claims priority, application Netherlands, Jan. 28, 1966, 6601163
Int. Cl. F04c *29/00;* **F04d** *29/00;* **B01d** *45/14*
U.S. Cl. 230—47 **5 Claims**



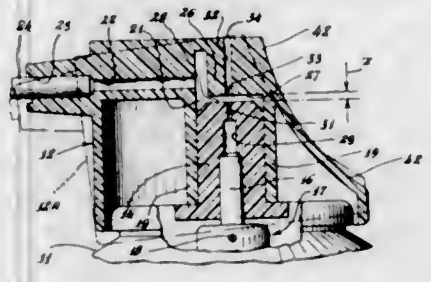
An installation for aspirating and separating waste products of working machines, especially wood working machines, with the assistance of air as a transporting medium and driven by a centrifugal air pump or exhauster functioning as a suction and pressure pump behind which a separation occurs in a part of the air with the relatively heavy waste products which are conveyed to storage and the remainder via a dust filter and from which the air can be recovered. A spiral-shaped widening delivery channel of the pump is extended beyond the beginning thereof to such a degree that the particles to be separated and displaced outwardly at such location also can separate and group together according to their weight so that the separation of the quantity of the air containing the relatively heavy waste products occurs in the outlet of the centrifugal air pump.

3,450,334
PRESSURE EXCHANGERS
James Brown, Coventry, England, assignor to Power Jets (Research & Development) Limited, London, England
Filed June 26, 1967, Ser. No. 648,915
Claims priority, application Great Britain, June 28, 1966, 28,926
Int. Cl. F04b *37/02*
U.S. Cl. 230—69 **7 Claims**

A pressure exchanger comprises a cell ring mounted for rotation between a pair of end-plates having bearings which support stub shafts secured to the cell ring. The cell has a plurality of open-ended cells arranged side by side in a circle and which are effectively closed by the end-plates. Ports formed in the end-plates communicate with the cells according to the rotation of the cell ring. One end-plate and its associated bearing is secured to a casing which encloses the cell ring while the bearing of the second end-plate is carried in a sleeve which is a sliding fit in an annular plate secured to the adjacent end of the casing. A further sleeve secured to the periphery of the last-mentioned end-plate extends coaxially about the cell ring within the casing in which it is a sliding fit in the region of the first end-plate. The second end-plate and its bearing may thus move axially relative to the first end-plate and a chamber isolated from the cell ring is formed within the casing. Ducts extend from the ports in the second end-plate through that part of the chamber between the said end-plate and the annular plate to the outside of the casing being provided with appropriate seals where they pass through the annular plate. High pressure gas leaking from the cell ring acts to pressurise the chamber and flow into the low pressure system without materially disturbing the smooth flow of low pressure gas.

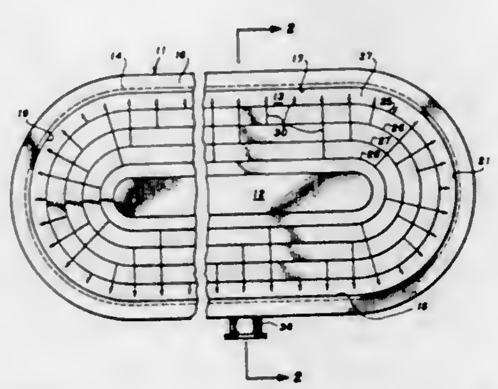


3,450,335
PORTABLE ASPIRATORS
Charles A. Soriano, Fairfield, Conn., assignor to Miller-Stephenson Chemical Company, Inc., Danbury, Conn.
Filed May 25, 1967, Ser. No. 641,336
Int. Cl. F04f *5/04, 5/48*
U.S. Cl. 230—95 **10 Claims**



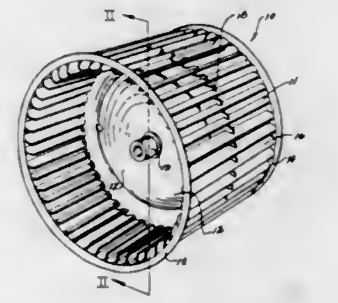
Portable materials handling devices for moving gasses, liquids, powders or other solids and capable of independent, unitary, self-contained and self-powered operation by an operator at a work station, being adapted to be actuated by such self-contained power sources as pressurized aerosol containers, particularly useful in producing partial vacuums for vacuum cleaning removal of dust and foreign particles from a work zone and for providing local regions of negative pressure for pumping, sampling or withdrawal of caustic, acid, sterile or harmful fluids for testing or other purposes.

3,450,336
VACUUM DIFFUSION PUMP
Hugh R. Smith, Jr., Piedmont, Calif., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 8, 1967, Ser. No. 681,404
Int. Cl. F04f *9/00*
U.S. Cl. 230—101 **4 Claims**



A slit type vacuum diffusion pump is described wherein an elongated central structure is disposed in an elongated outer casing in such a manner that the distance of vapor jet travel between the central structure and the outer casing is constant across a space completely surrounding the central structure.

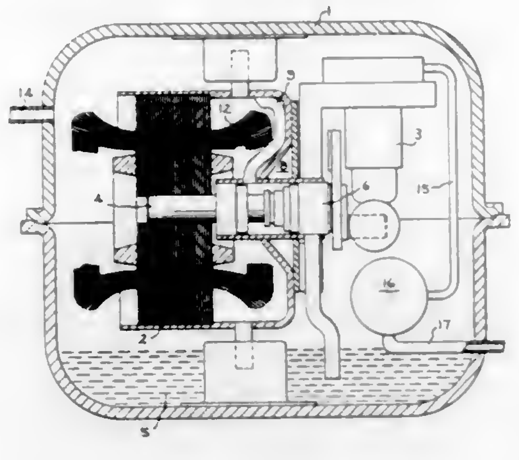
3,450,337
BLOWER WHEEL CENTER PLATE WITH BENT TABS FOR SECURING BLADES IN PLACE
Gerald P. Jolette, Kalamazoo, Mich., assignor to The Brundage Company, Kalamazoo, Mich., a corporation of Michigan
Filed Aug. 4, 1967, Ser. No. 658,456
Int. Cl. F04d *29/28*
U.S. Cl. 230—134 **7 Claims**



A centrifugal blower wheel having a plurality of parallel, arcuate and uniformly spaced blades disposed between a pair of coaxial rim members. Said blower wheel also has a support or driving plate secured to the blades intermediate, usually midway between, the rim members. A plurality of tabs extend radially from the support plate, each tab having at least one circumferentially projecting tip which extends through a corresponding slot in an adjacent blade. Each tip is twisted to effect a locking engagement between the particular blade and the support plate.

3,450,338
HERMETIC REFRIGERANT MOTOR COMPRESSOR UNIT
Dietrich F. Huttenlocher, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 20, 1967, Ser. No. 692,167
Int. Cl. F04b *39/02;* **F16n** *1/00;* **F01m** *1/02*
U.S. Cl. 230—206 **6 Claims**

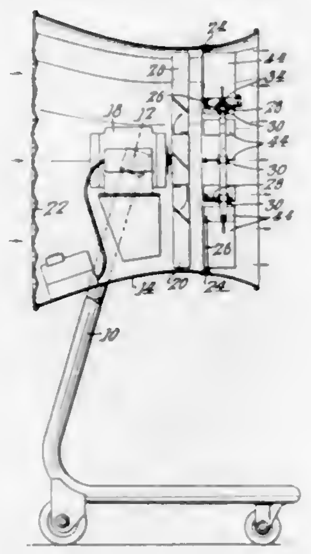
A hermetic refrigerant motor-compressor unit including aluminum motor windings having an insulating coating of a phenolic resin modified polyvinyl formal resin includes a small amount of zinc dialkyldithiophosphate in the lubricant to inhibit degradation of the insulated coating by the dichlorodifluoromethane refrigerant.



3,450,339

DIFFUSER FOR A BLOWER

David R. Geoffroy, Auburn, Mass., assignor to Coppus Engineering Corporation, Worcester, Mass., a corporation of Massachusetts
Filed June 8, 1967, Ser. No. 644,706
Int. Cl. F04d *29/56*
U.S. Cl. 230—274 **7 Claims**



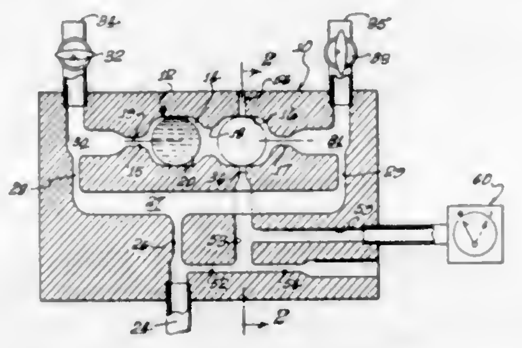
A blower having a casing normally directing a relatively high velocity stream of air along a relatively narrow path and including means in the form of adjustable vanes for selectively condensing the stream to a narrower path at a higher velocity or diffusing the blast of air to a more gentle breeze which is widespread. In general, the amount of air is not changed, only the velocity. The vanes are provided with means for simultaneous adjustment.

3,450,340

FLUIDIC NONDESTRUCTIVE MEMORY

Trevor D. Reader, King of Prussia, Pa., assignor to Conrac Corporation, New York, N.Y., a corporation of New York
Filed Sept. 29, 1967, Ser. No. 671,730
Int. Cl. G11c *25/00;* **F15c** *4/00*
U.S. Cl. 235—201 **4 Claims**

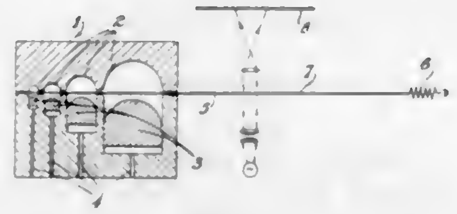
A resiliently deformable memory element, comprising a drop of a liquid having high surface tension, is mounted within a chamber having two subchambers joined by a restricted passage through which the element can pass only with deformation, forming a bistable memory unit. The memory element is shiftable between subchambers by application of a fluid pressure differential between them. Once positioned, the element is stable, retaining the stored information independently of continuing power application to the system. The stored information is "read" in terms of the flow through one or more sensing passages that open into the chamber in such position that the flow varies critically with the position of the memory element.



3,450,341

DECIMAL READ-OUT FOR FLUIDIC COUNTERS

Alwyn Barrie Render, Ashington, and Kevin Julian Gibson, Leatherhead, England, assignors to The Research Association for the Paper and Board, Printing and Packaging Industries, Leatherhead, Surrey, England, a corporation of the United Kingdom
Filed Apr. 11, 1968, Ser. No. 720,682
Claims priority, application Great Britain, Apr. 25, 1967, 18,925/67
Int. Cl. G06d *7/00*
U.S. Cl. 235—201 **16 Claims**



A decimal read-out for fluidic counters comprises a block in which there is located a plurality of cavities, each connected to a different outputs of a fluidic counter, and each housing a movable piston which moves in response to a corresponding output from the fluidic counter. A flexible tape passes through the cavities, the tape having one fixed end, its other end being attached to a return spring. When any piston is raised by an output from the fluidic counter, the piston abuts the tape which is then displaced by a predetermined amount. Printed symbols on the tape indicating displacements thereof, are thus moved to a position, whereby an image of a particular symbol is focussed by optical means on a display screen. The apparatus serves as a binary to decimal converter.

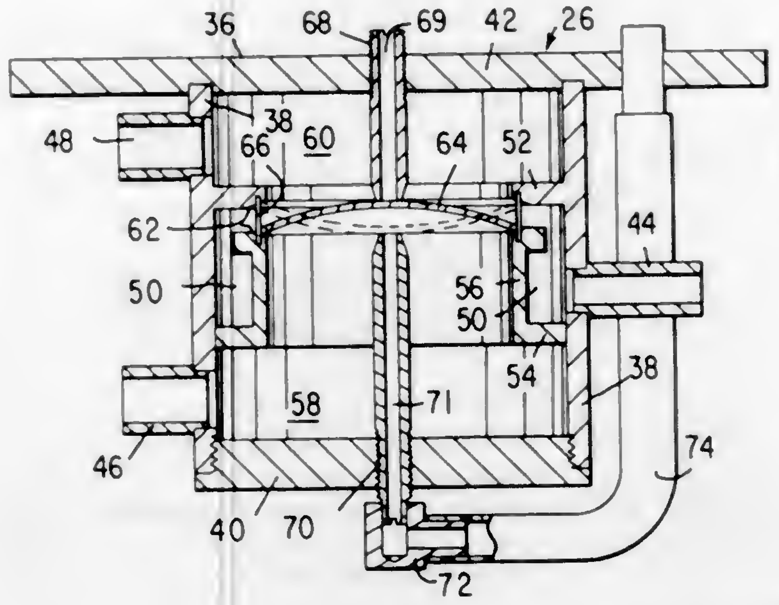
3,450,342

AIR-CONDITIONING APPARATUS

Arthur E. Arledge, Jr., Springfield, N.J., assignor to Carrier Corporation, Syracuse, New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,498
Int. Cl. G05d *23/10, 16/04*
U.S. Cl. 236—1 **4 Claims**

A change-over valve for a thermostatically controlled air distributing unit adapted to satisfy a heating or a cooling load. A bimetallic disc disposed in the path of

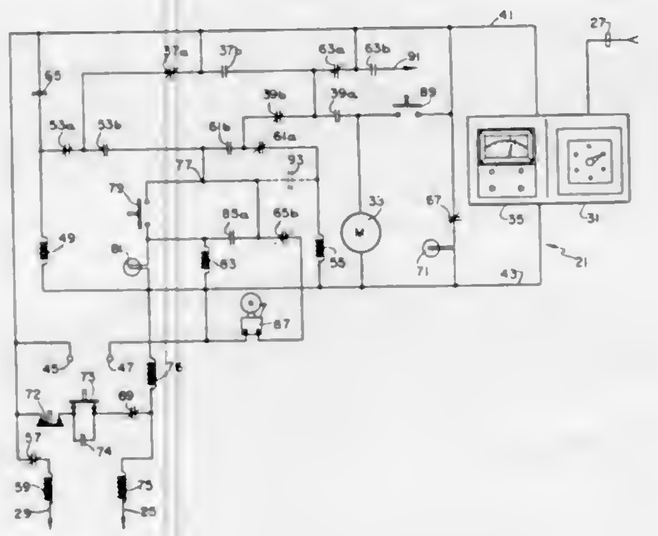
heat exchange medium flowing through the unit diverts control air to a heating thermostat or a cooling thermostat to control the unit according to the temperature of the heat exchange medium flowing therethrough.



3,450,343

TEMPERATURE RESPONSIVE CONTROLLER SYSTEM

Edwin W. Donath, Arlington Heights, Ill., assignor to Alnor Instrument Company, Div. of Illinois Testing Laboratories, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 21, 1967, Ser. No. 692,582
Int. Cl. B21c *31/00*
U.S. Cl. 236—46 **22 Claims**

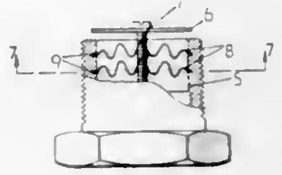


A semi-automatic system for scanning and sensing the temperature of a plurality of points within equipment, such as a plastic molding machine, and for controlling the sequential operations of the equipment in response to the sensed temperature. A controller portion of the system comprises a plurality of electrical relays, most of which operate automatically in response to temperature and/or time conditions, to establish a plurality of discrete and interacting control circuit paths for sequencing the controlled equipment and also for operating condition information elements within the controller. Upon the transmission of condition information to the human operator, one or more manual switches are employed to further affect the control circuit paths to optimize the safe operation of the controlled equipment.

3,450,344

THERMOSTATIC VALVES FOR CONTROLLING THE FLOW OF FLUIDS

James Quinlan O'Brien, 33 Finney Lane, Heald Green, Cheadle, England
Filed Dec. 22, 1966, Ser. No. 604,003
Claims priority, application Great Britain, Jan. 4, 1966, 214/66
Int. Cl. G05d *23/10;* **F03g** *7/06;* **H01h** *37/54*
U.S. Cl. 236—48 **9 Claims**

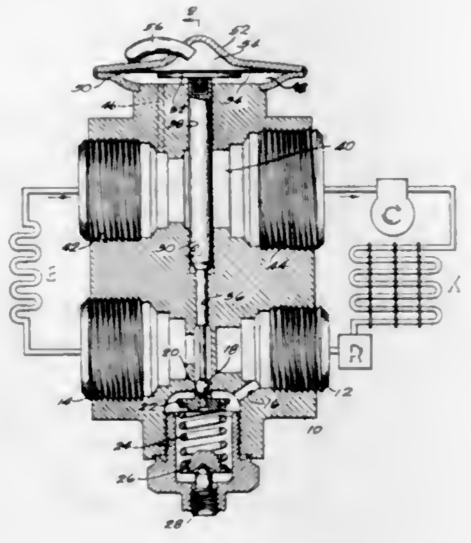


In a device for moving a control element in accordance with temperature change in a fluid, the control element is mounted by way of corrugated bimetallic strips whose ends are placed in grooves The grooves are elliptical when viewed from the longitudinal axis of the conduit. The strips can be moved relative to the grooves to vary the compression on the strip and consequently the temperature at which the snap action of the bimetallic strip is triggered.

3,450,345

BULBLESS THERMOSTATIC EXPANSION VALVE

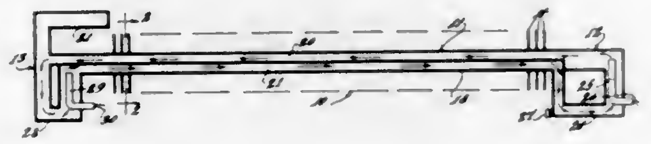
Charles D. Orth, Cedarburg, and Charles F. Treder, Brookfield, Wis., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,079
Int. Cl. G05d *27/00;* **F25b** *41/04*
U.S. Cl. 236—92 **1 Claim**



The thermostatic expansion valve controls refrigerant flow to the evaporator in accordance with the pressure acting below the diaphragm and the temperature influencing the temperature responsive charged space above the diaphragm. The pressure is derived from the return conduit through the upper part of the body which leads from the evaporator outlet to the compressor inlet. The temperature is influenced by the temperature of the gas passing through the return conduit with the principal heat transfer occurring by conduction through the metal valve body since the restricted passages connecting the underside of the diaphragm to the return conduit largely serve for communication of pressure and there is no pressure differential promoting flow through the space underneath the diaphragm.

3,450,346
SPACE HEATER

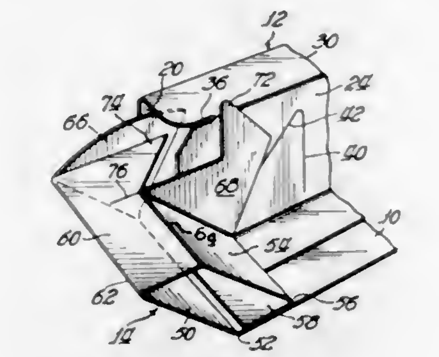
Victor Bilinski, 5007 N. Warnock St.,
Philadelphia, Pa. 19141
Filed July 27, 1967, Ser. No. 656,474
Int. Cl. F24h *3/08;* **F28d** *15/00*
U.S. Cl. 237—70 **5 Claims**



This invention is essentially concerned with a space heater having conduit means extending along the space to be heated, which conduit means includes a pair of longitudinally extending fluid passageways in side-by-side relation connected at their ends for circulation of contained fluid and dissipation of heat to the surrounding space from both of the passageways.

3,450,347
CORNER CONSTRUCTION FOR HOLLOW WALL TRAY

Philip W. Lewis, Greensboro, N.C., Karl Zitzelman, Morris Plains, N.J., and Lawrence V. Brom, Greensboro, N.C., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 673,361
Int. Cl. B65d *5/22*
U.S. Cl. 229—34 **5 Claims**

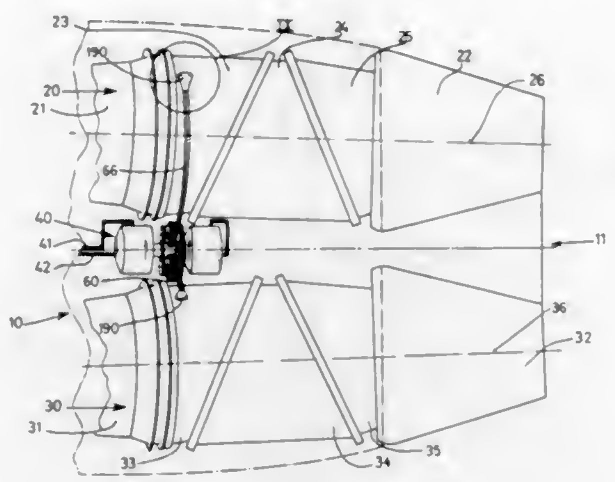


In a hollow wall tray having a bottom wall and opposed pairs of hollow side walls upstanding therefrom, a corner construction including a pair of flaps hinged to end edges of outer and inner panels of one side wall and disposed to lie against outer and inner panels, respectively, of the outer side wall with the inner flap of one wall having a tongue and slit connection with the inner panel of the other wall, and a projection on a top panel of one side wall being received within the other side wall under the top panel thereof.

3,450,348
DUAL DRIVE FOR SWIVELING NOZZLES

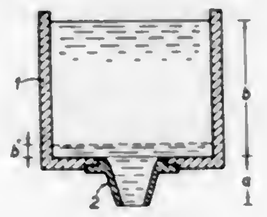
Gerhard Kopp, Munich, Germany, assignor to Entwicklungsring, Sud GmbH, Munich, Germany, a corporation of Germany
Filed July 3, 1967, Ser. No. 650,722
Claims priority, application Germany, July 15, 1966,
E 32,073
Int. Cl. F02k *1/24;* **B64d** *27/20*
U.S. Cl. 239—265.11 **8 Claims**

A common gear drive placed between deflecting nozzles of jet engines wherein gearing and connecting chains synchronize and equalize the deflection transmitted to said nozzles.



3,450,349
FLOW NOZZLE WITH VARIABLE COEFFICIENT OF EFFLUX

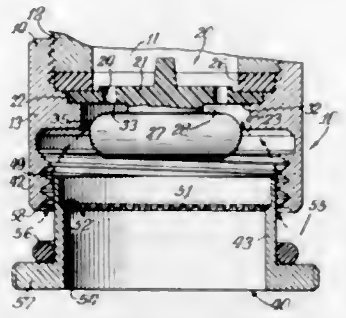
Maurice Hamon, 113 Ave. Franklin Rooseveldt,
Brussels 5, Belgium
Filed Feb. 28, 1966, Ser. No. 530,496
Claims priority, application Belgium, Mar. 30, 1965,
10,858
Int. Cl. E03c *1/084;* **B05b** *7/04*
U.S. Cl. 239—428.5 **4 Claims**



A variable coefficient of efflux nozzle for use in an incompressible fluid distribution system. The nozzle has a convergent zone at the input end and a plurality of lateral apertures in the walls forming the convergent zone at a point whereat the internal fluid pressure at rated output is substantially equal to the pressure externally of the nozzle.

3,450,350
SELECTIVE AERATING DEVICE

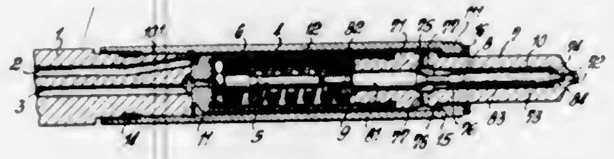
Gilbert V. Gullaksen, Monee, Ill., assignor to Wrightway Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 21, 1967, Ser. No. 617,587
Int. Cl. E03c *1/084*
U.S. Cl. 239—428.5 **9 Claims**



An aerating device adapted to be connected to a water faucet or other source of liquid under pressure, which may be selectively rendered operable to provide either an aerated or non-aerated stream by shifting a sleeve mounted in the discharge end of the device between different positions, the position of the sleeve serving to open or close the inlet end of the air passage or passages of the device.

3,450,351
FUEL INJECTION NOZZLE FOR INTERNAL COMBUSTION ENGINES

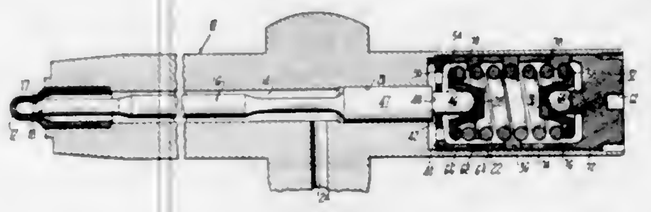
Friedrich Messerschmidt, Stuttgart-Wellimdorf, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany
Filed Oct. 18, 1966, Ser. No. 587,477
Claims priority, application Germany, Oct. 29, 1965,
B 84,297
Int. Cl. F02m *61/12, 61/18, 61/20*
U.S. Cl. 239—533 **2 Claims**



A fuel injection nozzle for an internal combustion engine in which a screw cap at least partly surrounds and releasably connects nozzle means to a nozzle holder and forms an annular gap providing communicating between a fuel feed passage in the nozzle holder and a fuel injection passage in the front portion of the nozzle means.

3,450,352
FUEL INJECTION NOZZLE AND ADJUSTABLE BIASING MEANS THEREFOR

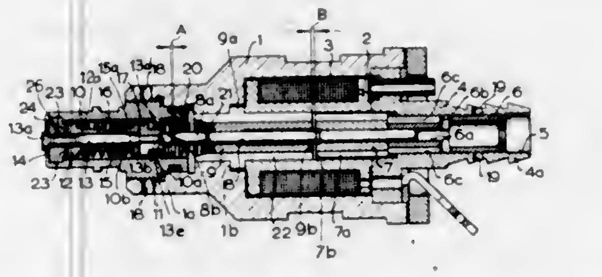
Vernon D. Roosa, West Hartford, Conn. (% Hartford Machine Screw Co., 28 Sargeant St., Hartford, Conn. 06105)
Filed Jan. 13, 1967, Ser. No. 609,035
Int. Cl. B05b *1/30*
U.S. Cl. 239—533 **5 Claims**



A precision fuel injection nozzle having a valve lift stop and a biasing spring stop which are independently adjustable and locked, and deep saddles forming spring seats swivelly engaging the valve stem and the biasing spring stop respectively to provide a stable self-aligning spring construction to minimize lateral thrust on the valve.

3,450,353
ELECTROMAGNETICALLY ACTUATED FUEL INJECTION VALVE FOR INTERNAL COMBUSTION ENGINES

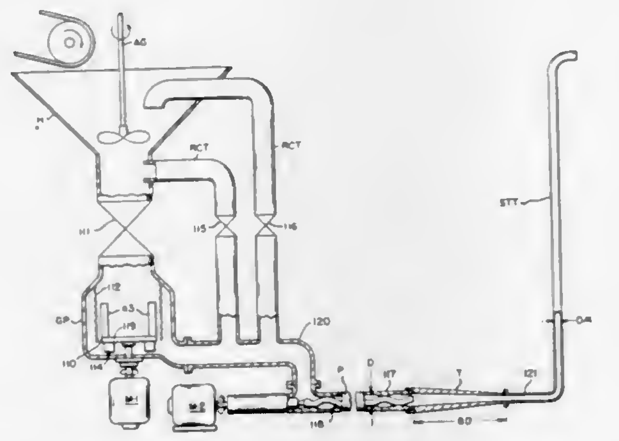
Konrad Eckert, Stuttgart-Bad Cannstatt, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany, a company of Germany
Filed Sept. 26, 1967, Ser. No. 670,667
Claims priority, application Germany, Oct. 20, 1966,
B 89,456
Int. Cl. F02m *51/06;* **F16k** *31/08*
U.S. Cl. 239—585 **10 Claims**



An electromagnetically operated fuel injection valve having a valve needle intermittently unseated by a reciprocating armature displaced by the magnetic field generated by an intermittently energized solenoid and returned into its original position by a return spring, said armature and said valve needle are formed as two separate, unconnected members.

3,450,354
ENCLOSED TRANSPORT APPARATUS AND PROCESS

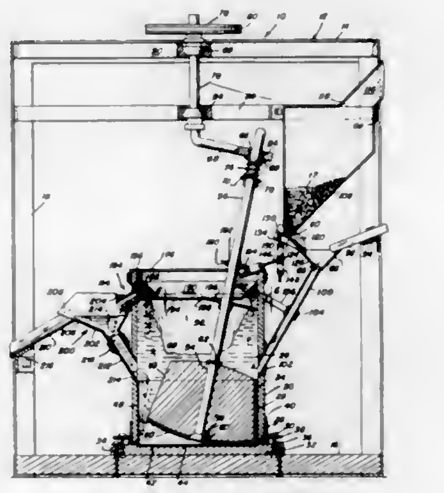
Theodore Helfgott, Mount Holly, and Paul J. Webber, Marlton, N.J., assignors to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 13, 1966, Ser. No. 601,395
Int. Cl. B02c *18/10, 17/16, 19/22*
U.S. Cl. 241—43 **2 Claims**



Pseudoplastic materials, such as heterogeneous dewatered sewage sludge, are mixed, sheared, pumped and passed through conduit in turbulent flow. The smooth bore conduit is of such dimensions as to maintain turbulence therein, the conduit having transitions in diameter each not more than one-fourth the medial length of its respective transition section. Cooperating agitator, grinder pump and worm pump provide sufficient shear and turbulence to permit such materials to pass through conduit in turbulent flow.

3,450,355
ORE CRUSHER

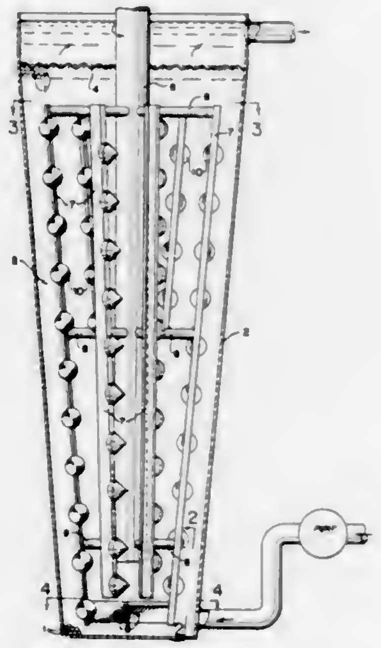
Eugene W. Murphy, Rte. 1, Box 123,
Brownsville, Oreg. 97327
Filed Aug. 5, 1966, Ser. No. 570,615
Int. Cl. B02c *2/06, 23/02*
U.S. Cl. 241—46 **9 Claims**



An ore crusher including a grinding chamber about which a conical pestle internally travels and coacts with the walls of the chamber for the crushing of ore introduced into the chamber. Water runs through the chamber and floats the crushed ore through a classifier in which the pulverized ore is skimmed off for discharge while the larger particles are recirculated through the chamber for additional crushing.

3,450,356
AGITATOR

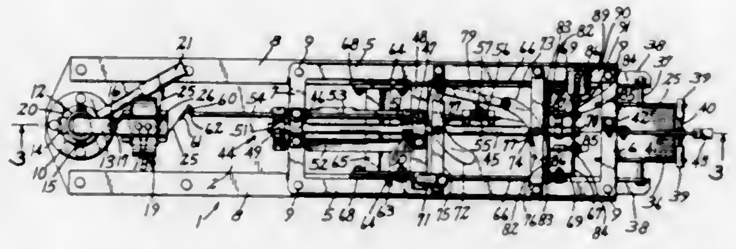
Andrew Szegvari, 201 Castle Blvd.,
Akron, Ohio 44313
Continuation of application Ser. No. 349,550, Mar. 5, 1964. This application Feb. 17, 1967, Ser. No. 616,988
Claims priority, application Great Britain, Mar. 11, 1963, 9,599/63; Oct. 2, 1963, 38,840/63
Int. Cl. B02c *17/16, 17/20*
U.S. Cl. 241—172 13 Claims



Grinding apparatus which comprises a vessel partially filled with spherical grinding elements, and a central vertical agitator with supports extending different distances therefrom and each provided with a terminal activator.

3,450,357
STATOR WINDING DEVICE

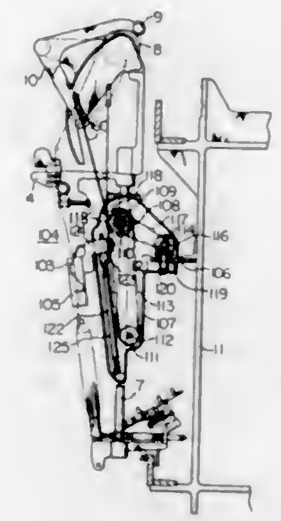
Edwin N. Olson, 109 1st St. SE., Minot, N. Dak. 58701
Filed Mar. 13, 1967, Ser. No. 622,557
Int. Cl. B65h *81/06*
U.S. Cl. 242—1.1 14 Claims



A device for winding coils of wire on the stator of an electric motor or generator, including a stator mounting means and a wire carrying shuttle mounted for reciprocatory movements axially of the stator and oscillatory movements transversely of the direction of reciprocatory movements. Cam elements, for imparting oscillatory movements to the shuttle, are adjustable to vary the extent of, and reverse the direction of said oscillatory movement relative to the direction of said reciprocatory movement of the shuttle. A flexible wire discharge tube, and a die member adapted to be mounted on the stator, cooperate to guide wire into coils of predetermined shape in the stator.

3,450,358
AUTOMATIC WINDER

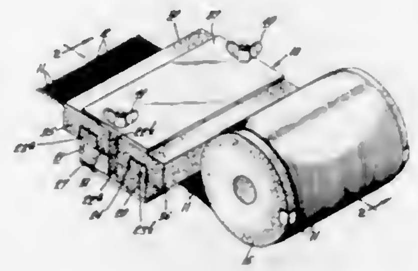
Isamu Matsui, Kyoto-shi, Japan, assignor to Toyo Boseki Kabushiki Kaisha, Osaka, and Murata Machinery, Ltd., Kyoto-shi, Kyoto, Japan, both companies of Japan
Filed Dec. 14, 1966, Ser. No. 601,717
Claims priority, application Japan, Dec. 17, 1965, 40/77,871; Dec. 31, 1965, 40/81,730
Int. Cl. B65h *54/22, 63/00*
U.S. Cl. 242—35.5 16 Claims



In an automatic winding machine having a plurality of winding units travelling along a looped passage surrounding a main frame of the winding machine, each winding unit has an anti-sloughing tube disposed above the supply cop at a position along a yarn path between the supply cop and a winding mechanism. The anti-sloughing device is shifted toward the supply cop as the winding operation progresses for each supply cop, and is returned to its uppermost position when a fresh supply cop is supplied to the winding unit.

3,450,359
MULTI-FEED WIRE PACKAGE

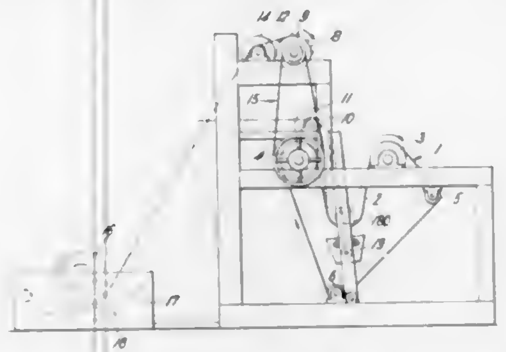
Walter J. Draving, Willow Grove, and Joseph E. Nerz, Philadelphia, Pa., assignors to Micro-Miniature Parts Corporation, Willow Grove, Pa., a corporation of Pennsylvania
Filed Sept. 20, 1967, Ser. No. 669,133
Int. Cl. B65h *75/00, 59/22*
U.S. Cl. 242—54 14 Claims



A package for storing for use in a preset spacing, separate lengths of small diameter wires which are to be used, for example, in threading or wiring a magnetic core memory plane. The package includes a spool adapted to have wrapped thereon a plurality of separate wires axially spaced along the periphery of the spool. To retain the wires and the correct spacing thereof one from the other, a wire mounting block is provided, the block including a planar base portion having a pair of laterally spaced, axially extending upstanding rail means, and means defining a plurality of laterally extending, axially spaced slots in each of the rail means, the slots in the one rail being aligned with the slots in the opposite rail and adapted to receive the extended ends of the wire wrapped on the spool, therein. Also included is a cover which overlies the upstanding rail means to substantially enclose the upper surface of the means defining a slot and including means on the cover for engagement with the wires to press the same against the block intermediate the upstanding rail means to prevent inadvertent displacement of the wires from the block.

3,450,360
MACHINE FOR WINDING UP CHAIN LINK FENCING

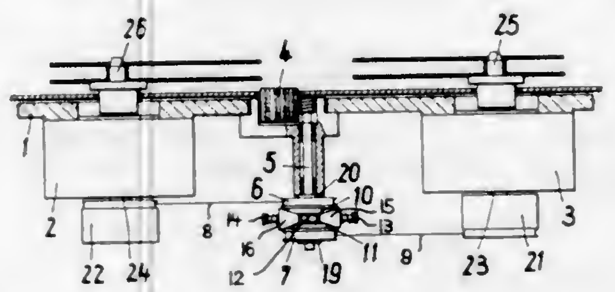
Marcel Verstraete, Norwich, England, assignor to Trefileries Leon Bekaert, P.V.B.A., Zwevegem, Belgium, a corporation of Belgium
Filed Sept. 19, 1966, Ser. No. 580,424
Int. Cl. B65h *75/02, 55/00, 17/02*
U.S. Cl. 242—55 3 Claims



A machine for winding a chain link fencing to a coreless roll. Feeding and roll supporting mechanism for crowding the chain links together during the winding operation for obtaining a condensed roll.

3,450,361
TAPE COUNTER DRIVE MECHANISM

Werner Sohn, Constance, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Apr. 27, 1966, Ser. No. 545,659
Claims priority, application Germany, May 6, 1965, T 28,527
Int. Cl. G11b *15/44;* **B65h** *25/04;* **G01b** *3/12*
U.S. Cl. 242—55.12 6 Claims

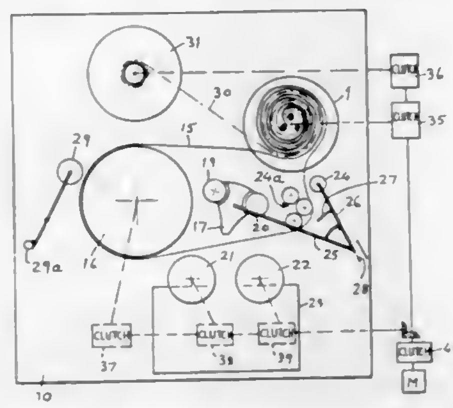


A drive mechanism for a tape recorder counter using a differential drive in which the sun gears are connected with the tape spindles and the planetary gears drive the counter shaft.

3,450,362
SIGNAL RECORDING AND/OR PLAYBACK APPARATUS

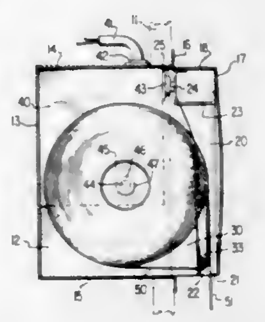
Jahangir M. Ahy, 13 Duke St., Manchester Square, London W. 1, England
Filed Aug. 18, 1967, Ser. No. 661,631
Claims priority, application Great Britain, Aug. 19, 1966, 37,359/66; May 19, 1967, 23,484/67
Int. Cl. B65h *55/16, 17/02, 17/42*
U.S. Cl. 242—55.16 8 Claims

The specification describes a signal recording and/or playback apparatus for use with a broad band record carrier in the form of an endless loop which is stored in random fashion in a random storage compartment of the machine. During recording or playback, the band is withdrawn from the storage compartment, and after circulation passed the recording or playback head, is returned to the compartment. The apparatus includes feeder mechanism for feeding the band from a spool, on which it is wound in double spiral form at the time of inserting the band into or removing it from the machine, into the random storage compartment, for circulating the band through the machine during recording or playback, and for rewinding the band on the spool when it is to be removed from the machine. In the case of a magnetic record band, an isolating band of non-magnetic material is interposed between the magnetic coatings on the record band when it is wound up on the spool, and the machine includes means for unwinding and storing the isolating band while the feeding mechanism is feeding the record band into the random storage compartment and circulating the record band through the machine for recording or playback, and for rewinding the isolating band on the spool between the magnetic coatings when the recording band is being rewound on the spool.



3,450,363
MOTOR DRIVEN WEB MATERIAL DISPENSER

James L. Williams, Massillon, Ohio, assignor, by mesne assignments, to Navarre Products, Inc., North Lawrence, Ohio, a corporation of Ohio
Filed Feb. 15, 1968, Ser. No. 705,649
Int. Cl. B65h *19/00*
U.S. Cl. 242—55.53 7 Claims

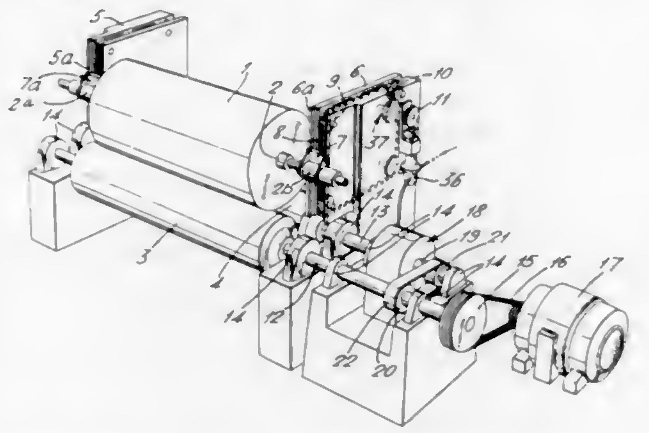


A dispenser for web material in roll form in which the roll is mounted on a motor driven shaft within a housing having a discharge slot therein. The outer convolution of material passes into the slot and the adjacent convolution of material passes over a spacer bar resulting in a planar portion of web travel alongside of the outer convolution which is positively driven by its frictional contact with the adjacent convolution.

3,450,364
WEB WINDING MECHANISM

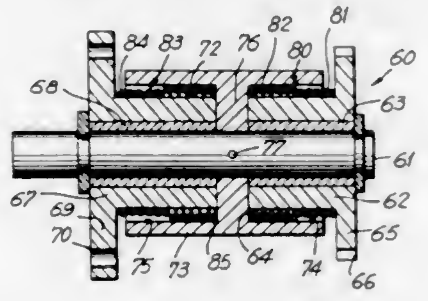
Hugh R. W. Marsh and Colin Taylor, London, England, assignors to Masson Scott Thrissel Engineering, Ltd., Sommerstown, London, and Walmsleys (Wigan) Ltd., Wigan, Lancashire, England, both British companies
Filed Dec. 19, 1967, Ser. No. 691,743
Claims priority, application Great Britain, Dec. 23, 1966, 57,610/66
Int. Cl. B65h *17/08*
U.S. Cl. 242—66 9 Claims

A mechanism for winding a web (e.g. of paper) into a roll has two drums by which the roll being formed is both supported and driven. Both drums are connected to a drive motor, the connection to one drum being through a differential gear provided with a brake for its third rotary member, the brake being controlled in accordance with the size of the roll being wound so that the speed of the one drum varies as the roll size changes.



3,450,365
BI-DIRECTIONAL LIMIT TORQUE SLIP ELEMENT

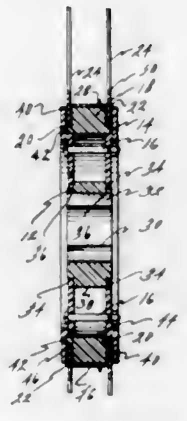
Joseph Kaplan, 39 Fair Lane, Jericho, N.Y. 11753
Filed May 19, 1967, Ser. No. 639,909
Int. Cl. B65h *17/02*
U.S. Cl. 242—67.4 **5 Claims**



This invention relates to a bi-directional limit torque slip element including a helically coiled spring frictionally engaging relatively rotatable generally cylindrical surfaces for transmission of rotation in opposite directions with the same or different limit torques in the opposite directions, as desired, in accordance with the relative spring distention in its engagement with cylindrical surfaces.

3,450,366
SELF-THREADING FILM REEL WITH FREE-WHEELING HUBS

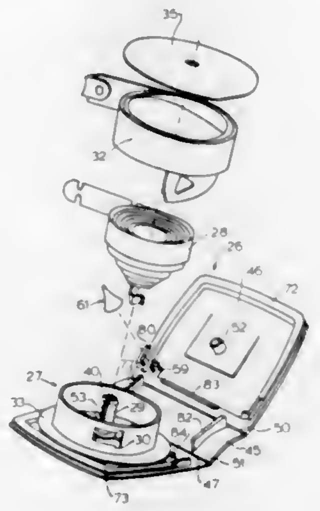
Morris Goldberg, Denver, Colo., assignor to Goldberg Brothers, Inc., Denver, Colo., a corporation of Colorado
Filed Jan. 8, 1968, Ser. No. 696,191
Int. Cl. B65h *75/28*
U.S. Cl. 242—74 **7 Claims**



This invention relates to a motion picture film reel of the self-threading type having a drive spindle hub mounted within the reel hub for relative rotation when the forces exerted upon the reel hub by the film tending to restrain same approach a magnitude sufficient to tear the sprocket holes. The reel also includes free-wheeling flanges mounted upon the reel hub which will turn relative thereto without imparting significant inertia when the reel hub is stopped suddenly as the teeth thereon engage the sprocket holes in the film.

3,450,367
TAPE RULE PUSHBUTTON LOCK

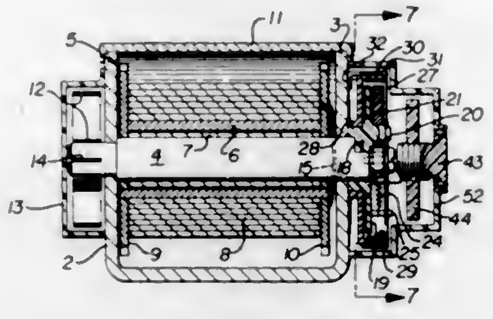
James E. Edgell, Wexford, Pa., assignor to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,167
Int. Cl. B65h *25/48;* **G01b** *3/10, 3/02*
U.S. Cl. 242—107.2 **6 Claims**



A pushbutton operated tape rule lock incorporates a clothespin like member which spreads when pushed inwardly against a fixed inner wedge member causing one leaf of the clothespin member to deflect against and lock the tape. The lock adapts both to rigid and flexible wall tape rule housings.

3,450,368
SAFETY HARNESS DEVICE

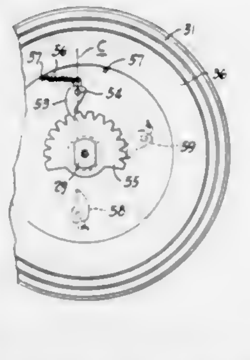
James E. Glauser, Santa Ana, and William S. Wright, Jr., Orange, Calif., assignors to Pacific Scientific Company, City of Commerce, Calif., a corporation of California
Filed Aug. 15, 1967, Ser. No. 660,674
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.4 **6 Claims**



An inertia type safety harness device having a spindle with a harness strap wrapped around a reel fixed thereon together with a rewind spring for keeping the harness strap taut while allowing free movement of the user, an inertia semi-disc pivotally mounted at its center of gravity eccentrically of the spindle and turnable therewith due to a calibration spring means interconnecting the inertia member and spindle, excessive acceleration of the strap causing the inertia member to distend the spring means and actuate biasing spring mechanism to effect locking of the reel at both ends simultaneously, the reel automatically unlocking upon relieving the force on the strap, and further incorporating means for preventing locking of the reel during initial hand pull-out of the strap.

3,450,369
REEL CONSTRUCTION HAVING PAWL OPTIONALLY MOUNTED

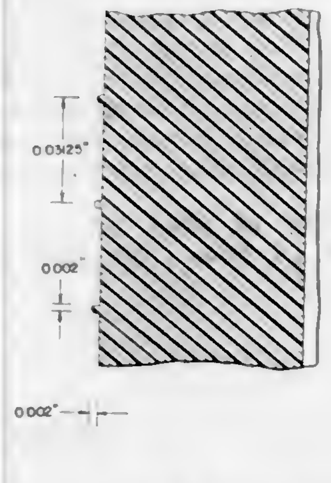
Charles H. Blanch, Maple Heights, and Henry F. Olzak, Independence, Ohio, assignors to Alert Stamping and Mfg. Co., Inc., Bedford Heights, Ohio, a corporation of Ohio
Filed Aug. 15, 1967, Ser. No. 660,731
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.7 **8 Claims**



A reel construction having a ratchet and pawl wherein the pawl is of such design that it can be optionally, reversibly mounted on the reel, so that the same ratchet and pawl can be selectively placed in an engaging, interlocking relationship for either a clockwise or counterclockwise rotation of the reel and a non-engaging, sliding relationship for the reverse direction.

3,450,370
TEXTILE CARRIER

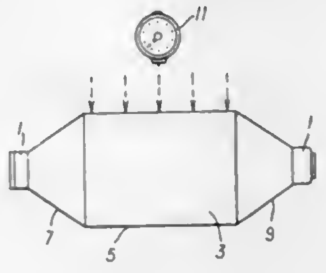
Willard S. Hawkins, Hartsville, S.C., assignor to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed May 24, 1967, Ser. No. 640,980
Int. Cl. B65h *75/08*
U.S. Cl. 242—118.32 **1 Claim**



A textile carrier of conical shape molded from synthetic resinous material having a plurality of uniformly spaced, upstanding ribs on its winding surface, the ribs having a width of approximately 0.002 inch, a height of approximately 0.002 inch, and a spacing of approximately 0.03125 inch, the winding surface adequately retaining strand material wound thereon and permitting the delivery of the wound strand material during unwinding at a uniform, relatively low tension.

3,450,371
POLYAMIDE YARN PACKAGES WITH TAPERED END-PORTIONS AND THEIR PRODUCTION

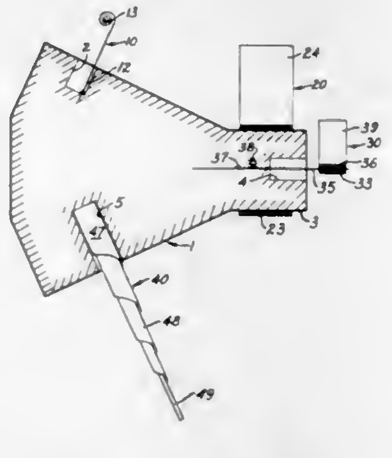
David Meredith Phillips, Stonehouse, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed June 26, 1967, Ser. No. 648,685
Claims priority, application Great Britain, July 4, 1966, 29,829/66
Int. Cl. B65h *55/00;* **D01h** *13/00;* **D02g** *3/02*
U.S. Cl. 242—159 **2 Claims**



Low barré heat-relaxed polyamide yarn packages are wound with long-to-short build and programmed spindle speed for reducing tension through the period of winding.

3,450,372
SELF-PROJECTABLE ELEMENT FOR A SPACE VEHICLE

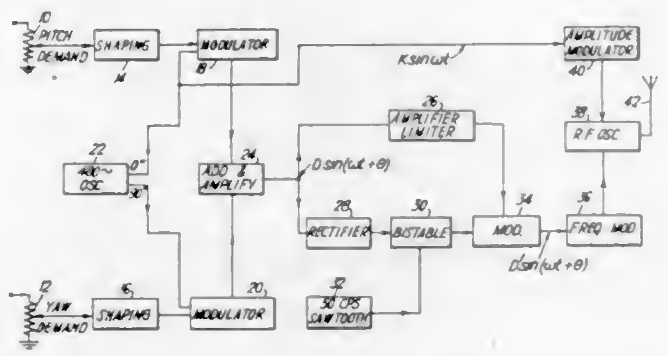
Robert Gerardus de Lange, Reeuwijk, Cornelis Antonius Verbraak, Beekbergen, and Jacobus Antonius Zijderveld, Zoetermeer, Netherlands, assignors to Nederlandse Organisatie voor Toegepast - Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer, a corporation of the Netherlands
Filed Feb. 4, 1966, Ser. No. 525,177
Claims priority, application Netherlands, Feb. 10, 1965, 6501606
Int. Cl. B64c *39/00;* **H01q** *1/28;* **H04b** *1/38*
U.S. Cl. 244—1 **3 Claims**



A space vehicle provided with at least one device adapted to be projected from the body of the vehicle in order to perform a function as an aerial, an antenna, a reflector, a solar battery, a rotation-reducing or stabilizing means, or as a carrier of any of these, said device comprising at least one wound-up element made of a substantially equi-atomic nickel-titanium alloy adapted to be unfolded substantially under the influence of special heat radiation. Such devices include coils which unroll around their axes and/or axially to form hollow helicoidal shapes or hollow cones. These devices when in their coiled position may be located within cavities in the space vehicle, that is below its outer surface, and be projected beyond the surface either by their own action to heat radiation, or together with mechanical means initiated by a signal, or they may even be wrapped around a cylindrical portion of the space vehicle itself.

3,450,373
PLURAL MODULATION OF RADIO-FREQUENCY CARRIER WAVE FOR REMOTE MISSILE CONTROL SYSTEMS

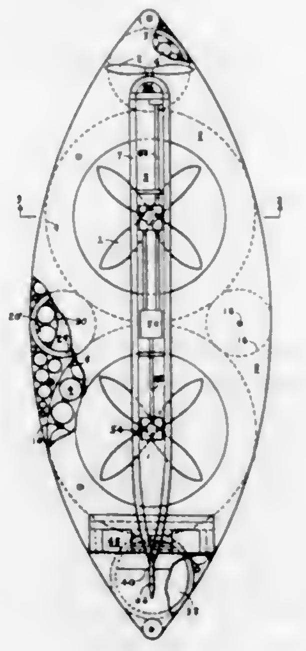
Frank A. Richards, Luton, England, assignor to British Aircraft Corporation Limited, London, England
Filed Aug. 23, 1967, Ser. No. 662,664
Claims priority, application Great Britain, Aug. 25, 1966, 38,271/66
Int. Cl. F41g *7/00*
U.S. Cl. 244—3.14 **7 Claims**



An apparatus for generating a missile control signal containing two data signals is disclosed. Such apparatus includes a means to modulate a low-frequency alternating signal with data signals from two channels representing different variables in quadrature phase relationship. The thus modulated signal in turn is used to modulate a radio-frequency carrier wave so that the magnitude of the data signals is represented in the modulated carrier by the phase of the low-frequency modulating signal. The same carrier wave is additionally modulated in accordance with a phase reference signal and with the amplitude of the low-frequency alternating signal modulated by the two data signals in phase quadrature.

3,450,374
RESILIENTLY FLEXIBLE VEHICLE

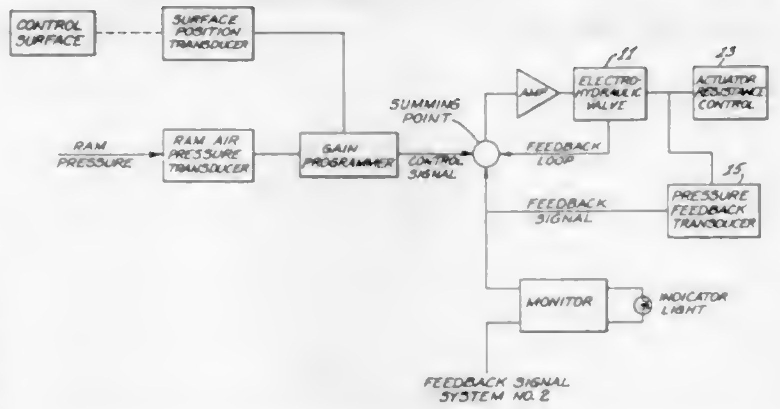
Alvin Edward Moore, 916 Beach Blvd., Waveland, Miss. 39576
Filed Mar. 3, 1966, Ser. No. 531,567
Int. Cl. B60v *3/06, 3/08;* **B63b** *5/00*
U.S. Cl. 244—5 **42 Claims**



A shock-resistant vehicle, adapted for use as an aircraft, boat (or hovercraft), or land conveyance, having: a forward propeller; vertical-lift propellers; motors driving the propellers; and outer structure which comprises flexible mesh, plastic impregnating the mesh, and (optionally) inflated, resilient, vehicle-framework tubes which may be of thin metal or mesh-and-plastic. Preferably the tubes are hermetically sealed and permanently inflated with high-pressure, lighter-than-air gas. The craft optionally comprises a balloon in its upper part, and an engine that is placed low in the vehicle and supplies hydraulic fluid or other energy to the propeller-driving motors.

3,450,375
LOAD FEEL COMPUTER

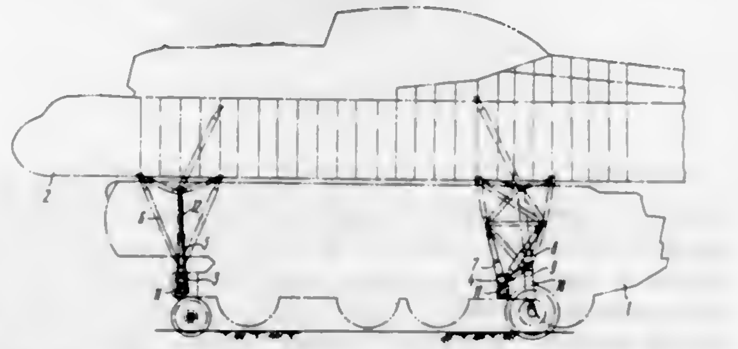
William D. Wilkerson, Santa Ana, Calif., assignor to Bertea Corporation, Irvine, Calif., a corporation of California
Filed Feb. 2, 1967, Ser. No. 613,581
Int. Cl. B64c *13/50*
U.S. Cl. 244—77 **8 Claims**



This disclosure describes a system for electrically controlling an electrohydraulic valve. The electrical system for providing this control function includes several devices, such as transducers, each of which produces an electrical signal in response to a predetermined variable condition. The several electrical signals are combined in a gain programmer according to a predetermined program to produce a control signal which controls the electrohydraulic valve. The electrohydraulic valve controls the force required for operating a control surface actuator. Two such systems are arranged with a monitor to indicate failure of either one.

3,450,376
DEVICE FOR RIGID FASTENING OF CARGO TO AIRCRAFT PARTICULARLY TO HELICOPTER-CRANE FOR TRANSPORTING THIS CARGO

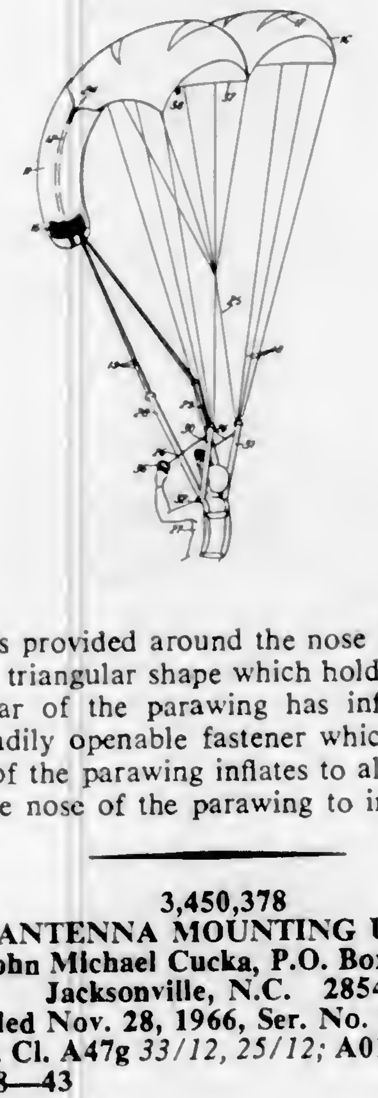
Nikolai Grigorievich Rusanovich, 3 Rybinskaya ulitsa 12, kv. 6; Ivan Sergeevich Dmitriev, Kutuzovsky prospect 13, kv. 163; Yakov Vasilievich Korobov, 3 Rybinskaya ulitsa 30, kv. 4; Shmul Ovshievich Volfenzon, Bolotnikovskaya ulitsa 38, korpus 1, kv. 127; Boris Jurievich Kostin, Kholzunov per. 18, kv. 416; Evgeny Bentsionovich Zaichik, Bolshaya Cherkizovskaya ulitsa 3, korpus 5, kv. 67; and Vasily Semenovich Emelyanov, Mytischi Moskovskoi oblasti, ulitsa Schelkovskaya, 1, all of Moscow, U.S.S.R.
Filed Oct. 18, 1965, Ser. No. 497,173
Int. Cl. B64c *1/22;* **B60p** *3/00*
U.S. Cl. 244—137 **6 Claims**



A structure composed of a plurality of fluid operated struts of adjustable length, some of which are provided with a gripper at one end to engage elements mounted on an object to be supported by a helicopter or the like, these struts being articulated to the helicopter at their other ends, and two of the other struts control the position of at least two of the struts that are provided with a gripper, so that an object lifted and positioned by said struts is rigidly supported by said helicopter, by a tripod, and the several struts are each provided with locks to prevent inadvertent change of length of the struts.

3,450,377
PARACHUTES

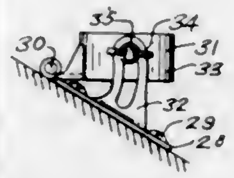
John Rothwell Mitchell, Woking, Surrey, England, assignor to G.Q. Parachute Company Limited, Woking, Surrey, England, a British company
Filed Jan. 4, 1968, Ser. No. 695,792
Claims priority, application Great Britain, Jan. 27, 1967, 4,130/67
Int. Cl. B64d *17/52, 17/62*
U.S. Cl. 244—149 **5 Claims**



A sleeve is provided around the nose of a parawing of substantially triangular shape which holds the nose reefed until the rear of the parawing has inflated, the sleeve having a readily openable fastener which is forced open as the rear of the parawing inflates to allow the sleeve to open and the nose of the parawing to inflate.

3,450,378
ANTENNA MOUNTING UNIT

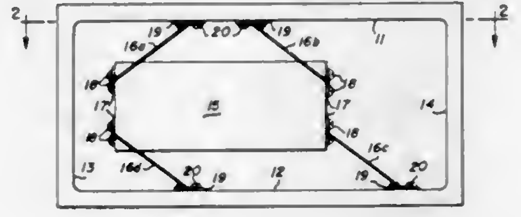
John Michael Cucka, P.O. Box 1233, Jacksonville, N.C. 28540
Filed Nov. 28, 1966, Ser. No. 597,306
Int. Cl. A47g *33/12, 25/12;* **A01k** *97/10*
U.S. Cl. 248—43 **1 Claim**



An antenna mounting base in which a fixed portion of the base is attached to a support structure and an antenna mast is secured to a movable portion of the base. The movable portion pivots on a single axis about the fixed portion to facilitates moving the antenna mast to a vertical position. The movable portion of the mounting base is then permanently secured to the surrounding supporting structure or to the fixed portion of the mounting base to hold the antenna in the vertical position.

3,450,379
VIBRATION ISOLATION DEVICE

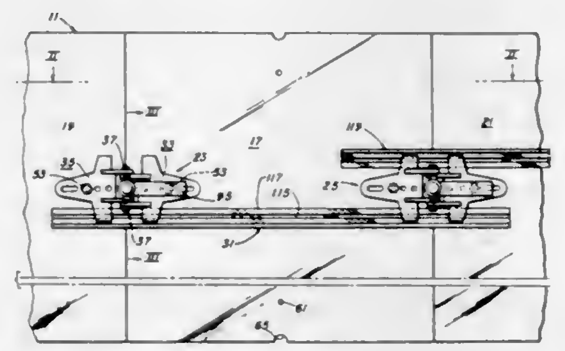
Terence H. Nolan, Palo Alto, Calif., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 667,996
Int. Cl. F16f *15/04*
U.S. Cl. 248—358 **10 Claims**



Stranded cables forming circular loops and connecting, at diametrically opposed points, a supported member within a supporting member for isolation mounting of sensitive instruments or the like and for vibration damping. An asymmetrical positioning of the loop-type cables tends to break up system resonance thereby improving low frequency isolation.

3,450,380
CONCRETE FORM APPARATUS

Lamar Fontaine, Pascagoula, Miss.
(P.O. Box 28, Prairieville, La. 70769)
Filed Mar. 13, 1967, Ser. No. 622,538
Int. Cl. E04g *11/06, 17/06*
U.S. Cl. 249—45 **7 Claims**

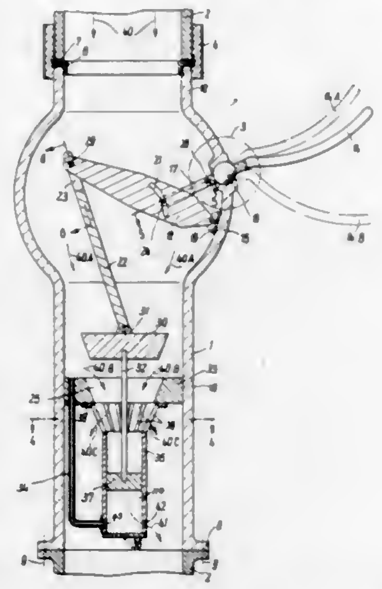


A form apparatus is disclosed which is adapted to be assembled and disassembled and temporarily used in the construction of a concrete wall. The apparatus includes a plurality of modular wall panels, connector means for joining the panels together in edgewise relationship and tie means for tying the wall panels together. Each of the tie means includes a rod-like shank part and a tubular handle part fitted over the shank part. In addition, each of the tie means includes bayonet lock-type tie groove portions which coactingly engage respectively inward and outward pairs of tie dogs secured respectively on the inward and outward connector assemblies. In addition, the form apparatus includes inward and outward waler means for reinforcing the wall panels.

3,450,381
LEVER OPERATED FLOW CONTROL DEVICE WITH DASHPOT

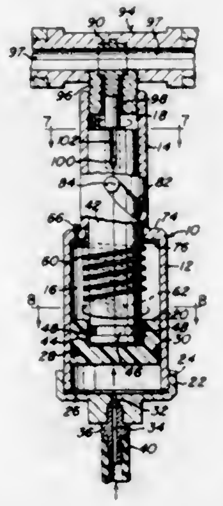
Joel B. Guin, 148 E. 48th St., New York, N.Y. 10017
Filed Feb. 13, 1967, Ser. No. 617,013
Int. Cl. F16k *21/10, 31/48;* **E03d** *3/04*
U.S. Cl. 251—50 **3 Claims**

This flow control device enables the user to control the quantity, speed and duration of flow of fluids through fluid-carrying means by a novel arrangement of levers and a lift-rod on the upstream side and a lift-rod connecting the valve to a time control means such as a dashpot on the downstream side of the valve. In the preferred embodiment a main activating lever penetrates a ball which is rotatably mounted in an enlarged portion or bulge in a pipe, the outer end of the lever serving as a hand-lever and the inner end being linked by one or more articulating rods or levers to the valve in such manner as to cause the valve to rise when the hand-lever end is depressed. The valve is tapered to fit snugly into the valve-seat. A rod mounted on the lower or downstream side of the valve connects with a piston movably disposed in a dashpot which is closed at its lower end except for an outlet hole for fluid from the dashpot and an inlet hole for a by-pass tube connecting with a channel through the valve seat for fluid to flow from the upstream side of the valve into the space in the dashpot below the piston. The size of the outlet hole and the volume of the space below the piston affect the duration of flow through the valve. The extent to which the hand-lever is depressed affects the size of the valve opening and the height to which the piston is raised in the dashpot.



3,450,382
ACTUATOR APPARATUS

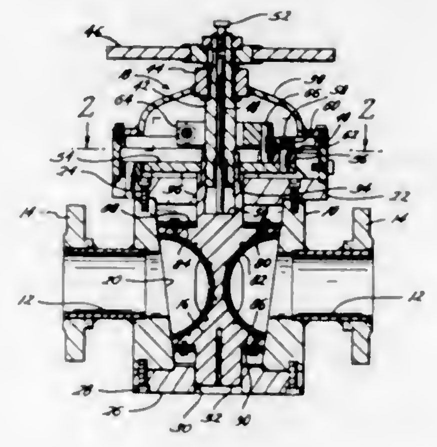
Thomas A. Calim, Shelby County, Ohio, assignor to Master Swaging & Mfg. Company, Jackson Center, Ohio, a partnership
Filed Jan. 26, 1967, Ser. No. 612,011
Int. Cl. F16k *31/163, 5/04, 31/524*
U.S. Cl. 251—58 **10 Claims**



This invention relates to actuator apparatus. The invention relates more particularly to actuator apparatus which is linearly operable. The invention relates still more particularly to linearly operable actuator apparatus which is particularly adapted for operation of a rotary member.

3,450,383
VALVE

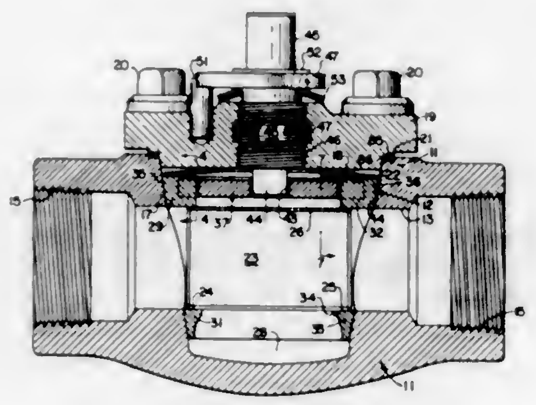
James H. Park III, James R. Redmon, and Wilton H. Leverett, Houston, Tex., assignors to Maintenance Engineering Corporation, Houston, Tex., a corporation of Texas
Filed Dec. 15, 1966, Ser. No. 602,071
Int. Cl. F16k *5/02, 11/02*
U.S. Cl. 251—165 **20 Claims**



A multiport plug type valve in which the plug is tapered and is provided with a plurality of layers of sealing material in sheet form. The valve also provides a plurality of releasable stop means in order that the plug may be selectively and positively positioned in any one of a number of positions.

3,450,384
PLUG VALVE ASSEMBLY

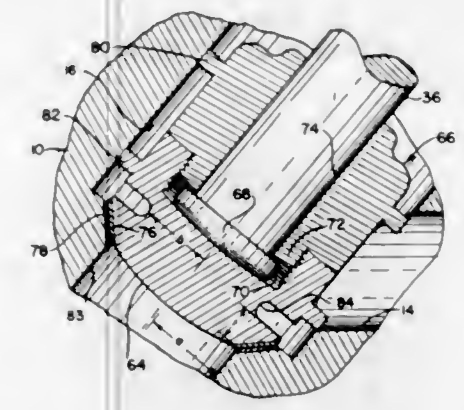
John D. Watts, Monroeville, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1966, Ser. No. 534,875
Int. Cl. F16k *5/02, 27/06*
U.S. Cl. 251—175 **20 Claims**



A plug valve assembly comprises a body having a through fluid passage intersected by a bore and a hollow plug rotatably mounted within the bore, the plug having a relatively thin annular side wall deformable under line fluid pressure and having a tube extending between side wall openings defining a transverse plug passage. When the plug is rotated to valve closed position, the plug side wall extends over and blocks the body passage on the downstream side, and upstream fluid pressure trapped within the hollow plug flexes the plug side wall to conform to the surface of the bore surrounding the body passage at the downstream side, for improved closure and sealing. The hollow plug is spring biased into seating within the bore, and lubricant grooving is provided between the plug side wall and body.

3,450,385
GROOVED VALVE DISC

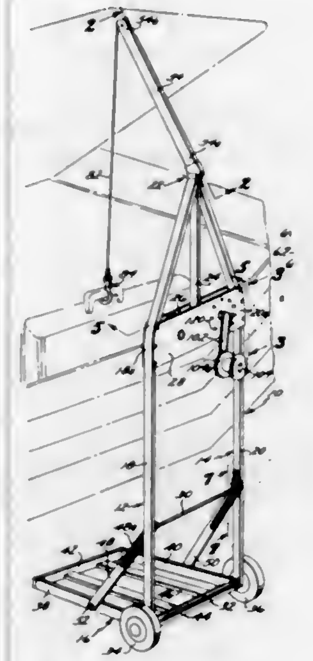
George J. Paptzun, Griffith, Ind., assignor to Rockwell Manufacturing Company, East Chicago, Ind., a corporation of Pennsylvania
Continuation of application Ser. No. 344,997, Feb. 14, 1964. This application Dec. 12, 1966, Ser. No. 601,220
Int. Cl. F16k *1/00, 5/00*
U.S. Cl. 251—334 **3 Claims**



A valve in which a frusto-conical seating surface on a stem-mounted closure member is moved into and out of engagement with a similar frusto-conical valve seat, the closure member having a central stiff body portion provided with a peripheral groove adjacent the seating surface to impart flexibility to said body in the region of said seating surface.

3,450,386
PORTABLE HOIST FOR LUGGAGE AND THE LIKE

Leon T. Eliel, 117–B Via Estrada, Laguna Hills, Calif. 92653
Filed Sept. 15, 1967, Ser. No. 667,944
Int. Cl. B66c *23/60;* **B66d** *1/30*
U.S. Cl. 254—139.1 **4 Claims**

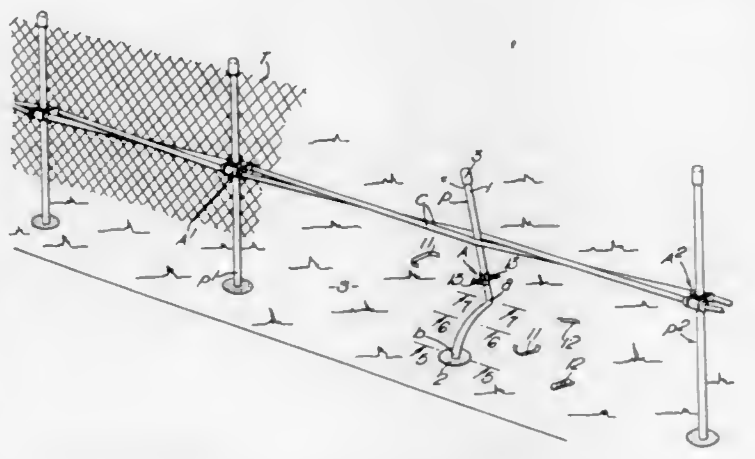


The present invention comprises a frame adapted with wheels and a hoist mechanism whereby luggage and similar articles can be lifted and conveniently transported from one location to another. It is particularized by comprising a frame having a platform which can be retracted and an extension which provides a line and hook over the platform when the latter is in operating position. A manual hoist mechanism or crank is provided for raising and lowering the hook, there being a ratchet mechanism to require release to enable the hook and luggage to be lowered. Such ratchet mechanism comprises a pawl engageable with limit stops on the frame, the manual handle being movable in a secondary direction for releasing such ratchet for lowering purposes.

Further, the device is characterized by the extension being collapsible to a position adjacent the frame for ease in transporting the entire device.

3,450,387
HIGHWAY SAFETY FENCE POSTS

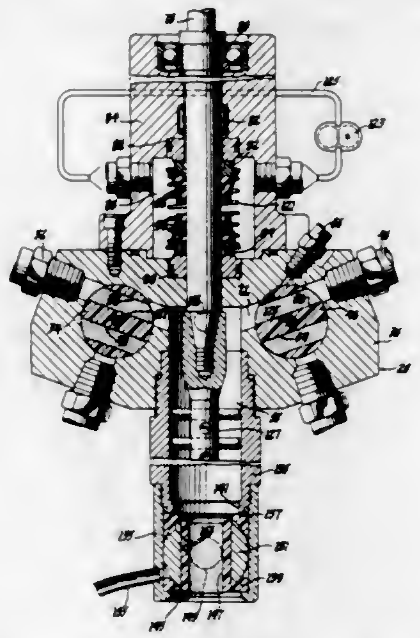
Robert Albert Thomas, Kortrijk, Belgium, assignor to Trefileries Leon Bekaert, PVBA, Zwevegem, Belgium, a corporation of Belgium
Filed June 22, 1966, Ser. No. 559,533
Claims priority, application France, June 25, 1965, 22,254
Int. Cl. E01f *15/00*
U.S. Cl. 256—13.1 **6 Claims**



A highway safety fence having an intermediate, thin-walled post, cables attached to the post by means of devices which are releasable under an impact and wire netting stretched between the intermediate posts.

3,450,388
MIXER WITH FLUSHING VALVE IN THE OUTLET

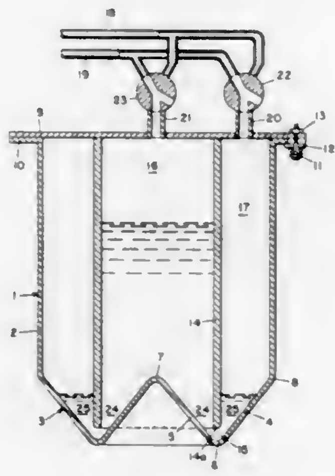
Gerald R. Stump, Centerville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,440
Int. Cl. B01f *15/02*
U.S. Cl. 259—8 **3 Claims**



In the preferred form, the mixing chamber is provided with a mixer and a separate ball-shaped rotary valve in its outlet provided with one normal delivery passage aligned with the mixing chamber and its outlet. The ball-shaped valve also has a lateral passage which in the flushing position is oriented with a flushing discharge passageway while the aforementioned main passageway is shut off from the outlet. The mixer is provided with two normal delivery valves to the mixing chamber, one of which is also provided with a flushing passage connecting with supplies of flushing fluid when the delivery valves are in the closed position.

3,450,389
MIXING APPARATUS AND METHOD

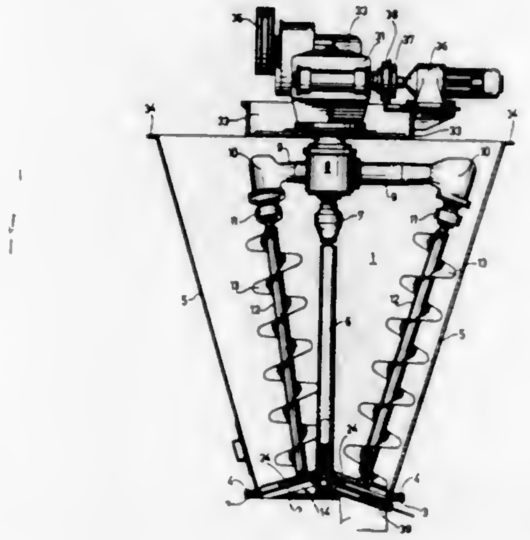
Gordon W. McCurdy, Salt Lake City, Utah, assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,100
Int. Cl. B01f *7/12, 5/06, 15/02*
U.S. Cl. 259—60 **10 Claims**



A flow-type mixer having particular utility in mixing explosive materials. The disclosed mixer comprises a mixing chamber divided into two mixing compartments interconnected at the lowest point in the mixing chamber by a gap through which the material to be mixed is forced as it is moved back and forth from one compartment to the other. The means for forcing the material is a pressure differential that, for example, may be fluid pressure imposed upon the liquid in the one compartment while the other compartment is connected to exhaust.

3,450,390
MIXING OR KNEADING DEVICE

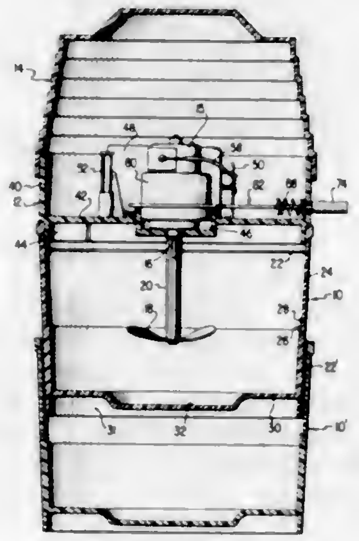
Constant Johan Nauta, Midden Duin en Daalscheweg 1, Overveen, Netherlands
Filed Nov. 16, 1967, Ser. No. 683,630
Claims priority, application Netherlands, Nov. 23, 1966, 6616525
Int. Cl. B01f *7/08*
U.S. Cl. 259—102 **7 Claims**



A device for mixing or kneading granular or paste-like materials having one or more mixing vessels each vessel having a supporting column and one or more mixing members supported by said supporting column the whole system rotating about the axis of the vessel whereas each mixing member rotates about its own longitudinal axis at the same time eventually said mixing members rotating about the axis of the vessel by different paths.

3,450,391
AGITATOR

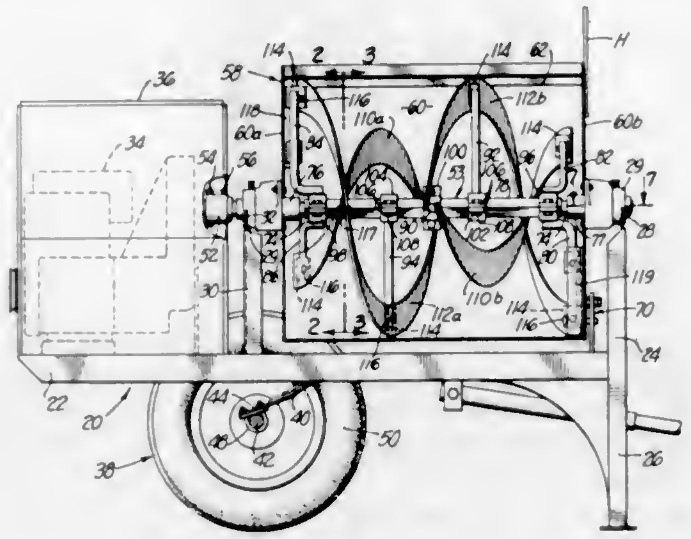
Nathan K. Morris, Neptune, N.J.
(1217 Main St., Asbury Park, N.J. 07712)
Filed Oct. 20, 1967, Ser. No. 676,853
Int. Cl. B01f *7/20;* **B08b** *3/00*
U.S. Cl. 259—122 **12 Claims**



A portable agitator utilizing a self-contained battery power source to power a high-speed electric motor. The motor and batteries are housed in an upper section which rests on the container in which the mixing takes place. In one embodiment, the agitator is used as a drink mixer, and in a second embodiment it is used as a denture washer. In the second embodiment a hold-down member prevents damage to the dentures.

3,450,392
MATERIALS MIXER

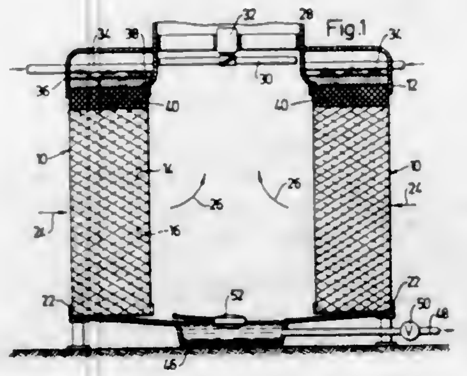
Darrell M. Vincent, Glendora, Calif., assignor to Automatic Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 16, 1967, Ser. No. 675,563
Int. Cl. B01f *7/08;* **B28c** *5/14;* **F16l** *21/02*
U.S. Cl. 259—178 **9 Claims**



A materials mixer including spiral mixer blades individually and removably mounted on a drive shaft in a mixing tank, with self-adjusting packing for the ends of the shaft.

3,450,393
GAS AND LIQUID CONTACT APPARATUS

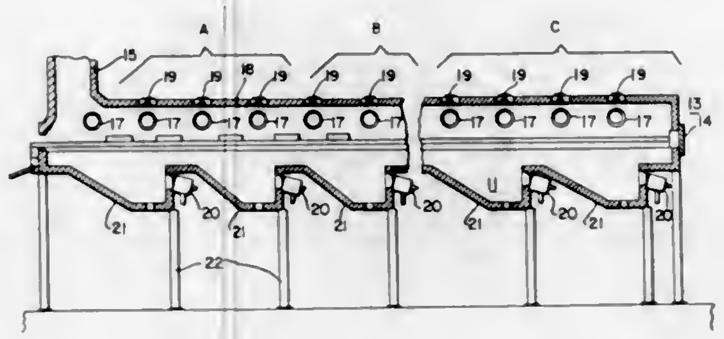
Carl Georg Munters, 3 Danderydsvagen, Stocksund, Sweden
Filed June 29, 1965, Ser. No. 468,064
Claims priority, application Sweden, July 7, 1964, 8,482/64
Int. Cl. F24f *3/14*
U.S. Cl. 261—112 **2 Claims**



A packing for cooling towers and similar gas and liquid contact apparatus comprising at least two superimposed units, each of which comprises a plurality of facially opposed strips disposed in substantially vertical, parallel relationship to form a plurality of intersecting and intercommunicating open-ended passages in which the liquid flows by gravity in heat-exchange relationship with air currents being passed therethrough.

3,450,394
WALKING BEAM FURNACE

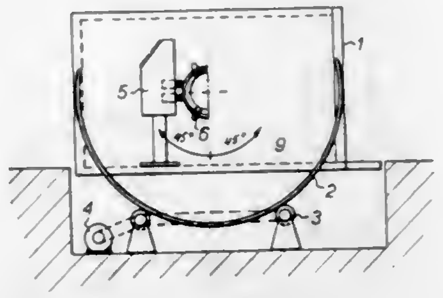
James D. Wilde, Etobicoke, Ontario, and Paul H. Feuer, Toronto, Ontario, Canada, assignors to Salem-Brosius (Canada), Limited, a corporation of Canada
Filed Jan. 30, 1967, Ser. No. 612,422
Int. Cl. F27b *9/14*
U.S. Cl. 263—6 **6 Claims**



The patent specification and drawings disclose a novel method and apparatus for reheating steel or non-ferrous metal stock in a walking beam type furnace preparatory to the rolling thereof and provides a means for heating all sides of the stock including the undersurface thereof so as to obviate the formation of cold spots on the stock at the points of contact of the stock on the supporting surfaces within the furnace area, particularly at the exit end of the furnace enclosure so as to render unnecessary the employment of a solid soaking zone or area which is commonly employed in furnaces of this type.

3,450,395
ROCKING FURNACE FOR SINTER-MOLDING PLASTIC OBJECTS

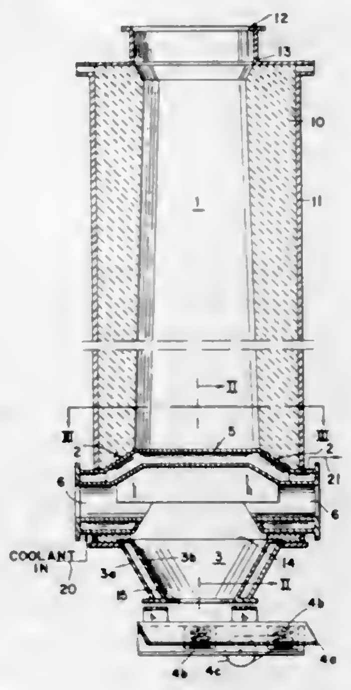
Lars Ringdal, Oslo, Norway, assignor to A/S Ringdal Patenter, Baerum, near Oslo, Norway
Filed Aug. 3, 1966, Ser. No. 569,953
Int. Cl. F27b *7/00*
U.S. Cl. 263—33 **1 Claim**



An apparatus for molding plastic objects from plastic material including a rocking furnace having a chamber into which a rotatable mold containing plastic material is received so that the plastic material being fused in the mold is subjected to the rotary motion of the mold and the rocking motion of the rocking furnace.

3,450,396
FURNACE FOR DIRECT REDUCTION OF IRON ORES

Heinz-Dieter Pantke, Essen-Frintrop, and Herbert Hickmann, Oberhausen, Germany, assignors to Firma Huttenwerk Oberhausen AG, Oberhausen, Germany, a corporation of Germany
Filed July 26, 1966, Ser. No. 568,049
Claims priority, application Germany, July 29, 1965, H 56,713
Int. Cl. F27b *1/08, 21/00;* **C21b** *13/02*
U.S. Cl. 266—20 **9 Claims**



A shaft furnace for the direct reduction of iron ore in which, directly above the outlet, a gas distributor of roof-shaped upwardly convergent configuration is centrally located and supplied with gas through an inlet pipe of similar configuration.

3,450,397

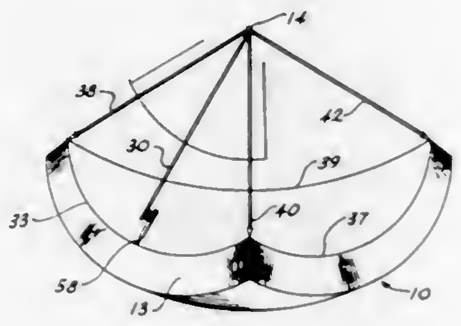
APPARATUS FOR PREPARATION OF HEMISPHERICAL HEAD SEGMENTS

John S. Dixon, Signal Mountain, and Joseph W. Smith, Chattanooga, Tenn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,016

Int. Cl. B21d *43/28*

U.S. Cl. 266—23 4 Claims



Apparatus including a tripod support arrangement for supporting and accurately positioning of a cutting torch, to be used in cutting to size segments which when welded together will form a hemispherical head.

3,450,398

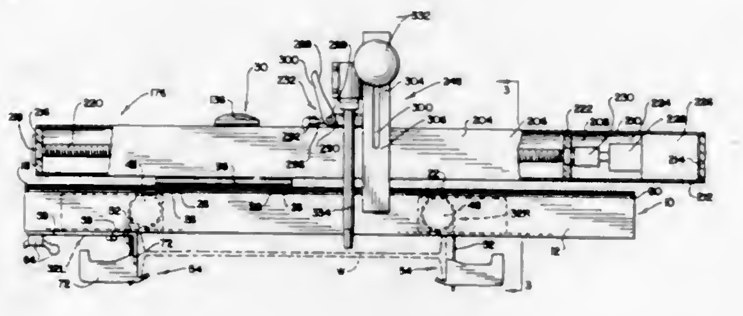
MOTORIZED TORCH FOR CUTTING STRUCTURAL MEMBERS

Lewyn E. Barnes, Brighton, and Paul F. Struble, Evergreen, Colo., assignors to The Kleen-Tip Corporation, Commerce City, Colo., a corporation of Colorado

Filed July 7, 1967, Ser. No. 651,874

Int. Cl. B23k *7/10*

U.S. Cl. 266—23 16 Claims



This disclosure relates to an oxy-acetylene torch connected to a motor-driven lead screw for movement in a direction normal to the nozzle axis. This torch and lead screw subassembly is connected to a rail-forming base member by means of an adjustable carriage mechanism that enables the torch to be positioned horizontally and laterally relative to the workpiece as well as into position to make vertical cuts along either side thereof. Spring-wound cable reels mounted on the base member carry connectors that enable the unit to be fastened directly to any workpiece of the type it is designed to cut. Provision is also made on the base member for fastening same to the workpiece so that angle cuts can be made in the latter. The tool holder for the torch provides for adjusting the nozzle tip relative to the surface of the workpiece and also for releasing same from the lead screw so it can be located at any point therealong. The connector on the carriage that allows the torch lead screw subassembly to swing from a horizontal into a vertical position includes detent-stops for orienting it in these relative positions.

3,450,399

APPARATUS FOR FORMING A TAP HOLE INCLUDING BORING TOOL, BLOWPIPE AND BLOWPIPE CUTOFF MEANS

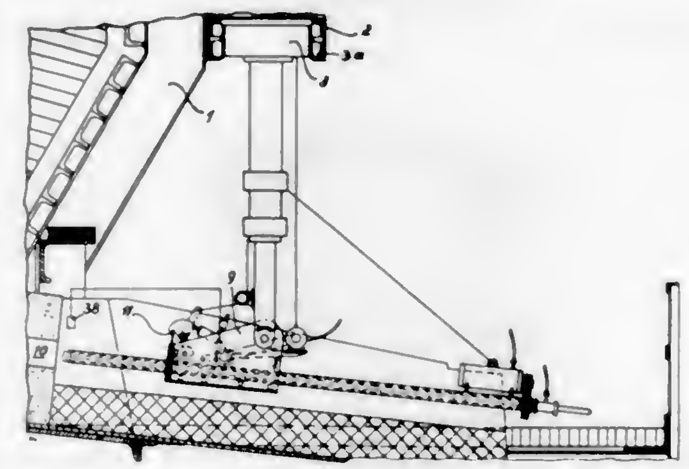
Werner Resch, Dortmund-Kirchhoerde, and Oskar Fliege, Dortmund, Germany, assignors to Hoesch Aktiengesellschaft, Dortmund, Germany

Filed June 9, 1966, Ser. No. 556,506

Claims priority, application Germany, June 11, 1965, H 56,282

Int. Cl. C21b *7/12*

U.S. Cl. 266—42 10 Claims



An apparatus for forming a tap hole in a wall portion of a metallurgical furnace in which the tap hole is prebored to a predetermined depth by mechanical boring means and in which the remainder of the tap hole is burned through by means of an oxygen blowpipe.

3,450,400

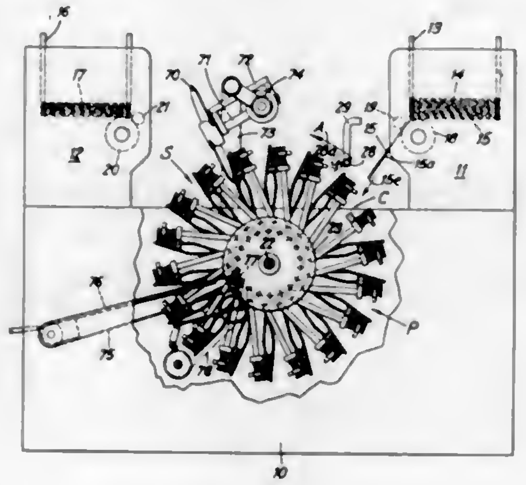
METHOD OF AND APPARATUS FOR STUFFING PRINTED MATTER WITH INSERTS, PARTICULARLY FOR STUFFING NEWSPAPERS AND THE LIKE

Ernst Guggisberg, Fluh, near Oberbalm, Switzerland, assignor to "Graphicart" Internationale Ausrustungsgesellschaft fur Graphische Kunst AG, Bern, Switzerland

Filed Oct. 20, 1965, Ser. No. 498,600

Int. Cl. B65h *5/30*

U.S. Cl. 270—55 18 Claims



A method of, and apparatus for, stuffing printed material such as newspapers with at least one insert or supplement. Generally, the method comprises the steps of: depositing each newspaper jacket section to be stuffed into a traveling compartment, transferring each newspaper jacket section towards a station where at least one supplement can be deposited into the same while remaining in the traveling compartment. Each jacket section is forced against the leading wall portion of its compartment and an opening action is exerted by applying an opening force to a lateral open edge at a desired location along the thickness of the jacket section. The thus partially separated jacket portions are then completely opened and maintained separated from one another by a retaining force until at least one supplement or insert has been placed between the open jacket portions, and then the open jacket portions are closed. By this method the jacket section can be opened at any desired location along the thickness and not necessarily at the center. The apparatus comprises means mounted for movement along a predetermined path of travel which provides a plurality of compartments. Means for depositing a newspaper jacket section into each compartment, means for engaging a lateral open end of the deposited newspaper jacket section while in its compartment, and means for depositing at least one supplement between the opened jacket portions are provided.

3,450,401

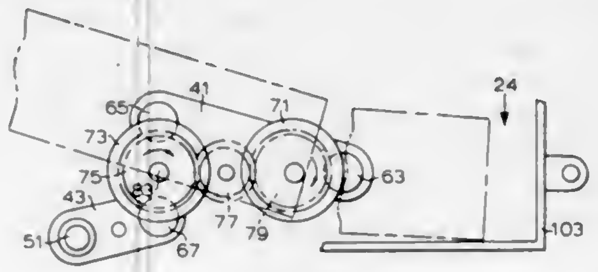
DOCUMENT POSITIONING AND EJECT DEVICE

Alexander Dunn, Clydebank, and George Turner Livingston, Dumbarton, Scotland, assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 29, 1967, Ser. No. 671,836

Int. Cl. B65h *9/10*

U.S. Cl. 271—3 16 Claims



An apparatus for use in conjunction with read or write stations in business machines and data processing equipment uses pairs of rotatable rollers and resiliently supported balls to pick up and align documents that are randomly inserted into a document chute. One pair of rollers and balls moves the document into right-edge alignment in the read or write station and a second pair provides bottom-edge alignment of the document. A separate ball cooperating with one of the rollers ejects the document out of the read or write station upon completion of the read or write operation.

3,450,402

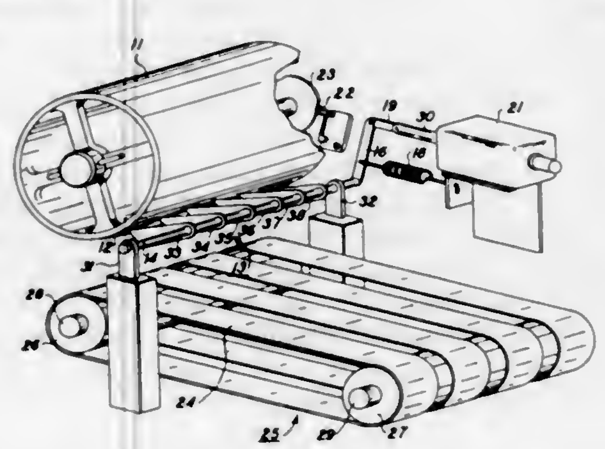
SHEET STRIPPER APPARATUS

Ernest A. H. Weiler, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 12, 1967, Ser. No. 652,857

Int. Cl. B65h *29/56*

U.S. Cl. 271—80 5 Claims



An apparatus for stripping sheets from a conveyor surface having a group of wedge-shaped fingers which are forced between the leading edge of the sheet and the conveyor surface, thereby separating the sheet from the conveyor surface and redirecting the path of the sheet.

3,450,403

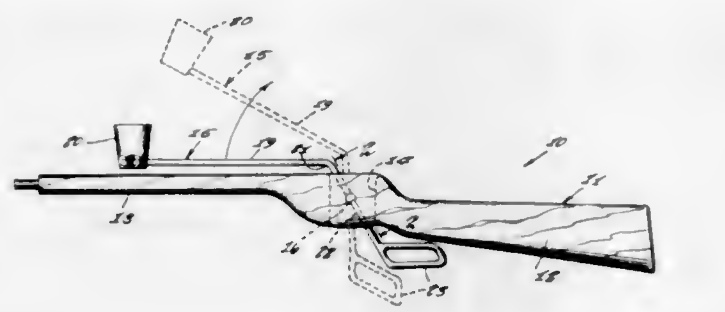
SIMULATED FIREARM WITH PIVOTALLY MOUNTED WHISKEY GLASS

Frank G. Bohn, South 94 West 14040 Groveway Lane, Hales Corner, Wis. 53130

Filed Dec. 5, 1966, Ser. No. 599,112

Int. Cl. A63g *31/02*

U.S. Cl. 272—1 3 Claims



A bar novelty for affording amusement in drinking, comprising a rifle configurated member supporting a centrally pivoted lever which has a whiskey glass secured to one end thereof, the opposite end of the lever having a manually operated handle for purpose of pivoting upwardly the whiskey glass toward a person's mouth.

3,450,404

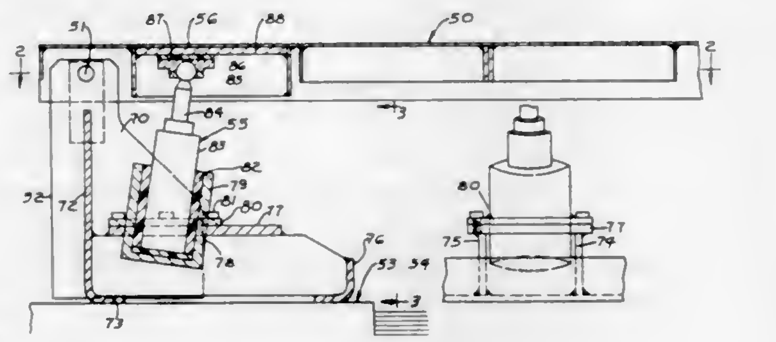
METAL DIVING BOARD WITH LIQUID SPRING

William J. Nightingale, 656 Wrightwood, Chicago, Ill. 60614

Filed July 21, 1965, Ser. No. 473,759

Int. Cl. A63b *5/10*

U.S. Cl. 272—66 17 Claims



A diving board wherein the platform may be a non-resilient member hinged to a support, with a liquid spring interposed between the member and support to provide the necessary springing effect to the platform, Various forms of liquid spring and supports for the spring are provided to produce a desired degree or variability of spring-back.

3,450,405

SUSPENSION SYSTEM FOR NETS AND THE LIKE

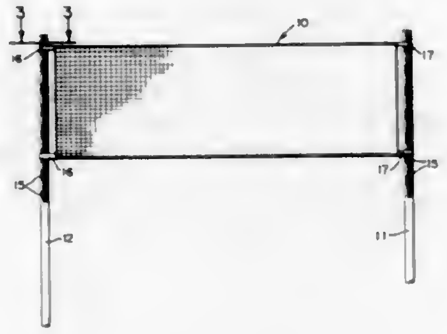
Jack K. Mates, Scarsdale, N.Y., assignor to American Velcro, Inc., a corporation of New Hampshire

Filed Jan. 9, 1967, Ser. No. 608,207

Int. Cl. A63b *61/00*

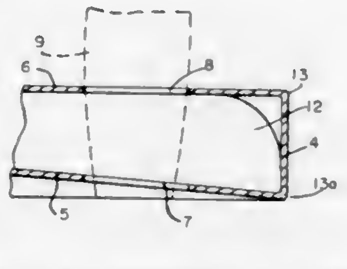
U.S. Cl. 273—29 4 Claims

A suspension system for holding nets in games, like tennis, suspended between two upright support rods by providing complementary hooking elements which extend laterally from the suspended net and are provided along the surface of one or both upright support rods for releasably and adjustably securing the net in tension across two upright rods.



3,450,406
BOWLING GAME KIT

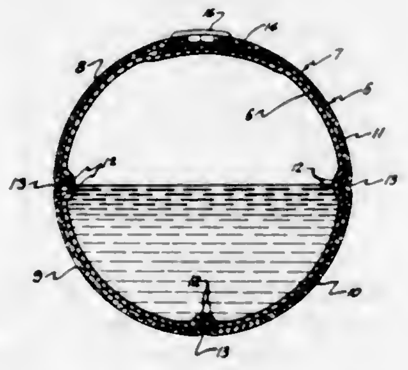
Dwight C. Brown, 414 N. Granada St.,
Arlington, Va. 22203
Filed Mar. 16, 1966, Ser. No. 534,853
Int. Cl. A63d *5/09;* **B65d** *5/22*
U.S. Cl. 273—42 **3 Claims**



A bowling game kit including a carrying case for the pins and balls which can be converted to a pin-spotter when the pins and balls are removed. The carrying case has a top and bottom deck having openings for receiving the pins. In one embodiment of the invention, the top deck is hinged to the bottom deck and can be disposed in sloping relation with respect to the bottom deck for providing greater contact with the larger diameter portion of the pins, which enables the pins to be spotted in the deck openings and slid to a play location without tilting. In a second embodiment, a separate tray is inserted between the top and bottom decks for stabilizing the pins during movement.

3,450,407
ANTI-FUMBLE TRAINER FOOTBALL

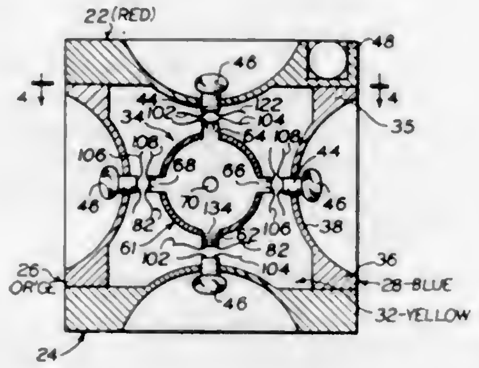
Albert J. Russo, 21 South College Ave.,
Salem, Va. 24153
Filed Jan. 26, 1967, Ser. No. 612,001
Int. Cl. A63b *41/00*
U.S. Cl. 273—65 **2 Claims**



An inflated football includes a liquid fluid whose quantity, weight, and ability to shift is such that it makes the football significantly more difficult to handle than a football lacking said fluid.

3,450,408
ELECTRICAL GAME EQUIPMENT AND SWITCH EMPLOYED THEREIN

Paul J. Hagerman, 2137 E. Jackson,
Medford, Oreg. 97501
Filed May 1, 1967, Ser. No. 634,996
Int. Cl. A63f *9/04;* **A63h** *33/26;* **H01h** *3/16*
U.S. Cl. 273—146 **8 Claims**

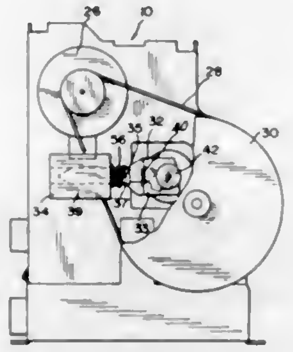


An electrically illuminated educational toy takes the form of a hollow die. A light bulb is provided in a discrete compartment behind each face, and the die encloses a battery and conductive means for causing only the die face which is on top to be illuminated in any at rest position of the die. The bulbs may be distinctively colored and each die face desirably has printed on it the name of the color which it displays.

A composite mercury switch, located within the die, constitutes a distinctive feature of the invention.

3,450,409
INDEXING MECHANISM

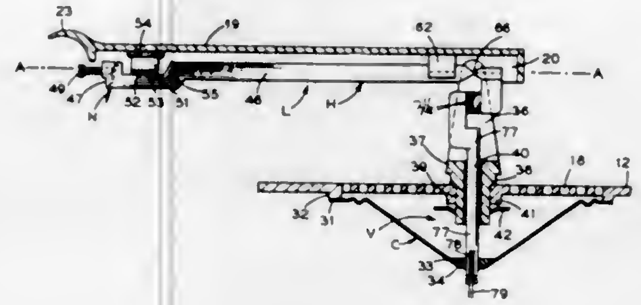
James G. Pitzer, Elmhurst, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 18, 1966, Ser. No. 565,965
Int. Cl. G11b *5/56*
U.S. Cl. 274—4 **3 Claims**



A pawl and ratchet device actuated by a solenoid for rotating the cam of a cartridge-type tape player to position the magnetic tape head between the different tracks of the tape, which includes first and second pawl members pivotally mounted to the armature of the solenoid and joined by a spring which biases them into connection with the ratchet. The pivotal mounting of the pawl members to the armature permits misalignment of the armature axes with the center of rotation of the ratchet thereby providing wide tolerances during assembly of the tape player. Each of the pawl members has actuating projections and a locking portion that cooperate to prevent counter-rotation of the ratchet at the limits of movement of the armature in both directions. Each pawl is made from thin sheet material so that it may be moved in a plane normal to the ratchet along the axis of rotation thereof and still be maintained in engagement with the same.

3,450,410
MECHANICAL SOUND SYSTEM FOR PHONOGRAPH RECORD PLAYER

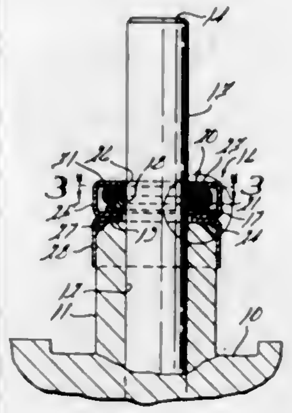
John F. Castagna, 2135 E. 8th St.,
Brooklyn, N.Y. 11223
Filed Apr. 5, 1967, Ser. No. 628,647
Int. Cl. G11b *3/02*
U.S. Cl. 274—24 **5 Claims**



A phonograph record reproducing apparatus having an audio signal transmitting mechanical linkage directly connecting a needle with a fixedly positioned sound reproducing cone, the linkage including successive signal transmitting articulated joints for translating the pickup movements of the needle to the reproducing cone and correlating selected spatial relationships between the needle and the reproducing cone; and signal transmitting articulated joints of high compliancy providing for movement of the needle relative to the record as the same is lifted and lowered in respect to the record groove and moves laterally between the inner and outer edges of the record during the playing of the record and its return to its rest position.

3,450,411
SEAL ASSEMBLY FOR VALVE STEMS AND THE LIKE

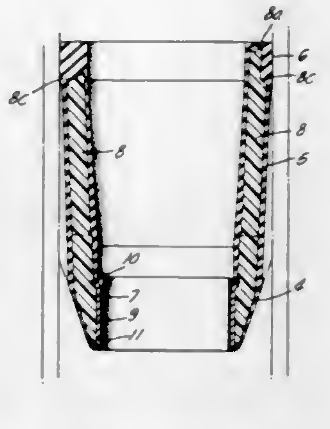
Ralph L. Skinner, Sr., Birmingham, Mich., assignor to Renniks Corporation, Birmingham, Mich., a corporation of Michigan
Filed Sept. 28, 1966, Ser. No. 582,743
Int. Cl. F16j; F16k *41/00;* **B65d** *53/00*
U.S. Cl. 277—48 **5 Claims**



A seal primarily adapted for valve stems of internal combustion engines comprising a one piece cylindrical member upset inwardly at the middle thereof and having an inturned upper flange, the portion of the cylindrical member below the upset defining a skirt which is adapted to be press fitted over the valve guide and the portion thereof between the upset and the flange defining a housing which contains a sealing element for the valve stem and means for exerting and maintaining pressure on the sealing element to hold the latter in sealing engagement with the valve stem.

3,450,412
WELL SWAB CUP

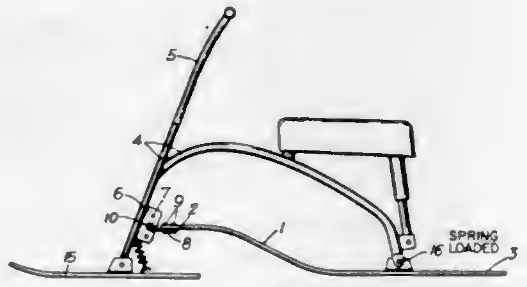
Charles Haskell Collett, P.O. Box 411,
Menlo Park, Calif. 94025
Filed Mar. 20, 1967, Ser. No. 624,350
Int. Cl. F16j *15/48;* **B61f** *15/22*
U.S. Cl. 277—212 **11 Claims**



A well swab cup with a molded nylon cage having cup-reinforcing fingers.

3,450,413
SLIDECRAFT

Erich Brenter, Heide 163, Hallein, Austria
Filed Feb. 10, 1967, Ser. No. 615,245
Claims priority, application Austria, Feb. 10, 1966,
A 1,234/66
Int. Cl. B62b *13/04*
U.S. Cl. 280—16 **4 Claims**



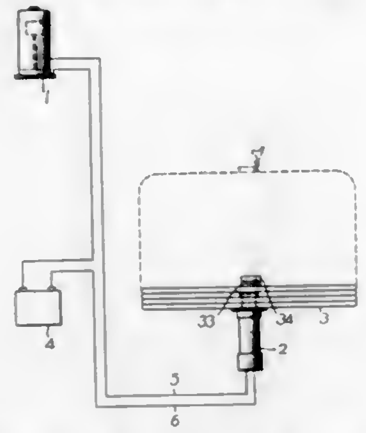
Ski coaster with a forward ski hinged to a steering post and a rear ski hinged to a frame which forms a journal bearing for the control column, the front end of the rear ski being removably connected with a fin on the frame near the steering post with freedom of vertical adjustment for varying the tension of this rear ski.

3,450,414
SAFETY DEVICE FOR VEHICLE PASSENGERS

Yasusaburo Kobori, Tokyo, Japan, assignor to Kabushikikaisha G.I.C. Tokyo, Japan, a corporation of Japan
Filed Oct. 21, 1966, Ser. No. 588,563
Claims priority, application Japan, Nov. 6, 1965,
40/68,149; Jan. 19, 1966, 41/2,598
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 **8 Claims**

1. In a safety device for vehicle passengers having a high pressure gas container enclosing noninflammable gas generating material for producing a large quantity of high pressure gas instantaneously upon being heated at a high temperature and being provided with an outlet opening for such high pressure gas, heating means operable to effect the high temperature heating of said gas generating material in said container, electrical circuit means for operating said heating means and including impact-sensitive means for actuating said circuit means, and an inflatable protective bag attached to said high pressure gas container around said outlet opening of the

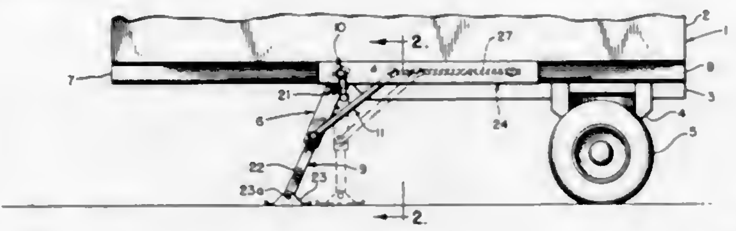
latter; the improvement comprising shock-absorbing means mounted on said high pressure gas container within said protective bag, said shock-absorbing means being spaced from said outlet opening and interposed in the path of high pressure gas issuing from said opening so as



to laterally divert such gas within the bag for absorbing the reaction of the issuing high pressure gas without substantial attenuation of the gas speed, whereby to make possible the substantially instantaneous inflation of the bag.

3,450,415
MULTI-POSITIONABLE TRAILER LANDING GEAR STRUCTURE

John J. Martin, Warminster, Pa., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,137
Int. Cl. B60s *9/08, 9/22, 11/00*
U.S. Cl. 280—150.5 **8 Claims**

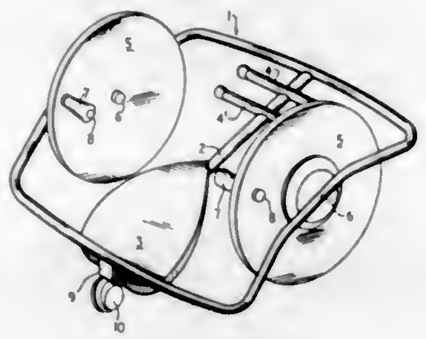


A multi-positionable landing gear structure that is adapted for depending pivotal mounting to the underframe structure of a trailer and comprising a pivotal leg structure pivotally connected to the trailer underframe and having pivotally attached thereto a diagonal brace structure which is also pivotally attached to the trailer underframe, the diagonal brace structure pivotally carrying a diagonal brace lock means that is biased for engagement with said grace structure and movable there away from for rotation of its flat ends to align themselves in longitudinally extending slots in the frame structure attendant to alignment and movement of said diagonal brace and said leg structure from a first position to a second position where in the first position the landing gear leg structure is inclined and in the second position the landing gear leg structure is in an upright position and wherein said leg structure may be moved to and held in a third or out of use position underneath the trailer underframe.

3,450,416
HAND-PROPELLED CHILD'S VEHICLE

Jelke H. Mulder, Bankstown, New South Wales, Australia, assignor to Albert Koster, Hendrik M. Koster, Machiel H. Koster, and John J. Vreeling, all of Liverpool, New South Wales, Australia
Filed Aug. 21, 1967, Ser. No. 662,082
Claims priority, application Australia, Aug. 31, 1966, 10,453/66
Int. Cl. B62m *1/14*
U.S. Cl. 280—211 **1 Claim**

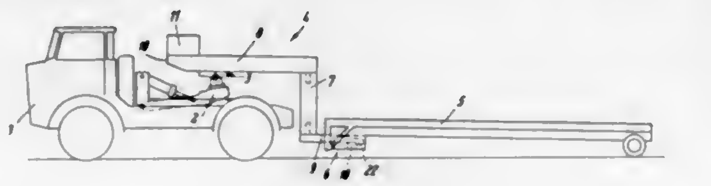
The invention essentially comprises a wheeled chair or carriage comprising a framework including a footrest and seat between side supports, the said framework being maneuvered by hand operated driving wheels on each side and a castor wheel beneath or rearward of the seat of the chair or carriage.



In its preferred form the wheeled chair or carriage has a low center of gravity and is useful as a manoeuvrable children's toy.

3,450,417
DEVICE FOR THE HITCHING OF A LOADING PLATFORM

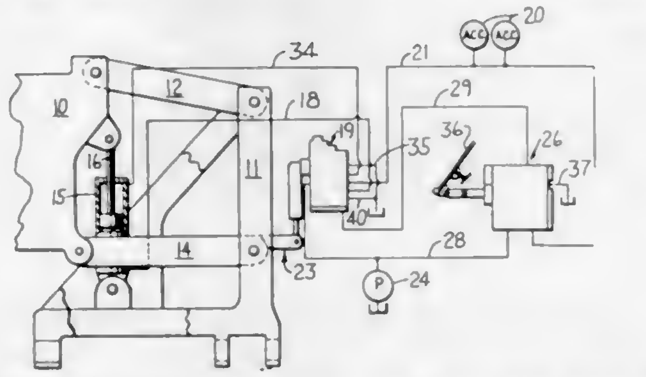
Ulrich Cramer, Stuttgart-Stammheim, Manfred Jung, Munchingen, and Karl Weinmann, Konigshafen, Germany, assignors to Martin Fiala KG., Korntal, Wurttemberg, Germany, a corporation of Germany
Filed Feb. 9, 1967, Ser. No. 614,986
Claims priority, application Germany, Aug. 13, 1966, M 70,559
Int. Cl. B62d *53/06;* **B60d** *1/00*
U.S. Cl. 280—425 **24 Claims**



A device for the hitching of a loading platform to a vehicle which includes a lifting device, the latter having at least one arm protruding past the end of the vehicle and associated with and inserted in a receptacle. The receptacle is provided on at least one end of the loading platform, receiving one of the arms.

3,450,418
MEANS TO PROVIDE TEMPORARY FIRM SUPPORT FOR A RESILIENTLY SUPPORTED EARTHMOVING MACHINE

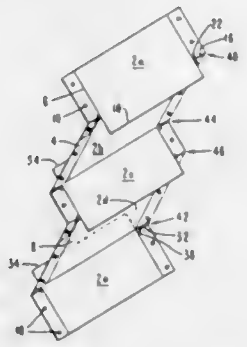
Roger A. Rice, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 21, 1966, Ser. No. 595,758
Int. Cl. B60d *1/00;* **F16d** *57/00;* **E02f** *3/62*
U.S. Cl. 280—489 **1 Claim**



An earthmoving scraper including a two-wheel tractor and a two-wheel scraper coupled to each other with resilient means for suppressing bounce comprising a piston and cylinder forming a connection between the tractor and scraper and communicating at opposite sides of the piston with compressible fluid. This resilient connection includes means for directing pressure to the cylinder at the end which causes the scraper to move downwardly, thus preventing it from moving upwardly when it is engaged with the earth during a loading cycle. Means are also included to bleed the fluid from the opposite end of the cylinder, but at a rate which is gerater than the rate of admission of fluid, thereby to prevent a sudden application of downward pressure which might be destructive to the mechanism involved.

3,450,419
CONTINUOUS CARD FORM

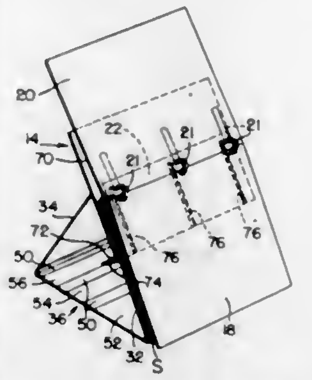
Robert N. Eichorn, Endwell, N. Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 14, 1967, Ser. No. 653,366
Int. Cl. B42d *19/00, 19/02*
U.S. Cl. 281—5 **6 Claims**



A continuous form stationary comprised of a series of record material portions secured together in shingle or alternate fashion, certain record material portions having slits and scores so placed that right hand or left hand folding is possible, allowing the folding in zig-gag fashion of the continuous form stationery to be facilitated.

3,450,420
EASEL DISPLAY ASSEMBLY

Thomas R. Smith, 27A Brushy Hill Road, Newtown, Conn. 06470
Filed Oct. 20, 1966, Ser. No. 588,690
Int. Cl. A47b *23/00;* **B42d** *3/00*
U.S. Cl. 281—33 **4 Claims**

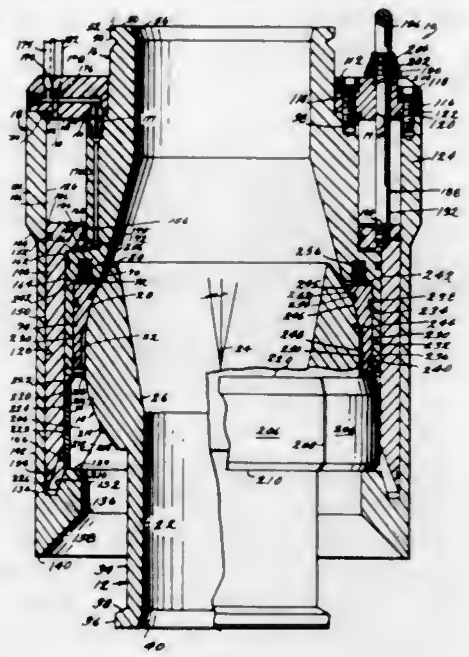


A looseleaf binder having a cover panel and a rear panel between which an intermediate easel support assembly is normally located, the easel support assembly including support sections that are interconnected by a hinge section, the hinge section having a plurality of hingedly connected panels that are foldable to selective positions for locating the support sections in a selected supporting position to define an easel-type support for looseleaf insert sheets that are mounted in the binder.

3,450,421
BALL CONNECTOR

James M. Harwell, Jr., Houston, Tex., assignor to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed June 20, 1966, Ser. No. 558,800
Int. Cl. F16l *55/00, 35/00;* **E21b** *7/12*
U.S. Cl. 285—24 **9 Claims**

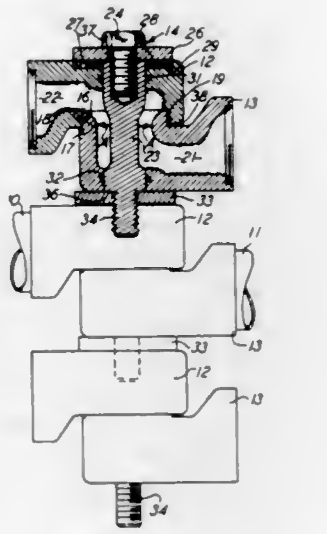
For incorporation in a string of conduit extending between the well head and drilling platform of an offshore well, a combined flexible joint and remotely connectable and disconnectable union which includes a first conduit having a ball member and a second conduit having socket or ball housing member wherein the first and second con-



duits are disconnectable by withdrawal of the ball housing member from locked and enclosing relationship with respect to the ball member and wherein the first and second conduits are connectable by inserting the ball member into the ball housing member and locking it therein.

3,450,422
HIGH-PRESSURE HYDRAULIC SWIVEL COUPLING

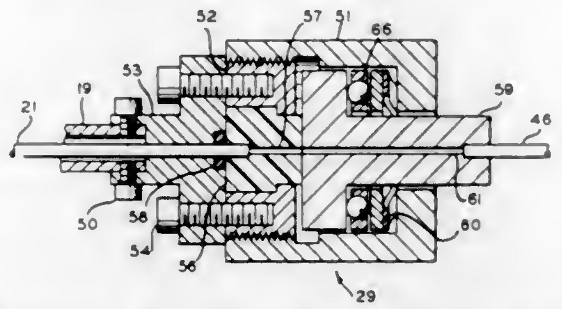
Marvin L. Brown and Carl O. Pedersen, Burlington, Iowa, assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Jan. 30, 1967, Ser. No. 612,638
Int. Cl. F16l *27/08, 27/00*
U.S. Cl. 285—131 **5 Claims**



A high-pressure coupling having two halves which swivel relative to each other and which are connected by a bolt passing therethrough. An anti-friction bearing is interposed between the bolt and the coupling to assure freedom for swivelling, and the amount that the bolt can be tightened onto the bearing is limited. Fluid seals are disposed in the coupling and are of a type which does not require mechanical pressure, such as the force applied by the bolt, for the desired effectiveness of the seal. Further, the coupling is arranged with an extension on the bolt so that it can be received in an adjacent coupling and thereby permit desired stacking of a plurality of couplings for connecting a plurality of hydraulic lines.

3,450,423
SWIVEL CONDUIT COUPLING

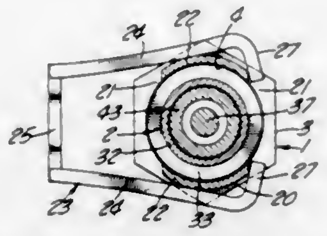
John A. Favre, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application May 23, 1963, Ser. No. 282,672, now Patent No. 3,306,347, dated Feb. 28, 1967. Divided and this application Dec. 29, 1966, Ser. No. 605,900
Int. Cl. F16l *27/00*
U.S. Cl. 285—169 **4 Claims**



An apparatus for connecting two conduits having a first connecting member and a second resilient connecting member, both connecting members having channels extending therethrough which in turn communicate with fluid conduits. The first connecting member is held against the second resilient connecting member by a spring so that the channels are in direct communication and is enclosed by a rotating case member which is in turn connected to a sleeve around a second resilient connecting member to thereby connect the conduits in communication with the said channels.

3,450,424
SELF-LOCKING COUPLING

Jay V. Calisher, Montebello, Calif., assignor to E. B. Wiggins, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 24, 1964, Ser. No. 420,982
Int. Cl. F16l *37/00*
U.S. Cl. 285—305 **2 Claims**

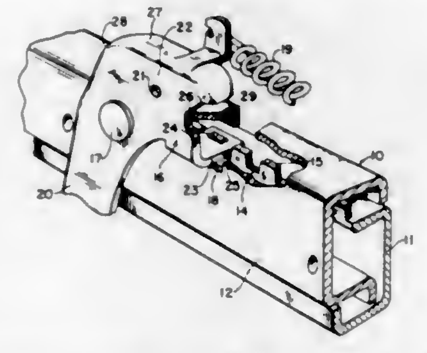


A quick connect and disconnect coupling having interengaging male and female coupling parts, and a resilient locking member which includes a pair of locking arms straddling and rotatable relative to the female part between a locking position, wherein the arms project laterally through diametrically opposed chordal openings in the female part into an external locking groove in the male part to lock the coupling parts against axial separation, and an unlocking position, wherein the arms straddle and are spread to disengage the male part by intervening body sections on the female part between the chordal openings.

3,450,425
SEAT ADJUSTER LATCH CONSTRUCTION

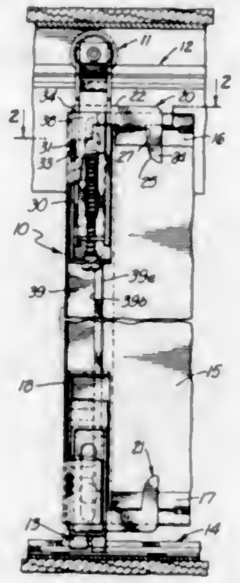
Robert F. Leonhardt, Roscoe, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed Nov. 14, 1967, Ser. No. 682,810
Int. Cl. F16b *7/14*
U.S. Cl. 287—58 **4 Claims**

The latching means in this seat adjuster, designed to withstand severe overloading, as in a crash or collision, involves a latch pivoted on the seat supporting slide on a horizontal axis and having a channel-shaped rearwardly extending end portion in the lower horizontal wall, of which a window opening is provided to receive a tooth of the rack provided on the fixed slide, the wall when the opening receives a tooth fitting snugly against the adjacent sides of the neighboring two teeth to distribute the shear load over three teeth instead of one. In addition, this wall, besides being in trailing relation to the pivot and being normally spring pressed toward locked position, is below the horizontal plane through the horizontal axis of the latch, so the latch is less apt to become disengaged under overloading, as in a crash. Furthermore, the other wall of the channel section which is on the top of the latch extends forwardly beyond the pivotal axis for reinforcement of the latch to prevent distortion under overload, both ends of this other wall being directed downwardly for added strength and rigidity, the front end portion providing a positive stop to limit release movement by engagement with the top of the seat supporting slide.



3,450,426
PANEL FRAME CORNER CONNECTOR

Kenneth K. Kellems, Costa Mesa, Calif., assignor to Acme Appliance Manufacturing Company, Monrovia, Calif., a corporation of California
Filed May 10, 1968, Ser. No. 728,244
Int. Cl. F16b *7/22, 9/00*
U.S. Cl. 287—189.35 **10 Claims**

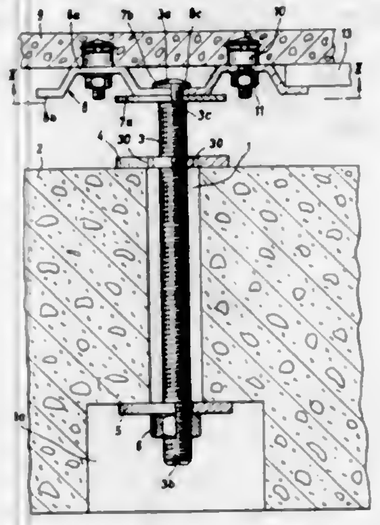


A corner connector for the rail and stile of a frame for a panel or the like, readily insertable and removable from the rail and stile, and having a spring detent to cooperate with an opening in the stile to maintain assembly.

3,450,427
MOUNTING ARRANGEMENT

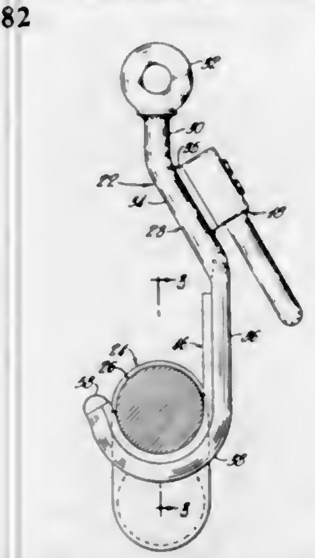
Artur Fischer, 133 Grunmettstetterstrasse, 7241 Tumlingen, Kreis Freudenstadt, Germany
Filed Aug. 8, 1967, Ser. No. 659,238
Claims priority, application Germany, Aug. 9, 1966, F 49,908
Int. Cl. F16b *1/00, 5/00, 7/00, 15/02, 1/38*
U.S. Cl. 287—189.36 **14 Claims**

A mounting arrangement for mounting cladding members on exposed sides of masonry supporting structures. The arrangement includes a supporting structure having an inner side and an outer side and provided with an open-ended passage extending from one to the other side. An elongated element extends with clearance through the passage and is secured to the supporting structure by two members carried by the element and engaging opposite sides of the supporting structure. These members are adjustable so as to permit axial and radial movement of the elongated element in the passage. The elongated element comprises an end portion projecting outwardly beyond one of the sides of the supporting structure, and coupling means is carried by this end portion with freedom of rotation about the longitudinal axis of the element. A cladding member can be coupled to this coupling means.



3,450,428
DEVICE FOR HANDLING WORKPIECES

Delbert W. Zimmermann, 7235 Meadow Lake, Birmingham, Mich. 48010
Filed July 31, 1967, Ser. No. 657,341
Int. Cl. B66c *1/34*
U.S. Cl. 294—82 **12 Claims**

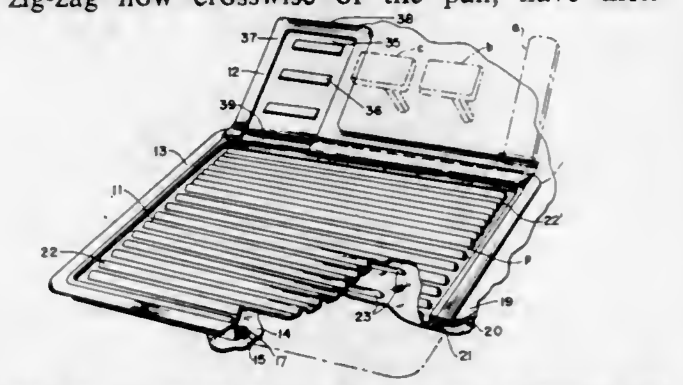


A hoist hook is provided with a workpiece-engaging strip which enables the workpiece to be handled without damage. The workpiece-engaging strip is designed to be easily replaceable so that a hoist operator can replace the strip, when necessary, without tools and in a minimum amount of time.

3,450,429
RECESSED REMOVABLE AND REPLACEABLE COMBINATION PAN AND FLOOR GRATE FOR MOTOR VEHICLES

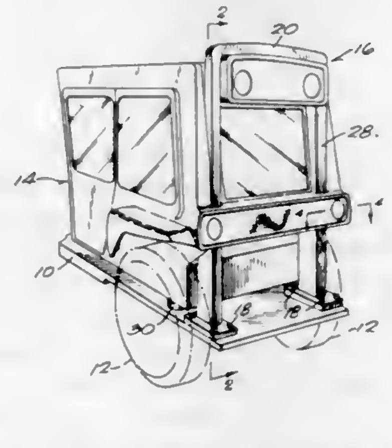
Stanley S. Stata, 301 Longwood St., Rockford, Ill. 61107
Filed June 2, 1967, Ser. No. 643,198
Int. Cl. B66; B62d *25/20;* **A47l** *23/22*
U.S. Cl. 296—1 **17 Claims**

A floor mat of sufficient depth between the shoe scraping ribs thereof to serve as a pan for collection moisture and dirt in the anticipated amount, retains the moisture in the recesses between the ribs during evaporation while leaving the top surface of the ribs fairly dry. A generally rectangular opening is provided in the carpet in which the generally rectangular pan fits and rests either directly on the sheet metal floor or on a layer of jute, and, in either event, is held in place by means of a fixed relatively rigid retaining frame, framing the opening in the carpet. The frame, when fastened to the floor, has ears for that purpose, either set in locating depressions formed in the floor, or fastened to the flat top surface thereof. While the pan is usually more easily removable from the frame, retaining lugs may be provided projecting horizontally from the edges of the pan and having snap-in engagement in openings provided in the frame to secure it in place detachably. The shoe scraping ribs in the pan, arranged to slow down flow of water by causing zig-zag flow crosswise of the pan, have their ends joined to the side walls of the pan adjacent the points where these lugs are located whereby to reinforce the wall and back up the lugs for better locking action. The frame in the case of rear seat passengers is also of generally rectangular form with the pan fitting snugly therein on all four sides or fastened by lugs, as just stated, but, in the case of the driver's position and the front passenger's position, the four sided frame also has the pan portion of the mat snugly engaged therein or fastened by lugs, as stated, while a thinner, forwardly extending, ribbed shoe scraping toeboard portion extends over the front portion of the frame and is flexed upwardly to rest on the carpet of the toeboard and drain freely into the pan. The pan is removable for washing and cleaning but is adapted to be cleared of dirt with a vacuum cleaner on other occasions.



3,450,430
CAB AND ROLL BAR

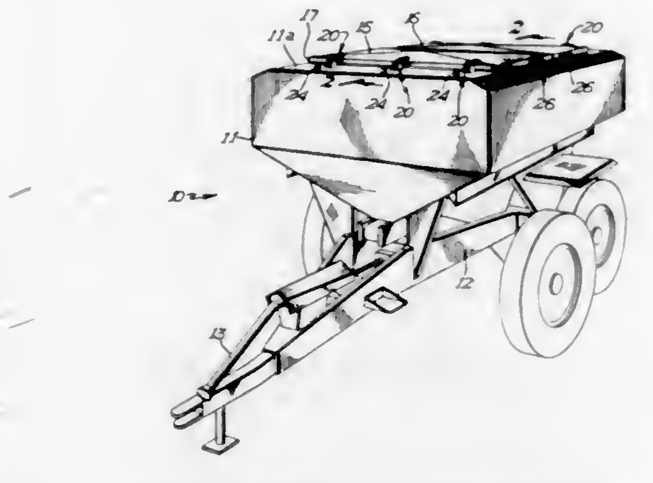
David W. Wendt, Port Washington, Charles L. Harbeck, Pewaukee, and Raymond N. Sellon, Jr., Shorewood, Wis., assignors to Stolper Industries, Inc., Menomonee Falls, Wis.
Filed Mar. 8, 1968, Ser. No. 711,757
Int. Cl. B62d *27/02, 29/00;* **B60r** *27/00*
U.S. Cl. 296—28 **6 Claims**



An automotive vehicle has a roll bar secured to the main frame of the vehicle and disposed in channel in the wall of the cab where it is at least partially housed but is free of vibration-transmitting contact with the cab.

3,450,431
DUAL CLOSURE MEANS FOR AGRICULTURAL TRANSPORT DEVICES

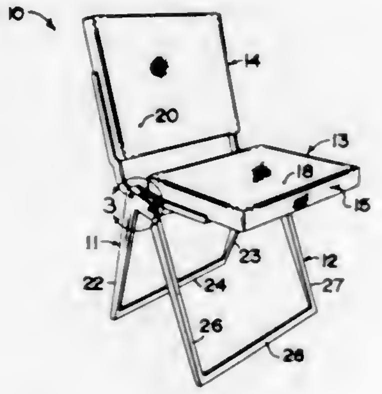
Loren E. Tyler, Wayzata, Minn., assignor to Letco, Inc., Long Lake, Minn., a corporation of Minnesota
Filed June 28, 1968, Ser. No. 741,089
Int. Cl. B60p *7/02;* **B65d** *51/08, 43/24*
U.S. Cl. 296—100 **17 Claims**



An agricultural fertilizer spreader having a hopper or tank with a generally flat top with a large rectangular opening therein and with an upstanding flange around the periphery of the opening and with a pair of rigid overlapping doors hinged at the front and rear of the hopper, respectively, and cooperating to provide a weatherproof closure means for the opening in the hopper. The doors each having peripheral downwardly extending flanges which enclose the flange on the hopper when the doors are closed, the door hinged at the rear of the hopper having an open channel at its forward end and the door hinged at the front of the hopper overlapping the channel and having a downwardly extending flange at its rear end which extends into the channel when the doors are closed.

3,450,432
FOLDING CHAIR

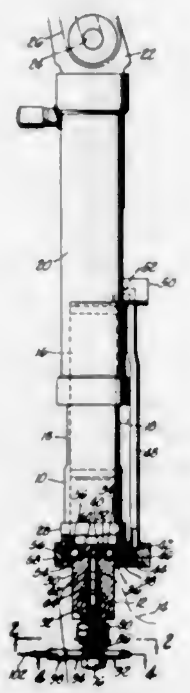
Lawrence D. Minsker, Raadman/steins Alle 22, Copenhagen, Denmark
Filed May 8, 1968, Ser. No. 727,411
Int. Cl. A47c *5/10;* **A47d** *1/02*
U.S. Cl. 297—17 **14 Claims**



A folding chair including first and second supporting structures pivotally connected together, a seat, and a back each pivotally connected to one of the support structures. The back and seat are disposed at a slight obtuse angle with respect to each other when the chair is in its erected condition and are pivotally movable with respect to the supporting structures about a common axis. The back and seat are disposed in a substantially parallel relationship with each other when the chair is in its folded condition. The seat is interconnected with one of the supporting structures so that as the seat portion is moved between its positions wherein the chair is erected and folded, respectively, the one of the support structures is pivoted so that in a folded condition of the chair, the back, the seat, and support structures are all disposed in substantially parallel planes to facilitate storage and carrying.

3,450,433
CAM ACTUATED CLUTCH

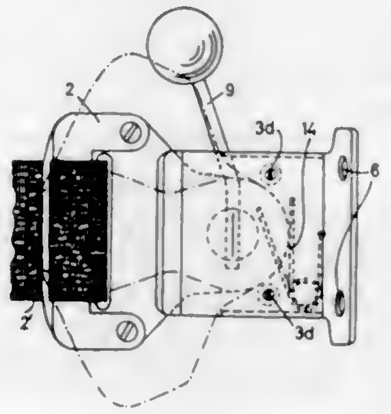
Charles U. Ballard, 4253 W. Lennox, Inglewood, Calif. 90304
Filed July 27, 1967, Ser. No. 656,476
Int. Cl. A47c *1/02, 3/00*
U.S. Cl. 297—355 1 Claim



A cam operated valve operator for a closed circuit including a cylinder and piston wherein the cylinder and piston respectively have means for connection with a relatively stationary seat and a relatively movable tiltable back, or for devices having similar movement, the fluid circuit having a valve which when closed, locks the piston in the cylinder and the seat relative to the back, the valve being actuated by a cam device comprising adjacent discs, one of which is rotatable relative to the other, one of which has arcuate grooves of diminishing depth to receive balls, which upon rotation of one of the cam discs, will move one disc axially to operate the valve.

3,450,434
SAFETY BELT

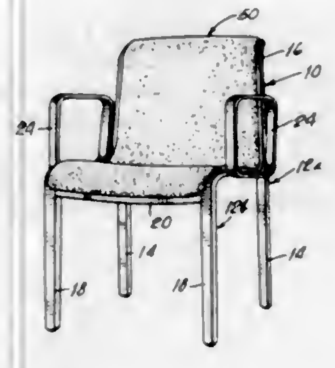
Hermann Schock, Furstenstr. 16, Rottach-Egern, Germany
Filed May 5, 1965, Ser. No. 453,451
Int. Cl. B60r *21/10*
U.S. Cl. 297—385 14 Claims



Safety belt includes a buckle having means for fixing the buckle to a support so that the buckle is stationary relative to the support, a displaceable slider insertable in the buckle and connected to one end of a flexible web.

3,450,435
FURNITURE CONSTRUCTION

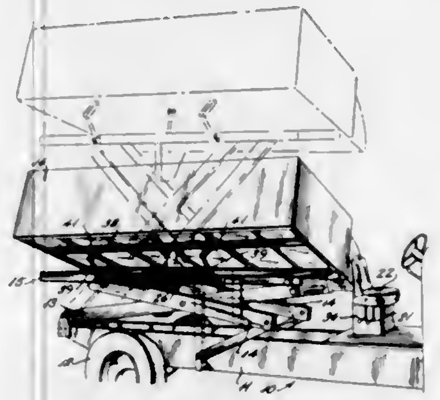
William I. Stephens, Telford, N.Y., assignor to Art Metal-Knoll Corporation, a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,529
Int. Cl. A47c *5/14*
U.S. Cl. 297—446 **32 Claims**



Furniture construction which uniquely blends a wooden frame with a moldable plastic shell defining the seat and back such that the chair frame and the unitary plastic shell cooperate to stiffen each other whereby a minimum of framework is required.

3,450,436
HIGH-LIFT SIDE DUMP MECHANISM

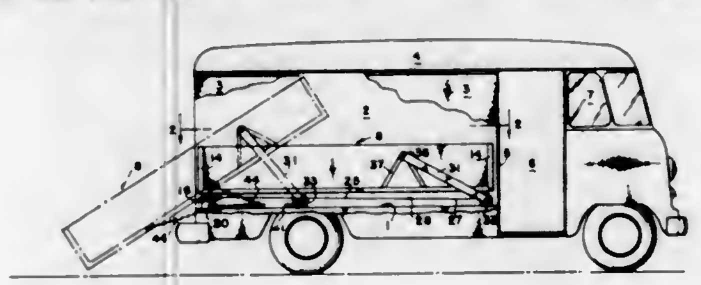
William Neal Phillips, Auburndale, Fla., assignor to Leco, Inc., Lakeland, Fla.
Filed Oct. 5, 1967, Ser. No. 673,173
Int. Cl. B60p *1/34;* **B61d** *9/02*
U.S. Cl. 298—11 **1 Claim**



An apparatus for tilting a high-lift truck body at any height by using a single hydraulic cylinder in cooperation with an equalizer torque tube which causes the body to dump evenly regardless of the load distribution.

3,450,437
AUXILIARY TRUCK BODY

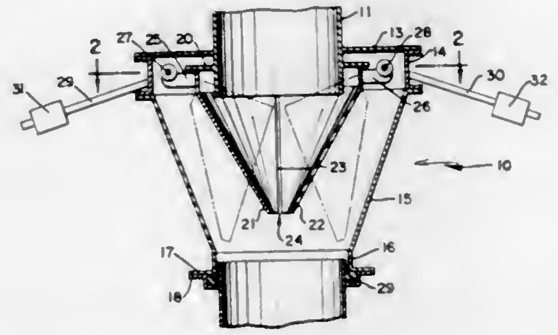
Clifford H. McQueen, Portland, Oreg., assignor of fifty percent to Elmer W. Hunter, Portland, Oreg.
Filed Oct. 10, 1966, Ser. No. 585,389
Int. Cl. B60p *1/32;* **B65g** *67/24*
U.S. Cl. 298—14 **3 Claims**



An auxiliary dump body adapted for installation within a panel delivery truck and including means for quickly and conveniently moving the dump body from a load-receiving to a load-carrying position within the truck body and controlled rearward movement therefrom into a dumping position. Said means including elongated rollers disposed one each at the four corners of the underside of the box to stabilize the same with any applied load throughout the operative range of the box.

3,450,438
VALVE FOR POWDERED AND GRANULAR MATERIAL

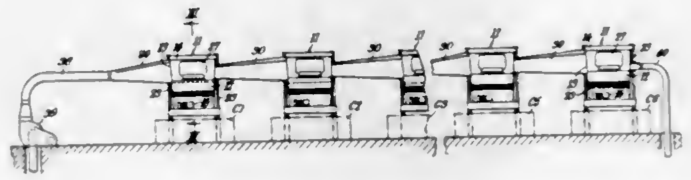
Niels Kann Moller, Valby-Copenhagen, Denmark, assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,328
Claims priority, application Great Britain, Nov. 4, 1965, 46,785/65
Int. Cl. B65g *53/24, 53/46, 53/42*
U.S. Cl. 302—21 **1 Claim**



This invention relates to an improved valve for impeding and regulating flow of powdered and granular material through a duct while maintaining a gas seal with accumulated material in the valve so that a differential gas pressure can be maintained across the valve even during passage of excess material from the valve.

3,450,439
CHUTES FOR FEEDING TEXTILE MATERIALS TO CARDS

Donald Britton Harrison, Rossendale, Joseph Robert Morris, Haslingden, and Frank Singleton, Accrington, England, assignors to T.M.M. (Research) Limited, Oldham, England, a British company
Filed Apr. 19, 1967, Ser. No. 631,973
Claims priority, application Great Britain, Apr. 22, 1966, 17,786/66
Int. Cl. B65g *53/04*
U.S. Cl. 302—28 **9 Claims**



A chute for collecting and feeding fibrous material to a card constituted by front and back walls, side walls and an enclosing top surface, the space between the front and back walls tapering gradually downward and the width of said front and back walls being approximately equal to the width of the lap to be fed to the card by delivery means at the bottom of the chute, the side walls being provided with openings in the upper part for delivery of fibres in an airstream and removal of the airstream with any fibres not deposited in the chute, at least a portion of the entrained fibres being deposited when the level of fibres in the chute is below the bottom level of said openings.

3,450,440
APPARATUS FOR TRANSPORTING SHREDDED TOBACCO OR THE LIKE

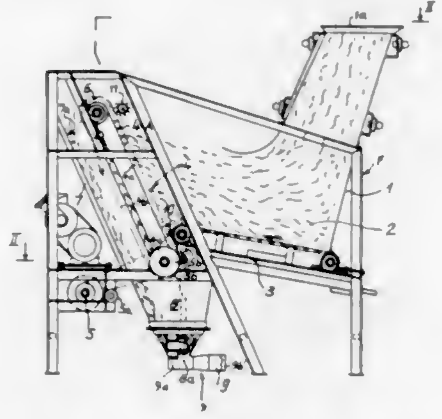
Klaus Hagenah, Hamburg-Bergedorf, Germany, assignor to Hauni-Werke Korber & Co., KG., Hamburg-Bergedorf, Germany

Filed May 2, 1967, Ser. No. 635,548

Claims priority, application Germany, July 14, 1966, H 59,948

Int. Cl. B65g *53/08, 37/00, 47/18*

U.S. Cl. 302—36 **10 Claims**



A first stringer of an endless spiked belt receives shredded tobacco from a bin and dumps the bulk of tobacco at an end turn so that such tobacco drops onto an inclined chute for delivery to a funnel which feeds tobacco to one or more pneumatic conveyors. At least some tobacco particles which continued to adhere to the spiked belt during dumping of the bulk at the end turn descend by gravity during travel with a return stringer of the belt, and such particles are intercepted by the chute so that they are guided into the aforementioned funnel. The bottom wall of the bin is constituted by an endless feeder belt which supplies tobacco to the upper stringer of the spiked belt, and both belts receive motion from a common drive.

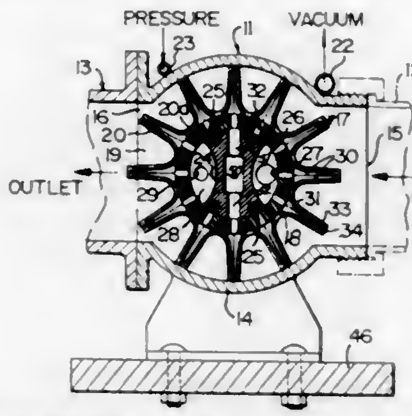
3,450,441
FEEDER FOR AND METHOD OF FEEDING FLOWABLE SOLIDS

Clarence W. Vogt, Box 232, Westport, Conn. 06880

Continuation-in-part of application Ser. No. 563,835, July 8, 1966. This application Aug. 31, 1966, Ser. No. 576,434

Int. Cl. B65g *53/40, 53/28*

U.S. Cl. 302—49 **10 Claims**



This disclosure has to do with a feeder particularly adapted to convey flowable solids from a container. The feeder includes a housing in which there is mounted for rotation a rotor which includes a plurality of pockets for receiving the flowable solid. Each pocket has a wall which is of a porous construction for the flow of gases therethrough and each pocket has a radial opening. As each pocket is presented to an inlet of the housing, a vacuum is drawn through the wall thereof to draw in the flowable solid and to remove therefrom gas retained therein. The pocket filled with compacted material, is then sealed and rotated to the outlet where gas under pressure is forced through the wall of the pocket so as to discharge the material therefrom. The rotation of the rotor is continuous whereby there is a continuous filling and discharge operation.

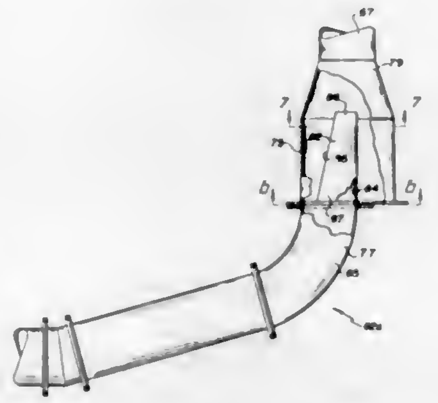
3,450,442
PNEUMATIC CONVEYING LINE ELBOW APPARATUS

Wilfred Farnworth, North Vancouver, British Columbia, Canada, assignor to Rader Pneumatics & Engineering Co. Ltd., Burnaby, British Columbia, Canada

Filed May 13, 1966, Ser. No. 549,843

Int. Cl. B65g *53/52;* **F16l** *43/00*

U.S. Cl. 302—64 **8 Claims**



Elbow apparatus for a particulate material pneumatic conveying line, comprising a straight pipe section inclined relative to an inlet conveying pipe at one end of this section, said straight section being inclined at a low impact loss angle and being sufficiently long to extend across substantially the full projected area of the inlet pipe, and a curved pipe section connected to the opposite end of said straight section, the curve of the curve section and the incline of the straight section combined being such as to provide a desired degree of turn in the conveying line.

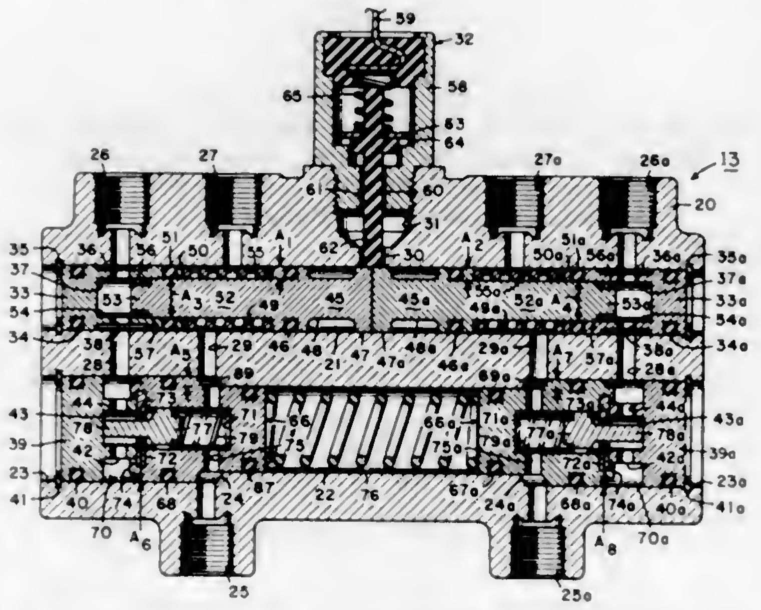
3,450,443
CONTROL VALVE

Richard C. Bueler, St. Louis, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware

Filed Jan. 4, 1968, Ser. No. 695,773

Int. Cl. B60t *11/16, 13/10*

U.S. Cl. 303—6 **40 Claims**



A split brake system having separate branches respectively connected with separate servo motors for braking in each of the front and rear brakes and with the separate fluid pressure generating chambers of a split system master cylinder, and a control valve for comparing the magnitudes of the fluid pressures in the separate branches and for proportioning the fluid pressure generated by the split master cylinder through said branches to selected ones of the servo motors in said branches.

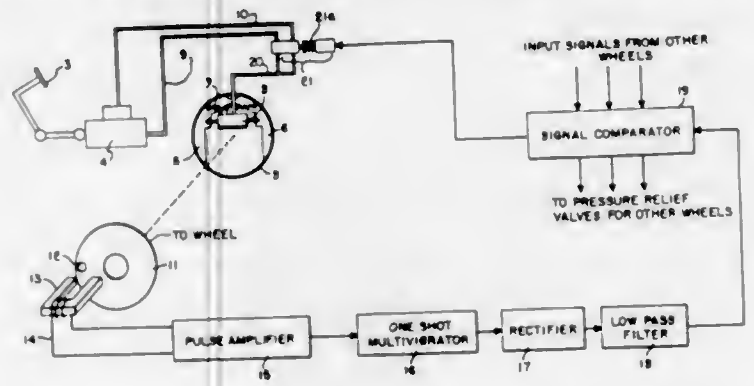
3,450,444
ANTI-SKID SYSTEM

Robert L. Ballard, Meadowbrook, Pa., assignor to Hurst-Campbell, Inc., Warminster, Pa., a corporation of Pennsylvania

Filed Feb. 9, 1968, Ser. No. 704,318

Int. Cl. B60t *13/68, 8/04, 8/26*

U.S. Cl. 303—21 **6 Claims**



A plurality of electromagnetic sensing devices are respectively associated with the wheels of a vehicle. Each device produces a signal corresponding to the speed of rotation of its associated wheel. The signals from the wheels are individually compared with the signal derived from the fastest turning wheel to produce respective error signals which are applied to respective pressure release valves in the hydraulic brake lines for the slower turning wheels. Each error signal causes the intermittent release of the pressure on the brake to which it is applied for time intervals whose duration is directly proportional to the magnitude of the error signal.

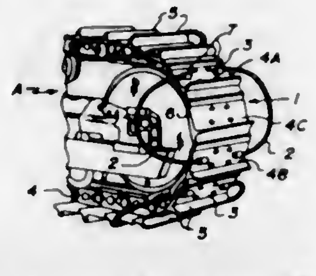
3,450,445
TRACTION TREAD

Gustav Jehn, Box 283, Rimbey, Alberta, Canada

Filed Dec. 13, 1966, Ser. No. 601,462

Int. Cl. B62d *55/20*

U.S. Cl. 305—39 **4 Claims**



A tractor track, having horizontal, flexible loops extending outwardly from the track surface is provided. The loops may be made of steel cable. They improve the traction of the track, particularly in muskeg.

3,450,446
HEAVY-DUTY CHASSIS TRACK

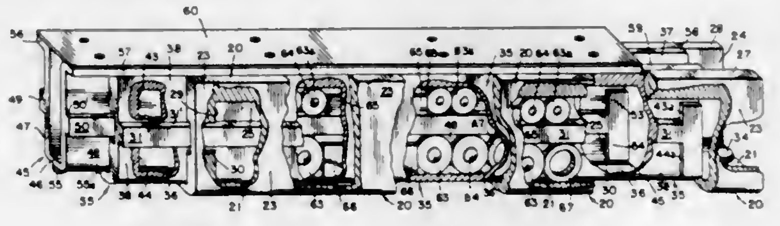
Herbert S. Fall, Indianapolis, James M. Harrell, Beech Grove, James A. Pulley, New Palestine, Lawrence M. Vaughn, Acton, and William D. York and Wayne H. Young, Indianapolis, Ind., assignors to Herbert S. Fall, Indianapolis, Ind.

Filed Oct. 6, 1966, Ser. No. 584,761

Int. Cl. F16c *35/06, 29/04;* **A47b** *88/10*

U.S. Cl. 308—3.8 **11 Claims**

A heavy-duty chassis track comprising first, second and third telescopically disposed track means. The first track means comprises a pair of parallel, spaced apart, elongated, generally vertically disposed wall members, each wall member providing a first downwardly facing track surface extending inwardly therefrom and longitudinally therealong and a first upwardly facing track surface below and parallel to the first downwardly facing track surface and extending inwardly therefrom and longitudinally therealong; the second track means, which telescopes within the first track means, comprises a U-shaped channel having generally vertically disposed side walls, each of the side walls providing a second downwardly facing track surface extending inwardly therefrom and longitudinally therealong and a second upwardly facing track surface below the second downwardly facing track surface and extending inwardly therefrom and longitudinally therealong, and each of the side walls further providing a third upwardly facing track surface extending outwardly therefrom and longitudinally therealong and a third downwardly facing track surface below the third upwardly facing track surface and extending outwardly therefrom and longitudinally therealong, the second and third track surfaces being parallel; and the third track means, which telescopes within the second track means, comprises a track member having generally vertically disposed sides, each of the sides providing a fourth upwardly facing track surface extending outwardly therefrom and longitudinally therealong and a fourth downwardly facing track surface below and parallel to the fourth upwardly facing track surface and extending outwardly therefrom and longitudinally therealong. The third track surfaces are disposed between the first track surfaces and the fourth track surfaces are disposed between the second track surfaces. Rollers are disposed between opposing track surfaces, i.e., rollers are carried on each upwardly facing track surface and under the downwardly facing track surface disposed directly thereabove.



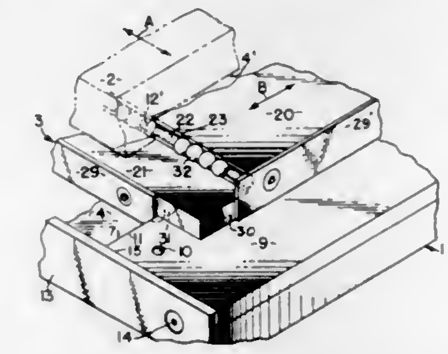
3,450,447
ANTIFRICTION BEARING ASSEMBLY

Francis E. Hacker, 367 N. Market St., Galion, Ohio 44833

Filed Mar. 1, 1967, Ser. No. 619,852

Int. Cl. F16c *29/04*

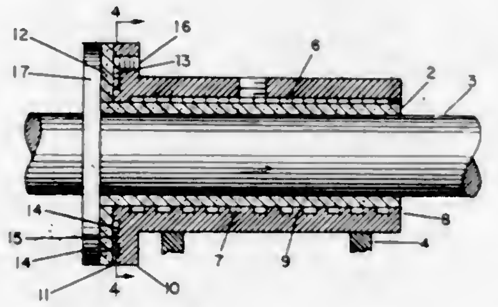
U.S. Cl. 308—6 **1 Claim**



The disclosure is directed to a bearing assembly adapted to be supported preferably on a substantially plane surface and, in turn, to receive an object to be supported on a portion of the assembly for free movement with said portion in a plurality of directions in a single plane, and without lost motion in movement or change of direction of such movement.

3,450,448
GAS BEARINGS

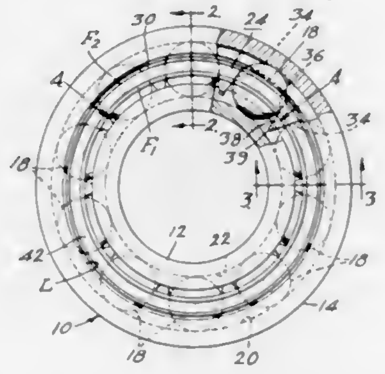
Richard H. Weichsel, Hudson, Ohio, assignor to The Apex Bearings Company, a corporation of Ohio
Filed Feb. 15, 1967, Ser. No. 623,490
Int. Cl. F16c *1/24, 33/66, 13/02*
U.S. Cl. 308—122 **6 Claims**



An outer circular housing has ribs at its opposite ends which engage a porous sleeve. The sleeve surrounds a shaft which is rotatable with close tolerance within the sleeve. The housing has a straight groove extending between its ribs from which circular or helically segmental grooves extend. The porous sleeve is formed of small spherically-shaped copper particles encapsulated with sintered tin in the form of venturi-shaped pores and means are provided to pass a gas through the outer housing into the straight groove and from the straight groove into the circular or helical segmental grooves and thence through the porous sleeve. The venturi-shaped pores restrict the flow of gas through the sleeve which gas then expands and forms a thin uniform film in proximity to the inner wall of the sleeve. To prevent linear motion of the shaft, the porous sleeve may be extended beyond one of the peripheral ribs of the housing and a disc formed of the same material as the sleeve extends radially therefrom and the housing is provided with a flanged portion arranged adjacent the disc having circular grooves therein separated by a circular land. A socket in the flanged portion of the housing is provided through which a gas may be introduced into the circular grooves. The thickness of the sleeve and disc should be that required to support the static load at the working surface and the width of the lands and grooves in both cases is approximately the same as the thickness of the sleeve and disc, respectively. The depth of the grooves in both cases is approximately one-half of the thickness of the sleeve or disc associated therewith.

3,450,449
ROLLING BEARING ASSEMBLY

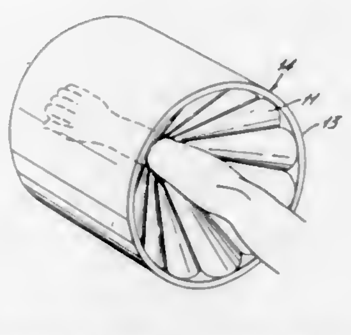
Lewis B. Sibley, Wayne, and William L. Rhoads, Charlestown Township, Chester County, Pa., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,109
Int. Cl. F16c *33/38, 1/24, 19/20*
U.S. Cl. 308—187 **2 Claims**



A cage for guiding the rolling elements of a rolling bearing assembly such as a ball bearing comprising a pair of annular rail members of U-shaped cross section, and a plurality of circumferentially spaced bars formed integrally with the rail members having arcuate side faces to define circular pockets for the balls. The bars are of a radial height less than the radial height of the rails and are provided with a plurality of radial openings.

3,450,450
PRESSURE RESISTING SEAL

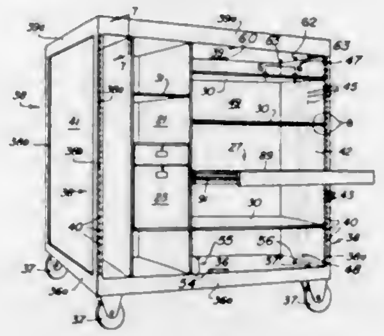
Leslie Arthur Hopkins and Benjamin Lewis Harris, Southampton, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Mar. 3, 1967, Ser. No. 620,401
Claims priority, application Great Britain, Mar. 11, 1966, 10,790/66
Int. Cl. A61g *11/00;* **B65d** *39/00, 51/00*
U.S. Cl. 312—1 **19 Claims**



A pressure resistant seal comprises means defining an aperture and a plurality of closure members of flexible sheet material, such as rubberised fabric, attached side-by-side to the periphery of the aperture in such a fashion that a pressure difference applied across the seal causes the closure members to take up positions extending across the aperture, thereby to close the aperture, at least partly. Arrangements are disclosed for resisting pressure differences acting alternately in opposite directions across the seal. Since the closure members are of flexible sheet material, objects may be passed through the seal without substantially increasing any leakage therethrough. The seals are accordingly useful, for example, in isolating the atmosphere in glove-boxes or for use as neck-seals in iron-lung type respirators.

3,450,451
PORTABLE, MULTIPLE-USE CABINET

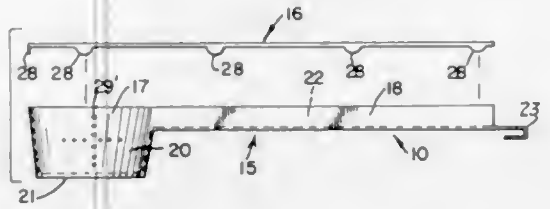
Hugh M. Lyman, Jr., Salt Lake City, Utah, assignor to Granite Mill & Fixture Co., Salt Lake City, Utah, a corporation of Utah
Filed Aug. 21, 1967, Ser. No. 662,083
Int. Cl. A47b *46/00*
U.S. Cl. 312—198 **10 Claims**



A roller mounted cabinet for multiple use, comprising an exterior framework forming a base unit arranged to receive special components in varying structural arrangements that make the cabinet usable as a room divider, shelving for general storage, tote-tray storage, a teacher's station with writing surface and filing drawers, garment storage, or a teaching aid. The components can also be arranged so that the cabinet can serve more than one of these functions simultaneously. Removable doors are provided for the cabinet so that it can be used open faced or with swinging doors, and a back panel can be removed to allow access to the interior of the cabinet and can, if desired, be used inside the cabinet to centrally partition the opposite sides of the cabinet. The doors can be removed without damage to the cabinet and without changing the attractive appearance of the basic cabinet.

3,450,452
TOILET BRUSH HOLDER

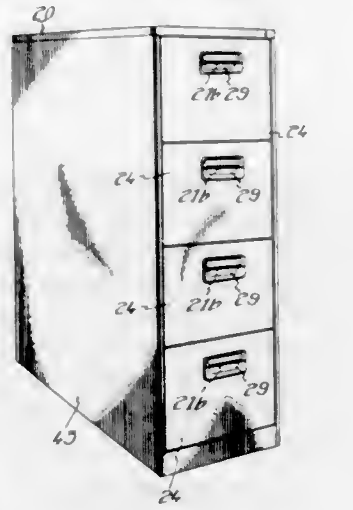
Joyce Pruitt Reid, 1316 W. 115th St., Chicago, Ill. 60643
Filed Sept. 18, 1967, Ser. No. 668,504
Int. Cl. A47g *29/08;* **A46b** *17/00*
U.S. Cl. 312—206 **3 Claims**



A container or holder for enclosing or partially enclosing a long handle toilet cleaning brush which is characterized by a container body having a generally round brush receiving compartment and a connecting elongate handle receiving compartment with a hook-shaped hanger bracket on the free end of the latter for suspending the device from the side of a flush tank or a peg on the wall.

3,450,453
DRAWER LATCH DEVICE FOR FILING CABINETS

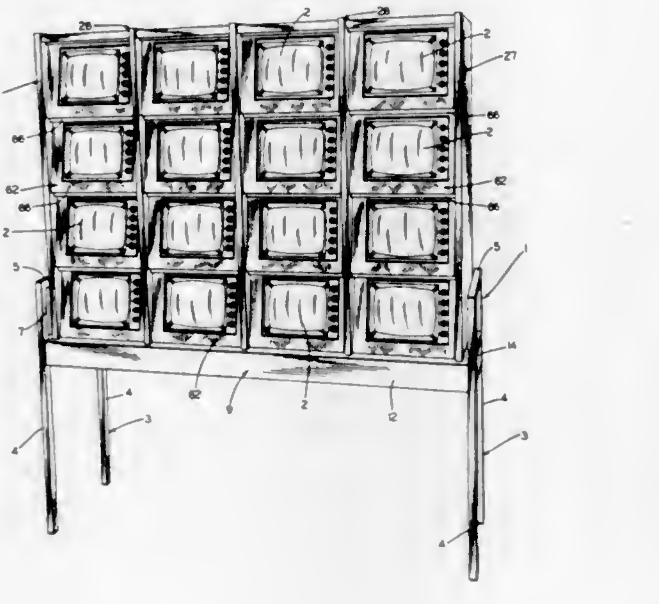
Michiharu Tazaki, Tokyo-to, Japan, assignor to Kyoeikogyo Kabushikikaisha, Tokyo-to, Japan
Filed Aug. 3, 1967, Ser. No. 658,085
Claims priority, application Japan, Aug. 17, 1966, 41/77,292
Int. Cl. E05c *7/06, 15/04;* **E05b** *65/46*
U.S. Cl. 312—222 **4 Claims**



This invention relates to a drawer latch device for filing cabinets including a swingable lever plate depending toward the inner upper edge of a pull pocket provided in the front surface of the drawer end plate, and a latch member projecting toward the drawer side to engage and disengage with extended parts provided on the front reinforcing frame on the cabinet side, and wherein said lever plate and said latch member are respectively provided with the links the tips of which are associated with each other whereby, when finger tips are inserted into the pull pocket of drawer for pulling out the drawer from the cabinet, the lever plate is pressed simultaneously to swing for operating the latch member through the links associated therewith and the drawer is pulled out of the cabinet with a single action of hand while said latch member is released from the cutout parts on the cabinet side.

3,450,454
MODULAR TV MONITOR HOUSING AND STAND

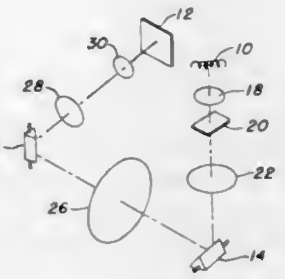
Walter G. Anders, Canton, Ohio, assignor to Diebold Incorporated, Canton, Ohio, a corporation of Ohio
Filed Oct. 27, 1967, Ser. No. 678,731
Int. Cl. A47b *81/00, 77/08;* **A47f** *7/00*
U.S. Cl. 312—223 **10 Claims**



A housing and stand structure for a plurality of TV monitors of modular design so that any reasonable number of standard TV monitors may be compactly supported adjacent one another, for example, two to sixteen monitors; the modular construction permitting with the same fundamental construction of stand and housing parts and duplicating and lengthening such parts, the reception and support of different numbers of different vertical and horizontal rows of TV receivers, with each receiver contained in a drawer-like shell for quick access to the receiver for repair or replacement.

3,450,455
OPTICAL SCANNER

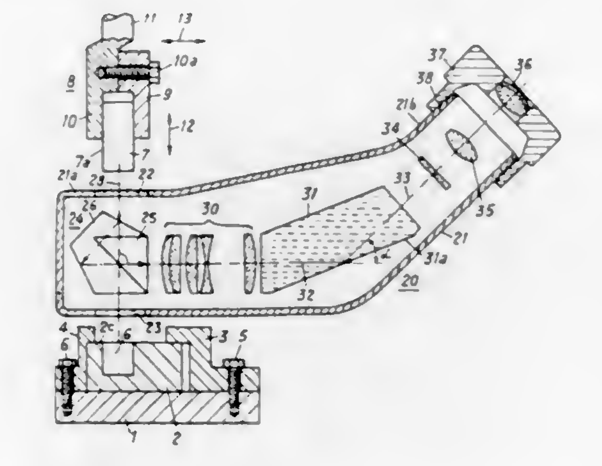
John K. Landre, Menlo Park, Calif., assignor, by mesne assignments, to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,386
Int. Cl. G02b *17/08;* **H04n** *3/08*
U.S. Cl. 350—7 **3 Claims**



A microdensitometer scanning means for producing a small spot wherein rotating mirrors are imaged on to an objective lens through optically aligned relay lenses.

3,450,456
MEANS FOR POSITIONING WORKPIECE AND TOOL WITH DOUBLE-IMAGE MICROSCOPE

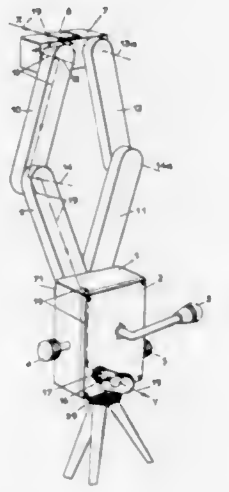
Werner Ullmann, Muralto, Locarno, and Ferdy Hermann, Lucerne, Switzerland, assignors to A.G. für industrielle Elektronik Agie, Losone, near Locarno, Switzerland, a corporation of Switzerland
Continuation-in-part of application Ser. No. 71,238, Nov. 23, 1960. This application July 12, 1965, Ser. No. 471,321
Claims priority, application Switzerland, Nov. 24, 1959, 80,991, Patent 384,243
Int. Cl. G02b *21/18, 7/04*
U.S. Cl. 350—31 **15 Claims**



A device for determining the relative position of two members by a double reflecting prism comprising a first prism producing an even number of reflections and a second prism producing an odd number of reflections.

3,450,457
EXTENSIBLE PERISCOPE

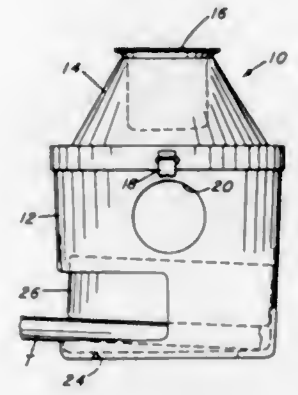
Serge Clave and Marcel Clave, both of 9 Rue Olivier-Metra, Paris, France
Filed Mar. 9, 1964, Ser. No. 350,396
Claims priority, application France, Mar. 11, 1963, 927,536
Int. Cl. G02b *23/08*
U.S. Cl. 350—45 **6 Claims**



Extensible periscope comprising an objective and an eyepiece connected by extensible tubular parallelogram linkage which maintains the optical axes of said objective and eyepiece parallel at all positions of said linkage, and an optical system within the linkage comprising a pair of mirrors at each pivotal connection between two links, with one mirror being positioned in each link, the mirrors in each link being mounted to remain parallel to each other in all positions of the linkage.

3,450,458
FIELD SPECIMEN MICROSCOPE

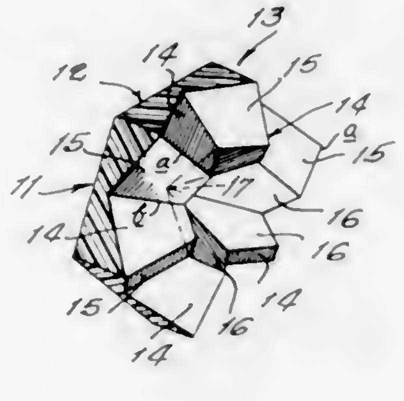
Stanley G. Potrzuski, 452 Elrino St., Baltimore, Md. 21224
Filed May 27, 1966, Ser. No. 553,521
Int. Cl. G02b *21/26*
U.S. Cl. 350—86 **1 Claim**



A holder-viewer for positioning and examining specimens under a lens in the field, comprising a cup-like translucent body with a translucent conical cap in which a magnifier lens is secured and a recessed stage or tray for retention in the bottom of the body.

3,450,459
RETROREFLECTIVE DEVICE

Walter F. Haggerty, 1341 Ridgewood Terrace, Arlington, Tex. 76010
Filed Oct. 24, 1965, Ser. No. 504,536
Int. Cl. G02b *5/12*
U.S. Cl. 350—103 **3 Claims**



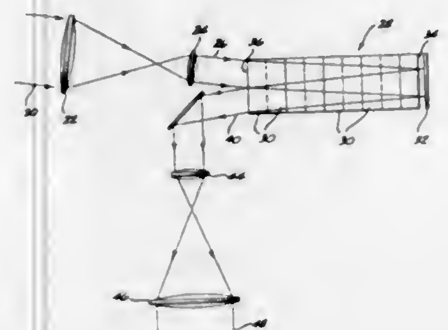
A retroreflective device for use in the creation of road signs installed along thoroughfares as warning signals and for general road information for nighttime vehicular traffic, and comprising the formation of a myriad of hexagonal configurations in sheets of relatively thin plastic material, each formed with a plurality of right-angularly opposed surfaces defining prisms capable of reflecting light rays from acute angles with respect to the planar surface of the sheet material.

3,450,460
ITERATED ELECTRO-OPTIC PRISM DEFLECTOR ARRANGEMENT

Wilbur P. Brown, Jr., Woodland Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,846
Int. Cl. G02b *27/28, 17/08*
U.S. Cl. 350—150 **7 Claims**

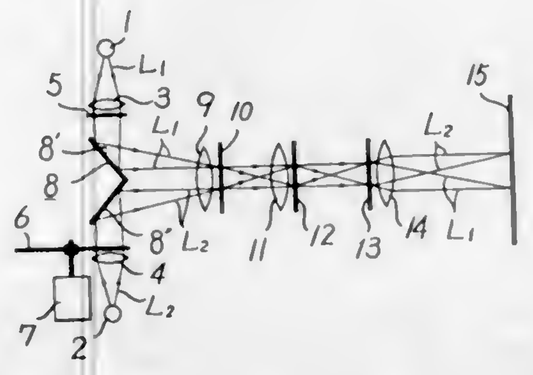
1. In an iterated electro-optic prism deflector arrangement

a beam deflector comprising a plurality of electro-optic prisms in optical series juxtaposition to each other,
reflection means at least at one end of the deflector arrangement,
optical means to focus an input beam on one end of the deflector arrangement for passage of the beam therethrough,
said reflection means being operative to reflect and return the beam through the arrangement,
electrode means to apply an electric field to the arrangement and thereby control the degree of refraction of the beam as it passes through the arrangement.



3,450,461
COLOR PICTURE PROJECTING SYSTEM

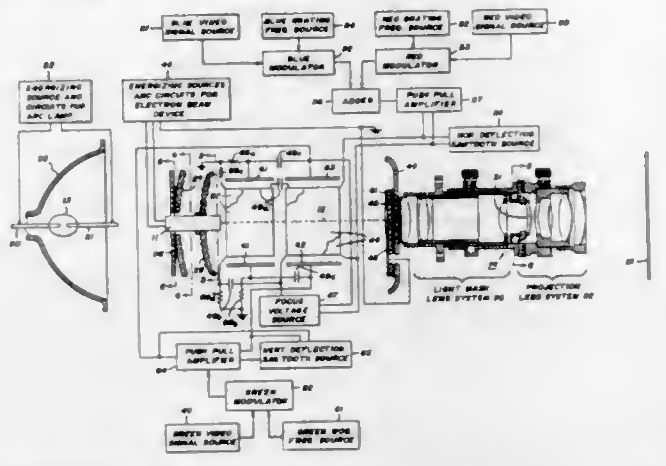
Kenjiro Takayanagi, Tokyo, Japan, assignor to Victor Company of Japan, Limited, Yokohama, Japan, a corporation of Japan
Filed Nov. 4, 1964, Ser. No. 408,792
Claims priority, application Japan, Nov. 12, 1963, 38/60,758
Int. Cl. G02f *1/28;* **H04n** *5/38*
U.S. Cl. 350—161 **4 Claims**



A color picture projecting system wherein a deformable medium, such as an oil film, is scanned by an electron beam modulated by color pictures for forming recesses corresponding to the color pictures on said medium and primary color pictures corresponding to the recesses are enlarged and projected on a screen by applying Schlieren's optical system. The medium is scanned by one electron beam focus modulated in a longitudinal direction by one of three primary colors composing color pictures and simultaneously dot modulated or velocity modulated by the other two primary colors alternating in a predetermined period for forming the recesses on said medium in longitudinal and transverse directions corresponding to said primary colors. A color light corresponding to the primary colors for focusing modulation in the longitudinal direction and color lights of the other two primary colors alternating in synchronization with the predetermined period projected from two light sources on the medium, and slits provided at the front and back of the medium in order to take out only the required refracted light beam of light refracted at said recesses, respectively.

3,450,462
COLOR PROJECTION SYSTEM

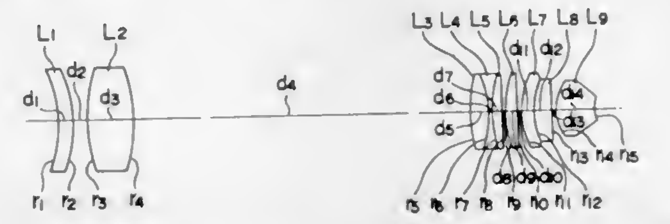
William E. Good, Liverpool, Michael Graser, Jr., Fayetteville, and Henry J. Vanderlaan, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 24, 1964, Ser. No. 384,955
Int. Cl. G02f *1/28;* **H04n** *5/38, 5/44*
U.S. Cl. 350—161 **1 Claim**



Light valve projection apparatus in which a pair of light masks, each having one area of transparent slots and opaque bars and another area of transparent slots and opaque bars, is disposed on each side of a fluid medium deformable by a scanning electron beam into light diffraction gratings. The masks and the diffraction gratings of the medium coact to modulate light from a projector system so that images resulting from the electron beam scanning are projected onto a display screen. A filter is provided in the light projection path having one area of one light transmission characteristic and another area of another light transmission characteristic registering with the one area and the other area, respectively, of the masks.

3,450,463
PHOTOGRAPHIC OBJECTIVE FOR PRECISION COPYING

Akira Yasuda, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Sept. 1, 1965, Ser. No. 484,289
Claims priority, application Japan, Sept. 4, 1964, 39/50,217; Sept. 15, 1964, 39/52,767
Int. Cl. G02b *1/00, 9/62*
U.S. Cl. 350—177 **2 Claims**

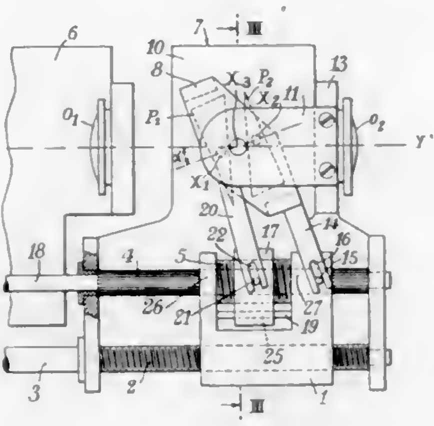


An objective lens for copying comprising two single element front components and four rear components totaling seven elements, the objective having an aperture ratio of F/1.2.

3,450,464
OPTICAL ANAMORPHIC SYSTEMS FOR JUSTIFICATION OF PRINTED TEXT LINES

René M. P. Guffon, Paris, France, assignor to Ateliers Bariquand & Marre, Societe Anonyme, Arcueil, Val-de-Marne, France
Filed Oct. 19, 1965, Ser. No. 497,743
Claims priority, application France, Mar. 9, 1965, 8,457
Int. Cl. G02b *13/10*
U.S. Cl. 350—182 **6 Claims**

An optical anamorphic system comprising two lenses placed on a common optical axis and two adjacent wedge prisms disposed between said two lenses and having parallel vertices disposed on either side of said common optical axis of the lenses, said prisms being rotatably mounted about first axes parallel to their vertices to allow the justification of the text lines with a single position of



the initial point of the lines of which the image is fixed and said prisms being also rotatably mounted about second axes parallel to the first axes to permit to change at will the position of the initial point of the line of which the image will be fixed irrespective of the justification to which this line is subjected.

3,450,465

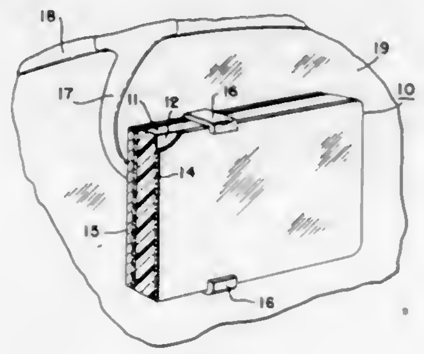
MIRROR WITH A PARTIALLY REFLECTING THIN METAL ALLOY COATING ON A PLASTIC BASE

Stanley R. Prance, Dayton, and Franklin E. Merica, Fairborn, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 212,662, July 26, 1962. This application Aug. 2, 1968, Ser. No. 756,710

Int. Cl. G02b *17/00*

U.S. Cl. 350—278 1 Claim



A mirror comprising a main body portion of plastic material having an opaque backing on one side thereof and a partially reflecting thin metal alloy coating vapor deposited upon the other side thereof.

3,450,466

EYE MOVEMENT RECORDER

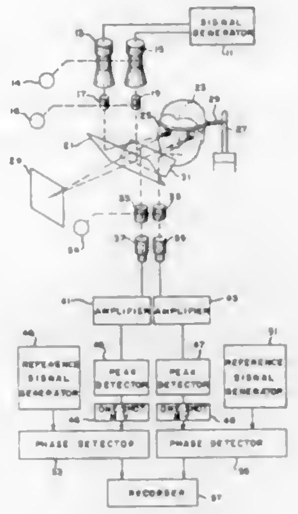
Erwin Streisinger, Reading, Pa., assignor, by mesne assignments, to United States Testing Company, Inc., Hoboken, N.J., a corporation of New York

Filed Feb. 19, 1965, Ser. No. 434,073

Int. Cl. A61b *3/14, 3/00*

U.S. Cl. 351—7 5 Claims

Apparatus for the detection and recording of eye movements of a subject under examination. A signal is generated which projects a focused beam of light upon the eye in such a manner that the beam encompasses two, differently reflecting surfaces, such as the pupil and iris. The scan is made in a circular manner and any deviation in intensity of the reflected beam can be translated into eye movements and direction.



3,450,467

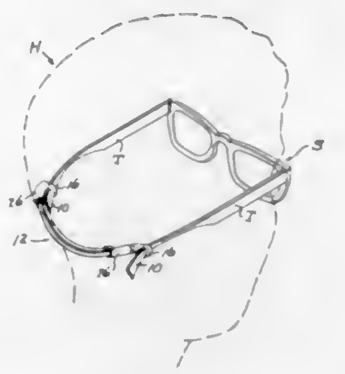
DUAL GRIP SPECTACLES HOLDER

Joseph C. Phillips, 1806 Highland Drive, Augusta, Kans. 67010

Filed July 15, 1966, Ser. No. 565,455

Int. Cl. G02c *3/02*

U.S. Cl. 351—157 2 Claims



A holder for spectacles consisting of a pair of resilient elastic side-by-side bands having outer end loops for gripping the temples of a pair of spectacles and having a resilient sleeve adjustably-mounted on each band, each band having an inner loop connected to a sleeve on the other band so that the effective length of the holder can be adjusted by moving the sleeves on the bands.

3,450,468

PROJECTION SYSTEM FOR PROJECTING CONSTANT SIZE IMAGES FROM VARIABLE SIZE FRAMES

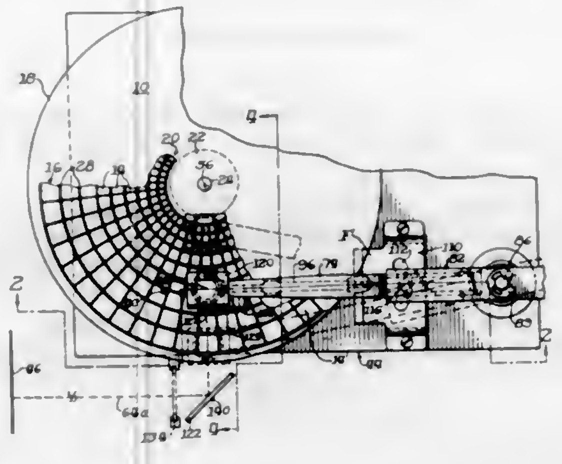
Richard M. Davidson, Northbrook, and James Reekie, Wilmette, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed June 16, 1966, Ser. No. 558,122

Int. Cl. G03b *31/02*

U.S. Cl. 352—26 15 Claims

A disk support and apparatus for projecting a series of equal sized images from a plurality of image frames of differing sizes mounted on a common support. The apparatus moves the support to locate successive frames for projection by a variable focal length projection lens, and adjusts the lens in accordance with the size of the particular frame so that all images are projected at essentially the same size.



3,450,469

PANORAMIC OPTICAL PROJECTION SYSTEM

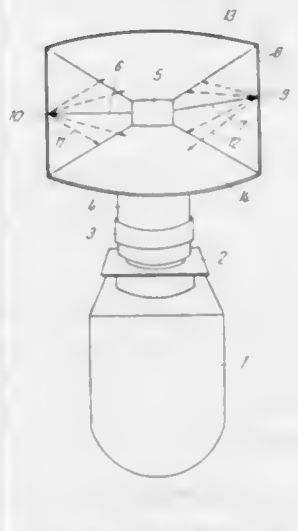
Heinz Brachvogel, Cologne-Klettenberg, Germany, assignor to Volpi AG, Zurich, Switzerland

Filed July 15, 1966, Ser. No. 565,573

Claims priority, application Germany, Nov. 30, 1965, B 84,764

Int. Cl. G03b *21/00*

U.S. Cl. 352—69 2 Claims



A panoramic projection system includes a projector arranged to project an image for panoramic projection to a panorama lens positioned centrally within a cylindrical projecting screen or similar projecting surface. The construction includes a conical diaphragm arranged on each side of the lens so that harmful radiation which reduces the quality of projection is suppressed. The projected rays which are directed outwardly from each side end of the lens are deflected by the conical lens on each side thereof. A cone angle of the diaphragms is complementary to the angle of the panorama projection angle so that harmful light radiating from the cylindrical projection surface is absorbed and rendered ineffective.

3,450,470

CINEMA PROJECTOR FOR FILMS WITH SINGLE LATERAL PERFORATION FOR EACH FRAME AND WITH OPTICAL COMPENSATION OF THE UNIFORM MOTION OF THE FILM

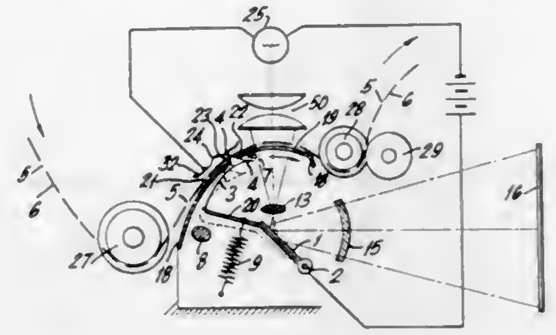
Augusto Gentilini, 36 Via dei Mille, Rome, Italy

Filed Oct. 4, 1965, Ser. No. 492,416

Int. Cl. G03b *41/00*

U.S. Cl. 352—109 8 Claims

A cinematographic projector, for films with a single lateral perforation for each frame, is formed of a curved guide having a pair of openings spaced in the direction of travel of the film. A tooth is secured to a pivotally positionable mirror and extends through one of the openings in the guide into engagement with a perforation in the film. As the tooth is driven by the film it pivots the mirror and compensates for the uniform motion of the film. Lens means are provided for directing light through the film at the other opening in the guide and onto the mirror for reflection onto a screen.



3,450,471

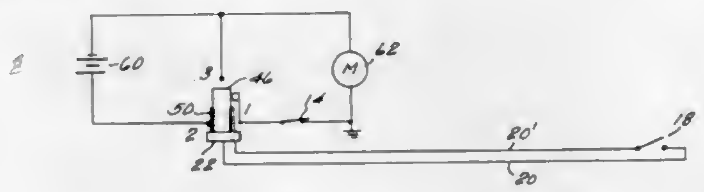
CAMERA WITH REMOTE CONTROL AND BATTERY RECHARGER

Lew W. Lessler, Elmhurst, N.Y., assignor to De Jur-Amsco Corporation, Long Island City, N.Y., a corporation of New York

Filed Apr. 28, 1966, Ser. No. 545,927

Int. Cl. G03b *1/00*

U.S. Cl. 352—166 4 Claims



A battery driven motion picture camera system comprises a camera having a motor and a local control switch, a remote control switch, and a battery recharger. The camera has a single electrical socket which receives either of two plugs. The remote control switch has a relatively long flexible cord terminating in one plug, and the battery recharging unit has a flexible cord terminating in a different plug. When the plug of the remote control switch is used, the remote control switch is operative. When the plug of the recharger is used, the local switch operates the camera while recharging, and without removing the battery from the camera.

3,450,472

CONTROLLED AREA PROJECTOR

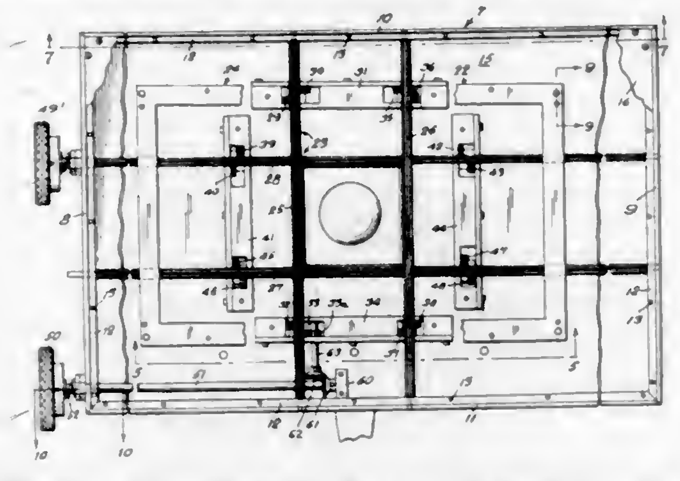
Donald E. Warden, Hampton, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 11, 1966, Ser. No. 572,172

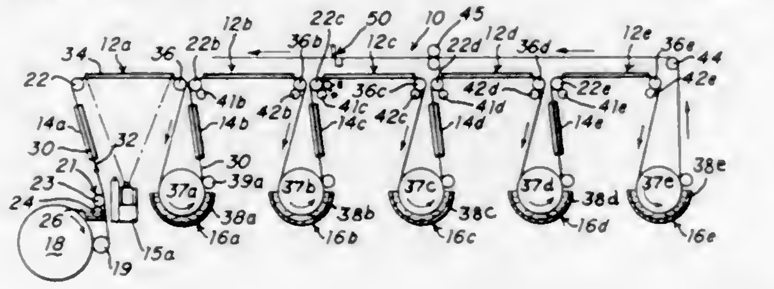
Int. Cl. G03b *21/00, 23/10*

U.S. Cl. 353—11 6 Claims

A slide holder for use with a controlled area projector. The slide holder is movable in horizontal, vertical and diagonal directions to enable the projector to project a map slide in properly oriented position on symbology which has been projected on the screen by the projector. The slide holder is mounted in a box and has horizontal and vertical gear mechanisms for moving the slide holder. The horizontal gear mechanism has two horizontal pinion wires journaled in the sides of the box. The vertical gear mechanism has two vertical pinion wires journaled in the top and bottom of the box. Two vertically positioned gear boxes, each having a pair of idler spur gears, are provided to mesh with the two horizontal pinion wires. Two horizontally positioned gear boxes, each having a pair of idler spur gears, are provided to mesh with the two vertical pinion wires. A driving mechanism having two bevel gears, a shaft and a knob is provided to drive the vertical pinion wires. A knob mounted on the outer end of a horizontal pinion wire, is provided to drive the horizontal pinion wires.

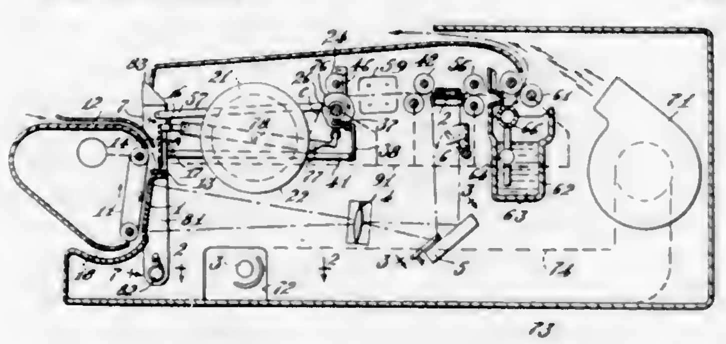


3,450,473
ELECTROPHOTOGRAPHIC APPARATUS
Francis Hunstiger, Parma Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Original application June 4, 1964, Ser. No. 372,503, now Patent No. 3,307,458, dated Mar. 7, 1968. Divided and this application July 18, 1966, Ser. No. 566,053
Int. Cl. G03g *15/10, 15/00*
U.S. Cl. 355—4 **7 Claims**



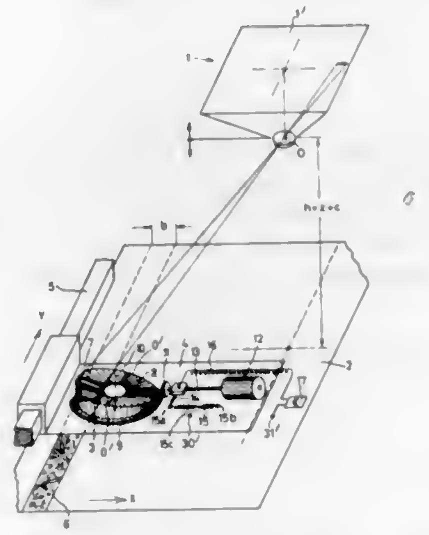
An electrophotographic printing and developing system for the liquid development of multi-color images on a web of paper utilizing a series of printing and developing stations. The non-image side of the web is maintained in a dry condition throughout the printing and liquid developing steps. An index mark is placed on the edge of the web as the first developing station. This index mark triggers a photo pick-up device at each station for assuring the precise registration of the images from station to station.

3,450,474
RECORD COPIER
Donald D. Sloan, Weston, Mass., and Robert W. Polley, Nashua, N.H., assignors to Dennison Manufacturing Company, Framingbam, Mass., a corporation of Nevada
Filed Oct. 12, 1966, Ser. No. 586,262
Int. Cl. G03b *27/32, 27/52, 27/30*
U.S. Cl. 355—27 **2 Claims**



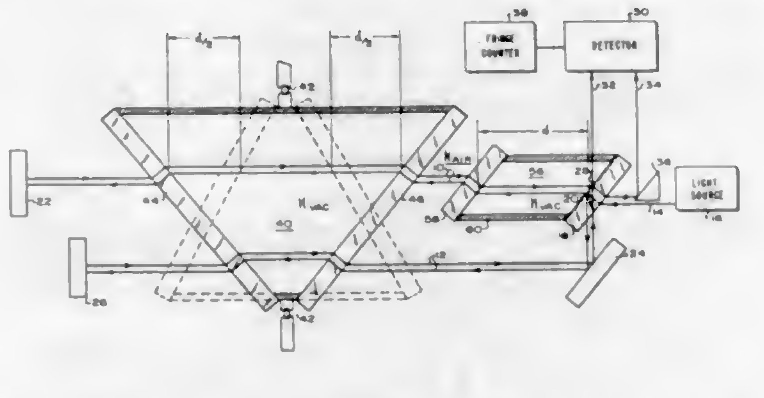
Apparatus having an exposure window, a lamp for illuminating a record in the window to make a copy of the record, a developer for applying liquid developer to the copy, a duct for directing air from the region of the lamp to said copy beyond said developer, and a pump to circulate air through said duct, thereby to dry the developed copy with heat derived from said lamp.

3,450,475
APPARATUS FOR PRODUCING DIFFERENTIALLY RECTIFIED ORTHOGONAL PICTURE PLAN OF SPATIAL OBJECTS
Herbert Mondon, Oberkochen, Wurttemberg, Germany, assignor to Carl Zeiss-Stiftung, dolng business as Carl Zeiss, Heldenheim (Brenz), Wurttemberg, Germany, a corporation of Germany
Filed Aug. 3, 1966, Ser. No. 570,009
Claims priority, application Germany, Aug. 13, 1965, Z 11,705
Int. Cl. G03b *27/68*
U.S. Cl. 355—52 **3 Claims**



A method and device for producing a differentially rectified picture plan of three-dimensional objects in which a ring-shaped rectification element rotatable about a vertical axis and composed of vertically positioned light-conducting fibers is arranged above a horizontally movable diaphragm slot of an ortho-projector, whereby the receiving surface of said rectification element facing the projector contains all inclination to be rectified of said three-dimensional object.

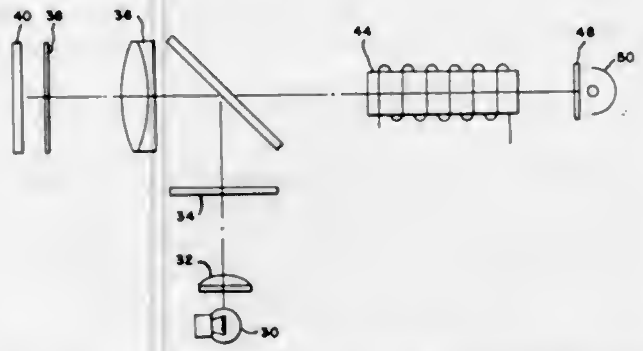
3,450,476
APPARATUS FOR MEASURING THE INDEX OF REFRACTION OF A FLUID MEDIUM
Joseph F. Rando, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Feb. 3, 1966, Ser. No. 524,720
Int. Cl. G01b *9/02*
U.S. Cl. 356—107 **10 Claims**



An interferometer is provided with a plurality of different optical paths at least one of which passes in part through a medium having a known index of refraction and in part through a medium having an unknown index

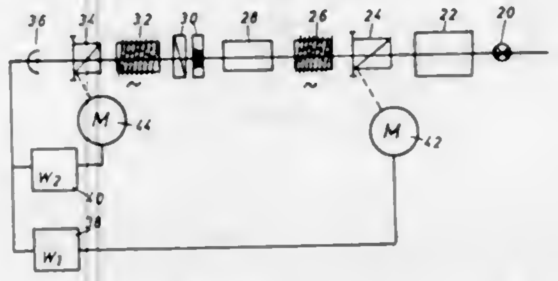
of refraction. One or more prisms of one of these media is mounted in at least this one optical path for movement between first and second positions to alter the ratio of the two parts of this one optical path by a selected amount and thereby produce a phase shift indicative of the unknown index of refraction.

3,450,477
OPTICAL SYSTEM
Robert J. Meltzer, Irondequolt, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed June 25, 1965, Ser. No. 466,940
Int. Cl. G01n *21/44*
U.S. Cl. 356—114 **5 Claims**



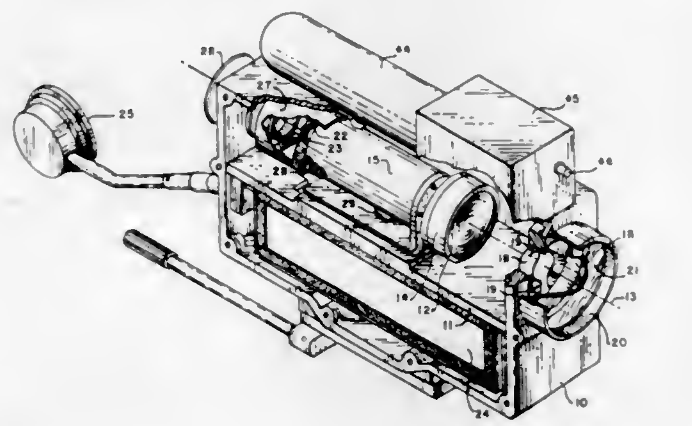
An optical system is disclosed for measuring rotational movement about the line of sight. A polarized beam of radiation is directed and redirected through a quarter-wave plate which rotates the plane of polarization of the beam in accordance with the position of its optical axis relative to the plane of polarization of the beam. The rotated beam is modulated and applied through an analyzer to a radiation sensitive detector which generates a signal corresponding to the rotational position of the quarter-wave plate about the beam.

3,450,478
DEVICE FOR THE SIMULTANEOUS MEASUREMENT OF OPTICAL ROTATION AND CIRCULAR DICHROISM
Nikolaus Sebestyen, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk Perkin-Elmer & Co. GmbH, Uberlingen (Bodensee), Germany
Filed June 21, 1966, Ser. No. 559,199
Int. Cl. G01n *21/44*
U.S. Cl. 356—117 **3 Claims**



An automtaic polarimeter not only measures the optical rotation of a sample in a more or less conventional manner, but also measures the circular dichroism thereof by utilizing a double-refracting (quarter-wave) retardation plate. In a preferred embodiment, the apparatus includes a first plane polarizing prism and means for oscillating the plane of the resulting polarized light (for example a Faraday modulator) at a first frequency (ω_1) before the light has passed through the sample; behind the sample is positioned a quarter-wave plate of double refracting material, a second polarization plane oscillator at a different frequency (ω_2), a plane polarizing analyzer, and a radiation detector. The detector will generate a first frequency (ω_1) signal component when the optical rotation of the sample causes the plane of polarization (at the center of oscillation) from the polarizer to be no longer parallel to the optic axis of the quarter-wave plate; this signal is used to rotate the polarizer until the plane of the polarized light (or the plane of the major axis of elliptically polarized light) is again made parallel to the optic axis of the quarter-wave plate. A detector signal component at the second frequency (ω_2) will be generated which is proportional to the amount of deviation from perpendicularity of the finally emerging plane of polarization of the light from the quarter-wave plate relative to the polarization plane of the analyzer; this ω_2 signal is utilized to rotate the analyzer to the balanced perpendicular position. When both of these two different frequency signal components have been nulled, the major axis of the elliptically polarized light reaching the quarter-wave plate will be parallel to its optic axis (by adjustment of the polarizer, compensating the optical rotation of the sample); and (since the quarter-wave plate will convert elliptically polarized light having its major axis parallel to the optic axis of the plate into plane polarized light, at an angle relative to this optic axis by an amount depending on the original ellipticity), the position of the analyzer at balance will indicate the amount of circular dichroism of the sample.

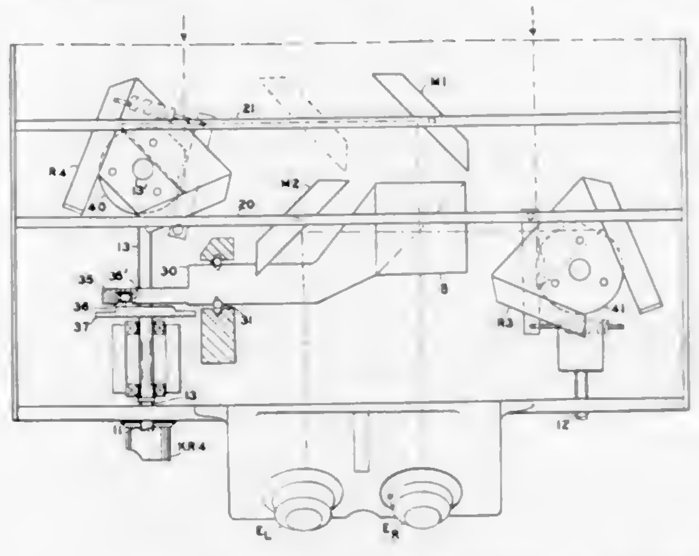
3,450,479
DIRECTION FINDING APPARATUS
Harry Dauber, Asbury Park, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 26, 1956, Ser. No. 561,965
Int. Cl. G01b *11/26;* **G01c** *1/00;* **G01j** *1/20*
U.S. Cl. 356—141 **7 Claims**



1. Direction finding apparatus comprising an optical system having a major direction finding axis operable to image an area to be surveyed wherein a radiant energy source may be found, a radiant energy sensitive cell at the focus of said optical syntem, said cell having a plurality of independent sensitive elements arranged symmetrically around said direction finding axis, means to scan in a circle the image of an energy source picked up by said optical system thereby to traverse the image of said energy source successively across each of said cell elements, electrical connections between said cells including a source of energy and a pair of output terminals whereby when said axis is directed toward said energy source a uniform pattern of electric signals is generated at said terminals by said cell but when the axis is not directed at said energy source a non-uniform pattern of signals is generated and stroboscopic means for interpreting the signals whereby the signals may be used by the operator to orient said major axis toward the energy source.

3,450,480
COMPARISON VIEWER

Anwar K. Chitayat, Plainview, N.Y., assignor to Optomechanisms, Inc., Plainview, N.Y.
Filed Apr. 8, 1965, Ser. No. 446,537
Int. Cl. C01b *11/00;* **C02b** *27/24*
U.S. Cl. 356—163 **1 Claim**

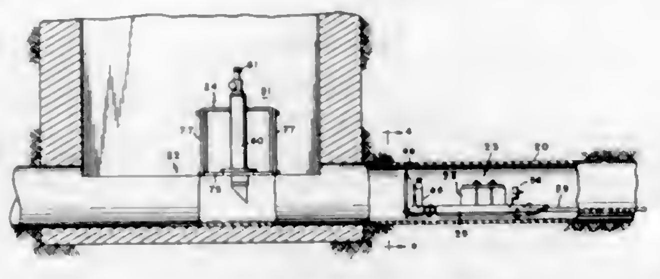


A comparison viewer which is adapted to provide a plurality of modes of viewing, for instance, stereo viewing, pseudo (reversed) stereo viewing, superimposed left and right views, means to provide the left and right pickup views to both eyes of the operator (binocular monoscopic mode) and means to reverse the image from one or both pickups.

3,450,481
ASSEMBLY FOR INSPECTING THE INTERIOR OF PIPES OR CONDUITS

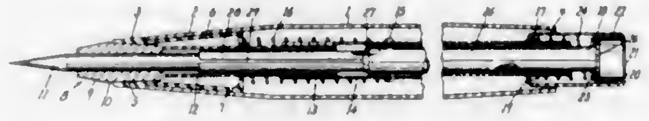
Joseph J. Kramp, 5604 Wildwood Lane, Baltimore, Md. 21209, and Theodore A. Butts, 522 Towson Ave., Lutherville, Md. 21093
Filed Oct. 21, 1965, Ser. No. 499,450
Int. Cl. G01n *21/16*
U.S. Cl. 356—241 **10 Claims**

An assembly for inspecting the interior of pipes or conduits including a mobile support movable axially through the pipe, the support having a concave reflecting member mounted thereon, an illuminating member mounted proximate the reflecting member for directing light rays to the pipe periphery, the focal length of which concave reflecting member is such that the light rays from the illuminated portion of the pipe pass through the focal point of the reflecting member and are reflected by the latter in planes parallel to the longitudinal axis of the pipe, and a viewing unit at one terminal of the pipe for receiving the light rays transmitted by the reflecting member.



3,450,482
PENCIL LEAD HOLDER WITH FIXED LENGTH FEED

Virgil D. Dorstewitz, Coloma, Mich., assignor to Tru Point Products Inc., Coloma, Mich.
Filed June 12, 1967, Ser. No. 645,394
Int. Cl. B43k *21/16, 21/22*
U.S. Cl. 401—67 **9 Claims**



A push button has differential movement relative to the outer barrel, and a cylinder with chuck jaws and an inner lead holding tube, so that reciprocation of the button first creates a measured displacement between the button and the cylinder, then releases the chuck jaws so that the lead and tube advance a predetermined distance, after which one spring returns the cylinder closing the jaws on the advanced lead, and a second spring then retracts the tube to a new frictional gripping position on the lead.

CHEMICAL

3,450,483
METHOD OF PREPARING RAWHIDE

Lars E. Nordstrom, Curwensville, Pa., assignor to Superior Pet Products, Inc., Curwensville, Pa., a corporation of Massachusetts
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,666
Int. Cl. D06l *3/02*
U.S. Cl. 8—111 **4 Claims**

A rawhide product resembling animal bone is prepared by bleaching rawhide at a pH between about 9 and 11 in a hydrogen peroxide water solution, then removing the excess solution and drying the hide.

3,450,484
METHOD OF PRODUCING FABRICS FOR CREASE-RETAINING GARMENTS

John M. Ross, Jr., Brunswick. N.J., and Daniel A. Lima, Glen Burnie, Md., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,417
Int. Cl. D06m *13/14*
U.S. Cl. 8—116.3 **3 Claims**

This specification discloses a process for producing a cellulose containing fabric capable of having permanent creases made therein by heat and pressure, by impregnating the fabric with an aqueous dispersion of a condensation product of a lower alkyl carbamate and formaldehyde, and drying the impregnated fabric at elevated temperatures to the point where the fabric contains 4.75 to 3.0% moisture. This moisture level is actually below the equilibrium moisture content of cotton under typical ambient conditions.

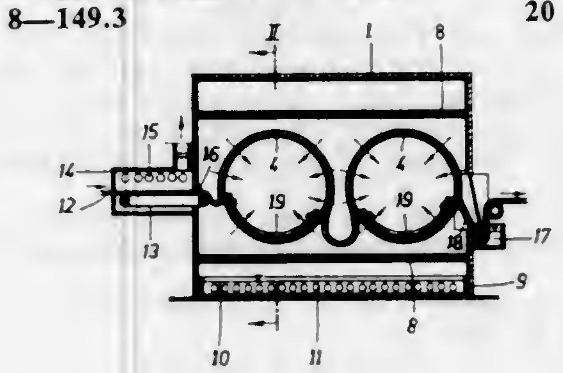
3,450,485
PROCESS FOR PRODUCING WRINKLE RESISTANT CELLULOSIC TEXTILE MATERIALS BY CATALYSIS WITH HYDROGEN HALIDE GAS

Robert M. Reinhardt, New Orleans, and Joseph S. Bruno, Chalmette, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Continuation-in-part of application Ser. No. 395,627, Sept. 10, 1964. This application Sept. 19, 1967, Ser. No. 668,973
Int. Cl. D06m *7/02*
U.S. Cl. 8—116.3 **1 Claim**

Cotton cellulosic materials are impregnated with N-methylol type crosslinking agents, particularly dimethylol ethyl carbamate, dried to normal regain at about 60° C., and the reaction catalyzed with an anhydrous hydrogen halide gas at temperatures in the range of 28° to 65° C., for periods of time in the range of 0.5 to 60 minutes.

3,450,486
PROCESS AND APPARATUS FOR THE TREATMENT OF TEXTILE MATERIALS

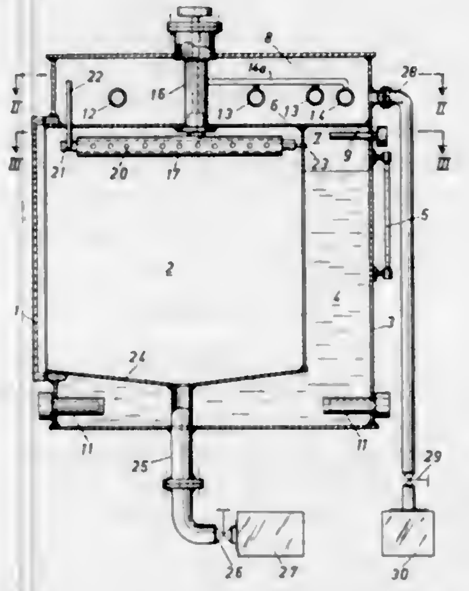
Hans Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Vepa AG, Basel, Switzerland
Filed Apr. 28, 1967, Ser. No. 634,656
Claims priority, application Germany, Apr. 29, 1966,
A 52,311
Int. Cl. D06c *1/08;* **D06f** *37/02*
U.S. Cl. 8—149.3 **20 Claims**



The present disclosure relates to a process and apparatus for the treatment of materials, for example, textile materials such as printed or dyed fabric, tricot, tufted carpets, fiber fleeces, non-wovens, and the like, which advantageously can be stressed in the longitudinal direction. More particularly, the present invention concerns a process and apparatus for the treatment of textile materials wherein the material being treated is conveyed on the same side of substantially all of the conveying means and perforated baffle means are provided at those portions of the conveying means which are not covered with the material being treated, said baffle means functioning to control the flow of the treatment medium into the conveying means on that side of said conveying means. If the process of the present invention is carried out in a saturated steam atmosphere, the steam is introduced into the circulation of the treatment medium through that portion of the conveying means which is not covered with the material being treated.

3,450,487
METHOD OF AND APPARATUS FOR STERILIZING ARTICLES

Knut Anders Osborne Wallden, deceased, late of Kungsbacka, Sweden, by Carl Lennart Jonsson, legal representative, Kaptensgatan 1, Kungsbacka, Sweden
Continuation of application Ser. No. 325,807, Nov. 18, 1963. This application Nov. 30, 1967, Ser. No. 689,209
Claims priority, application Sweden, Apr. 10, 1963,
3,981/63
Int. Cl. A61l *1/00*
U.S. Cl. 21—56 **8 Claims**



An autoclave having a housing provided with a top compartment overlying a chamber for sterilizing articles and a bottom compartment disposed about the chamber for holding a body of water heated to generate saturated steam passing into the top compartment, flowing the saturated steam in the top compartment through an elongated hollow member which is electrically heated to dry the steam, discharging the dry steam from an apertured diffuser tube in the upper part of the sterilizing chamber, controlling the flow of the dry steam from the elongated member to the diffuser tube by a valve which is in the top compartment and has a control member accessible outside the housing, heating the dry steam in the diffuser tube by saturated steam flowing from the bottom compartment to the top compartment through a conduit which extends through the diffuser tube, producing a first pressure less than atmospheric pressure in the steam spaces of the top and bottom compartments of the housing by a first evacuator, and withdrawing air and steam from the bottom part of the sterilizing chamber by a second evacuator to produce a second pressure therein which is less than the first pressure.

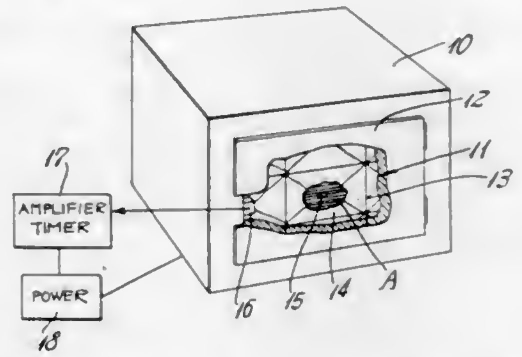
3,450,488
EVAPORATION RETARDANTS BASED ON BLENDS OF ALCOHOLS CONTAINING ODD AND EVEN NUMBERS OF CARBON ATOMS AND METHOD OF USE

Russell G. Dressler, 204 Carolwood Drive, San Antonio, Tex. 78213
No Drawing. Continuation-in-part of application Ser. No. 529,634, Feb. 24, 1966, now abandoned. This application Jan. 31, 1967, Ser. No. 612,820
Int. Cl. B01j *1/18*
U.S. Cl. 21—60.5 **10 Claims**

Evaporation retardant method and composition based on a binary blend of a normal saturated alcohol having an even number of carbon atoms ranging from 16 to 22 with its next adjacent higher homolog.

3,450,489
STERILIZATION CONTROL MEANS

James P. Fay, 18 France St., Norwalk, Conn. 06851
Filed July 25, 1966, Ser. No. 567,415
Int. Cl. A61d *3/02*
U.S. Cl. 21—93 **11 Claims**

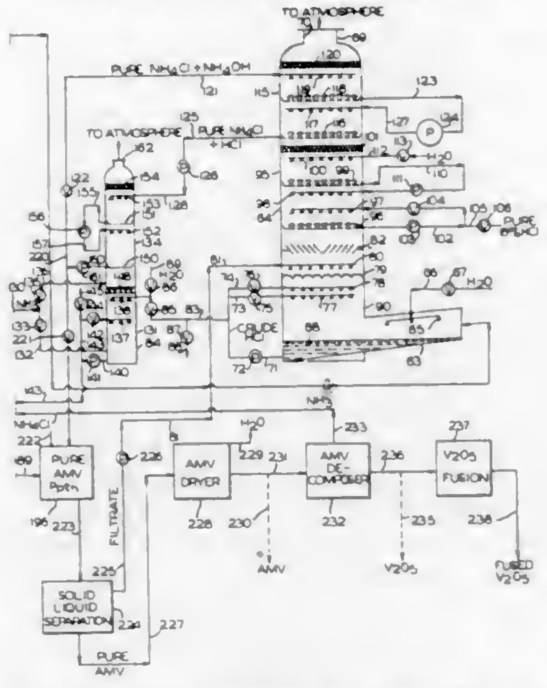


Sterilizing apparatus for sealed bundles of articles, each bundle having a temperature-responsive signal generating means sealed therein, wherein the sterilization cycle is controlled by said signal generating means to ensure proper sterilization.

3,450,490
METHOD OF RECOVERING AMMONIA AND HYDROGEN CHLORIDE FROM GASES

John A. Hermann, Oklahoma City, Okla., and Donald E. Garrett, Pomona, Calif., assignors to Kerr-McGee Corporation, a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,307
Int. Cl. B01d *47/00;* **B03c** *3/00*
U.S. Cl. 23—2 **6 Claims**

Gaseous ammonia in a first gaseous mixture and gaseous hydrogen chloride in a second gaseous mixture are recovered by a novel method employing improved apparatus. Crude and/or relatively pure ammonium chloride may also be prepared and used in the precipitation and purification of vanadium values.



3,450,491
PREPARATION OF MCr_3O_8, WHERE M IS AN ALKALI METAL, FROM CrO_3, Cr_2O_3 AND $M_2Cr_2O_7$

Joseph H. Balthis, Jr., Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Dec. 14, 1965, Ser. No. 513,841. Divided and this application Aug. 1, 1968, Ser. No. 749,294

Int. Cl. C01g *37/02*

U.S. Cl. 23—56 **7 Claims**

Described and claimed is the novel process for making the known alkali metal chromates MCr_3O_8, e.g., KCr_3O_8, by heating a mixture of CrO_3, Cr_2O_3 and an alkali metal dichromate at 170–400° C. The compounds of the formula MCr_3O_8 are useful in the synthesis of ferromagnetic chromium oxide.

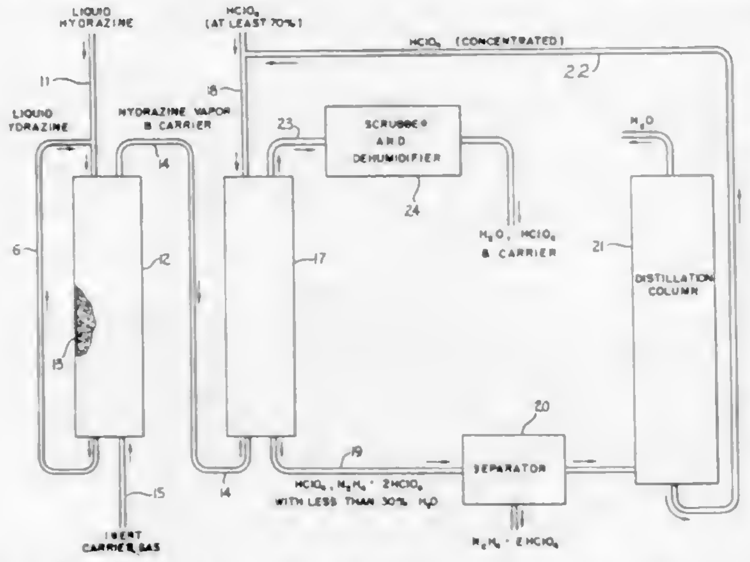
3,450,492
METHOD OF MAKING HYDROZINIUM DIPERCHLORATE

Elliot K. Weinberg, Dover, and Frank J. Loprest, Denville, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Apr. 3, 1962, Ser. No. 184,888

Int. Cl. C01b *11/18;* **C06c** *1/02*

U.S. Cl. 23—85 **4 Claims**



1. The method of making anhydrous hydrazinium diperchlorate substantially free of hydrazinium monoperchlorate which comprises contacting one molar part of hydrazine with more than two molar parts of perchloric acid, the reagents being employed in such amounts and concentrations that the reaction mixture contains less than about 30 percent by weight of water, and then recovering said anhydrous hydrazinium diperchlorate from the resulting mixture.

3,450,493
PROCESS FOR THE PRODUCTION OF CHLORITES OF ALKALI AND ALKALINE-EARTH METALS

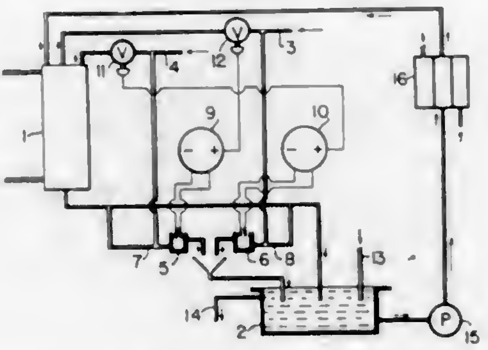
Marc Griffon du Bellay, Saint-Genis-Laval, and Gabriel Boutillon, Sainte-Foy-les-Lyon, France, assignors to Ugine Kuhlmann, Paris, France, a corporation of France

Filed May 25, 1966, Ser. No. 552,773

Claims priority, application France, May 28, 1965, 18,632

Int. Cl. C01b *11/10;* **C01d** *3/00*

U.S. Cl. 23—85 **5 Claims**



An improvement in the production of alkali metal and alkaline earth metal chlorites by absorption of chlorine dioxide in an aqueous medium of an alkaline hydroxide agent and a reducing agent, wherein two measurements of the medium are made to determine the excess or deficiency of the alkaline and reducing agents, one measurement being the redox potential of the medium with or without the presence of one of the agents and the other measurement being either the pH or redox potential of the medium after the addition of at least one of the agents.

3,450,494
AMORPHOUS SODIUM SILICATE HAVING INHERENT BINDING PROPERTIES AND METHOD OF PRODUCING SAME

Conrad J. Gaiser, 24 66th Place,
Long Beach, Calif. 90803

Continuation-in-part of application Ser. No. 352,142, Mar. 16, 1964. This application July 18, 1967, Ser. No. 654,230

Int. Cl. C01b *33/32*

U.S. Cl. 23—110 **8 Claims**

Amorphous sodium silicate having a burr-like structure imparting inherent binding properties thereto, is prepared by heating an aqueous sodium silicate dispersion and spraying the dispersion under pressure into an expansion zone of lower pressure to effect a water loss solely by substantially instantaneous flashing off of water without application of heat. The product has good insulating properties, and because of its inherent binding properties, it can be compressed into tablets.

3,450,495
METHOD OF PRECIPITATING METALS AS SULPHIDES

Philip G. Thornhill, Richmond Hill, Ontario, and Edward H. Coulter, Willowdale, Ontario, Canada, assignors to Falconbridge Nickel Mines Limited, Thornhill, Ontario, Canada

Filed Sept. 16, 1966, Ser. No. 580,043

Int. Cl. C01g *3/12;* **C22b** *23/00*

U.S. Cl. 23—135 **5 Claims**

A method of precipitating a dissolved metal value from

a solution containing ferric ions and a dissolved metal value such as nickel, cobalt or copper. Elemental sulfur is generated in the solution by mixing therein iron sulfide particles to reduce the ferric ions to ferrous ions and simultaneously generate a coating of elemental sulfur on the surfaces of the particles. Subsequently metallic iron is mixed into the solution and the dissolved metal value reacts with elemental sulfur and metallic iron to form a metal sulfide on the surfaces of the particles.

3,450,496
METHOD OF PRODUCING PURE RED LEAD MONOXIDE

Wim Kwestroo and Petrus Helena Gerardus Maria Vromans, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 7, 1966, Ser. No. 518,482

Claims priority, application Netherlands, Jan. 15, 1965, 6500458

Int. Cl. C01g *21/06*

U.S. Cl. 23—146 **2 Claims**

1. A method of producing very pure lead monoxide comprising the step of subjecting substantially silicon-free lead acetate to the action of ammonia in an aqueous solution thereof in a container of silicon-free material to form lead monoxide containing less than 20 p.p.m. of silicon.

3,450,497
PROCESS FOR PRODUCING BORIC OXIDE

Joseph C. Schumacher and Theodore A. Rado, Los Angeles, and James L. Fairchild, Trona, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed July 5, 1966, Ser. No. 562,496

Int. Cl. C01b *35/00*

U.S. Cl. 23—149 **6 Claims**

A process of producing boric oxide from a metal borate by admixing sulfuric acid, a metal fluxing agent comprising alkali metal or alkaline earth metal sulfates or chlorides and a metal borate at a temperature within the range of from about 400° to 1400° C. to form a boric oxide phase which is immiscible with a metal salt phase. The specific composition of the immiscible phases may be varied to predetermined compositions by reacting said acid and said metal borate in equivalent quantities within the range of from 0.1 to 2:1.

3,450,498
PROCESS FOR THE MANUFACTURE OF NITRIC ACID

Peter Malcolm Sales, London, England, assignor to Humphreys & Glasgow Limited, London, England, a British company

Filed May 27, 1966, Ser. No. 553,462

Claims priority, application Great Britain, May 28, 1965, 22,818/65

Int. Cl. C01b *21/38;* **C02b** *21/26*

U.S. Cl. 23—162 **3 Claims**

In an ammonia oxidation plant for the production of nitric acid, the oxidation reaction gases are expanded directly through a gas turbine used in the energy recovery system. The gases are subsequently compressed, preferably passed through a heat exchanger, and the oxides of nitrogen absorbed in water. The tail gases, heated in the heat exchanger may then be expanded through a further turbine.

3,450,499
PREPARATION OF METAL NITRIDES

Paul C. Yates, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 593,001, Nov. 9, 1966. This application July 17, 1968, Ser. No. 745,374

Int. Cl. C01b *21/06*

U.S. Cl. 23—191 **7 Claims**

Nitrides of titanium, aluminum, zirconium, tantalum, hafnium, niobium and vanadium, having exceptional purity and uniformly small particle size, are prepared by contacting a reducible salt or oxide of titanium, aluminum, zirconium, vanadium, niobium, tantalum, hafnium or their mixtures with an alkali metal nitride or alkaline earth metal nitride in a molten salt bath of alkali halides or alkaline earth halides, at a temperature of from 450° C. to 1200° C. The nitrides are useful in preparing metal bonded nitride cutting tools of exceptional strength and hardness.

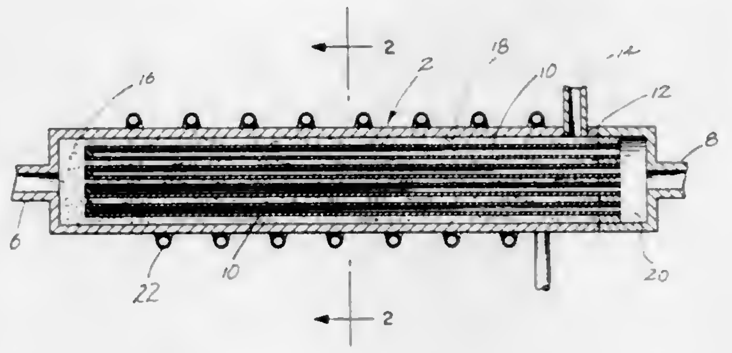
3,450,500
METHOD FOR CATALYTICALLY REFORMING HYDROGEN-CONTAINING CARBONACEOUS FEEDSTOCKS BY SIMULTANEOUS ABSTRACTIONS THROUGH A MEMBRANE SELECTIVELY PERMEABLE TO HYDROGEN

Herbert J. Setzer, Ellington, and Alfred C. W. Eggen, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 476,878, Aug. 3, 1965. This application Mar. 14, 1968, Ser. No. 716,276

Int. Cl. C01b *1/00;* **B01j** *9/00*

U.S. Cl. 23—212 **5 Claims**



There is disclosed a process for catalytically converting a mixture of a hydrogen-containing carbonaceous feedstock and steam into a product hydrogen stream of high purity at relatively low temperatures wherein the catalytic conversion is effected in close proximity to a membrane of a metal selectively permeable to hydrogen so that hydrogen formed by conversion is simultaneously abstracted to drive the equilibrium to favor increased hydrogen production.

3,450,501
PROTHROMBIN TIME DETERMINATION

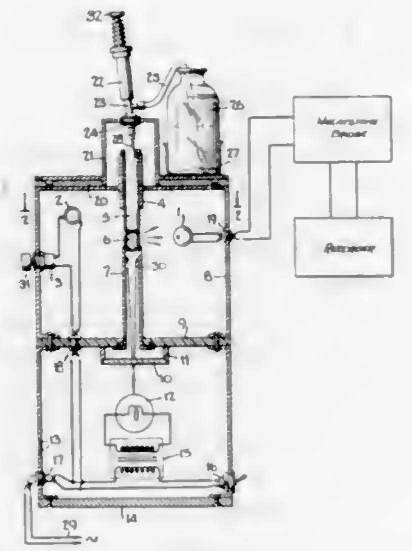
Bruce J. Oberhardt, 2212 Brigham St.,
Brooklyn, N.Y. 11229

Filed Mar. 28, 1966, Ser. No. 540,455

Int. Cl. G01n *33/16*

U.S. Cl. 23—253 **2 Claims**

A standard size, disposable test tube containing a blood plasma sample prepared for testing is placed in an enclosed temperature controlled environment. A clotting reagent, contained in a supply bottle, is administered to the test tube containing the sample by means of a self-replenishing-type injector syringe to initiate the clotting reaction, the progress of which is monitored by a photoelectric system which responds to changes in light scattering during coagulation. The photocell output is fed to a resistive bridge circuit, the output of which is sent to a chart recorder which will yield an entire curve of the progress of the coagulation with a sharp endpoint at the instant the clot forms. The prothrombin time is easily read from the curve.



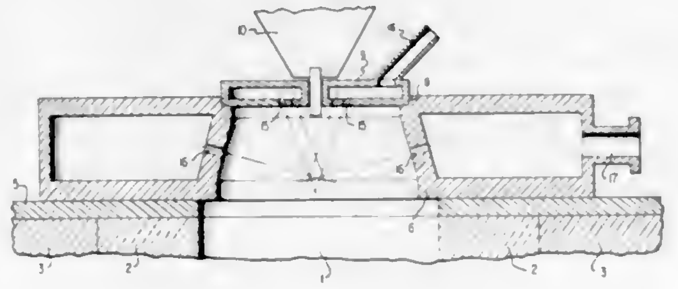
3,450,502
METHOD OF OPERATING HEART-LUNG APPARATUS

Alan C. Hymes, Birmingham, Mich., assignor, by mesne assignments, to Wyandotte Chemicals Corporation, a corporation of Michigan
No Drawing. Filed Sept. 25, 1967, Ser. No. 670,395
Int. Cl. A61m *1/03;* **C07c** *43/10*
U.S. Cl. 23—258.5 4 Claims

Isotonic solutions of certain ethylene oxide-polypropylene glycol condensation products have been found to be extremely effective as priming agents in the heart-lung apparatus.

3,450,503
APPARATUS FOR OXIDIZING LEAD

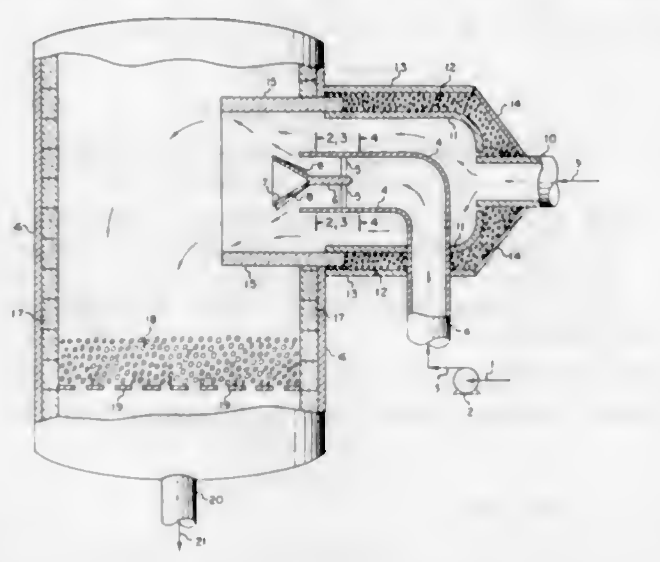
Peter Knorr, Essen, Germany, assignor to Th. Goldschmidt, A.G., Essen, Germany, a corporation of Germany
Filed Nov. 12, 1964, Ser. No. 410,393
Int. Cl. C01g *21/10*
U.S. Cl. 23—277 8 Claims



This invention relates to a process and apparatus for oxidizing lead in which a zone of high gas turbulence is produced by the convergence of a plurality of gas jets; molten lead is atomized in this zone and preferably also is burned therein. Particularly good results are obtained if molten lead is introduced into the zone of high gas turbulence in the form of a thin stream. The molten stream is atomized and the lead is distributed in the turbulent zone in extremely finely dispersed form. The atomized lead is burned to lead oxide either immediately or in a separate combustion zone mounted adjacent to the turbulent zone.

3,450,504
GAS BURNER

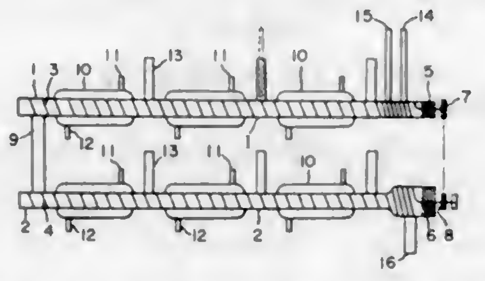
Paul Korwin, Flushing, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,792
Int. Cl. B01j *1/14;* **C01b** *2/14*
U.S. Cl. 23—277 9 Claims



An improved gas burner for the combustion of a hot gaseous hydrocarbon-containing process stream with air is provided, in which the apparatus includes the combination of inner and outer coaxial conduits, a refractory sleeve which extends into the combustion chamber from the end of the outer conduit, and a conical baffle which is disposed at the outlet of the inner conduit and provided with external vanes. The inner conduit extends into the combustion chamber beyond the end of the outer conduit. The combustion air stream is preferably passed inwards through the inner conduit, and the hot process gas stream is passed inwards through the annular passage between the inner and outer conduits. A whirling component of flow direction is imparted to the air stream passing outwards through the annular opening between the end of the inner conduit and the conical baffle by the vanes, and the reacting mixture of air and process gas impinges on the refractory sleeve in the combustion chamber. A third conduit is preferably provided coaxial with and external to the outer conduit, together with a lining of refractory material in the annular space between the outer conduit and the third conduit.

3,450,505
REACTOR OF THE TUBULAR TYPE

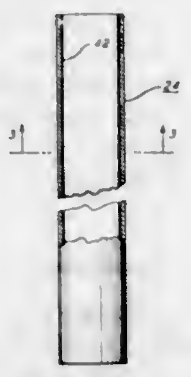
Hozumi Tanaka, Ashiya-shi, Minoru Hanabusa, Takarazuka-shi, Kazuaki Goshima, Hiraoka-shi, and Yutaka Unno and Sadaji Kajihara, Osaka-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka-shi, Japan
Filed Apr. 5, 1966, Ser. No. 540,233
Claims priority, application Japan, Apr. 17, 1965, 40/22,820
Int. Cl. B01t *1/00*
U.S. Cl. 23—285 5 Claims



A tubular reactor to transport along a longitudinal path for processing separately introduced reaction material and reagent. The reaction material and the reagent form a film on the exterior wall surface of the reactor. The propelling force consists of a rotatable wire in spiral form or series of spiraling wires. Exhaust pipes are provided for gases resulting from processing between jackets wherein the jackets themselves have inlet and outlet ports for circulation of a cooling medium.

3,450,506
APPARATUS FOR THE PRODUCTION OF HYDROGEN

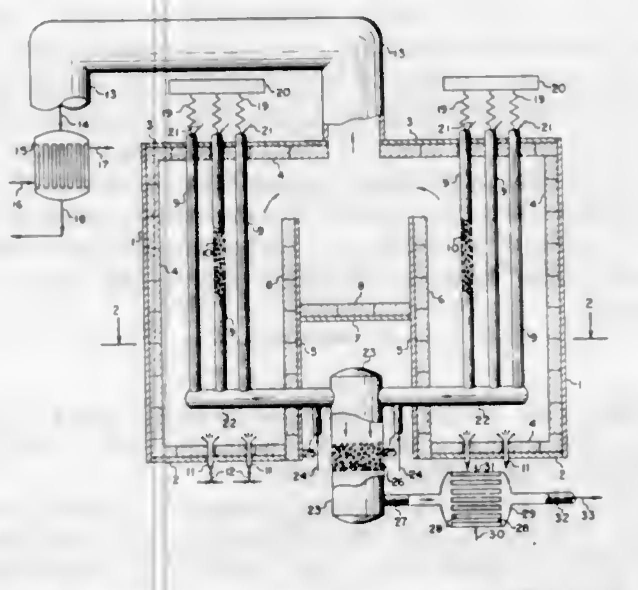
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed July 23, 1964, Ser. No. 384,704
Int. Cl. B01j *9/04;* **G01b** *2/16*
U.S. Cl. 23—288 6 Claims



An improved steam reforming apparatus with reactor tubes having an outside diameter less than 2½ inches and an inner diameter between ¼ inch and 2¼ inches, the inner surface of the tubes having a nickel oxide steam reforming catalyst integrally coated thereon.

3,450,507
INTEGRATED REFORMING OF HYDROCARBONS

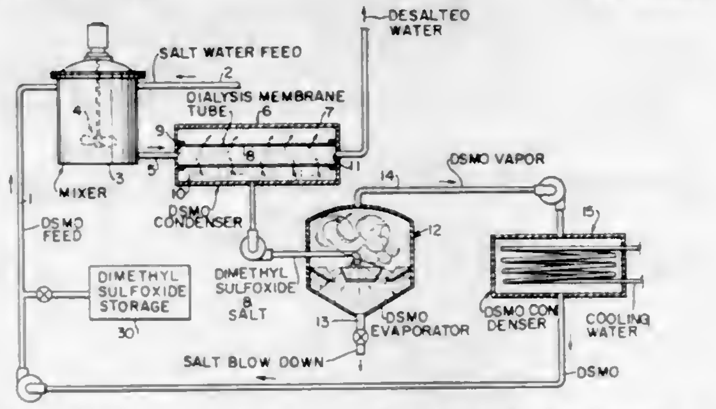
Paul Korwin, Flushing, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 589,946
Int. Cl. B01j *9/04*
U.S. Cl. 23—288 11 Claims



1. An apparatus for the reforming of fluid hydrocarbons to produce a crude synthesis gas principally containing hydrogen, nitrogen and carbon monoxide which comprises a vertically oriented cylindrical container, a vertical cylindrical partition, said partition being coaxially disposed within said container and extending upwardly from an opening in the base of said container, a plurality of primary hydrocarbon reformer tubes, said tubes being vertically aligned in the annular space between said partition and said container in linear rows of tubes, each of said rows of tubes being radially disposed with respect to the central vertical axis of said container, each of said tubes containing an active hydrocarbon reforming catalyst, means within said container to externally heat said tubes to elevated temperature, means to pass a gaseous feed mixture comprising a fluid hydrocarbon and steam downwards through said tubes, whereby said fluid hydrocarbon is at least partially catalytically steam reformed, a vertically oriented cylindrical secondary reformer vessel, said vessel being coaxially disposed within said cylindrical partition and extending downwards below the base of said container, said vessel being provided with an internal bed of active hydrocarbon reforming catalyst, a plurality of substantially horizontal liner transfer ducts, each of said ducts being disposed below one of said rows of tubes and connected with the tubes in said row, whereby a partially reformed gas mixture flows from said tubes into said ducts, each of said ducts extending in a linear horizontal direction and radially inwards through said patrition to a connection with said vessel above said catalyst bed, whereby the partially reformed gas mixture is discharged into said vessel above said catalyst bed, means to pass process air into said vessel above said catalyst bed, whereby said process air reacts with said partially reformed gas mixture within said vessel and above said catalyst bed, and means to remove a crude synthesis gas principally containing hydrogen, nitrogen and carbon monoxide from said vessel below said catalyst bed.

3,450,508
EXTRACTION OF SALTS FROM SALINE WATER USING DIMETHYLSULFOXIDE

Martin H. Cooper, Chappaqua, and Thomas D. Hawkins, White Plains, N.Y., assignors to United Nuclear Corporation, a corporation of Delaware
Filed Sept. 1, 1966, Ser. No. 576,736
Int. Cl. B01j *9/00;* **B01d** *11/00*
U.S. Cl. 23—312 14 Claims



1. An energy conserving process for the extraction of sodium chloride and other ionic salts present therewith from saline water containing sodium chloride which comprises:

(a) contacting a desired amount of saline water with a predetermined amount of dimethyl sulfoxide for a sufficient period of time to extract a desired amount of the sodium chloride and other ionic salts from said saline water to produce an aqueous raffinate having a lower sodium chloride and other ionic salts concentration than the starting concentration and a dimethylsulfoxide extract having the extracted sodium chloride and other ionic salts therein,

(b) separating the dimethylsulfoxide extract from the aqueous raffinate, the dimethylsulfoxide extract being in condition for evaporation at an energy level substantially lower than that required to evaporate said desired amount of saline water,

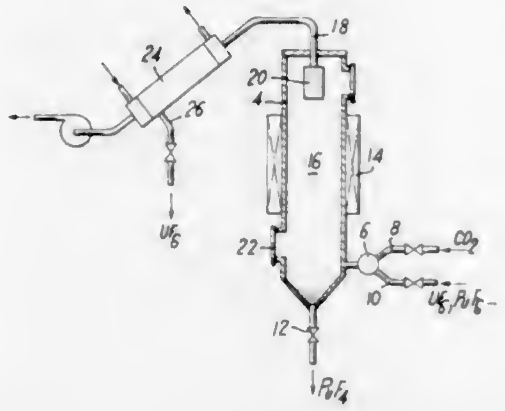
(c) evaporating the dimethylsulfoxide at a low energy level to separate the dimethylsulfoxide from the extracted sodium chloride and other ionic salts, thereby rendering the process energy conserving, and

(d) condensing and collecting the evaporated dimethylsulfoxide.

3,450,509

SELECTIVE REDUCTION OF PuF$_6$

Georges Manevy, Antony, France, assignor to Commissariat á l'Energie Atomique, Paris, France
Filed Nov. 21, 1967, Ser. No. 684,773
Claims priority, application France, Dec. 1, 1966, 85,866
Int. Cl. C01g *56/00*
U.S. Cl. 23—344 **6 Claims**

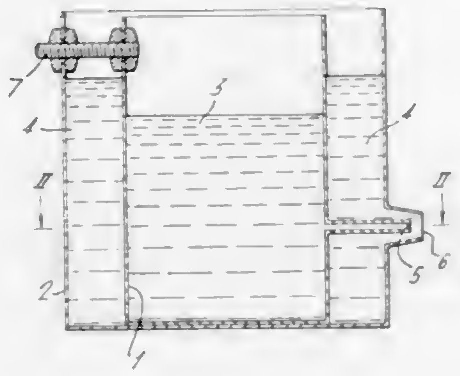


For selectively reducing PuF$_6$ present in a mixture containing PuF$_6$, UF$_6$ an eventual fission products, the mixture of hexafluorides is mixed with a proportion of CO$_2$ more than that stoichiometrically necessary and maintained at about 350° C. at a pressure of between 0.5 and 3 bars for a time sufficient for complete reduction of PuF$_6$. The process may be carried out either continuously by flowing the mixture through a vertical reaction vessel or in batches.

3,450,510

PROCESSES FOR PRODUCING FIBRE-REINFORCED MATERIALS

Clifford Aubrey Calow, Reading, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Apr. 13, 1967, Ser. No. 630,638
Claims priority, application Great Britain, Apr. 14, 1966, 16,341/66
Int. Cl. B21c *23/24;* **B22f** *3/20*
U.S. Cl. 29—182.2 **4 Claims**



Fibre-reinforced metallic material is produced by dispersing metallic or refractory fibres with metal powder in a plastic medium e.g. an alginate solution to form a first plastic mix, dispersing further metal powder in a plastic medium e.g. an alginate solution to form a second plastic mix, extruding the first mix to align the fibers in the direction of extrusion and simultaneously extruding the second mix so that the surface of the extruded first mix is sheathed with the extruded second mix to form a coating in intimate contact therewith, thereby forming a composite extrusion, treating the composite extrusion to solidify the plastic media e.g. by gelling with a mineral acid followed by heating the composite extrusion to remove the solidified plastic media and to loose-sinter the metal powder of the extruded second mix.

3,450,511

SINTERED CARBIDE HARD ALLOY

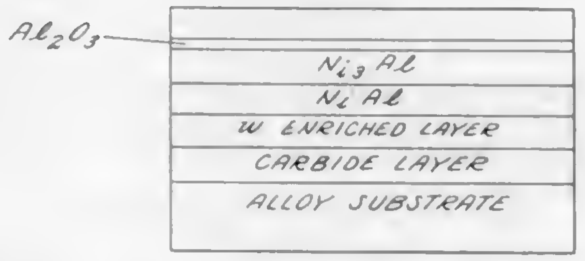
Fritz Frehn, Krefeld, Germany, assignor to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
No Drawing. Filed Sept. 4, 1968, Ser. No. 757,476
Claims priority, application Germany, Nov. 10, 1967, D 54,565
Int. Cl. C22c *29/00, 39/28;* **B22f** *7/04*
U.S. Cl. 29—182.8 **1 Claim**

Sintered carbide hard alloys are known in which titanium carbide is embedded in a matrix consisting of an austenitic steel or a steel hardenable by phase transformation and/or by precipitation, the alloy being machinable when the steel matrix is an austenitic steel or is in a relatively soft state. Such carbide hard alloys however suffer from the defect that they often have insufficient abrasion-resistance in service, and particularly that if they are sintered in a very high vacuum they generate a porous surface layer, and it is difficult to sinter workpieces right through to the core.

3,450,512

COATED NICKEL BASE ENGINE ALLOYS

Douglas H. Maxwell, North Palm Beach, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,648
Int. Cl. F02k *11/00;* **C22f** *1/04;* **C23f** *17/00*
U.S. Cl. 29—183.5 **7 Claims**



This invention relates in general to coated aircraft engine parts fabricated from the high temperature nickel base alloys and methods of producing the same. It contemplates the provision of a protective coating on these parts, not only to improve their oxidation erosion resistance at engine operating temperatures in excess of 2000° F., but also to improve their thermal shock resistance and creep rupture strength, by substantially reducing the interdiffusion between the base metal and the coating material.

3,450,513

DIESEL OIL FUEL COMPOSITIONS CONTAINING OIL-SOLUBLE METAL SALTS OF PARTIAL IMIDE POLYMER RESINS

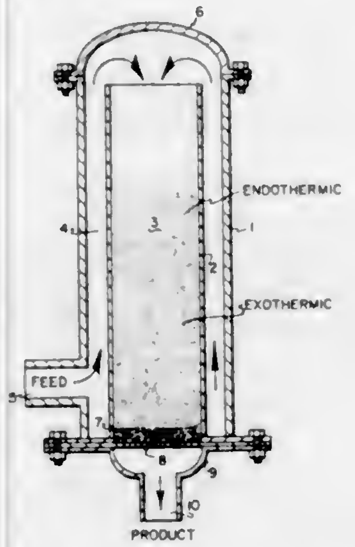
Seymour H. Patinkin, Chicago, Joseph A. Verdol, Dolton, and Donald J. Carrow, Riverdale, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 1, 1967, Ser. No. 687,143
Int. Cl. C10l *1/14, 1/22, 1/30*
U.S. Cl. 44—62 **6 Claims**

Diesel oil fuel compositions are disclosed containing a small amount, effective to improve combustion properties of the diesel oil fuel, of an oil-soluble metal salt of a partial imide polymer resin which is the reaction product of a monoamine or a polyamine with a polymer resin of maleic anhydride and a monovinyl monomer, which is an alkyl monovinyl ether or a monovinyl hydrocarbon, of 2 to 12 carbon atoms, such as styrene. These metal salts of the patrial imides are effective additives in small amounts of, for instance, about .001 to 0.5% by weight, in diesel oil fuels to prevent or reduce the formation of deleterious deposits and to prevent or reduce the production of exhaust smoke or combustion in diesel engines.

3,450,514

CONTROLLED CONVERSION OF LIGHT NAPHTHA TO TOWN GAS

John H. Sinfelt, Berkeley Heights, and William F. Taylor, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,829
Int. Cl. C10b *57/04*
U.S. Cl. 48—214 **4 Claims**

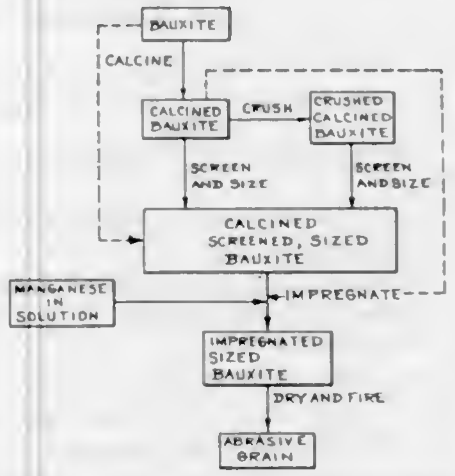


In generating methane-rich gas by catalyzed reaction of hydrocarbon vapors with steam at low temperatures in the range of 630° to 900° F., catalyst utilization is improved by heat exchange temperature control in an endothermic reforming zone through which the reaction mixture of hydrocarbon vapors and steam first flow to form a hydrogen-rich gas and in a subsequent exothermic methanation zone a resulting reaction mixture containing the gas then flows with moderated rise in temperature in the direction of flow.

3,450,515

METHOD OF MAKING IMPREGNATED SINTERED BAUXITE GRAINS AND THE PRODUCT THEREOF

John J. Amero, Shrewsbury, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 8, 1963, Ser. No. 263,960
Int. Cl. B24d *3/34, 3/14*
U.S. Cl. 51—307 **2 Claims**

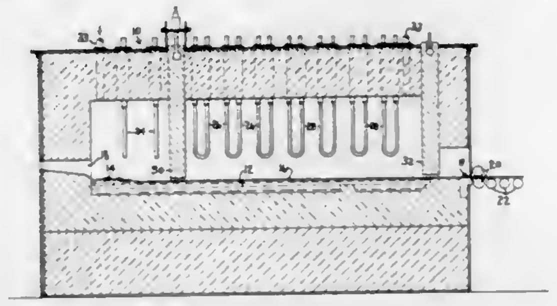


Sized particles of calcined bauxite are impregnated with aqueous solution of manganese iron or copper ions and fired for at least 2 hours at at least 1600° C. to produce general purpose and precision type abrasive directly to size. Individual grains consist of agglomerated alpha alumina crystals of size between 50 and 200 microns.

3,450,516

PROCESS FOR MELTING GLASSMAKING INGREDIENTS ON A MOLTEN METAL BATH

Donald E. Emhiser, Natrona Heights, and George A. Pecoraro, New Kensington, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1965, Ser. No. 498,055
Int. Cl. C03c *21/00, 17/00*
U.S. Cl. 65—99 **3 Claims**

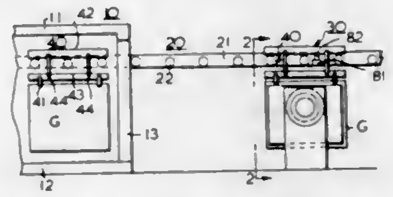


Glassmaking ingredients which melt at different rates are fed as a relatively thin blanket onto molten metal and are melted thereon to form a ribbon of glass.

3,450,517

METHOD OF AND APPARATUS FOR PRESS BENDING VERTICALLY SUSPENDED GLASS SHEETS

Ronald E. Richardson, Oshawa, Ontario, Canada, assignor to PPG Industries, Inc., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 507,772, Nov. 15, 1965. This application Oct. 26, 1966, Ser. No. 609,971
Claims priority, application Canada, Oct. 27, 1965, 943,875
Int. Cl. C03c *23/02;* **C03b** *23/02*
U.S. Cl. 65—106 **6 Claims**



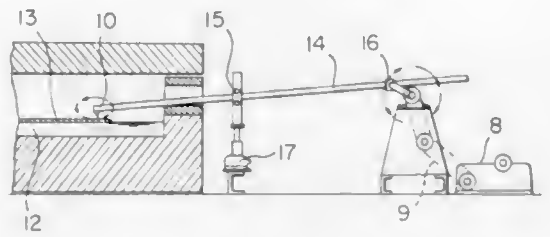
A press bending operation wherein a sheet of glass supported by scissor type self-closing tongs is brought between a pair of glass forming members movable towards and away from one another. The forming members are brought into frictional supporting engagement with the glass sheet, the tongs are then released suddenly from supporting engagement with the glass sheet and the glass is thereafter bent to the desired shape by means of the forming members.

3,450,518

APPARATUS FOR STRETCHING MOLTEN SHEET GLASS LATERALLY

Kiyoshi Itakura and Hideaki Takigawa, Kobe, Japan, assignors to Nippon Sheet Glass Co., Ltd., Osaka, Japan
Filed Feb. 28, 1966, Ser. No. 530,662
Claims priority, application Japan, Mar. 9, 1965, 40/13,219
Int. Cl. C03b *18/02*
U.S. Cl. 65—182 **3 Claims**

An apparatus and method for manufacturing sheet glass by stretching molten sheet glass laterally on the surface of a bath of molten metal. The sheet of molten glass delivered to the surface of the molten metal bath in a continuous ribbon and forwarded along the surface of the bath is grasped from both sides of the molten metal bath by grasping means which positively extend the width of the glass to a width greater than if the glass were allowed to flow under the effect of gravity. The grasping means can be hooking members which are given a periodic motion in the lateral direction of the ribbon.



3,450,519

DESICCATION OF GRASS

Jerry H. Stoller, Savannah, Ga., assignor, by mesne assignments, to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,731

Int. Cl. A01n *5/00*

U.S. Cl. 71—69 **5 Claims**

A process for desiccating growing green feeding grass for animals is disclosed. The grass is contacted with ammonia vapor and desiccated in the atmosphere by the evaporation of the ammonia before the grass is cut. Such desiccation greatly reduces the moisture removal load in a subsequent treatment in a dehydrator.

3,450,520

METHOD FOR DESTROYING UNDESIRABLE PLANT LIFE

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

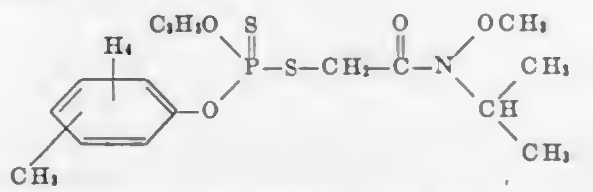
Filed June 30, 1965, Ser. No. 468,559

The portion of the term of the patent subsequent to Oct. 31, 1984, has been disclaimed

Int. Cl. A01n *9/36, 5/00;* **C07f** *9/16*

U.S. Cl. 71—87 **4 Claims**

A compound of the formula



useful for destroying undesirable plant life.

3,450,521

HERBICIDAL N-HALO-α-HALOACETANILIDES

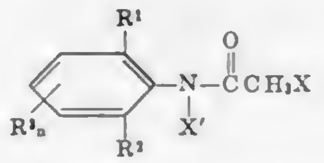
John F. Olin and Philip C. Hamm, St. Louis County, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Apr. 20, 1964, Ser. No. 361,208. Divided and this application Jan. 19, 1967, Ser. No. 627,574

Int. Cl. A01n *9/20*

U.S. Cl. 71—118 **9 Claims**

Phytotoxic compositions containing compounds of the formula



wherein R^1 is tertiary alkyl having not more than 10 carbon atoms, R^2 and R^3 are selected from the class consisting of halogens, alkyl having not more than 8 carbon atoms, and alkoxy having not more than 4 carbon atoms, *n* is an integer from 0 to 3, X is selected from the class consisting of chlorine, bromine and iodine atoms, and X′ is selected from the class consisting of chlorine and bromine atoms.

3,450,522

HERBICIDAL ETHER

Delores V. Lopiekes, Bridgewater, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Aug. 19, 1965, Ser. No. 481,099, now Patent No. 3,388,171, dated June 11, 1968. Divided and this application Jan. 30, 1968, Ser. No. 719,280

Int. Cl. A01n *9/24, 7/00*

U.S. Cl. 71—124 **6 Claims**

A method for controlling the growth of plants employing an alkoxyarylethyl aryl ether as the phytotoxicant.

3,450,523

PROCEDURE FOR THE EXTRACTION OF MANGANESE, IRON AND OTHER METALS FROM SILICATES, METALLURGICAL WASTES AND COMPLEX MINING PRODUCTS

Grigore O. Socolescu, Bucharest, Rumania, assignor to Ministerul Industriei Chimice, Bucharest, Rumania, a firm

No Drawing. Filed Apr. 15, 1966, Ser. No. 542,730

Int. Cl. C21b *1/04;* **C22b** *1/02, 5/12*

U.S. Cl. 75—7 **6 Claims**

This invention relates to a process for recovering manganese, iron and other elements which occur in low grade silicious minerals, in slags, in metallurgical cinders, in complex sulfurous concentrates or in other mining products, the recovery of which, according to heretofore known processes, has proven to be uneconomical.

In the process of this invention sulfur is used to react with the elements to be extracted which are present in the ore in the form of silicates, oxides or carbonates. The ore which is to be subjected to the extraction process is mixed with flotation pyrite or any other suitable substance containing a sufficient amount of sulfur for the sulfuration of the elements which are to be extracted from the ore and with 2 to 3 percent based on the total mixture of a carbonaceous substance, the whole mixture being ground together. The ground ore is worked up under the influence of heat and in the presence of a reducing gas stream.

3,450,524

PROCESS FOR THE PREPARATION OF PURE MANGANESE

Claude Pascaud, Annecy, and Louis Graff, Cran-Gevrier, France, assignors to Ugine Kuhlmann, Paris, France, a corporation of France

Filed Oct. 31, 1966, Ser. No. 590,586

Claims priority, application France, Nov. 3, 1965, 36,996

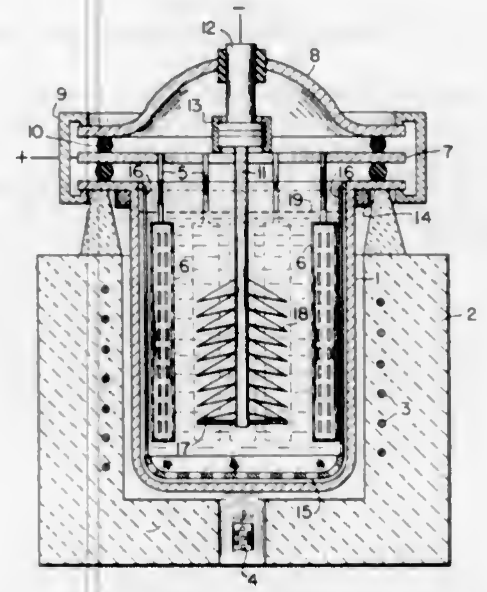
Int. Cl. C22d *3/18;* **C22b** *47/00*

U.S. Cl. 75—65 **10 Claims**

1. The electrolytic process for the preparation of pure manganese comprising:

(A) the preparation of an electrolytic cell having:
  (i) a soluble anode bearing manganese alloy;
  (ii) a cathode;
  (iii) an electrolytic bath of molten salts containing at least one compound selected from the group consisting of alkaline halides and alkaline-earth halides together with a manganese halide;
(B) maintaining said bath in a liquid state at about 600° C. in a confined atmoshpere;

(C) passing a direct current between said anode and said cathode such that the manganese is deposited upon said cathode;



(D) removing said cathode from the bath, dripping it in the cell, then removing it from the electrolytic cell in the open air;
(B) separating the remaining salts of the magma from the manganese.

3,450,525

POWDERED METALS

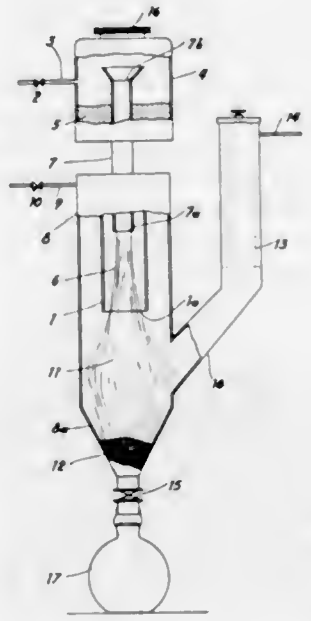
Antoine Van Den Steen, Crolles, France, assignor, by mesne assignments, to Ugine Kuhlmann (Société Anonyme), Paris, France, a corporation of France

Filed Dec. 29, 1966, Ser. No. 605,819

Claims priority, application France, Dec. 31, 1965, 44,527

Int. Cl. C22b *5/12;* **B22f** *9/00*

U.S. Cl. 75—84.5 **18 Claims**



A process is provided for the production of exceptionally high yields of metal powders of high purity by the direct hydrogen reduction of metal halides of metals of Groups IV, V*a*, VI*a*, VII*a*, iron, cobalt or nickel or combinations thereof wherein the reduction is induced by flowing a reactive mixture of hydrogen and at least one metal halide through a reaction zone surrounded by at least one wall which is preheated to a temperature which is (1) above the reaction temperature for the reactive mixture and (2) a temperature at which the formed metal does not adhere to the walls surrounding the reaction zone.

3,450,526

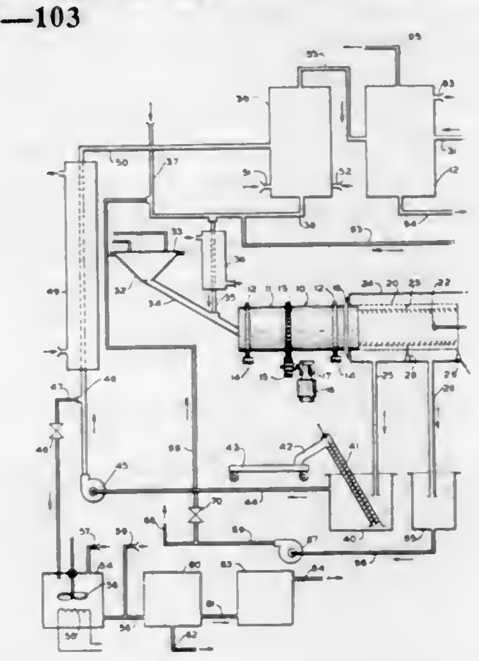
PROCESS FOR CONTINUOUS LIQUID-SOLID CONTACTING

Walter M. Davis, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Original application July 22, 1965, Ser. No. 474,072, now Patent No. 3,400,871, dated Sept. 10, 1968. Divided and this application July 7, 1967, Ser. No. 663,908

Int. Cl. C22b *15/10, 23/04*

U.S. Cl. 75—103 **3 Claims**



The present invention relates to an apparatus and a continuous process for extracting solubles from solids. The process specifically covers the concurrent contacting in a reaction vessel of a metal value-containing material such as scrap copper, an oxygen-containing gas such as air, and a solvent such as an ammonium carbonate solution which is at a temperature of 90 to 130° F. for a sufficient period of time, such as 1 to 10 hours, to extract the copper into said solvent. In a first stage, a substantial part of the solvent liquid which contains, for example, the copper is separated from the insoluble solid material while both are in said vessel. In a second stage, said solid material is washed, such washings being separated from the solid material also while both are in the vessel. In a third stage, the solid material is discharged from the vessel. Part of the liquid and washings from the first and second stages, respectively, are recycled to the charge end of the vessel where they are mixed with fresh solvent.

3,450,527

WELDING ALLOY

Daniel P. Tanzman, Far Rockaway, N.Y., assignor to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

No Drawing. Filed Dec. 9, 1966, Ser. No. 600,396

Int. Cl. C22c *19/00;* **B23k** *35/22*

U.S. Cl. 75—170 **10 Claims**

A nickel base alloy having in weight percent from .5 to 1.9 percent boron, 1 to 4.5 percent silicon and 23 to 35 percent copper. This alloy has exceptional corrosion resistance and improved welding characteristics.

3,450,528

METHOD FOR PRODUCING DISPERSIONED HARDENABLE STEEL

Vernon R. Thompson, Pittsburgh, Pa., assignor to Crucible Steel Corporation, Pittsburgh, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 641,034, May 24, 1967. This application July 25, 1968, Ser. No. 766,656

Int. Cl. B22f *3/14*

U.S. Cl. 75—203 **10 Claims**

The invention relates generally to the art of powder metallurgy and in more particular aspects to a powder-metallurgy practice wherein compacting of finely-divided metal powders into dense articles is achieved by the use of a fluid-pressure vessel, commonly termed an "autoclave." The method of the invention includes the basic steps of placing a charge of powdered metal consisting of spherical particles not larger than about —30 mesh in a container. The container, with the powdered metal charge therein, is heated to a temperature above about 0.7 homologous fusion temperature of the powdered metal but below the fusion temperature thereof. The container is then transferred to a fluid-pressure vessel for compacting to a density of at least about 95% by the application of pressure within the range of about 10,000 to 30,000 p.s.i. It is necessary that the compacting be completed before said powdered-metal charge has cooled to a temperature below about 0.7 homologous fusion temperature of said powdered metal.

3,450,529

METAL BRIQUETTE COMPACTING METHOD AND MACHINE THEREFOR

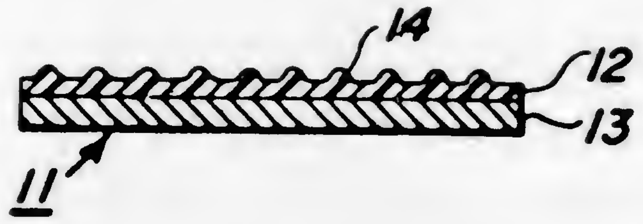
Ward D. MacDonald, North Muskegon, Mich., assignor to Michigan Foundry Supply Company, Muskegon, Mich., a corporation of Michigan
Filed Mar. 19, 1968, Ser. No. 714,364
Int. Cl. B22f *1/00, 9/00*
U.S. Cl. 75—211 **9 Claims**

This disclosures relates to a process and apparatus for making metal briquettes for foundry operations. The briquettes are made, for example, from oily metal particles, such as metal turnings, which are fed to a furnace to burn the oil therefrom. In the furnace, the particles are heated to a high temperature of, for example, 1200° to 1400° F. The heated and de-oiled particles are passed directly to a hopper which feeds the briquetting mechanism. The temperature of the de-oiled particles are sensed and is maintained within a predetermined range for briquetting by adjusting the feed to the furnace in accordance with the sensed temperature. The amount of de-oiled particles in the feed hopper is controlled to prevent overflow of the feed hopper and to maintain the density of the briquettes by sensing the level of de-oiled particles in the feed hopper and adjusting the speed of the briquetting rolls accordingly to maintain the proper level.

3,450,530

PHOTOGRAPHIC IMAGING BY MEANS OF THE SURFACE TENSION CREATED BY PHOTOCHROMIC MATERIALS

Alan B. Amidon, Penfield, and Carl Brynko, West Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 484,794
Int. Cl. G03c *5/04, 1/66*
U.S. Cl. 96—27 **12 Claims**

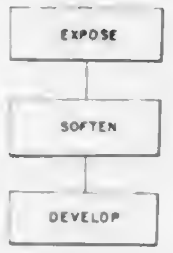


A photographic image is formed by providing an imaging-layer containing a photochromic material, forming a uniform, fine, light scattering surface pattern on the imaging layer exposing the imaging layer to actinic electromagnetic radiation in image configuration to convert a portion of the photochromic material from one photochromic state to another, and softening the imaging layer until the surface deformation pattern is smoothed out by surface tension in imagewise configuration according to the difference in surface tension between exposed and unexposed areas.

3,450,531

ADHESIVE IMAGING ON PHOTOCHROMIC LAYERS

Alan B. Amidon, Penfield, and Carl Brynko, West Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 485,052
Int. Cl. G03c *5/04*
U.S. Cl. 96—27 **12 Claims**



A photograph is formed by exposing an imaging layer comprising an organic photochromic material to actinic electromagnetic radiation of sufficient energy to convert the photochromic material from one photochromic state to another, softening the imaging layer to form a latent adhesive image, and developing the latent adhesive image with a marking material which adheres only to the adhesive areas of the imaging layer.

3,450,532

PROCESS FOR INCREASING THE OPACITY OF A DYE IMAGE AND CORRECTING SAID IMAGE FOR REPRODUCTION BY A DIAZO PROCESS

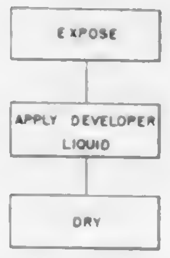
Harry L. Fichter, Jr., Lakewood, Ohio, assignor to Horizons Incorporated, a corporation of New Jersey
Filed Sept. 15, 1965, Ser. No. 487,398
Int. Cl. G03c *5/18, 1/78*
U.S. Cl. 96—27 **5 Claims**

A photosensitive element consisting of a transparent or translucent support on which there are superimposed two photosensitive layers, one of which yields a direct printout image directly as a result of exposure to a suitable dose of radiation and the other of which forms a latent image as a result of the same exposure. The element can then be edited or corrected, and after correction, the element is exposed to heat to develop a visible image from the latent image layer and is then utilized for reproduction in a diazo process.

3,450,533

FORMATION OF LIGHT SCATTERING IMAGES IN PHOTOCHROMIC LAYERS

Alan B. Amidon, Penfield, and Carl Brynko, West Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 491,966
Int. Cl. G03c *5/48, 3/00*
U.S. Cl. 96—27 **10 Claims**

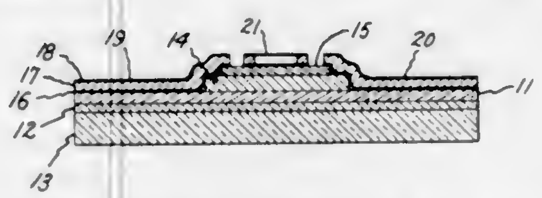


An image is formed by exposing an imaging member comprising a supersaturated solid solution of an organic photochromic material in a resin binder, the photochromic material having a polarity which changes with changes in its photochromic state upon exposure to actinic electromagnetic radiation, to a source of actinic radiation in image configuration thereby forming a latent image and developing the latent image with a solvent, either the resin or the solvent being polar and the other being non-polar.

3,450,534

TIN-LEAD-TIN LAYER ARRANGEMENT TO IMPROVE ADHERENCE OF PHOTORESIST AND SUBSTRATE

Donald MacKellar and Reuben E. Joynson, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 1, 1966, Ser. No. 539,491
Int. Cl. G03c *5/00;* **B44d** *1/14*
U.S. Cl. 96—36.2 **8 Claims**

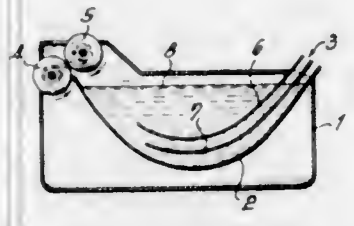


In fabricating cryogenic circuitry, a thin film of tin is evaporated onto an evaporated lead film before applying a photoresist layer to the surface of the circuitry prior to patterning the lead film. This promotes adhesion of the resist and improves accuracy in etching the desired pattern. Since the thin film of tin does not oxidize, it facilitates making reliable soldered connections to the lead film. An additional thin film of tin applied to the substrate before evaporating the lead improves adherence of the lead film to the substrate and reduces breakage of soldered connections during temperature cycling of the circuitry.

3,450,535

DIFFUSION TRANSFER RECEIVING LAYER WITH HIGH SODA CONTENT

Walter Limberger, Hamburg-Poppenbuttel, and Rudolf Wendt, Harksheide, Bezirk, Hamburg, Germany, assignors to Lumoprint Zindler K.G., Hamburg, Germany, a corporation
Filed Jan. 16, 1963, Ser. No. 251,794
Claims priority, application Germany, Jan. 25, 1962, L 41,052
Int. Cl. G03c *1/48*
U.S. Cl. 96—76 **2 Claims**



A method of producing nonreversed positive images solely with the use of water as a developing agent and to the exclusion of other developing agents in a diffusion-developable system wherein a photosensitive silver-halide emulsion-negative layer is exposed to form a latent image, the negative layer or image-receiving positive layer is treated with water, and the layers brought into contact for diffusion transfer of the image; the improvement resides in incorporating an excess of alkali in the image-receiving layer, i.e. at least 3 grams of alkali for each 50 ml. of the solution (also containing a silver-halide solvent and a silver-diffusion-developing nucleating agent). Typical image-receiving layers are formed by coating solutions of 7 g. polyvinyl alcohol, 20 ml. glycerine, 3 g. soda, 1.5 g. $K_2S_2O_5$, 0.005 g. $AgNO_3$ and 5.0 g. gelatine, 20 ml. glycerine, 0.5 g. aluminum hydroxide, 3.0 g. soda, 1.5 g. potassium metabisulphite, 0.5 g. potassium thiosulphate, 0.005 g. silver nitrate per 50 ml. of water onto the positive layer carrier.

3,450,536

SILVER HALIDE PHOTOGRAPHIC FILM HAVING INCREASED EXPOSURE-RESPONSE CHARACTERISTICS

Charles W. Wyckoff, Needham, Mass., assignor to EG & G, Inc., Boston, Mass., a corporation of Massachusetts
Filed Mar. 24, 1961, Ser. No. 98,176
Int. Cl. G03c *1/90, 3/00*
U.S. Cl. 96—68 **4 Claims**

A multilayer black and white photographic film having extended exposure response characteristics. Two or three photographic emulsions having similar spectral response but different speeds are used. Different color couplers may be added to each layer to distinguish images therein. Instead of couplers, stripping film may be used.

3,450,537

METHOD FOR PRODUCING BLOOD MEAL

Poul Filstrup, Tullinge, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 20, 1964, Ser. No. 353,542
Claims priority, application Sweden, Apr. 5, 1963, 3,761/63
Int. Cl. A23j *1/06;* **A23k** *1/04;* **C05f** *1/00*
U.S. Cl. 99—21 **3 Claims**

Before steam-heating the raw blood to a coagulating temperature, it is preheated to a temperature lower than the coagulating temperature and held at this lower temperature. The coagulated blood from the steam-heating is dewatered mechanically and then dried.

3,450,538

PROCESS FOR MAKING A READY-TO-EAT BREAKFAST CEREAL WITH A FILLING THEREIN

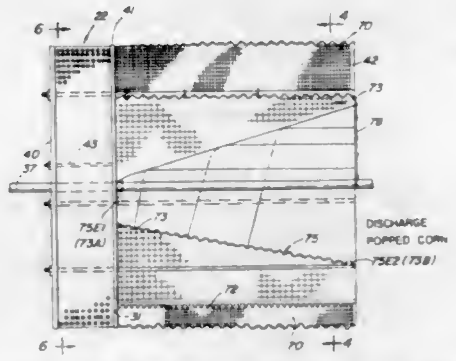
William L. McKown, Minneapolis, Murray E. Ball, Rockford, Rolf Moen, Hopkins, and Verne E. Weiss, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Sept. 1, 1964, Ser. No. 393,632
Int. Cl. A23l *1/18*
U.S. Cl. 99—81 **10 Claims**

A ready-to-eat breakfast cereal comprised of a foamed, structurally stable filler material substantially enclosed within a dried, puffed and toasted cereal dough shell.

3,450,539

AUTOMATED CORN POPPER FEED

Raymond A. Goode, Elgin, Ill., assignor to Dunbar Manufacturing Co., Inc., South Elgin, Ill., a corporation of Illinois
Filed Feb. 23, 1968, Ser. No. 707,758
Int. Cl. A23l *1/18*
U.S. Cl. 99—81 **10 Claims**



Cereal grains to be fully expanded, as in the instance of popped corn, are initially fed to a first pre-heat chamber and are tumbled there upon rotation of the chamber for a selected time after which the pre-heated grains are transferred to a second pre-heating chamber and again tumbled prior to transfer to a rotary popping cylinder where final expansion occurs. The apparatus employed preferably combines the pre-heat chambers in a drum in turn united with the popping cylinder, and transfer means are so constructed that transfer of the grains from one location to another occurs as an incident to a reversal in rotation. Further, timing means are so used in conjunction with transfer operations as to enable a first batch of grain to be popped while a second batch is in the course of delivery to the first pre-heat chamber.

3,450,540
PROCESS FOR PREPARING A PROTEIN-FORTIFIED CEREAL PRODUCT

Robert P. Graham, El Cerrito, Marcus R. Hart, Concord, and Arthur I. Morgan, Jr., Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Aug. 9, 1966, Ser. No. 571,684
Int. Cl. A23l *1/10, 1/30*
U.S. Cl. 99—83 **5 Claims**

Cereals such as wheat are fortified by the following technique: The wheat is moistened; coated with a proteinous material in powder form; steamed to consolidate the coating and adhere it to the wheat; and toasted in a current of hot air to further increase the adherence of the coating.

3,450,541
RAPID QUANTITATIVE REMOVAL OF NATURAL STEROLS FROM LIPIDS

Daniel P. Schwartz, Takoma Park, and Charles R. Brewington, Adelphi, Md., and Louis H. Burgwald, Washington, D.C., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed June 29, 1966, Ser. No. 561,328
Int. Cl. A23c *15/14;* **C11b** *3/00*
U.S. Cl. 99—118 **9 Claims**

A process for separating naturally occurring sterols from a lipid mixture comprising dissolving the lipid mixture in a liquid hydrocarbon solvent to provide a lipid solution, attaching a film of aqueous solution of digitonin to an inert, solid support, contacting a film of the lipid solution with the film of digitonin solution, and collecting the contacted lipid solution.

3,450,542
CONTROLLED ATMOSPHERE STORAGE OF GREEN BANANAS

Adnan M. Badran, La Lima, Honduras, assignor to United Fruit Company, Boston, Mass., a corporation of New Jersey
Filed Feb. 23, 1965, Ser. No. 434,247
Int. Cl. A23b *7/14;* **B65b** *31/02*
U.S. Cl. 99—154 **9 Claims**

Bananas at a pre-climacteric stage of respiration are packaged in sealed imperforate flexible gas-permeable film under refrigeration and in the presence of a reduced O_2 and elevated CO_2 atmosphere which preserves the bananas such that they undergo a normal ripening cycle commencing after the seal is broken.

3,450,543
METHOD OF PACKAGING PERISHABLE PLANT FOODS TO PROLONG STORAGE LIFE

Adnan M. Badran, Richard E. Woodruff, and Lorenzo George Wilson, La Lima, Honduras, assignors to United Fruit Company, Boston, Mass., a corporation of New Jersey
Filed Jan. 10, 1966, Ser. No. 519,685
Int. Cl. A23l *3/00;* **B65b** *25/04*
U.S. Cl. 99—171 **14 Claims**

Perishable foods whose storage life normally is less than 30 days even when refrigerated and which do not undergo a climacteric rise in respiration rate have their respiration rate reduced by enclosing them within a gas permeable flexible plastic film enclosure having a low O_2 content and sealing the enclosure with the result that the lowered O_2 content so restricts production of CO_2 after the equilibrium-establishing period, that the CO_2 escapes through the gas permeable film substantially at the same rate as it is produced.

3,450,544
METHOD OF PACKAGING RIPENING PERISHABLE PLANT FOODS TO PROLONG STORAGE LIFE

Adnan M. Badran, Richard E. Woodruff, and Lorenzo George Wilson, La Lima, Honduras, assignors to United Fruit Company, Boston, Mass., a corporation of New Jersey
Filed Jan. 10, 1966, Ser. No. 519,697
Int. Cl. B65b *55/00*
U.S. Cl. 99—171 **11 Claims**

Perishable plant foods which pass through a climacteric peak of respiration within seven days after the onset of their climacteric rise in respiration have their respiration rate reduced by placing them in a gas permeable flexible film which is sealed subsequent to the onset of the climacteric rise in respiration but prior to the onset of senescence whereby a reduced O_2 content is present, thus restricting CO_2 production until an equilibrium is reached so that the produced CO_2 escapes through the gas permeable film substantially at the same rate as it is produced.

3,450,545
NOBLE METAL METALIZING COMPOSITIONS

Kermit H. Ballard, Hockessin, and Lewis C. Hoffman, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 31, 1966, Ser. No. 553,719
Int. Cl. C09j *1/00;* **C09d** *5/10*
U.S. Cl. 106—1 **12 Claims**

Noble metal compositions containing an inorganic binder and a finely divided oxide precursor, e.g., Ru, Ir, Rh, Cu, Si, SiC, BN. These metalizing compositions yield fired coatings having improved joint strengths and improved resistance to fissuring.

3,450,546
TRANSPARENT GLASS-CERAMIC ARTICLES AND METHOD FOR PRODUCING

Guy E. Stong, Elmira, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed May 26, 1966, Ser. No. 553,058
Int. Cl. C03c *3/10;* **C04b** *35/64*
U.S. Cl. 106—39 **5 Claims**

This invention relates to transparent sintered glass-ceramic articles, having alpha-cordierite as the principal crystalline phase, produced by mixing particulate glasses consisting essentially of from between 48–60% SiO_2, 23–36% Al_2O_3, and 12–18% MgO with an organic binder and then subjecting the mixture to a particular heat treatment.

3,450,547
EXPANDED SILICATE PARTICLES

Robert H. Sams, Aldan, and Newton W. McCready, Newtown Square, Pa., assignors to Philadelphia Quartz Company, Independence Square, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 5, 1966, Ser. No. 540,211
Int. Cl. C04b *35/16*
U.S. Cl. 106—75 **9 Claims**

Expanded particles of sodium silicate having a density between about 9 and 10 lbs./ft.^{3} and a compression resistance 40 to 60 times greater than previous expanded particles of sodium silicate are formed by heating a mixture of sodium silicate, soluble silica and asbestos fibers below about 250° C., forming particles and expanding said particles by intumescence.

3,450,548
ACID-RESISTANT CEMENT PRODUCTS

John J. Petkus, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,717
Int. Cl. C04b *35/14*
U.S. Cl. 106—84 **15 Claims**

A chemically-setting, acid-resistant cement product prepared from a mix comprising: (a) silica sand, (b) silicate of soda, (c) a very fine aggregate having a particle size corresponding to that of silica flour, said fine aggregate being selected from the group consisting of topaz, amblygonite, lepidolite, sodalite, fluorite, and mixtures thereof, (d) sodium silicofluoride, and (e) a fully basic sodium phosphate of the group consisting of sodium orthophosphate, sodium tripolyphosphate, sodium hexametaphosphate, the combined amounts of said sodium silico-fluoride and said phosphate being effective to cause said acid resistant cement product to set.

3,450,549
STARCH ADHESIVE AND PROCESS FOR ITS PREPARATION

Hellmuth C. Schwalbe, Savannah, Ga., assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 258,154, Feb. 13, 1963. This application Apr. 25, 1966, Ser. No. 544,719
Int. Cl. C09j *3/06;* **C09d** *3/20;* **C08b** *25/02*
U.S. Cl. 106—210 **6 Claims**

The present invention relates to the production of substantially color-free starch suitable for use as an adhesive in high solids pigmented coating compositions for application to paper by machine coating methods. In carrying out the process, aqueous starch pastes are subjected to partial hydrolysis using small amounts of an amylolytic enzyme. After reducing the viscosity of the starch in this manner to a viscosity of the order of not substantially less than 200 centipoises (measured at 140° F. and 31% solids), the enzyme is inactivated by heating and the resulting starch subjected to further viscosity reduction by introducing a stream of said starch into jets of high velocity steam.

3,450,550
INORGANIC BLUE TO GREEN PIGMENTS

Howard Richard Linton, Scotch Plains, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 25, 1966, Ser. No. 529,962
Int. Cl. C09c *1/40, 1/36, 1/28*
U.S. Cl. 106—300 **4 Claims**

Novel blue to green inorganic pigments prepared by coating pigmentary particles of naturally occurring hydrous aluminum silicate with hydrous titanium dioxide and calcining the coated particles at a temperature of 900–1100° C. in the presence of cobaltous oxide, the pigments being composed of, by weight, 9% to 70% of certain naturally occurring aluminum silicates, 20% to 85% of titanium dioxide and 2% to 28% of cobaltous oxide.

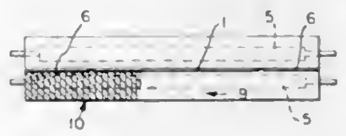
3,450,551
PROCESS FOR TREATING MOLDS

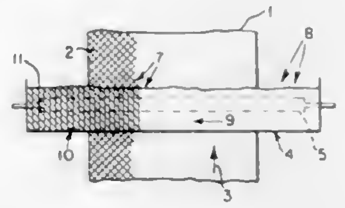
Richard E. Ware, Trainer, Pa., and Lewis W. Hall, Jr., Claymont, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,960
Int. Cl. B28b *7/38;* **C10m** *1/18*
U.S. Cl. 117—5.1 **4 Claims**

Concrete and cement mold release compositions which are easy to apply and which are relatively permanent are prepared by dissolving about 5–15 wt. percent of 15,000–30,000 molecular weight atactic polypropylene in a light mineral oil. Such compositions are relatively free flowing at normal temperatures and are easily brushed or sprayed on to the mold surface.

3,450,552
PROCESS FOR INCORPORATING PHOTO-STABILIZERS IN POLYVINYL BUTYRAL SHEETING

Charles Richard Smoot, Vienna, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,572
Int. Cl. B44d *1/24, 1/10;* **B29d** *11/00*
U.S. Cl. 117—16 **13 Claims**

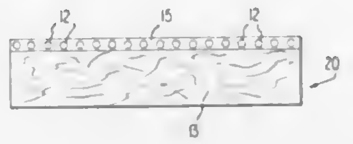




1. A process for the intimate incorporation of photostabilizers into plasticized polyvinyl butyral sheeting, which comprises (1) applying to the surface of said sheeting a coating of a powder mixture comprising a photostabilizer which is soluble in said sheeting and an inert material, and (2) maintaining the coated sheeting at a temperature up to about 75° C. for a period of time sufficient to allow said photostabilizer to diffuse into said sheeting.

11. A process for intimate incorporation of photostabilizer in the tinted region of partially tinted plasticized polyvinyl butyral sheeting during the application of a coating of an inert powder selected from the class consisting of sodium bicarbonate and potassium bicarbonate, said process comprising (1) applying to the tinted region of the sheeting a coating of a mixture of said photostabilizer in said inert powder and to the untinted region a coating of said inert powder alone, and (2) maintaining the sheeting so treated at a temperature in the range 40–70° C. for a period of time in the range 4–21 days, whereby said photostabilizer diffuses into said sheeting.

3,450,553
PRESSURE SENSITIVE RECORD MATERIAL
James M. Billet, Endicott, Michael T. Orinik, Binghamton, and James O. Thompson, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,275
Int. Cl. D21h *1/22, 3/80;* **B32b** *29/06*
U.S. Cl. 117—36.2 **21 Claims**



A pressure sensitive record material which comprises a sheet of paper containing at least about five percent lignin and a substantially colorless reactant which reacts with lignin under writing pressure to form visible reaction products. The reactant includes phenolic materials such as phloroglucinol, aromatic bases such as aniline hydrochloride, heterocyclic compounds such as 3-aminopyridine and inorganic compounds such as cobalt, thiocyanate.

3,450,554
PROCESS FOR IMPROVING THE ADHESION OF PAINT TO WHEEL-ABRADED WOOD SURFACES
James W. Watson, Parma, Ohio, assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 11, 1965, Ser. No. 424,838
Int. Cl. B44d *1/26*
U.S. Cl. 117—57 **3 Claims**

This application sets forth a process for improving the adherence of paint or coatings to wheel-abraded wood surfaces. It comprises scrubbing the abraded surface with a solvent selected from the group consisting of lower alkanols and water prior to painting. The resulting scrubbed surface is then painted with conventional coatings.

3,450,555
TREATMENT OF TEXTILE FIBERS WITH SOLUBLE POLYMERIC ALCOHOL DERIVATIVES
Douglas J. Bridgeford, Danville, Ill., assignor to Tee-Pak, Inc., a corporation of Illinois
No Drawing. Continuation-in-part of applications Ser. No. 200,621, June 7, 1962, and Ser. No. 416,795, Dec. 8, 1964. This application Dec. 8, 1966, Ser. No. 600,020
The portion of the term of the patent subsequent to Aug. 8, 1984, has been disclaimed
Int. Cl. D06m *15/04, 1/00*
U.S. Cl. 117—62 **16 Claims**

Textile fibers are treated with solutions of decausticized polymeric alcohol xanthates to provide coatings of regenerated polymeric alcohols or derivatives thereof on the fibers. The treatment may be applied to finished fabrics of cotton or rayon to size the fibers or may be applied to fabrics or fibers of synthetic polymers such as nylon, polyesters, etc., to provide an anti-static or soil-resisting coating. The treatment is also effective to bind together fibers in a non-woven fabric. The treating solution is preferably a decausticized viscose or a solution reconstituted from a spray-dried decausticized cellulose xanthate.

3,450,556
TRAFFIC MARKING
Milton R. Radcliffe, Marblehead, and Charles G. Newton, Jr., Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
No Drawing. Filed June 24, 1965, Ser. No. 466,801
Int. Cl. B44d *1/48*
U.S. Cl. 117—62 **5 Claims**

The present invention is directed to traffic marking of a temporary nature. It is based on the use of a composition comprising (a) a light colored pigment capable of color discharge to or approaching an appropriate background color when exposed to sulfide ion under basic or alkaline conditions and (b) a vehicle for the pigment which includes an alkaline-sensitive organic polymeric material.

3,450,557
POLYOLEFIN COATING COMPOSITION
Richard A. Dratz and Ralph A. Nelson, Appleton, Wis., assignors to Thilmany Pulp and Paper Company, Kaukauna, Wis., a corporation of Wisconsin
No Drawing. Filed May 2, 1966, Ser. No. 546,555
Int. Cl. B32b *27/08, 33/00, 27/32*
U.S. Cl. 117—76 **7 Claims**

Polyolefin articles which are ink-receptive and glueable with a polyvinyl alcohol coating thereon having at least about 88 percent hydrolyzed acetate radicals, the coating including between about 1 and 10 percent polymerized ethylenimine.

3,450,558
VAPOR PLATING BERYLLIUM
Thomas P. Whaley, Glenview, Ill., and James M. Wood, Jr., Baton Rouge, La., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,637
Int. Cl. C23c *12/02*
U.S. Cl. 117—107.2 **11 Claims**

Process for coating a substrate with beryllium which comprises heating the substrate, generating a plating gas comprising di-tert-butylberyllium and contacting the heated substrate and generated plating gas. Substrate should be heated to a temperature from about 245° C. to about 370° C. and it is preferred that nonoxidizing conditions be present for all process steps.

3,450,559
FIBERS AND FABRICS FINISHED WITH A DICARBOXYLIC REAGENT MODIFIED POLYOLEFIN WAX
Gretchen S. Schaufelberger, Basking Ridge, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 330,248, Dec. 13, 1963. This application Nov. 2, 1965, Ser. No. 506,119
Int. Cl. C03c *25/00;* **C08h** *19/02,* **B44d** *1/22*
U.S. Cl. 117—126 **4 Claims**

Textile fibers and fabrics finished with a dicarboxylic acid modified polyolefin wax to impart characteristics such as handle, appearance, drape, touch, softness, sheen, durability, shrink resistance, and the like.

3,450,560
ALUMINUM ARTICLE COVERED BY MALEIC ANHYDRIDE MODIFICATION POLYMERS
Robert Bacskai, Berkeley, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed July 3, 1963, Ser. No. 292,748
Int. Cl. B44d *1/36*
U.S. Cl. 117—132 **7 Claims**

1. An article comprising aluminum covered at least in part with a film of a product prepared by contacting a hydrocarbon polymer of mono-α-olefin monomers of from 2 to 10 carbon atoms with at least sufficient inert solvent to swell said polymer, a free radical catalyst and maleic anhydride at a temperature in the range of 50° C. to

175° C. for a period of time in which at least 10% of the catalyst is decomposed, wherein there is at least 0.002 part of maleic anhydride per part of polymer and at least about 0.2 to 5 parts of catalyst per part of maleic anhydride, said product having a lower intrinsic viscosity than said polymer.

3,450,561
FINISHING TEXTILE MATERIAL WITH POLYAMIDE DISPERSIONS
Hans Wilhelm, Ludwigshafen am Rhine, Heinz Bille, Limburgerhof, Pfalz, and Ernst Wilhelm Hann and Karl Dachs, Ludwigshafen am Rhine, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen am Rhine, Germany
No Drawing. Filed May 24, 1966, Ser. No. 552,401
Claims priority, application Germany, June 1, 1965, B 82,205
Int. Cl. D06m *1/24, 1/00*
U.S. Cl. 117—143 **8 Claims**

Improved process for finishing textile material with an aqueous polyamide dispersion which comprises: impregnating the textile material with an aqueous polyamide dispersion in which the polyamide consists essentially of a cocondensate of caprolactam, the salt of hexamethylene diamine with adipic acid and the salt of 4,4′-diaminodicyclohexylmethane with adipic acid, the dispersion containing, as a protective colloid, about 0.5 to 5% by weight with reference to the weight of the polyamide of a water-soluble copolymer having a K value of at least 90 and derived essentially from acrylic acid, methacrylic acid or mixtures thereof and a mixture of acrylamide and methacrylamide; and then drying and heating the impregnated material to at least 100° C.

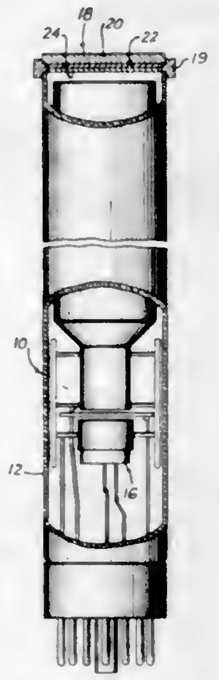
3,450,562
CELLULOSIC MATERIALS COATED WITH AN ORGANIC POLYCARBODIIMIDE
Guenther Kurt Hoeschele, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 18, 1965, Ser. No. 465,145
Int. Cl. C08c *17/16;* **C08d** *13/16;* **C09d** *3/48*
U.S. Cl. 117—155 **8 Claims**

Cellulosic materials coated on at least one surface with an organic polycarbodiimide having at least two carbodiimide groupings, said polycarbodiimide being dispersed or dissolved in a liquid carrier; the coating of at least one surface of said material is followed by drying and/or heating to improve the compressive strength of the coated material under high moisture conditions.

3,450,563
NON-SKID FINISH
Robert C. Krueger, Whitefish Bay, Wis., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 19, 1965, Ser. No. 481,111
Int. Cl. C08f *37/18;* **C09k** *3/14*
U.S. Cl. 117—161 **8 Claims**

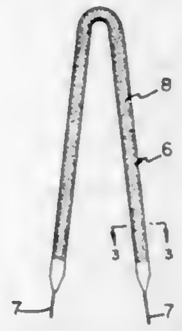
Liquid coating compositions which cure to a protective non-skid surface contain an aldehyde-modified and etherified interpolymer of an ethylenically unsaturated carboxylic acid amide and one or more other copolymerizable monomers and solid particulate polypropylene. The coatings obtained are abrasive in texture yet tough, durable and attractive in appearance.

3,450,564
MAKING PHOTOCONDUCTIVE TARGET OF SELENIUM AND SULPHUR
Stanley A. Bynum, Dallas, Tex., assignor to General Electrodynamics Corporation, Garland, Tex., a corporation of Texas
Continuation of application Ser. No. 467,268, June 28, 1965. This application Apr. 1, 1968, Ser. No. 718,012
Int. Cl. B44d *1/44*
U.S. Cl. 117—201 **2 Claims**



A complex of sulfur and selenium in which the weight of sulfur is from about ½% to about 20% of the weight of selenium, the complex being in an amorphous form having a reduced transparency and having high resistance to conversion to crystalline form at temperatures up to about 70° C., said complex being produced by simultaneously depositing sulfur and selenium to form a coating, and heating the coating until it is converted to the less transparent form, and said complex being utilized as a target for a photoconductive pickup tube.

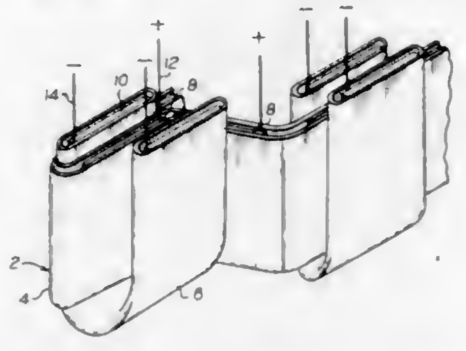
3,450,565
METHOD OF COATING HEATER COILS
James Theodosopoulos, Ipswich, Mass., and Stanley Mackay, Exeter, N.H., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,440
Int. Cl. B44d *1/18;* **H01b** *1/02*
U.S. Cl. 117—212 **1 Claim**



1. In the process of preparing heater coils coated with an insulating oxide but having uncoated ends, the improvement comprising:
- preparing a solution of at least one member selected from the heteropoly group consisting of phosphotungstic acid, aluminotungstic acid and tungstosilicic acid;
- dipping said coated heater into said solution to a depth sufficient to leave an undipped gap of insulating oxide coating at the ends thereof; and
- firing said dipped coil in a reducing atmosphere under conditions sufficient to reduce said member to tungsten metal and thereby darkening the surface of said insulating coating.

3,450,566
ELECTRODE ASSEMBLY WITH ACCORDION WRAP SEPARATOR

Frank Solomon, Lake Success, N.Y., and Albert Himy, Tustin, Calif., assignors to Yardney International Corp., New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 426,457, Oct. 26, 1964. This application June 14, 1966, Ser. No. 557,485
The portion of the term of the patent subsequent to Sept. 21, 1982, has been disclaimed
Int. Cl. H01m *3/04*
U.S. Cl. 136—6 **5 Claims**



1. In an electrochemical battery, an electrode assembly comprising, in combination therewith, a set of first electrodes of one polarity, a set of second electrodes of the opposite polarity interleaved with said first electrodes, first separator means in the form of an accordion wrap having successive folds occupied by said first electrodes, second separator means in the form of a U-wrap having arms individually occupied by said second electrodes, said arms being interleaved between said folds, each of said separator means comprising at least one outermost layer of semi-permeable material.

3,450,567
METHOD FOR PRODUCING HYDROGEN FROM HYDROGEN-CONTAINING FEEDSTOCKS FOR USE IN FUEL CELL

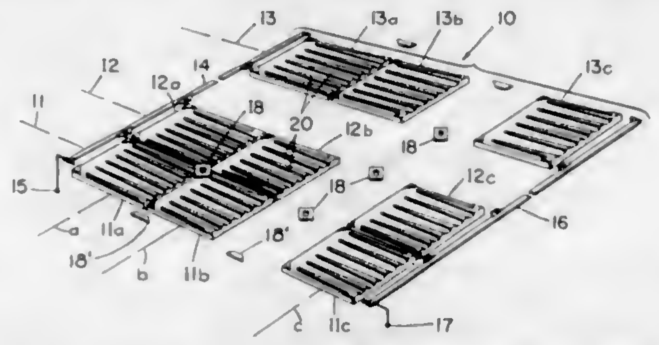
Richard A. Sederquist, Newington, Richard F. Buswell, Glastonbury, and Herbert J. Setzer, Ellington, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,891
Int. Cl. H01m *27/06, 27/12, 27/30*
U.S. Cl. 136—86 **9 Claims**

A hydrogen-containing, carbonaceous feedstock is admixed with water vapor and passed into contact with a bed of dehydrogenation catalyst at low temperatures and pressures to effect catalytic reforming of only a portion of the feedstock. The conditions of temperature, pressure and space velocity are selected with respect to the catalyst so as to produce an effluent stream of high quality in terms of hydrogen produced.

3,450,568
SOLAR CELL WITH WRAP-AROUND ELECTRODES

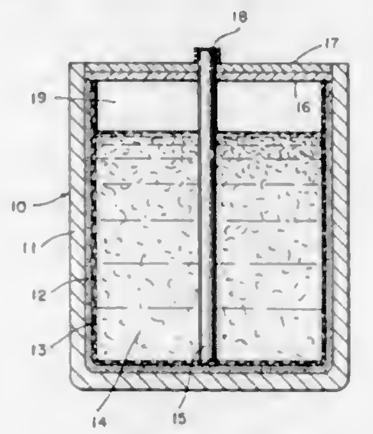
Alfred E. Mann, Sylmar, Calif., assignor, by mesne assignments, to Textron Electronics, Inc., a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 545,931
Int. Cl. H01m *15/02*
U.S. Cl. 136—89 **11 Claims**

A substantially co-planar solar cell array includes solar cells each having first electrode means in ohmic contact with its top solar sensitive surface and second electrode means in ohmic contact with its bottom surface, the second electrode means extending around the cell to overlie a top portion of the cell without ohmic contact so as to be in electrically separated relationship to the first electrode means. By so providing rear or bottom electrodes which wrap around the cell to the top, both positive and negative connecting points of power take-off means can be effected on the top surface and thus will be clearly visible and accessible. The disclosure also contemplates unique interconnecting means for four adjacent corners of cells in an array to provide a proper series-parallel matrix with sufficient flexibility in the interconnections to accommodate thermal strains and other mechanical shocks which might otherwise damage the array.



3,450,569
PRIMARY CELL

Raymond E. Dumas, Long Branch, Harry L. Williams, Jr., Elberon, and Donald B. Wood, West End, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed May 5, 1966, Ser. No. 548,369
Int. Cl. H01m *17/04*
U.S. Cl. 136—100 **3 Clalms**



An improved magnesium-manganese dioxide primary cell is provided by applying an ultra thin film on the order of 1000 angstroms in thickness of palm oil to the inner surface of a magnesium base alloy can or anode. The cell uses a 4 to 5 normal aqueous solution of magnesium perchlorate as the electrolyte.

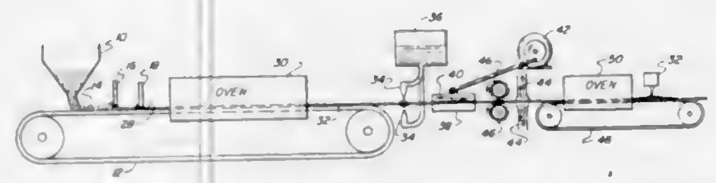
3,450,570
METHOD OF PRODUCING SEMI-CONDUCTIVE ELECTRONEGATIVE ELEMENT OF A BATTERY

John J. Root, Bronx, N.Y., assignor, by mesne assignments, to Molecular Energy Corporation, Farmingdale, N.Y., a corporation of New York
No Drawing. Filed Jan. 23, 1967, Ser. No. 610,802
Int. Cl. H01m *13/08, 13/00*
U.S. Cl. 136—120 **11 Claims**

This invention relates to an electronegative element of a battery which is produced by heating a finely divided mixture of cupric halide and sulfur at a temperature of at least 250° F., such as within the range of 250° to 265° F. The cupric halide and sulfur are mixed in the proportion by weight of 1 part of cupric halide to 0.03 to 0.5 part of sulfur. The cupric halide may be, for example, cupric fluoride, cupric chloride or cupric bromide. The conductivity of the electronegative element is increased when finely divided cupric sulfide or metallic copper is added to the mixture prior to heat treatment. The electronegative element of this invention is chemically very strong and ceramic-like in hardness and is insoluble in water. It has excellent conductivity characteristics despite the fact that the two primary components, sulfur and a cupric halide such as cupric fluoride, are poor conductors of electricity. An electronegative element produced from cupric fluoride and sulfur when in combination with an electolyte and an electropositive element such as magnesium, it produces an electric potential of between 1.9 and 2 volts at a current of 250 to 300 milliamps per square inch and at an approximately 3 g. of material per amper-hour.

3,450,571
METHOD OF MAKING A COATED BATTERY SEPARATOR

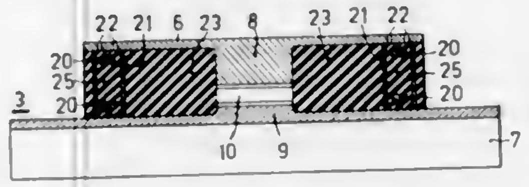
Piotr Zenczak, Corvallis, Oreg., assignor to Evans Products Company, Portland, Oreg., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,512
Int. Cl. H01m *3/02*
U.S. Cl. 136—148 **5 Claims**



A battery separator is made by coating a microporous sheet of an electrically resisitant material with a mixture of a filler material and a thermoplastic resin binder material. The mixture is buffed into the pores of the base sheet with a flat platen and then sintered to bind the coating to the base sheet.

3,450,572
METHOD OF ASSEMBLING A PELTIER BATTERY WITH HEAT EXCHANGER AND DEVICE SO CONSTRUCTED

Andreas Fredericus Rietveld, Drachten, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 15, 1963, Ser. No. 273,115
Claims priority, application Netherlands, Apr. 24, 1962, 277,587
Int. Cl. H01v *1/28*
U.S. Cl. 136—203 **2 Claims**



The invention relates to a thermo-electric battery comprising at least one thermo-electric element, which is unilaterally clamped between two heat exchangers having, beyond the clamping area, two opposite faces with a layer of thermally insulating material sandwiched between them. There will usually be provided a number of preferably series-connected thermo-electric elements forming together a battery. Such elements and batteries are termed Peltier elements and Peltier batteries after the name of the scientist who discovered the effect on which they are based. Hereinafter they will both be termed Peltier battery. The phenomenon with such devices is that upon the passage of current at given contact areas the temperature drops, whereas it rises at other contact areas. In order to utilize this effect it is known to clamp a Peltier device between heat exchangers capable of withdrawing heat from the surroundings at one area and of giving off heat at another area. In order to avoid unwanted heat transmission a heat-insulating layer is used between the heat exchangers beyond the clamping area. Said layer may consist of heat-insulating usually porous material or it may be formed by air or a gas.

3,450,573
GRAIN REFINEMENT PROCESS FOR COPPER-BISMUTH ALLOYS

Arthur George Knapton, Sale, and Thomas Raine, Bramhall, England, assignors to Associated Electrical Industries Limited, London, England, a British company
No Drawing. Filed June 9, 1966, Ser. No. 556,251
Claims priority, application Great Britain, June 30, 1965, 27,740/65
Int. Cl. C22f *1/08;* **C22c** *1/02, 9/00*
U.S. Cl. 148—2 **4 Claims**

Copper-bismuth alloys with a refined grain structure are prepared by casting the alloys, which contain from 0.05% to 1% of bismuth, into the form of ingots, heating the ingots to temperatures in the range of 300° C. to 950° C., and extruding the heated ingots at an extrusion ratio such that the alloy is maintained in a state of hydrostatic compression during deformation, and that tensile forces are absent, a preferred extrusion ratio being 4:1.

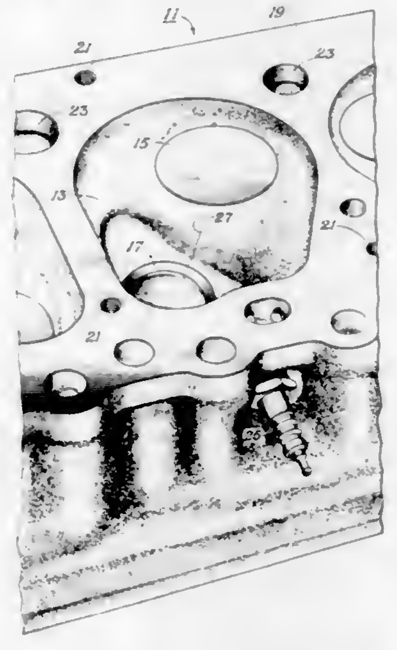
3,450,574
METHOD OF COATING REFRACTORY WARES WITH MAGNESIA

Phillip J. Read, Kanata, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,628
Int. Cl. C23c *17/02, 11/00;* **C23f** *17/00*
U.S. Cl. 148—6.3 **5 Claims**

1. A method of applying a thin layer of magnesia to a refractory ware which comprises applying a thin film of magnesium metal onto a refractory ware, heating the thus coated ware in a furnace in a nitrogen atmosphere to a temperature in the range of about 900 to about 1200° C. to convert the coating to a mixture of magnesium and the nitride thereof, and thereafter quickly changing the atmosphere in the furnace to oxygen to cause a strongly exothermic reaction which evolves sufficient heat in the coating to sinter the coating to the ware.

3,450,575
METHOD OF REPAIRING HEAT CRACKS ON FERROUS METAL ENGINES

Alexander J. Riscky, 6220 Longhorn Trail, Fort Worth, Tex. 76135
Continuation of application Ser. No. 572,582, Aug. 15, 1966. This application Jan. 17, 1968, Ser. No. 729,829
Int. Cl. B23p *7/04;* **C01b** *21/38*
U.S. Cl. 148—6.14 **6 Claims**



Following are disclosed methods and solutions for repairing heat cracks of the type frequently found in valve seats in internal combustion engines by application of nitric acid or nitric acid and hydrogen peroxide.

3,450,576
INHIBITION OF URANIUM METAL CORROSION

Theodore P. Sprague, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 20, 1965, Ser. No. 499,119
Int. Cl. C23f *7/10*
U.S. Cl. 148—6.15 **2 Claims**

Uranium corrosion problems occurring during the machining of uranium metal were found to be due to the presence of chloride ions in the machining coolant. This corrosion was effectively inhibited by utilizing a machining coolant consisting of water and about 3 to 10 grams of an orthophosphate compound per liter of water.

3,450,577
COMPOSITION AND PROCESS FOR CLEANING AND COATING METAL SURFACES

James R. Beach, Detroit, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 5, 1965, Ser. No. 506,573
Int. Cl. C23f *7/10;* **C23g** *1/00*
U.S. Cl. 148—6.15 **10 Claims**

A cleaner-coater concentrate composition for treating ferrous metal surfaces which contains an alkali metal phosphate, a sugar, fluoride ions, molybdate ions, oxalate ions, ferric ions, and a low-foaming wetting agent. Desirably, the components of the composition are monosodium phosphate, succrose, sodium bifluoride, ammonium molybdate, oxalic acid, and ferric oxalate. This concentrate composition is desirably formed into an aqueous treating solution containing from about 1 to 10 pounds of concentrate per hundred gallons of solution and is effective in cleaning oil or light soil from ferrous metal surfaces and forming on the surface an attractive iron phosphate protective and/or paint-base coating.

3,450,578
PROCESS AND COMPOSITION FOR THE PRODUCTION OF PROTECTIVE COATINGS

Guenter Siemund, Offenbach am Main, Hans Hansen, Bergen Enkheim, and Peter Flittner, Frankfurt am Main, Germany, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed July 20, 1964, Ser. No. 383,952
Claims priority, application Germany, July 30, 1963, M 57,674
Int. Cl. C23f *7/10*
U.S. Cl. 148—6.15 **18 Claims**

A coating composition and method whereby uniform and finely grained manganese phosphate coatings having a thickness of less than 3 millimicrons are applied to ferrous metal articles and such coated articles. The composition contains an oxidising agent and has a ratio of free P_2O_5 to total P_2O_5 which is greater than 0.3 and less than 0.6.

3,450,579
PROCESS FOR THE CHEMICAL SURFACE TREATMENT OF METAL

Werner Rausch, Stierstadt, Taunus, and Hans Hansen, Bergen-Enkheim, Germany, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 18, 1965, Ser. No. 480,813
Claims priority, application Germany, Aug. 25, 1964, M 62,208
Int. Cl. C23f *7/10, 7/14, 7/26*
U.S. Cl. 148—6.16 **6 Claims**

A two-step process for treating metal surfaces wherein the metal to be treated is first contacted with an aqueous solution having a pH of from about 3 to 6, which solution contains phosphate ions, and, thereafter, with no intervening water rinse, contacting the thus-treated surface with an aqueous solution containing hexavalent chromium ions. Both the phosphate ion containing solution and the hexavalent chromium ion containing solution are substantially free of materials which form water-soluble residues on the metal surface treated.

3,450,580
PERMANENT MAGNETS

Dennis Hadfield and John Harrison, Sheffield, England, assignors to Levick, Swift & Sons Limited
No Drawing. Filed Sept. 9, 1966, Ser. No. 578,131
Claims priority, application Great Britain, Sept. 17, 1965, 39,670/65
Int. Cl. H01f *1/04*
U.S. Cl. 148—31.57 **3 Claims**

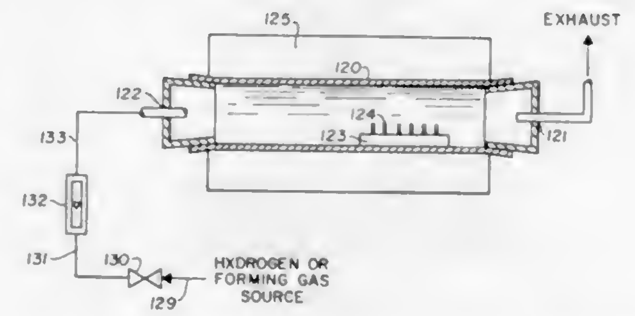
An improved anisotropic columnar crystal magnetic composition is disclosed which consists essentially of:

	Percent
Al	5 to 9
Ni	11 to 22
Co	33 to 50
Cu	1 to 6
Ti	1 to 9
Cb	0 to 4
Si	Up to 1
Te	0.10 to 4

Balance essentially iron.

3,450,581
PROCESS OF COATING A SEMICONDUCTOR WITH A MASK AND DIFFUSING AN IMPURITY THEREIN

Samuel R. Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 273,187, Apr. 15, 1963. This application July 29, 1966, Ser. No. 568,979
Int. Cl. C23c *15/00;* **H01l** *7/44*
U.S. Cl. 148—187 **26 Claims**



Disclosed are methods of processing semiconductor substrates and devices by depositing an impurity-containing silicon oxide layer on a semiconductor wafer and diffusing the impurity from the oxide into the wafer. Disclosed also are methods and apparatus for applying the impurity-containing silicon dioxide layer by means of sputtering techniques.

3,450,582
AQUEOUS AMMONIUM NITRATE BLASTING COMPOSITION CONTAINING SOLID CARBONACEOUS FUEL AND METHOD OF PREPARING SAME

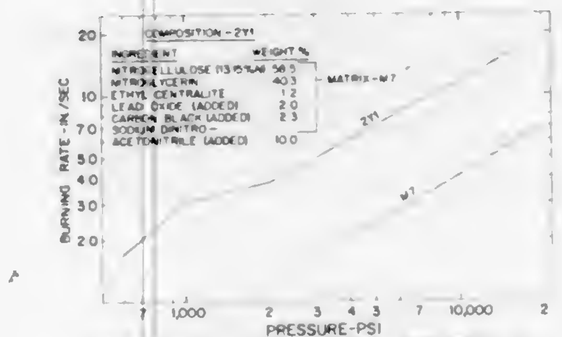
Harold W. Sheeran, E. 917 20th, Spokane, Wash. 99203, and Marcel H. Oriard, Box 33, Marshall, Wash. 99020
No Drawing. Filed Dec. 18, 1967, Ser. No. 691,188
Int. Cl. C06b *1/04, 19/00*
U.S. Cl. 149—2 **19 Claims**

A blasting agent utilizing ammonium nitrate fuel and water to form a desired plasticity. The compound is detonatable because it employs fuel which is water stable either chemically of physically or both and remains in intimate association with the ammonium nitrate in the presence of water whether in the solid phase or liquid phase. The total oxygen balance of AN and fuel is adjusted by the formula proportions to be within detonatable limits.

Also, the method for making the blasting agent which comprises utilizing heat to liquify a normally solid fuel while mixing with porous prilled ammonium nitrate to effect adsorption and absorption of the fuel by the ammonium nitrate, thus effecting said intimate association in the solid phase and liberating only that portion of fuel into the liquid phase which corresponds to the quantity of ammonium nitrate which is dissolved by the added water.

3,450,583
SOLID NITROCELLULOSE-NITROGLYCERIN PROPELLANT WITH BURNING RATE MODIFIERS CONTAINING DINITROACETONITRILE SALTS

James L. Chaille and Robert W. Walker, Huntsville, Ala., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 16, 1963, Ser. No. 251,989
Int. Cl. C06b *5/00*
U.S. Cl. 149—18 **8 Claims**



BURNING RATE OF A CATALYZED DOUBLE BASE PROPELLANT CONTAINING 10% SODIUM DINITROACETONITRILE

1. A double base propellant composition consisting essentially of 40% to 85% by weight nitrocellulose, 10% to 35% by weight nitroglycerin, and from 1.2% to 30% by weight collectively of one to five additives selected from the group consisting of carbon black, graphite, potassium sulfate, dimethyl phthalate, ethyl Centralite, triacetin, dinitrotoluene, and lead oxide, said composition having added thereto as a burning rate modified from 4% to 40% by weight based on the total weight of said composition a member selected from the group consisting of sodium dinitroacetonitrile and potassium dinitroacetonitrile.

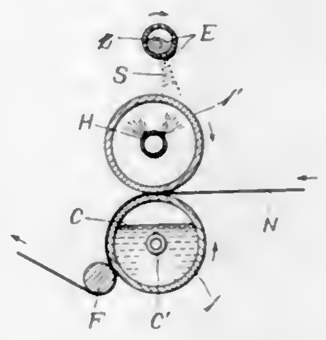
3,450,584
GELATINIZED DYNAMITE CONTAINING POLYVINYL BUTYRAL RESIN AND METHOD OF PRODUCING SAME

Mutsuo Yokogawa, Shigefumi Asaka, and Mataichi Araki, Yamaguchi-ken, Japan, assignors to Nippon Kayaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Aug. 14, 1967, Ser. No. 660,214
Claims priority, application Japan, Aug. 22, 1966, 41/54,808
Int. Cl. C06b *1/04*
U.S. Cl. 149—50 **16 Claims**

A gelatinized dynamite in which the nitroglycerin content is reduced to about 8 to 16% by weight by blending a gel of polyvinyl butyral resin in a solvent, such as caster oil, dibutyl phthalate or dioctyl phthalate, and polyoxyethylene stearate, with a known constituent, such as nitroglycerin or nitrocellulose, and which nevertheless has excellent detonation ability plasticity and extrudability.

3,450,585
SURFACE-PROCESSING METHOD FOR SYNTHETIC RESIN SHEET

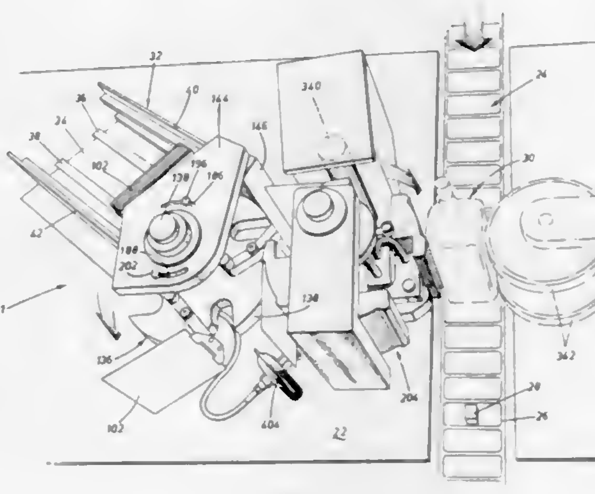
Haruo Takagi, Osaka, and Yasuo Yamagishi, Sakai, Japan, assignors to Sakai Kasei Kogyo Kabushiki Kaisha (Sakai Chemical Industry Co., Ltd.), Osaka, Japan
Filed Sept. 28, 1965, Ser. No. 490,824
Claims priority, application Japan, Oct. 28, 1964, 39/61,195
Int. Cl. B29d *27/22*
U.S. Cl. 156—242 **3 Claims**



The processing of a synthetic resin sheet including passing a sheet of synthetic resin into the nip defined between heated and cooled rollers while applying a separate synthetic resin to the surface of the sheet facing the heated roller whereby the separate synthetic resin is melted by the roller and caused to adhere to the surface thereof. When the sheet is separated from the heated roller the melted resin is drawn forcibly to the periphery of the heated roller thus producing sticky strings and upon further movement of the sheet the strings separate from the heated roller surface and shrink thereby forming a plurality of projections of indeterminate shape on the entire surface of the sheet.

3,450,586
AUTOMATIC LABELLING APPARATUS

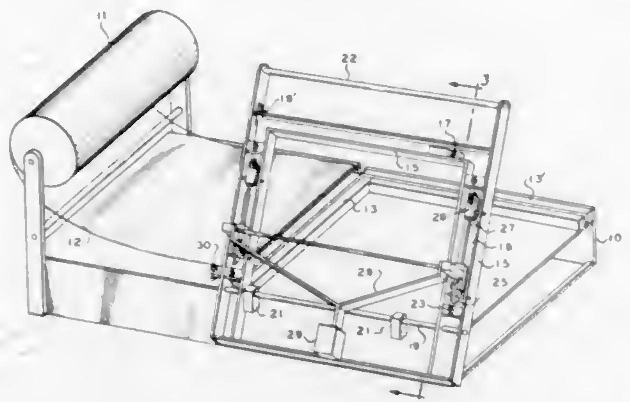
Donald Alexander Caulford and James R. Phin, Toronto, Ontario, Canada, assignors to Canadian Stackpole Ltd., Toronto, Ontario, Canada
Filed Oct. 4, 1965, Ser. No. 492,945
Int. Cl. B65c *9/26, 9/20, 9/14*
U.S. Cl. 156—364 **18 Claims**



An automatic labelling apparatus for containers moving on a conveyor is constructed of a rotary gripper for taking single labels from a magazine, the gripper cooperating with a rotating vacuum pad to which the label is transferred, after which is contacts a glue applicator, the label being than applied to the passing container; the vacuum pad is inwardly pivotable to prevent contact with the glue applicator if a label is absent.

3,450,587
CUTTING AND HEAT SEALING THERMOPLASTIC FILM

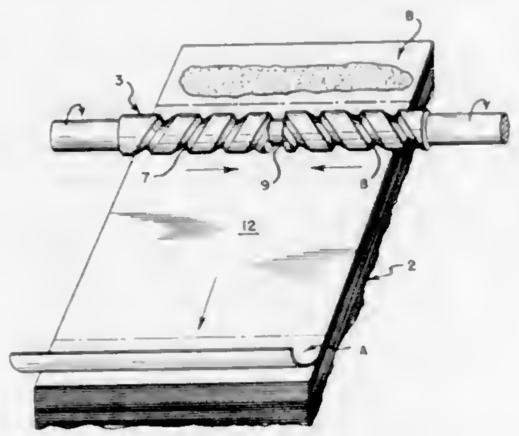
Elmer C. Beason, Cincinnati, Ohio, and George E. Mader, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 31, 1966, Ser. No. 539,179
Int. Cl. B65b *61/10, 57/00*
U.S. Cl. 156—389 **4 Claims**



This invention provides for an apparatus of cutting and heat sealing a plurality of layers of thermoplastic film and includes a sealing wire which is maintained at an essentially constant temperature during the stand-by seal cut periods of the cycle and is heat impulsed for high temperature thermoplastic burn-off for a few seconds following the seal-cut operation.

3,450,588
CURLING BAR FOR ROLL-THROUGH LABELERS

James A. Hanley, Jersey City, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Aug. 6, 1965, Ser. No. 477,861
Int. Cl. B65c *9/02, 9/12, 9/30*
U.S. Cl. 156—453 **3 Claims**

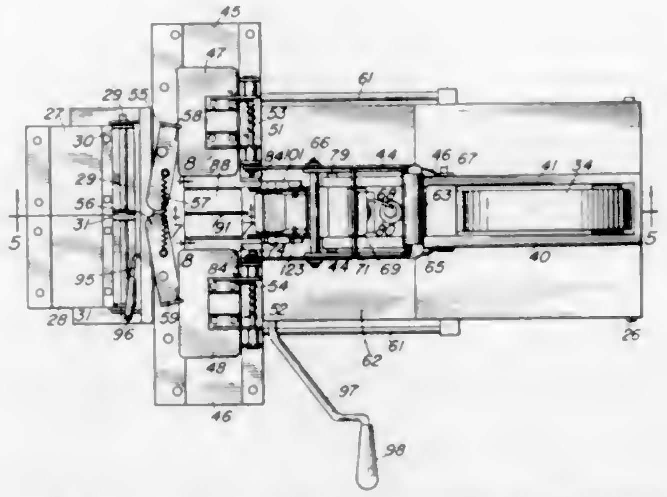


A cylindrical curling bar having two helical grooves which extend over the surface of the label in a direction inward to the axis of rotation of said bar, said helical grooves converging in a central portion of said bar and serving to screw excess paste toward the center of the label when said label is pulled from under the curling bar.

3,450,589
FILM SPLICING APPARATUS

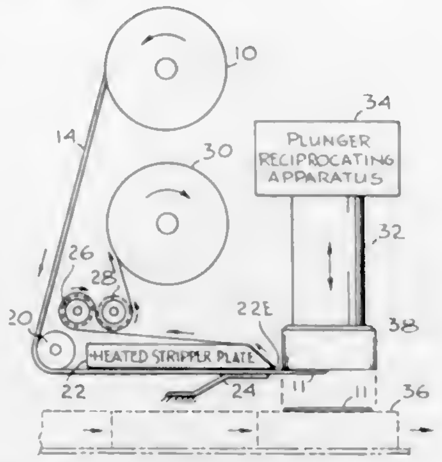
Leif G. Jorgensen, Lombard, Ill., assignor to Dupage Metal Products Company, Inc., Lombard, Ill., a corporation of Illinois
Filed Nov. 18, 1964, Ser. No. 412,170
Int. Cl. B65h *69/02*
U.S. Cl. 156—505 **19 Claims**

An apparatus for applying splicing tape to the top and bottom surfaces of a pair of abutting film strip ends wherein the film is held on a film holding means mounted on a frame structure for movement between first and second stations which includes tape feeding means for gripping a free end of said tape and delivering it to the film, which tape feeding means includes means for lifting the tape into a position overlying the film while the holding means is at said first station; releasably holding said tape under said holding means as said holding means is moved from said first to said second station; and maintaining tension on said tape to facilitate application of the tape to said film.



3,450,590
APPARATUS FOR APPLYING THERMOPLASTIC ADHESIVE COATED LABELS

Herbert La Mers, 6908 Peach St., Van Nuys, Calif. 91406
Filed Apr. 8, 1966, Ser. No. 541,317
Int. Cl. B65h *17/22;* **B65c** *1/02*
U.S. Cl. 156—540 **3 Claims**

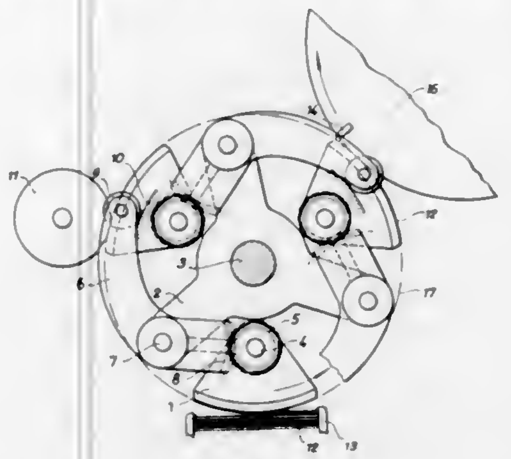


Apparatus for applying a label to goods is provided wherein each label is die-cut but left in the web. Thermoplastic adhesive is applied to one side of each label. When the label is drawn over the sharp end of a heated stripper plate, the thermoplastic adhesive is activated and the die-cut label extends from the web. A means is then employed to transfer the label which extends from the web to the goods.

3,450,591
APPARATUS FOR THE LABELING OF BOTTLES AND OTHER ARTICLES

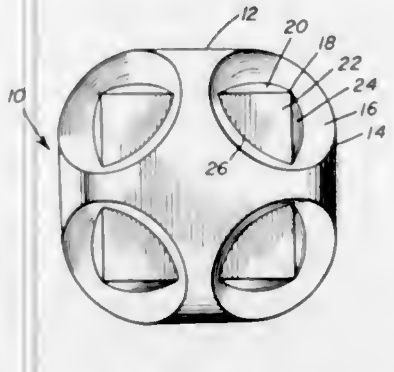
Rudolf Zodrow, Dusseldorf, Germany, assignor to Jagenberg-Werke AG, Dusseldorf, Germany
Filed Aug. 15, 1966, Ser. No. 572,411
Claims priority, application Germany, Sept. 17, 1965, J 29,010
Int. Cl. B65c *9/30*
U.S. Cl. 156—571 **6 Claims**

1. An apparatus for applying labels to bottles and similar articles comprising a stationary holder for labels and from which holder the labels are withdrawn individually, a rotatable support located in operative relationship to the holder, segments rotatably mounted on the support, each segment having a curved surface adapted to receive an adhesive material so that when such segment moves past the holder during rotation of the support, the outermost label in the holder is attached to the curved surface thereby being withdrawn from the holder and conveyed to the article to be labeled, and the radius of curvature of the surface of the segment corresponding to the shortest distance between the axis of rotation of the support and the plane of withdrawal of each label from the holder.



3,450,592
MULTIPLE USE GEOMETRICAL SHAPE

Peter S. Conrad and Arthur S. Conrad, Baldwin, Md., assignors to Plykon Corporation, a corporation of Maryland
Filed Oct. 20, 1967, Ser. No. 676,965
Int. Cl. D04d *7/04*
U.S. Cl. 161—7 **6 Claims**

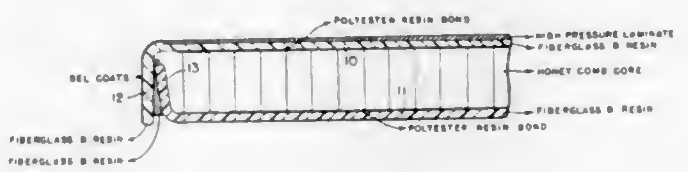


A three dimension geometric shape or form constructed from a two dimension geometric figure (a planar blank) by following a prescribed technique. The geometric shape is in the form of a cubical body combined with the corners of a cube disposed in truncated portions of the body.

3,450,593
PANEL HAVING RIMS BONDED WITH GLASS FIBERS AND POLYESTER RESIN

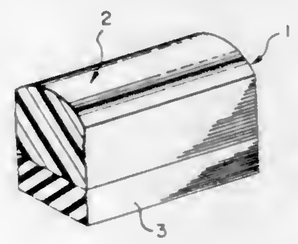
Ralph L. Fossier, La Grange Park, and John W. Kruissink, Des Plaines, Ill., assignors to Dentin Manufacturing Company, Melrose Park, Ill., a corporation of Illinois Continuation-in-part of application Ser. No. 413,594, Nov. 24, 1964. This application Dec. 15, 1965, Ser. No. 513,969
Int. Cl. B32b *3/12, 27/36, 17/04*
U.S. Cl. 161—43 **7 Claims**

A panel structure is formed by molding separately two pans formed of glass fibers and polyester resin, each with inwardly-turned rims, the rims being brought into facing and generally nested relation with the rims meeting each other at an angle to provide a pocket therebetween. The pocket is filled with polyester resin and glass fibers to unite the pans while forming rigid border portions. A honeycomb paper core wet with phenolic resin is preferably united to the bottom core and in the assembly of the pans the upper pan is inverted and placed upon a flat surface and the lower pan with its honeycomb core is pressed against the top pan and the structure cured.



3,450,594
LAMINATED PRODUCT AND PROCESS FOR PREPARING SAME

Leo E. Hennessy, Chagrin Falls, Ohio, assignor to Industrial Electronic Rubber Company, Twinsburg, Ohio, a corporation of Ohio
Filed June 29, 1965, Ser. No. 468,060
Int. Cl. B32b *27/42, 27/38, 25/08*
U.S. Cl. 161—184 **5 Claims**



A laminated product of a type particularly suited for use as a shock absorber in the brush assembly of electric generators or motors. The laminate includes a rigid load-bearing surface of a thermosetting plastic and a resilient surface of a rubber compound bonded directly together. The thermosetting plastic and the rubber compound are mutually soluble and compatibly curable one with another.

3,450,595
METAL-CLAD LAMINATES

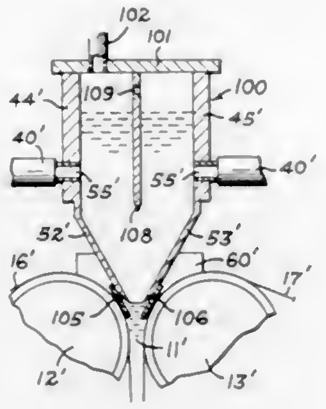
Roy Salter, Maidenhead, Harold Lishman Petrie, Woodley, near Reading, and Ian Williamson, Flackwell Heath, England, assignors to Formica International Limited, London, England, a British company
No Drawing. Filed Sept. 8, 1964, Ser. No. 395,022
Int. Cl. C09j *3/14, 3/16*
U.S. Cl. 161—215 **7 Claims**

This application relates to novel adhesive compositions comprising a polyvinyl acetal and an aminotriazine-aldehyde resin (such as a melamine-formaldehyde resin) in a common solvent, and optionally also including a phenol-formaldehyde resin; the compositions may be used in a process wherein a metal foil is laminated under heat and pressure to at least one surface of a core impregnated with a thermosetting resin, with the aid of a layer of said adhesive composition.

3,450,596
HEADBOX FOR TWIN WIRE PAPER MACHINE

Marshall S. Green, Watertown, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Feb. 19, 1965, Ser. No. 434,051
Int. Cl. D21f *1/50*
U.S. Cl. 162—338 **14 Claims**

A head box for delivering paper making stock to the nip of a pair of horizontally spaced breast rolls is provided with opposed series of spaced inlets on its opposite sides and a partition so located between the inlets as to block directly horizontal flow of stock from one side wall to



the other, and may also be provided with seals engaging the surface of the breast rolls to limit the flow of stock from the nip axially of the breast rolls.

3,450,597
PRODUCTION OF HIGH PURITY RADIOACTIVE INDIUM-113*m*

Henry H. Kramer, Mahwah, N.J., and Hirofumi Arino, Suffern, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 23, 1966, Ser. No. 604,152
Int. Cl. G21g *1/02*
U.S. Cl. 176—16 **9 Claims**

A process for producing radioactive indium-113*m* by eluting from neutron irradiated tin that is retained on a silica gel substrate.

3,450,598
METHOD FOR CELL PROPAGATION

John A. Welsh, Rockville, Md., and Frederick H. Johnson, Jr., Washington, D.C., assignors to Flow Laboratories, Inc., Rockville, Md., a corporation of Delaware
No Drawing. Filed Aug. 24, 1965, Ser. No. 482,271
Int. Cl. C12k *9/00*
U.S. Cl. 195—1.8 **8 Claims**

A process is provided for the production of large quantities of mammalian diploid cells in vitro in which diploid cells are suspended in a nutrient tissue culture medium and planted within a roller tube, the cells and medium occupying substantially less than the full volume of the tube. The cells are propagated by incubation while revolving the tube at a speed of from 4 to 60 revolutions per hour until a confluent sheet of diploid cells is formed on the inner wall of the tube. After incubation, the cells are released from the walls of the tube, agitated to disperse them into small aggregates of cells, and harvested.

3,450,599
PROCESS FOR PRODUCING L-GLUTAMIC ACID AND ALPHA-KETOGLUTARIC ACID

Katsunobu Tanaka and Kazuo Kimura, Machida-shi, and Ken Yamaguchi, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Continuation of application Ser. No. 481,921, Aug. 23, 1965. This application May 17, 1968, Ser. No. 729,943
Claims priority, application Japan, Aug. 24, 1964, 39/47,169
Int. Cl. C12b *1/20;* **C12d** *13/06, 1/10*
U.S. Cl. 195—28 **25 Claims**

A process for producing alpha-ketoglutaric acid and L-glutamic acid comprising,

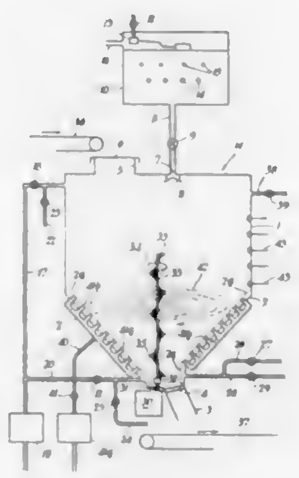
(a) culturing a microorganism belonging to the genus Arthrobacter,
(b) under aerobic conditions;
(c) in an aqueous nutrient medium containing at least one normal-paraffin as a major source of carbon; and
(d) recovering the alpha-ketoglutaric acid and L-glutamic acid:

wherein it is preferred that:

(e) the normal-paraffin has 11 to 18 carbon atoms;
(f) the aqueous medium is maintained at a pH of 7.0 to 8.2 by the use of ammonia ion;
(g) the pH is maintained by the addition of urea, ammonia or ammonium carbonate;
(h) the aqueous nutrient medium includes a source of nitrogen, inorganic salts including at least a supply of iron ion and a source of growth promoting factors which supplies at least biotin, thiamine and vitamin B_{12};
(i) the species of Arthrobacter are *Arthrobacter simplex, Arthrobacter roseoparaffinus, Arthrobacter hydrocarboglutamicus* and *Arthrobacter paraffineus;*
(j) the aqueous nutrient medium includes aliphatic alcohol, benzoic acid, sulfanilic acid or mixtures thereof; and
(k) the aqueous nutrient medium includes adenine.

3,450,600
MALTING APPARATUS IN SERIES

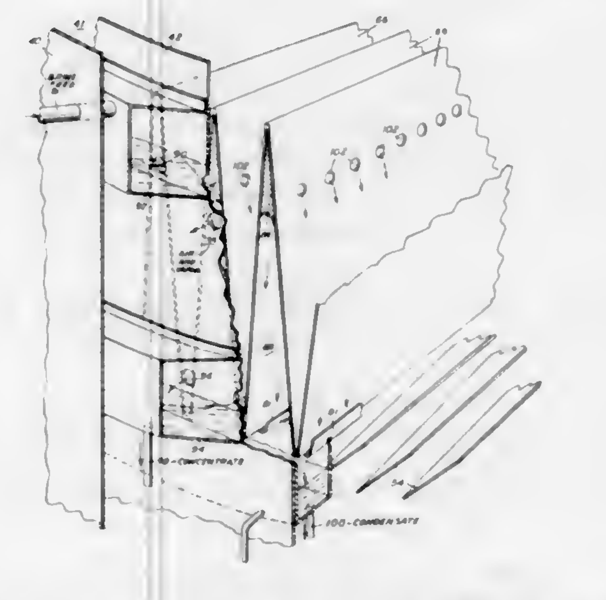
James Richard Allan Pollack, Cabinteely, and Alan Aldred Pool, Foxrock, Ireland, and Graham John Ellis, Newbridge, Wales, assignors to Arthur Guinness Sons & Company (Dublin) Limited, and The Irish Mallsters Association, both of Dublin, Ireland, and both companies of Ireland, and Rimer Manufacturing Company Limited, Cardiff, Wales, a British company
Filed Aug. 30, 1966, Ser. No. 576,147
Claims priority, application Great Britain, Sept. 8, 1965, 38,348/65
Int. Cl. C12b *1/00;* **C12c** *1/04*
U.S. Cl. 195—129 **2 Claims**



Apparatus for malting steeped cereal grain comprising two vessels one of which is a malting vessel and the other a storage vessel. The internal surface of the malting vessel converges downwardly toward the outlet. Sweeper means within the malting vessel is gyrationally mounted adjacent the outlet, grain engaging means provided on the sweeper, and the sweeper is adapted to sweep over substantially the whole area of the convergent surface for loosening the grain to be discharged. Means associated with the malting vessel for adjusting temperature, humidity, and rate of air flow therein to condition the cereal grain. First transfer means for conveying grain discharged from the malting vessel to the storage vessel. Second transfer means associated with the storage vessel for returning to the inlet means of the malting vessel grain discharged from the storage vessel.

3,450,601
AMBIENT TEMPERATURE VAPOR COMPRESSION DESALINATION SYSTEM

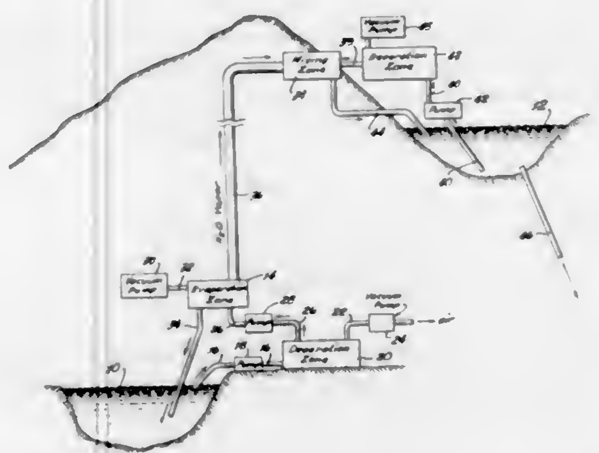
Clinton E. Brown, Silver Spring, Md., assignor to Hydronautics, Inc., Laurel, Md., a corporation of Maryland
Filed Apr. 4, 1967, Ser. No. 628,498
Int. Cl. B01d *3/10, 1/26*
U.S. Cl. 202—174 **10 Claims**



Means for preparing a treated liquid having a desired pH by adding sulfuric acid to saline water and deaerating and filtering to substantially eliminate the carbonates. Thereafter distilling the treated liquid in a distilling apparatus adapted to handle treated liquids having the desired pH, and including a plurality of annular horizontally arranged falling film heat exchange units, the units being vertically spaced to provide pressurizing compartments therebetween which receives the blades of a rotary compressor, the compressor being the only movable part in the apparatus.

3,450,602
WATER DESALINIZATION SYSTEM

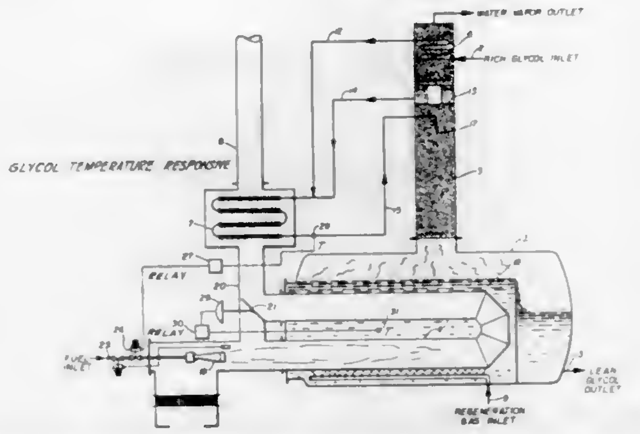
Glenn D. James, 1200 Encino Ave., Arcadia, Calif. 91006
Filed May 20, 1966, Ser. No. 551,595
Int. Cl. C02b *1/06;* **B01d** *3/10, 1/00*
U.S. Cl. 203—11 **5 Claims**



Reduced salinity water is obtained from a saline source by vaporizing the saline liquid under highly reduced pressures at a lower elevation and conveying it free of air to a higher, cooler elevation for condensation and combination with fresh water.

3,450,603
METHOD OF AND MEANS FOR RECONCENTRATING LIQUID DESICCANT

Charles O. Meyers and Robert W. Coggins, Tulsa, Okla., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,302
Int. Cl. C07c *29/26;* **B01d** *3/14*
U.S. Cl. 203—18 **10 Claims**



A heated vessel receives desiccant from which water is boiled to reconcentrate the desiccant for use in drying gas. A still column is mounted on the vessel to receive water and desiccant vapors and form a reflux to condense the glycol vapors back to the vessel while discharging water vapor to the atmosphere. The feed of liquid desiccant and water to the vessel still column is preheated to a predetermined level.

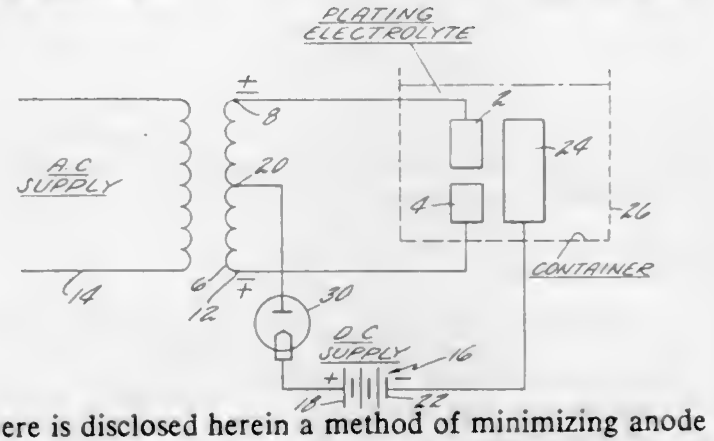
3,450,604
METHOD FOR MEASURING SODIUM ION

George Eisenman, Gladwyne, Pa., assignor, by mesne assignments, to Corning Glass Works, a corporation of New York
Filed Nov. 19, 1959, Ser. No. 854,153
Int. Cl. B01k *3/02*
U.S. Cl. 204—1 **1 Claim**

A process of selectively measuring sodium ion activity in an aqueous solution using a glass electrode whose membrane composition consists essentially of lithia, alumina and silica, the ratio of mole percent of alumina to lithia being at least substantially 1:3.

3,450,605
MINIMIZATION OF ANODE PASSIVATION IN ELECTROPLATING PROCESSES

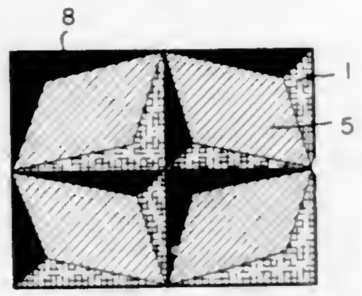
James F. McGivern, Jr., Avon, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,412
Int. Cl. C23b *5/72, 5/08;* **B01k** *3/04*
U.S. Cl. 204—14 **5 Claims**



There is disclosed herein a method of minimizing anode passivation in electroplating processes, utilizing a pair of anodes which are alternatively made cathodic and anodic in the electrolyte taking advantage of the reversibility of the passivation mechanism to effect depassivation of the anodes without interruption of the plating cycle.

3,450,606
MULTI-COLORED ALUMINUM ANODIZING PROCESS

George Richard Darrow, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,182
Int. Cl. C23b *9/00;* **B44c** *1/04*
U.S. Cl. 204—18 19 Claims



Method of producing a decorative effect on an anodizable metal surface, especially by integral color hardcoat anodizing at a high voltage utilizing resist material for preventing dielectric breakdown during such anodizing, the resist material being applied to protect selected areas while unprotected areas are being anodized.

3,450,607
AMALGAMATION PROCESS

Ronald L. Dotson, Baton Rouge, and Benjamin S. Lowry, Jr., Plaquemine, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 24, 1965, Ser. No. 490,124
Int. Cl. C23b *5/30, 1/00;* **C22d** *1/26*
U.S. Cl. 204—34 4 Claims

A method for amalgamating ferrous surfaces, particularly those covered with a thin oxide film. Amalgamation of a cleaned ferrous surface is accomplished by providing an inert conductive surface as an anode in close proximity to the cleaned ferrous surface which serves as a cathode. A source of mercury is supplied between the surfaces and in contact with the ferrous surface and an electrical potential of between 3 and 15 volts at an amperage of at least 0.5 amp is passed between such surfaces to produce amalgamation of the ferrous surface.

3,450,608
PURIFICATION OF ETHERS

Richard L. Craig, Lake Jackson, Tex., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,843
Int. Cl. C07f *7/24;* **B01k** *1/00;* **B01d** *3/34*
U.S. Cl. 204—59 9 Claims

Ether compounds of the type used in the electrolysis of Grignard reagents are purified by treating such impure ethers containing lower alcohols as the impurity with sulfamic acid to form reaction products of said alcohol and acid. The reaction products are separated from the ether compounds prior to electrolysis.

3,450,609
ELECTROLYTIC PROCESS FOR PREPARING HYDROGEN FLUORIDE

William W. Carlin, Portland, Tex., assignor to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 14, 1966, Ser. No. 533,862
Int. Cl. B01k *1/00*
U.S. Cl. 204—103 8 Claims

Hydrogen fluoride is produced by the electrolysis of a catholyte selected from the group consisting of alkali metal fluoride and ammonium fluoride solutions in an electrolytic cell wherein the catholyte is separated from an electrically conductive anolyte by an anion exchange membrane.

3,450,610
PROCESS FOR REMOVING AN OXIDE LAYER FROM THE SURFACE OF HARDENED STRIP STEEL BY AN ELECTROLYTICAL METHOD

Carl Erik Holger Fröden, Munkfors, Sweden, assignor to Uddeholms Aktiebolag, Uddeholm, Sweden, a Swedish joint-stock company
Filed Nov. 30, 1964, Ser. No. 414,533
Int. Cl. C23b *1/06*
U.S. Cl. 204—145 3 Claims

Surface oxide electrolytically removed from hardened and tempered strip steel whilst latter moves as anode through electrolyte past a cathode. After oxide is removed, resulting oxide-free surface is passivated. Electrolyte contains in excess of 20% by weight of chromium oxide and in excess of 60% by weight of phosphoric acid.

3,450,611
PROCESS FOR PREPARING COMPOUNDS CONSISTING ONLY OF CARBON, FLUORINE AND OXYGEN

Marco Loffelholz, Novara, and Adolfo Pasetti and Dario Sianesi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,846
Claims priority, application Italy, Sept. 6, 1965, 19,831/65
Int. Cl. C08f *1/24;* **B01j** *1/10*
U.S. Cl. 204—158 10 Claims

1. A process for the preparation of epoxides of perfluoro-olefins and of polymers, containing ethereal and peroxide bridges, only consisting of carbon, fluorine and oxygen, which comprises reacting at least one perfluoro-olefin having from 3 to 10 carbon atoms, with oxygen in the liquid phase, at temperatures from —100° C. to +25° C., under high energy ionizing radiation consisting of gamma rays, neutrons or a combination thereof.

3,450,612
PHOTOCHEMICALLY HARDENABLE MOULDING AND COATING MASSES

Hans Rudolph, Krefeld-Bockum, Karl-Heinz Heller, Moers, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 18, 1965, Ser. No. 508,567
Claims priority, application Germany, Dec. 31, 1964, F 44,857
Int. Cl. B01j *1/10*
U.S. Cl. 204—159.15 11 Claims

A photochemically hardenable moulding and coating mass comprising a mixture of unsaturated polyester and copolymerizable monomeric compounds and an active amount of a sensitizer of the formula:

$$Ar_1—S—S—Ar_2$$

wherein Ar_1 and Ar_2 are aryl radicals.

3,450,613
EPOXY ADHESIVE CONTAINING ACRYLIC ACID-EPOXY REACTION PRODUCTS AND PHOTOSENSITIZERS

Israel V. Steinberg, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,536
Int. Cl. C08f *1/16;* **B01j** *1/10*
U.S. Cl. 204—159.15 13 Claims

An optical cement comprising the reaction product of an epoxy resin prepolymer containing at least two epoxy groups with an α-β-ethylenically unsaturated carboxylic acid together with a photosensitizer which activates the double bond in the reaction product upon exposure to light.

3,450,614
VINYL GRAFT COPOLYMERIZATION WITH A POLYURETHANE SUBSTRATE IN THE PRESENCE OF ULTRA-VIOLET LIGHT

Robert W. Faessinger, Media, and John S. Conte, Ridley Park, Pa., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 13, 1965, Ser. No. 495,699
Int. Cl. B01j *1/10;* **C08f** *1/18*
U.S. Cl. 204—159.15 6 Claims

Hydrophilic graft copolymers of polyurethane foam are produced by mixing (a) a sufficient amount of a photoinitiator, such as benzophenone, with (b) a polyurethane starting material, foaming said mixture, and reacting said foam with (c) an ethylenically unsaturated polymerizable material, such as an acrylic monomer, in the presence of a sufficient amount of ultra-violet radiation to graft copolymerize the foam and ethylenically unsaturated monomer.

3,450,615
PHOTOPOLYMERIZATION USING COPOLYMERS CONTAINING ALDEHYDE GROUPS THEREIN AS PHOTOINITIATORS

Roger J. Eldred, Warren, and Tzu J. Mao, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Apr. 4, 1966, Ser. No. 547,120
Int. Cl. C08f *1/20, 15/02*
U.S. Cl. 204—159.15 7 Claims

A method of initiating the photopolymerization of polymerizable ethylenically unsaturated compounds such as acrylic monomers under the effect of ultraviolet light by the use of copolymers containing aldehyde groups. An example of such copolymers is a methacryaldehyde-methylmethacrylate copolymer which serves as a photo initiator in the polymerization of glycidyl methacrylate.

3,450,616
TRI-ORTHO-TOLYLPHOSPHINE AS A PHOTOPOLYMERIZATION INITIATOR

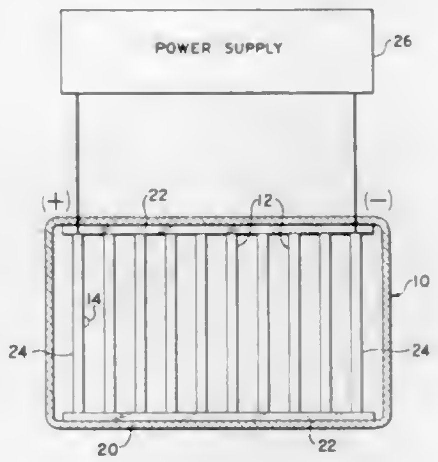
Roger J. Eldred, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Feb. 23, 1967, Ser. No. 617,830
Int. Cl. C08f *1/20, 3/66, 3/68*
U.S. Cl. 204—159.23 7 Claims

This invention relates to a process for the production of acrylic resins. Polymerizable acrylic monomer solutions containing a small but effective amount of tri-orthotolylphosphine readily polymerize upon exposure to ultraviolet light. The tri-ortho-tolylphosphine acts as a photopolymerization initiator.

3,450,617
METHOD OF CONDUCTING CHEMICAL REACTIONS IN A GLOW DISCHARGE

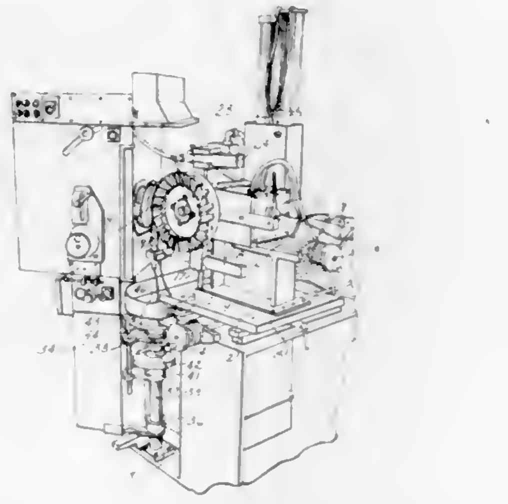
Emil J. Hellund, South Laguna, Calif., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Aug. 22, 1966, Ser. No. 573,929
Int. Cl. B01k *1/00*
U.S. Cl. 204—164 7 Claims

1. A method of subjecting gases to an electrical glow discharge comprising the steps of feeding at least one gaseous reactant to a reaction chamber, wherein said reaction chamber is comprised of a reactant inlet means and a reactant outlet means separated by electrode means, said electrode means comprising two terminal electrically conductive parallel strips between which are positioned at least one similar conductive strip, said conductive strips being in a spaced relationship to each other in substantially the same plane and being electrically insulated from each other, said terminal strips having connecting means for the attachment of a source of electrical current; producing a glow discharge between said electrode means and a field gradient of about 100 to 10,000 volts per centimeter, passing said gaseous reactant through said glow discharge, maintaining the desired temperature within the glow discharge by passing a coolant through the interior of said electrodes, and subsequently exhausting said gases from said reaction chamber.



3,450,618
FACE MILL GRINDER

Donald E. Sutton, Comstock Township, Kalamazoo County, Mich., assignor to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Dec. 2, 1966, Ser. No. 598,806
Int. Cl. B23p *1/14, 1/02*
U.S. Cl. 204—199 21 Claims



1. An electrolytic grinding device intended primarily for grinding a plurality of successive presented surfaces spaced around a circumference, comprising:

a work supporting spindle and first supporting means for rotatively supporting same for stepwise rotation around a first axis lying in a first plane;

a grinding wheel spindle and second supporting means for supporting same for rotation, said second means being supported with respect to said first means for pivoting around a second axis lying in a second plane which is perpendicular to said first plane, whereby to adjust the axis of said grinding wheel spindle angularly to the axis of the work supporting spindle;

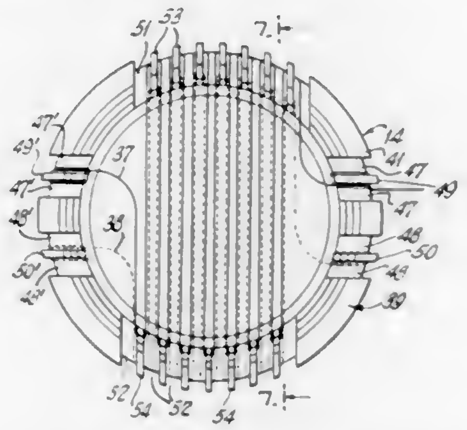
electrical potential means for applying an electrical potential between said spindles;

feeding means effecting relative movement between said spindles whereby the workpiece on said workpiece spindle and the grinding wheel on said grinding spindle will approach each other in a work performing relationship;

control means responsive to and coordinated with the rotative position of said workpiece for actuating said feeding means.

3,450,619
OXYGEN DETECTOR

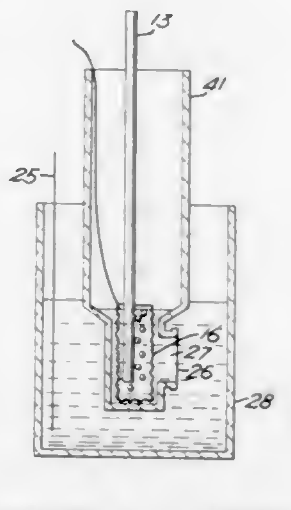
Louis C. Kruse and Arthur P. Tierney, Ossining, N.Y., assignors to Cambridge Instrument Company, Inc., Ossining, N.Y., a company of New York
Filed May 24, 1966, Ser. No. 552,479
Int. Cl. B01k; G01d *21/00*
U.S. Cl. 204—195 **12 Claims**



A detector for dissolved oxygen utilizing a plate with electrodes on the surface of the plate and a hydrogen saturated conductive liquid wetting the surface of the plate and the electrodes whereby said electrodes produce a potential upon the introduction of oxygen into said liquid.

3,450,620
GAS SENSOR

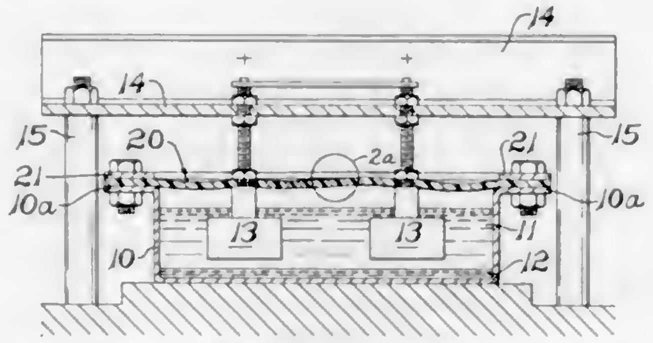
Alan W. Brewer, Toronto, Ontario, Canada, assignor to Mast Development Company, Davenport, Iowa, a corporation of Iowa
Application Dec. 30, 1964, Ser. No. 422,282, now Patent No. 3,329,599, dated July 4, 1967, which is a continuation of application Ser. No. 5,026, Jan. 27, 1960. Divided and this application July 27, 1966, Ser. No. 584,928
Int. Cl. C22d *1/02;* **B01k** *3/10*
U.S. Cl. 204—195 **6 Claims**



Apparatus for measuring an oxidant in a gas comprising an inner vessel having a lower portion constituting a reaction chamber, a second larger vessel surrounding said inner vessel, a hollow cathode coaxially disposed in said reaction chamber, an anode in said larger vessel, said inner vessel communicating with said larger vessel through an opening, an ion permeable closure covering said opening, and a sample introducing tube extending into said cathode.

3,450,621
CHLORINE CELL WITH FLEXIBLE ELASTOMERIC COVER

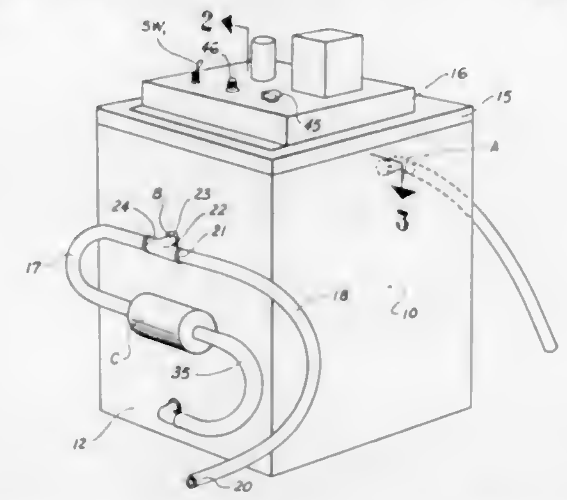
Ralph F. Anderson, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,776
Int. Cl. B01k *3/00;* **C01b** *7/06*
U.S. Cl. 204—219 **5 Claims**



An improved flexible sheet rubber cover for sealing the electrolyte tank of a De Nora type chlorine generating cell. Rubber materials of different compositions are used for the opposite surfaces of the cover with the inside surface composed of a natural rubber compound and the outside surface composed of an ethylene-propylene terpolymer rubber.

3,450,622
ELECTROLYTIC APPARATUS FOR REMOVING METALS FROM SOLUTIONS

Otis J. Cothran, 36 Gurley Ave., Greenville, S.C. 29605
Filed May 17, 1966, Ser. No. 550,863
Int. Cl. C22d *1/12;* **B01k** *3/02*
U.S. Cl. 204—234 **1 Claim**

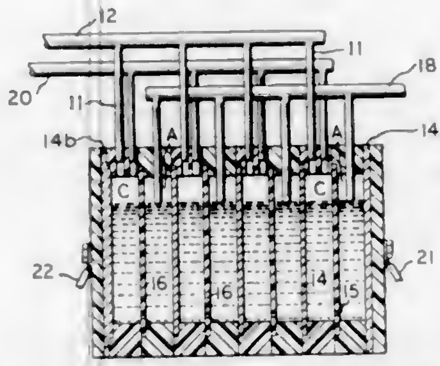


A device for the electrolytic recovery of metals from solutions. A recirculation system adds untreated solution to newly treated solution in a recirculated retreatment cycle.

3,450,623
ELECTROLYTIC APPARATUS FOR THE REGENERATION OF CHROMIUM SALT SOLUTIONS

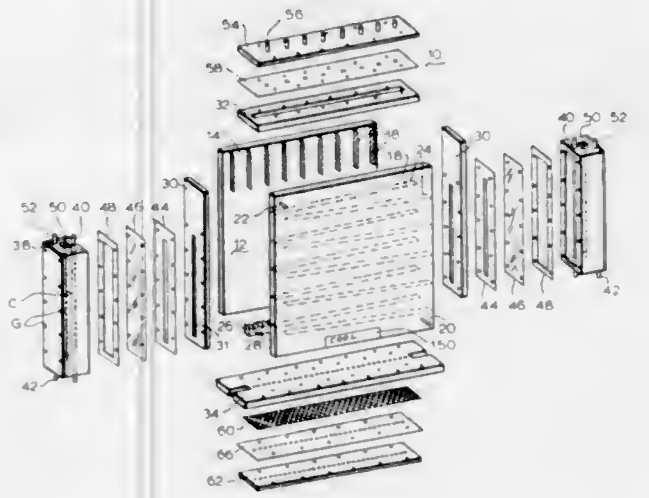
Louis A. Joo, Johnson City, Tenn., Le Roi E. Hutchings, Mount Prospect, and Nathan W. Muller, Clarendon Hills, Ill., assignors to Great Lakes Carbon Corporation, a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 493,995
Int. Cl. B01k *3/10;* **C23b** *5/68;* **C22d** *1/02*
U.S. Cl. 204—256 **3 Claims**

Electrolytic apparatus useful for regeneration of trivalent chromium salt solutions to form hexavalent chromium compounds comprises at least two electrodes separated by a polytetrahaloethylene diaphragm. The diaphragm has a pore diameter ranging from about 1 to about 300 microns, a void content of 40%, and is provided with at least one small orifice to allow solution flow through the catholyte and anolyte compartments without electrically short circuiting the cell.



3,450,624
APPARATUS FOR THE SEPARATION OF CHEMICAL COMPONENTS BY THE COMBINATION OF ELECTROPHORESIS AND GEL FILTRATION

Samuel Natelson, Chicago, Ill., assignor to Fisher Scientific Company, Pittsburgh, Pa., a corporation
Filed July 20, 1966, Ser. No. 566,553
Int. Cl. B01k *5/00*
U.S. Cl. 204—299 **9 Claims**



1. An apparatus for the separation of substances by a combination of electrophoresis and gel filtration, comprising in combination,

(a) a flattened elongated sample separation chamber with a serrated block bottom having outlet ports at the low points in the serrated block bottom and a cover having a plurality of inlets through which a sample can be supplied at various lateral positions along the cover;

(b) a pair of flattened hollow side walls for the separation chamber each defining cooling boxes therein including angularly disposed baffles allowing the even distribution of cooling fluid and allowing the escape of air;

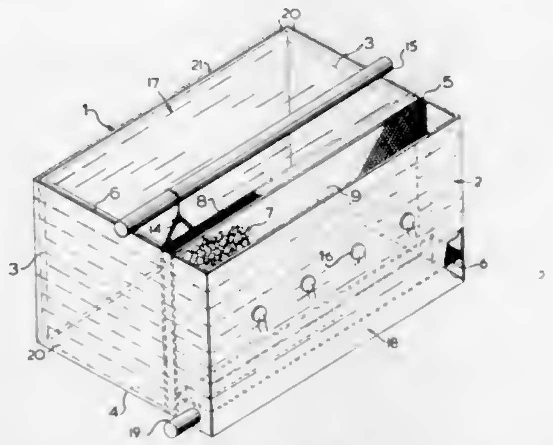
(c) electrode chambers, disposed at both ends of the separation chamber including cooling means for cooling an electrolyte therein;

(d) porous means at the bottom and ends of the separation chamber for supporting and retaining a gel medium therein but permitting the passage of electric current therethrough; and

(e) electrodes in said electrode chambers for impressing an electric field across the separation chamber including circuit means for connecting said electrodes to a power source.

3,450,625
ELECTROLYTIC PLATING TANK

Kenneth C. Ramsey, 40 Kings Paddock, Hampton, Middlesex, England, and Walter Morris, 108 Norway Ave., Welland, Ontario, Canada
Filed Sept. 7, 1965, Ser. No. 485,158
Claims priority, application Canada, Oct. 29, 1964, 915,194
Int. Cl. C23b *5/70, 5/08;* **B01k** *3/04*
U.S. Cl. 204—237 **8 Claims**



An electroplating apparatus wherein a foraminous screen separates a tank into anode and cathode compartments, the anode compartment being filled with particulate anode material. The tank itself may be of a metal such as titanium which carries electric current to the anode material through one of the tank walls in direct electrical contact therewith. The tank walls are protected from corrosion by oxide formed as result of the anodic charge and the cathode compartment tank walls are coated with an insulator to prevent stray currents. A fabric sheet adjacent to the foraminous screen prevents particulate material from passing into the cathodic compartment.

3,450,626
HYDROCRACKING PROCESS AND CATALYST

Carlyle G. Wight and Robert H. Haas, Fullerton, and Rowland C. Hansford, Yorba Linda, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed May 5, 1967, Ser. No. 636,266
Int. Cl. C10g *13/04, 13/06*
U.S. Cl. 208—110 **12 Claims**

A novel hydrocracking catalyst is described comprising a siliceous cracking base upon which is deposited a minor proportion of palladium and a minor proportion of an Iron Group metal, preferably nickel, or the oxides and/or sulfides of such metals. This catalyst is particularly useful for the hydrocracking of gas oils to produce a relatively high octane gasoline product of high aromatic content at relatively low temperatures in the substantial absence of sulfur, and with low deactivation rates.

3,450,627
PURIFYING USED METALWORKING LUBRICATING OILS

Carl E. Johnson, Glen Ellyn, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 10, 1967, Ser. No. 659,620
Int. Cl. C10g *17/00;* **C10m** *1/10, 3/02*
U.S. Cl. 208—180 **4 Claims**

This invention relates to a process for treating lubricating oils of the types used in the working of ferrous and non-ferrous metals which are contaminated with finely-divided suspended solids exemplified by metal particles, metal oxides and dirt whereby such particles are agglomerated to a point whereby they are readily removed from the lubricating oils thereby allowing such oils to be reused, reclaimed and the like. The invention accomplishes this result by treating such contaminated oils with at least

50 p.p.m. of a trimerized polycarboxylic acid formed by the polymerization of a polyolefinic fatty acid which contains at least 10 carbon atoms in aliphatic chain. The oils treated with the polymerized polyolefinic fatty acids are subjected to a mixing step whereby agglomeration of the finely-divided particles is achieved. The thus agglomerated particles removed from the oils by conventional purification systems whereby the oils are suitable for re-use in various metal-working operations.

3,450,628

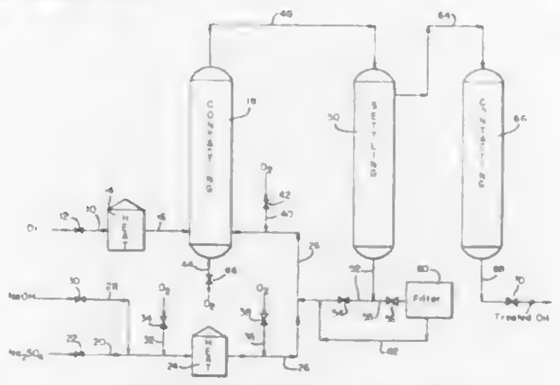
PROCESS FOR TREATING MINERAL OILS CONTAINING MERCAPTANS

Charles W. Rippie, Ashland, Ky., assignor to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

Filed Dec. 28, 1966, Ser. No. 605,235

Int. Cl. C10g *27/06, 19/02*

U.S. Cl. 208—189 **17 Claims**



A method for treating mineral oils containing sulfur in mercaptan form to convert the sulfur to a disulfide form which may be left in the oil, which includes contacting the oil with about 5 to 15% by volume of an aqueous solution of a mixture of about 95 to 99.5% by weight of sodium sulfate, and 5.0 to 0.5% by weight of sodium hydroxide, while blowing with oxygen and maintaining a temperature between about 170° F. and 200° F., separating the treated oil from the aqueous treating solution, and thereafter contacting the treated oil with charcoal to remove sludge and rock salt to remove water. The treating solution may be filtered after separation from the oil and recycled to the first step.

3,450,629

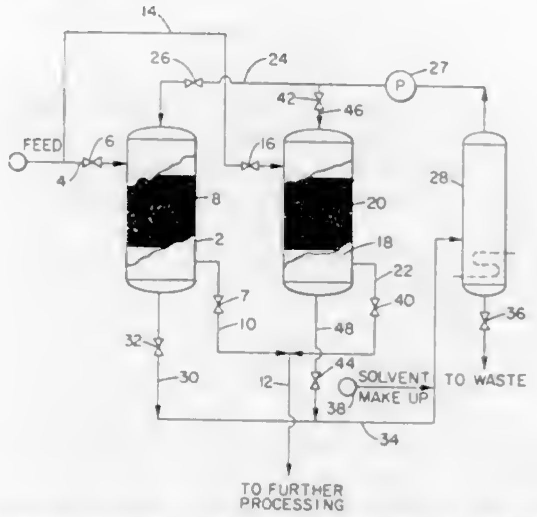
RECLAMATION OF ADSORPTIVE MATERIAL USED IN DESULFURIZATION OF HYDROCARBONS

Lamar F. Sudduth and Shelby P. Sharp, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Dec. 27, 1966, Ser. No. 604,878

Int. Cl. C10g *25/12, 25/04*

U.S. Cl. 208—305 **9 Claims**



Adsorptive materials such as molecular sieves are used in desulfurization of liquid or gaseous hydrocarbon streams. The adsorbents are occasionally contaminated with elemental sulfur and can no longer adsorb sulfur containing compounds or be regenerated by conventional methods. When such contamination occurs, the elemental sulfur which is deposited in the pores of the adsorbent is removed by an extraction or washing treatment with a sulfur solvent such as carbon tetrachloride or carbon disulfide. The resulting washed adsorbent is then preferably treated with a light hydrocarbon liquid or vapor to remove the sulfur solvent and subjected to hot gas at 400° to 450° F., after which adsorptive capacity is instant and the adsorbent can be placed in use.

3,450,630

METHOD OF SEPARATING METAL IONS

Rene Bloch, Savion, Aharon Katchalsky, Tel Aviv, and Ora Kedem and David Vofsi, Rehovoth, Israel, assignors to Yeda Research and Development Co., Ltd., Rehovoth, Israel, a company of Israel

No Drawing. Filed Feb. 4, 1964, Ser. No. 342,529

Claims priority, application Israel, Feb. 7, 1963, 18,688

U.S. Cl. 210—22 **12 Claims**

Separating metal ions by using electrically uncharged membranes comprising polymeric matrices having etheric oxygen and/or carbonyl groups bound thereto, either by covalent bonding resulting from formation of the polymer matrix by polymerization of monomers incorporating such groups, or by bonding the same by capillary action, adsorption, gel formation or like molecular forces.

3,450,631

ION SPECIFIC MEMBRANES

Rene Bloch, Savion, David Vofsi and Ora Kedem, Rehovoth, and Aharon Katchalsky, Tel-Aviv, Israel, assignors to Yeda Research and Development Company, Rehovoth, Israel, a corporation of Israel

No Drawing. Continuation-in-part of application Ser. No. 342,529, Feb. 4, 1964. This application Dec. 13, 1965, Ser. No. 513,542

Claims priority, application Israel, Dec. 13, 1964, 22,614

Int. Cl. B01d *11/00*

U.S. Cl. 210—22 **12 Claims**

A method for the separation of ions of a preselected species from ions of one or more additional species having the same charge and a similar ionic diameter, involving permeating the pre-selected species through an ion-specific membrane comprising a supported polyvinyl chloride polymer film plasticized by an organo-phosphorus compound.

3,450,632

METHOD FOR SIMULTANEOUSLY COALESCING, FILTERING AND REMOVING OIL TRACES FROM LIQUIDS AND MEDIA FOR ACCOMPLISHING THE SAME

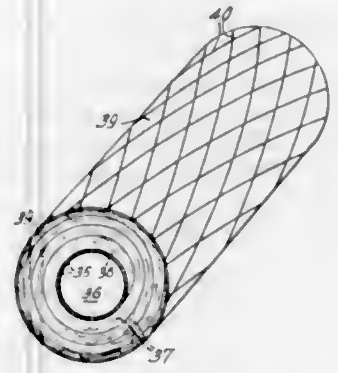
Robert James Olson, East Brunswick, N.J., George L. Ellis, Houston, Tex., and Malcolm Huval, Lafayette, La.; said Malcolm Huval, assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware, and said Robert J. Olson and George L. Ellis, assignors to Johnson & Johnson, a corporation of New Jersey

Filed May 3, 1967, Ser. No. 635,863

Int. Cl. B01d *39/14, 13/00*

U.S. Cl. 210—23 **19 Claims**

A method and device for removing traces of oil from liquids which are immiscible by passing the liquid containing the traces of oil through a media preferably of graded density comprising a batt of specific types of fibers such as polyester, acrylic and modacrylic bonded with specific resins such as polyacrylic, polyurethane resins and synthetic rubber to provide resilience and solids capacity and passing the oil-liquid mixture through said batt at specific velocities to simultaneously remove solid particles from the liquid and coalesce the oil so that it may be separated from the liquid.



3,450,633

PHOSPHATE RECOVERY PROCESS

Eric Siemers, Land O'Lakes, Fla., assignor of one-third each to Ida T. Siemers, and Eric T. Siemers, both of Land O'Lakes, Fla.

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,875

Int. Cl. C02 *1/22, 1/20*

U.S. Cl. 210—54 **4 Claims**

Method of recovering insoluble phosphates from colloidal aqueous suspensions by acidification to pH 5 or lower, treatment with an insoluble carbon compound (e.g. cellulose) at 100–250° F., neutralization of the suspensions, followed by filtration or centrifugation to remove the insoluble phosphate with the insoluble carbon compound.

3,450,634

EXTREME PRESSURE ADDITIVES PREPARED FROM OVERBASED LEAD NAPHTHENATE AND PARTIALLY OR UNNEUTRALIZED DIALKYL DITHIOPHOSPHORIC ACID

Howard J. Matson, Harvey, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 553,316, May 27, 1966. This application Mar. 6, 1968, Ser. No. 711,138

Int. Cl. C10m *1/24*

U.S. Cl. 252—32.7 **6 Claims**

Extreme pressure additives, especially for use with a lubricant composition comprising the class of materials produced by reacting an overbased lead naphthenate with a dialkyl dithiophosphoric acid or a partially neutralized dialkyl dithiophosphoric acid.

3,450,635

NICKEL FERRITES CONTAINING COBALT, LEAD AND SILICON

Evgenia Valentinovna Izergina, Novo-Izmailovsky pr. 33, kv. 6; Georgy Konstantinovich Yakovlev, Per. Povarskoi 3/5, kv. 11; Antonina Dmitrievna Zakharova, Ul. Altaiskaya 31, kv. 44; and Nikolai Egorovich Komin, Naberezhnaya Fontanki 119, kv. 4, all of Leningrad, U.S.S.R.

No Drawing. Filed Dec. 15, 1965, Ser. No. 514,126

Int. Cl. C04b *35/30;* **H01f** *1/10*

U.S. Cl. 252—62.59 **4 Claims**

Novel ferrites are produced by sintering a mixture consisting essentially of iron, nickel, lead and cobalt oxides and silicon dioxide, with the iron oxide being present in less than a stoichiometric amount.

3,450,636

AUTOMATIC TRANSMISSION FLUID OF REDUCED SUSCEPTIBILITY OXIDATIVE DEGRADATION

Maurice K. Rausch, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y.

No Drawing. Continuation-in-part of application Ser. No. 436,643, Mar. 2, 1965. This application Aug. 22, 1967, Ser. No. 662,302

Int. Cl. C10m *1/44*

U.S. Cl. 252—75 **6 Claims**

A lubricating composition containing; a major amount (e.g. about 51 to 80% by volume) of a solvent-refined distillate mineral oil having a viscosity index of about 90 to 100, a pour point of about −10 to +20° F., and a viscosity of about 10 to 43 cs. at 100° F.; a petroleum naphthenic lubricating oil having an API gravity of 24 to 30°, a flash of 240 to 320° F., a viscosity of 6 to 20 cs. at 100° F., a viscosity index of 20 to 80, a pour point of −80 to −40° F., a specific dispersion (n_D^{25}) of 98 to 104 and an aromatic content of up to about 3%; and an antioxidant which can be either an oil-soluble metal salt of a diester dithiophosphoric acid (e.g. zinc di(methyl amyl) dithiophosphate) or an oil-soluble alkaline earth metal thiophenate (e.g. barium thiophenate). The naphthenic oil is present in an amount of about 20 to 49% by volume of the total volume of the distillate mineral oil and naphthenic oil components, the antioxidant being employed in an amount of about 0.2 to 5 wt. percent based on the total weight of the distillate mineral oil and naphthenic oil components.

3,450,637

DETERGENT CONTAINING HYDROXY ALKYL AMINE OXIDE

Howard F. Drew, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation of application Ser. No. 324,181, Nov. 18, 1963. This application May 3, 1968, Ser. No. 726,609

Int. Cl. C11d *7/24*

U.S. Cl. 252—137 **5 Claims**

Hydroxy alkylamine oxide having improved hygroscopicity and thermal stability properties are employed in detergent composition containing alkaline builders or other synthetic detergents.

3,450,638

HYDROGEN GENERATING COMPOSITION

Lawrence J. Edwards, Edwards, Calif., assignor to Mine Safety Appliances Company, a corporation of Pennsylvania

No Drawing. Filed Jan. 3, 1966, Ser. No. 517,943

Int. Cl. C09k *3/02;* **C01b** *1/05*

U.S. Cl. 252—188 **11 Claims**

Solid compositions that decompose to produce hydrogen contain a material that exothermically decomposes to liberate hydrogen and a material that endothermically decomposes to liberate hydrogen.

3,450,639

PROCESS FOR THE SEPARATION OF MOLYBDENUM FROM FISSION PRODUCT CONTAINING SOLUTIONS

Alain Maria, Bagnols-sur-Ceze, and Pierre Patigny and Daniel Perie, Cherbourg, France, assignors to Commissariat à l'Energie Atomique, Paris, France

No Drawing. Continuation-in-part of application Ser. No. 605,976, Dec. 30, 1966. This application Feb. 20, 1967, Ser. No. 617,032

Int. Cl. B01d *11/02;* **C01g** *39/00*

U.S. Cl. 252—301.1 **3 Claims**

A process for the separation of molybdenum from solutions, especially nitric acid solutions containing fission products and derived from the processing of irradiated uranium-molybdenum fuels. Phosphoric acid is added to the nitric acid solutions containing fission products, the quantity of phosphoric acid being sufficient to effect total complexing of the molybdenum in the form of a phosphomolybdic complex. The fission product solutions are contacted with an organic phase constituted by trilaurylamine which may be diluted and which serves to extract the phosphomolybdic complex. The addition of phosphoric acid and contacting with the organic phase are performed simultaneously, the complete process being carried out in a bank of mixer-settlers. The volumes of aqueous phase and organic phase which are contacted are in a proportion of approximately 1:4 and the contacting times are of the order of one minute.

3,450,640

PREPARATION OF BARIUM-137 IN AN ORGANIC MEDIUM

André Bonnin, Courbevoie, and Philippe Poirier, Garges-les-Gonesse, France, assignors to Societe Saint-Gobain Techniques Nouvelles, Courbevoie, France

Filed Dec. 13, 1966, Ser. No. 601,384

Claims priority, application France, Dec. 23, 1965, 43,602

Int. Cl. C01f *11/00;* **B01d** *59/30*

U.S. Cl. 252—301.1 4 Claims

Barium-137 is obtained from caesium-137 fixed on an ion exchange resin. The caesium-137 fixed on the ion exchange resin is contacted with a buffered aqueous phase and the resin is then eluted with an organic phase. The barium-137 is extracted from the aqueous phase film on the resin.

3,450,641

SUBSTITUTE EUROPIUM CHELATES FOR LIQUID LASER OPERATION

Erhard J. Schimitschek and Richard B. Nehrich, Jr., San Diego, and John A. Trias, La Mesa, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Oct. 31, 1966, Ser. No. 591,376

Int. Cl. C09k *1/02;* **F21k** *2/00*

U.S. Cl. 252—301.2 5 Claims

1. A liquid lasing solution comprising a chelate formed of a mono-substituted benzoyltrifluoroacetonate ligand, a europium salt and a base;

said chelate being dissolved in acetonitrile, and

said substitutents being selected from the group of halogens consisting of chlorine, bromine and fluorine the substitutions being made in the benzene ring of the ligand and being selectively made in the ortho, meta or para positions of the ring.

3,450,642

STRONTIUM YTTRATE LUMINESCENT MATERIALS

Mary V. Hoffman, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 468,810, July 1, 1965. This application Feb. 6, 1967, Ser. No. 628,189

Int. Cl. C09k *1/10*

U.S. Cl. 252—301.4 3 Claims

Strontium yttrate activated with the rare earths, dysprosium, samarium, terbium, or preferably europium, forms phosphors with emissions characteristic of the rare earth used and are useful in lamps and color television.

3,450,643

ALKALINE EARTH YTTRATE LUMINESCENT MATERIALS

Mary V. Hoffman, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 468,810, July 1, 1965. This application Jan. 5, 1967, Ser. No. 607,368

Int. Cl. C09k *1/04*

U.S. Cl. 252—301.6 10 Claims

Binary barium yttrates and ternary barium-magnesium, barium-calcium, and barium-zinc yttrates, each activated with the rare earths, dysprosium, samarium, terbium, or preferably europium, form phosphors with emissions characteristic of the rare earth used, and are useful in lamps and color television.

3,450,644

TREATMENT OF OXIDATIVELY REGENERATED MOLECULAR SIEVE CATALYSTS

Mohammed Ali Lanewala, Buffalo, Anthony P. Bolton, Niagara Falls, and Paul E. Pickert, North Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,368

Int. Cl. B01j *11/70*

U.S. Cl. 252—416 7 Claims

Molecular sieve catalysts which have become coked by contact with hydrocarbons are regenerated by oxidizing the coke at 800° F., cooling the zeolite to below 600° F., partially rehydrating the zeolite to contain 4–18 percent water and then reheating the zeolite to at least 850° F. in a nonoxidizing atmosphere.

3,450,645

CONTACT MASSES CONTAINING ZEOLITE

James E. McEvoy, Morton, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 2, 1966, Ser. No. 554,687

Int. Cl. B01j *11/58*

U.S. Cl. 252—455 5 Claims

Raw kaolin is calcined at 1850° F. to prepare 1 part of reactive material, which is dispersed in 1.2 parts of 16.7% aqueous sodium hydroxide and aged at ambient temperature for 1.5 days. Then 2 parts of raw kaolin and 0.2 part of water are added to provide a dough extrudable into cylindrical pellets. The pellets are aged in 200° F. oil for a day, ammonium exchanged, and steamed at 1350° F. to provide catalyst particles having outstanding attrition resistance. Such particles contain hydrogen faujasite and the activity-selectivity characteristics of this type of cracking catalyst. Matrix components which have substantially less reactivity with caustic than the initial zeolite-forming precursors are introduced after the cold aging and prior to hot aging in synthesizing many varieties of particles of crystalline zeolite in a matrix.

3,450,646

HETEROCYCLIC POLYMERS

Robert R. Annand, Derek Redmore, and Brian M. Rushton, St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,447

Int. Cl. C08g *33/08*

U.S. Cl. 260—2 3 Claims

Heterocyclic polymers containing a cyclic amidine group, or a related group, in the main chain of the

polymer formed by the intermolecular reaction of a cyanoethylated cyclic amidine-forming polyalkylenepolyamine.

3,450,647

CATALYTIC PROCESS FOR THE POLYMERIZATION OF VICINAL ALKYLENE OXIDES

Peter Gunther, Opladen, and Heinz Herlinger, Leverkusen-Steinbuechel, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,873

Claims priority, application Germany, Jan. 7, 1967, F 51,199

Int. Cl. C08g *23/06*

U.S. Cl. 260—2 9 Claims

Vicinal alkylene oxides are polymerized in the presence of a catalyst which is obtained by reacting a complex of a transition metal salt of an organic or inorganic acid and a hexaalkyl or hexaalkenyl phosphoric acid triamide with a metal alkyl of a metal of the second or third group of the Periodic System in which the alkyl group contains one to four carbon atoms.

3,450,648

PROCESS OF PRODUCING CELLULAR POLYURETHANES EMPLOYING TERTIARY AMINES AND CERTAIN ORGANIC METALLIC COMPOUNDS AS CATALYST SYSTEM

Erwin Windemuth, Leverkusen, and Franzkarl Brochhagen, Odenthal, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 678,437, Aug. 15, 1957. This application Nov. 13, 1967, Ser. No. 685,711

Int. Cl. C08g *22/44*

U.S. Cl. 260—2.5 12 Claims

Cellular polyurethanes are prepared by reacting an organic polyisocyanate, water and an organic compound containing at least two active hydrogen containing groups in the presence of a catalytic amount of a basic organic reaction accelerator and a non-basic organic metallic compound which is at least partially soluble in one of said reactants, for example N-diethyl-ethanolamine or bis-(diethyl ethanol amine) adipate and ferric acetyl acetonate, titanium tetrabutylate, iron cyclopentadienyl, mercury acetate, or the copper salt of phthalic acid monobutylester.

3,450,649

PROCESS FOR THE PREPARATION OF POLYISOCYANATE REINFORCED ELASTOMERIC FOAM

Mortimer Alexander Youker, Clearwater, Fla., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 468,554, June 30, 1965. This application Aug. 12, 1966, Ser. No. 571,992

Int. Cl. C08f *47/08*

U.S. Cl. 260—2.5 10 Claims

A process for making improved elastomeric latex foams by frothing an aqueous latex of a sulfur-curable elastomer in which an organic polyisocyanate is added during the frothing step. In preferred embodiments polychloroprene latex is employed with an aromatic polyisocyanate and the product foam shows excellent load-bearing characteristics at a low density, flame resistance and oil resistance. The isocyanate provides a rapid gelling action that makes possible the simplification of a conventional latex foam process by elimination of steam curing and washing steps.

3,450,650

METHOD OF MAKING POROUS BODIES

Kazuo Murata, Takatsuki, Japan, assignor to Yuasa Battery Company Limited, Takatsuki, Japan, a corporation of Japan

Filed May 28, 1964, Ser. No. 370,877

Claims priority, application Japan, June 13, 1963, 38/31,638

Int. Cl. C08f *47/08;* **C08j** *1/26*

U.S. Cl. 260—2.5 10 Claims

This application is concerned with a method of making a porous body by preparing a substantially uniform mixed liquid consisting of an organic high polymer, a first volatile solvent in which the organic high polymer is soluble and a second volatile solvent in which the organic high polymer is substantially insoluble but miscible with the first volatile solvent. The mixed liquid is formed into a thin film and then the solvents are evaporated at a temperature such that no foaming occurs due to expansion of the solvents in the mixed liquid, whereby a porous body having pores of very small diameter is obtained without use of pore-forming or foaming agents.

3,450,651

SODIUM CARBONATE-FREE PHENOL-FORMALDEHYDE ADHESIVE COMPOSITIONS

John P. Carstensen, Seattle, Wash., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 29, 1964, Ser. No. 386,057

Int. Cl. C08g *37/16;* **C09j** *3/24;* **B32b** *21/14*

U.S. Cl. 260—7 10 Claims

1. An aqueous alkaline thermosetting adhesive composition having improved pre-press properties consisting of (1) 100 parts by weight, on a solids basis, of an aqueous alkaline phenol-formaldehyde condensate having a number average molecular weight of at least 1500 and containing less than 1% residual free formaldehyde based upon the total formaldehyde used, (2) from 2 to 10 parts by weight of sodium hydroxide, (3) from 2 to 20 parts by weight of a blood of low solubility in the range of from 10 to 40%, (4) from zero to 15 parts by weight of an amylaceous material, and (5) from 25 to 60 parts by weight of a filler.

6. A process for preparing aqueous alkaline thermosetting adhesive compositions which comprise (1) combining water, from 2 to 10 parts by weight of sodium hydroxide, and from 10 to 40 parts by weight of a filler, (2) at least partially digesting said filler, (3) charging (a) from 20 to 100 parts, on a solids basis, of an aqueous alkaline phenol-formaldehyde condensate, (b) from 2 to 20 parts by weight of a blood of low solubility in the range of from 10 to 40%, and (c) from zero to 15 parts by weight of an amylaceous material, (4) charging additional filler to a total filler content of from 25 to 60 parts by weight, and (5) charging from zero to 80 parts by weight, to a total of 100 parts, on a solids basis, of an aqueous alkaline phenol-formaldehyde condensate, said phenol-formaldehyde condensate having a number average molecular weight of at least 1500 and containing less than 1% residual free formaldehyde based upon the total formaldehyde used.

3,450,652

WATER SOLUBLE AMINOPLAST/AQUEOUSLY DISPERSED PLASTICIZED NITROCELLULOSE LATEX COMPOSITIONS

Kuang Farn Lin, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 6, 1966, Ser. No. 555,270

Int. Cl. C08b *21/14;* **C09d** *5/02, 3/16*

U.S. Cl. 260—15 13 Claims

Nitrocellulose latices are disclosed comprising discrete particles of plasticized nitrocellulose suspended in an aqueous medium having dissolved therein a heat settable amino resin.

3,450,653

POLYURETHANE ELASTOMERIC SEALANTS

Thomas R. McClellan, Madison, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,082

Int. Cl. C08g *22/06;* **C09k** *3/10*

U.S. Cl. 260—18 **6 Claims**

Polyurethane elastomeric sealants are prepared in a one-shot procedure, by reacting (i) a polymethylene polyphenyl isocyanate mixture containing from about 65% to about 75% by weight of methylenebis(phenyl isocyanates) the remainder of said mixture being polymethylene polyphenyl isocyanates of functionality greater than 2.0 (ii) a polyol having a hydroxyl number of 50 to 150 comprising a propylene oxide-aniline adduct (iii) optionally, an inert filler (clay is preferred) and (iv)a catalyst (organotin or lead compounds preferred). Sealants useful for sealing and caulking joints in ceramic pipe and the like, for covering floors, and all applications in which sealants of this type can be employed.

3,450,654

RESINOUS COMPOSITIONS AND METHOD OF MAKING SAME

Thomas Ramos, New York, N.Y.
(61—88 Dry Harbor Road, Middle Village, N.Y. 11379)

No Drawing. Continuation-in-part of application Ser. No. 281,368, May 17, 1963. This application Oct. 9, 1964, Ser. No. 402,975

Int. Cl. C08g *30/10, 30/08, 30/14*

U.S. Cl. 260—18 **6 Claims**

Prepolymers obtained by the reaction of a diglycidyl ether of a polyhydric alcohol with a chlorine hindered diamine such as, 4,4′-methylene-bis (2 chloraniline) or a sulfonated diamine or a hydroquinone and its derivatives are cured with stannous octoate as a curing agent, without added heat and in the temperature range of about 50° F. to 100° F. which range, includes room temperature. The rate of curing with stannous octoate is determined by controlling the proportion of stannous octoate added to the prepolymer.

3,450,655

NON-AQUEOUS SUSPENSION FOR ELECTROPHORETICALLY COATING ARTICLES COMPRISING A PIGMENT AND AN ORGANIC-SOLVENT-SOLUBLE THERMOSETTING RESIN

Lester L. Spiller, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,090

Int. Cl. C09d *5/24;* **C08g** *3/58, 3/80*

U.S. Cl. 260—22 **25 Claims**

A non-aqueous suspension for electrophoretically coating conductive articles comprises a pigment having a particle size of 0.1 to 10 microns and an organic-solvent-soluble alkyd, epoxy or acrylic resin colloidally suspended in organic solvent having a dielectric constant of 2 to 6. The solids are 5 to 30% of the composition and the pigment-to-resin ratio is required to be 0.4 to 0.166. Means such as the combination of polar and non-polar solvents is provided to cause the resin particles to assume a more particulate colloidal character with reduced viscosity and increased mobility. A. D.C. voltage (preferably with superimposed A.C.) is impressed between a suitable electrode and the article to be coated while it is immersed in said composition.

3,450,656

SINGLE PACKAGE OLEORESINOUS VARNISH "C" ENAMEL AND PROCESS OF MAKING SAME

Kenneth L. Pierce, 838 Hillside, Liberty, Mo. 64050, and Robert W. James, 7330 E. 51st St. N., Kansas City, Mo. 64129

No Drawing. Filed Oct. 31, 1966, Ser. No. 591,397

Int. Cl. C08f *29/10;* **C08g** *3/28, 3/74*

U.S. Cl. 260—22 **11 Claims**

Single package "C" enamel produced by blending a base of a hydorcarbon resin modified with drying oils, preferably linseed and tung oils, in combination with a zinc paste made by grinding zinc oxide into a maleic anhydride-dimerized rosin product modified with linseed, dehydrated castor oil and/or tung oil acids wherein excess acid groups have been neutralized with a polyhydric alcohol. The "C" enamel may contain 1 to 45% by weight, and preferably from 1 to 25% by weight, of pure zinc oxide and is a stable, non-reactive product which can be held in storage containers for periods of up to one year without excessive viscosity increases and with virtually no settling of the zinc oxide.

3,450,657

ALKALI SOLUBLE POLISH RESINS

Herbert J. Mellan, Buffalo, and Daniel J. Kay, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 284,826, June 30, 1963. This application Nov. 28, 1966, Ser. No. 597,218

Int. Cl. C09g *1/10;* **C08g** *17/04, 17/16*

U.S. Cl. 260—26 **10 Claims**

This invention relates to resinous products suitable for use as a coating composition in emulsion systems comprising an alkali soluble polymerized partial ester containing a polyol prepolymer ester of a molar excess of a saturated glycol linked through ester linkages to an aromatic dicarboxylic compound, said polyol prepolymer being linked through ester linkages with a molar excess of a Diels-Alder adduct of rosin and an unsaturated dicarboxylic compond to form a resinous partial ester of said polyol prepolymer and adduct having an acid number of about 70 to 200.

3,450,658

GELATINIZABLE AQUEOUS SOLUTIONS OF POLY(ETHYLENE OXIDE) RESIN AS SIZING FOR TEXTILE FIBERS

Charles R. W. Morison, Ossining, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 11, 1966, Ser. No. 519,947

Int. Cl. C08g *51/24, 43/00;* **D06m** *15/44*

U.S. Cl. 260—29.2 **11 Claims**

A gelatinizable aqueous solution consisting essentially of water from 0.5 to 20 percent by weight of a poly (ethylene oxide) resin having a molecular weight of at least about 50,000 and at least one salt having an ion selected from the group consisting of ammonium ions, and multivalent anions containing only non-metallic elements.

3,450,659

PROCESS FOR THE PREPARATION OF UREA-FORMALDEHYDE CONCENTRATED SOLUTIONS HAVING A HIGH CONTENT OF METHYLENIC LINKAGES

Enrico Bondi, Milan, and Armando Larcher, Varese, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed July 26, 1966, Ser. No. 567,850
Claims priority, application Italy, Aug. 2, 1965, 17,463/65

Int. Cl. C08g *9/10, 37/28*

U.S. Cl. 260—29.4 **8 Claims**

Described is a process for the preparation of aqueous, stable and concentrated solutions of urea, formaldehyde

and reaction products thereof, containing at least 12% methylenic linkages and having a global molar ratio between urea and formaldehyde comprised between 1:4 and 1:10. The process comprises treating such solutions obtained in alkaline phase, with acid at a tempertaure comprised between room temperature and 100° C. and at a pH between 1.5 and 3, for at least 20 minutes to alter the number of methylenic linkages and then bringing the pH again to neutrality. The product is also described.

3,450,660

WATER-DISPERSIBLE, HEAT-HARDENING INTERPOLYMERS INCLUDING MONOMERIC TRANSESTERS OF ALKOXY ALKYLATED AMINOTRIAZINE WITH UNSATURATED ACID

Kazys Sekmakas, Chicago, Ill., assignor to De Soto, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,924

Int. Cl. C08f *15/40, 27/08;* **C08g** *37/32*

U.S. Cl. 260—29.4 **11 Claims**

Non-gelled, heat-hardening interpolymers which are dispersible in water with the aid of a base are provided by interpolymerizing monomeric transesters such as those formed by transesterifying hexamethoxy methyl melamine with monobutyl maleate. The transester is interpolymerized with an unsaturated monomer containing the hydroxy group, such as hydroxyethyl acrylate, and ethylenic monomer providing the carboxyl group, such as acrylic acid, and a portion of ethylenic monomer free of functional groups such as acrylate esters with monohydric alcohols.

3,450,661

ACRYLO-SILICATE BINDERS FOR COATING COMPOSITIONS

Jean Neel and Bernard Bonnel, Lyon, France, assignors to Progil, Paris, France, a corporation of France

No Drawing. Filed July 22, 1965, Ser. No. 474,153

Claims priority, application France, July 28, 1964, 983,268

Int. Cl. C08f *35/00*

U.S. Cl. 260—29.6 **9 Claims**

Novel acrylo-silicate coating compositions are provided suitable for use as such and as binders by heating to reacting and solubilizing temperatures an aqueous solution of an alkali silicate and an acrylonitrile-acrylic acid copolymer.

3,450,662

ANIONIC LACTAM CATALYST SYSTEM

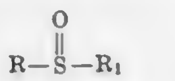
Paul A. Tierney, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,334

Int. Cl. C08g *20/18;* **B01j** *11/00;* **C08k** *1/84*

U.S. Cl. 260—30.8 **18 Claims**

A solution of a metal lactam dissolved in a sulfoxide of the formula



$$R-\overset{\overset{\displaystyle O}{\|}}{S}-R_1$$

where R and R_1 can be any monovalent hydrocarbon radical and where the R's can be joined together to form a heterocyclic ring. Also described is a process for preparing the above solution. Further described is a base-catalyzed substantially anhydrous lactam polymerization process employing as a catalyst the above described solution of metal lactam in said sulfoxide.

3,450,663

TERNARY SOLVENT SYSTEM CONTAINING 2-NITROPROPANE FOR FLEXOGRAPHIC INKS

Lloyd E. Cockerham, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 12, 1966, Ser. No. 578,654

Int. Cl. C09d *11/10*

U.S. Cl. 260—33.4 **9 Claims**

Improved solvent compositions having utility for formulating and thinning flexographic inks based on a polyamide resin vehicle, consisting of an aliphatic alcohol, an aliphatic hydrocarbon and 2-nitropropane.

3,450,664

PROCESS FOR PREPARING DELUSTERED POLYPIVALOLACTONE

Jack Alleavitch, Raleigh, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,726

Int. Cl. D01f *7/04, 1/04;* **C08g** *17/017*

U.S. Cl. 260—37 **4 Claims**

A method for preparing delustered polypivalolactone by the addition of titanium dioxide during the induction period of the polymerization reaction, i.e., the elapsed time between the addition of pivalolactone and the separation of polymer. The pivalolactone is mixed with a polymerization initiator and a liquid hydrocarbon, and about 0.1 to 2 weight percent of titanium dioxide (based on the pivalolactone) is added prior to the separation of more than about 10% of polypivalolactone from the reaction mixture.

3,450,665

POLYOXYMETHYLENE COMPOSITIONS

Herman L. Wagner, Livingston, and George F. Hardy, Madison, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 24, 1965, Ser. No. 458,424

Int. Cl. C08g *37/02*

U.S. Cl. 260—37 **8 Claims**

Disclosed herein is a method for preparing improved polymer compositions comprising incorporating glass strands into an oxymethylene polymer in the presence of a small amount of halogen acid.

3,450,666

USE OF CLAY IN SYSTEMS CONTAINING VINYL MONOMERS

John C. Nease, Piscataway, N.J., assignor, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Menlo Park, Edison, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 457,176, May 19, 1965. This application Sept. 8, 1967, Ser. No. 666,491

Int. Cl. C08g *51/06;* **C08f** *7/04, 45/06*

U.S. Cl. 260—40 **9 Claims**

A small amount of a polyoxyethylene fatty acid ester is used to prevent the polymerization of an ethylenically unsaturated monomer by a clay filler having surface acidity. The polyoxyethylene fatty acid ester may be precoated on the clay or it may be incorporated into the system containing the monomer before the clay is added.

3,450,667

POLYMER COMPOSITIONS CONTAINING SULFUR AND PROCESS FOR PREPARING SAME

Adam F. Kopacki, Westwood, N.J., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 10, 1966, Ser. No. 556,580

Int. Cl. C08f *45/04, 27/07, 29/04*

U.S. Cl. 260—41 **9 Claims**

Homogeneous sulfur extended polymer compositions and the process for preparing same are provided. The polymers are normally solid α-olefin polymers formed from an α-mono-olefinic aliphatic hydrocarbon containing from 2 to 10 carbon atoms. The sulfur is present in the polymer in an amorphous polymeric or viscous state in an amount of from about 10 to about 45 percent.

3,450,668
STABILIZED RESIN COMPOSITIONS

Yohei Kawakami, Takatsuki-shi, Toshio Seki, Osaka-shi, and Shigeyoshi Uenaka, Taki-gun, Hyogo-ken, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Apr. 14, 1965, Ser. No. 451,677
Int. Cl. C08f *45/62, 45/58*
U.S. Cl. 260—45.75 **1 Claim**

1\. A chlorinated resin composition comprising 100 parts by weight of a resin selected from the group consisting of polyvinyl chloride, copolymers of vinyl chloride with vinyl acetate and vinylidene chloride and blends of polyvinyl chloride with chlorinated polyethylene and acrylonitrile-butadiene-styrene co-polymer and about 0.1–10 parts by weight of a stabilizer composition comprising (i) a boron complex prepared by reacting together, at a temperature of 80–100° C., equimolar quantities of a lower alkyl mercaptoacid selected from the group consisting of mercaptopropionic acid and thioglycolic acid; a salt of a lower alkyl mercaptoacid selected from the group consisting of mercaptopropionic acid and thioglycolic acid and a metal selected from the group consisting of lithium, sodium, potassium, magnesium, barium, strontium, calcium, cadmium, aluminum and tin; and boric acid; and (ii) an organotin stabilizer for said resin selected from the group consisting of R_2SnX and R_2SnY_2 wherein R is a monovalent hydrocarbon radical having 1–18 carbon atoms; X is selected from the group consisting of oxygen, sulfur, and the anions formed by removing hydrogen from saturated and unsaturated dibasic carboxylic acids, mercaptoalcohols and mercaptoacids of 2–12 carbon atoms; and Y is selected from the group consisting of the anions formed by removing hydrogen from a mercaptoacid ester, a mercaptan, and a monoester maleate; said boron complex and said organotin stabilizer being present in the ratio of about 1:9 to 9:1 by weight.

3,450,669
POLYESTERS, POLYETHERS AND POLYMETHANES STABILIZED WITH BIS(HYDROXYMETHYL) PHOSPHINIC ACID AND CARBODIIMIDE

Charles D. Nolen, 521 Greenbrier Court,
New Martinsville, W. Va. 26155
No Drawing. Continuation-in-part of application Ser. No. 267,322, Mar. 22, 1963. This application Apr. 13, 1966, Ser. No. 542,220
Int. Cl. C08g *51/58, 22/13, 17/04*
U.S. Cl. 260—45.9 **7 Claims**

Polyesters, polyethers and polyurethanes are stabilized by having incorporated therein from about 0.0001 to about 0.2% by weight of unreacted bis(hydroxymethyl) phosphinic acid and optionally, carbodiimide.

3,450,670
STABILIZED POLYPHENYLENE ETHER COMPOSITION

Klaus E. Holoch and Arthur Katchman, Pittsfield, Mass., and Rainey A. Shufelt, Cohoes, N.Y., assignors to General Electric Company, a corporation of New York
No Drawing. Filed Jan. 27, 1967, Ser. No. 612,085
Int. Cl. C08g *51/56, 51/58, 51/60*
U.S. Cl. 260—45.9 **7 Claims**

A stabilized polyphenylene ether composition consisting of a major portion of a polyphenylene ether and a minor portion of a stabilizer consisting of an octaalkylpyrophosphoramide and a boron compound.

3,450,671
POLY-α-OLEFIN COMPOSITIONS CONTAINING DIALKYL - 3,3′ - THIODIPROPIONATES AND POLYPHENOLS

Clarence E. Tholstrup, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Jan. 29, 1960, Ser. No. 5,377
Int. Cl. C08f *45/58*
U.S. Cl. 260—45.85 **3 Claims**

Polyolefin compositions stabilized with a dialkyl-3,3′-thiodipropionate and a polyphenol.

3,450,672
ORGANOSILSESQUIOXANES AND A METHOD FOR MAKING THEM

Duane F. Merrill, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Jan. 12, 1967, Ser. No. 608,760
Int. Cl. C08g *31/16*
U.S. Cl. 260—46.5 **10 Claims**

A method, and organosilsesquioxanes comprising chemically combined $CH_3SiO_{1.5}$ units produced by such method, in the form of solventless, friable, thermoplastic moldable materials, which are stable at 25° C. and melt at temperatures above 80° C., and are convertible to the infusible state at temperatures above 150° C.

3,450,673
POLYURETHANE COMPOSITIONS FROM DIAMINIMIDES

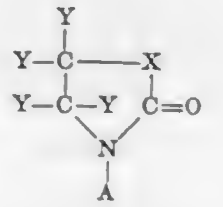
William J. McKillip, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,528
Int. Cl. C08g *22/32*
U.S. Cl. 260—75 **16 Claims**

An improved polyurethane forming composition is provided comprising a mixture of a diaminimide and a polyhydroxyl component which upon heating at an elevated temperature results in the rearrangement of the aminimide groups to isocyanate groups and subsequent condensation thereof with the hydroxyl groups of the hydroxyl bearing component to yield the polyurethane.

3,450,674
POLY-N-HETEROCYCLICS AND METHOD

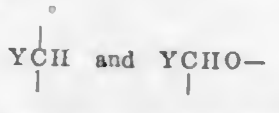
Wilhelm E. Walles, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 4, 1963, Ser. No. 313,776
Int. Cl. C08g *20/10;* **C07d** *85/28, 87/34*
U.S. Cl. 260—77.5 **19 Claims**

Novel monomeric compositions are prepared having the formula:



(Formula I)

wherein X is selected from the group consisting of —O—, —CH_2—, —OCH_2—,



$$\overset{|}{\underset{|}{YCH}} \text{ and } \underset{|}{YCHO}—$$

The dashes indicate valence bonds for attachments to carbons within the N-heterocyclic ring structure. One of the Y groups is selected from the group consisting of fluoromethyl, chloromethyl, bromomethyl and iodomethyl groups and each of the remaining Y groups is independently selected from the group consisting of hydrogen and alkyls having up to 2 carbons. The symbol A represents an alkali metal. These novel monomeric compositions are polymerized to form both water-soluble and water-insoluble polymers. The water soluble polymers may be used as soil suspending agents, dye assisting or plasticizing adjuvants for synthetic textile fibers, hair setting compositions and clarifying agents in beverages. The water insoluble polymers are thermoplastic and can be molded or extruded to provide useful shapes and fibers.

3,450,675
FLAME RETARDANT POLYURETHANES FROM PHOSPHONITRILIC ESTERS AND THEIR PREPARATION

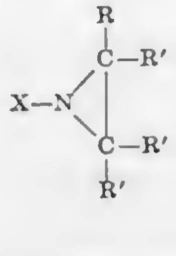
Roger W. Ashworth, Altrincham, and Alec V. Mercer, Cheadle, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 14, 1965, Ser. No. 463,876
Claims priority, application Great Britain, June 29, 1964, 26,727/64
Int. Cl. C08g *22/14, 33/16*
U.S. Cl. 260—77.5 **5 Claims**

Polyurethanes having flame retardant and humid aging properties are prepared by reaction of polyisocyanates with cyclic phosphonitrilic esters.

3,450,676
POLYMERIZATION OF ISOCYANATES WITH ETHYLENE IMINE CATALYSTS

Gerhard Grogler and Erwin Windemuth, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 4, 1966, Ser. No. 591,988
Claims priority, application Germany, Nov. 11, 1965, F 47,642
Int. Cl. C08g *22/02*
U.S. Cl. 260—77.5 **6 Claims**

A method of polymerizing an isocyanate by mixing at a temperature of from 0 to 50° C. an organic polyisocyanate having aliphatically connected —NCO groups which are separated from each other by at least five carbon atoms with from about 1 to about 10% by weight based on the weight of the organic polyisocyanate of an ethylene imine having the formula



wherein X is an organic radical and R′ is selected from the group consisting of hydrogen, alkyl radicals, and aryl radicals.

3,450,677
POLYMERS DERIVED FROM DIAMINES AND PHOSPHITES OR PHOSPHONITES

Richard L. McConnell and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 266,042, Mar. 18, 1963, which is a continuation-in-part of application Ser. No. 803,582, Apr. 2, 1959, both abandoned. This application Dec. 1, 1966. Ser. No. 598,514
Int. Cl. C08g *33/16, 22/02;* **C07f** *9/08*
U.S. Cl. 260—77.5 **3 Claims**

Resinous polymers useful for the preparation of tough and flame-resistant films, sheets, and molded articles, are prepared from a diamine (such as 1,6-hexanediamine and 1,4-cyclohexanebismethylamine) and an organic phosphite, phosphonite, or phosphonic dihalide.

3,450,678
POLYMERIZATION OF AROMATIC AMINO DICARBOXYLIC ACID ANHYDRIDES

Fulton F. Rogers, Jr., Graylyn Crest, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,886
Int. Cl. C08g *20/32*
U.S. Cl. 260—78 **10 Claims**

Method for making polyamide-acids of over 2000 molecular weight by reacting with itself 4-aminophthalic anhydride, suitably with an acid catalyst, the resulting products being useful film forming agents.

3,450,679
PROCESS FOR POLYMERIZING CAPROLACTAM

Jan van Bergeijk, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 264,711, Mar. 12, 1963. This application June 28, 1966, Ser. No. 561,044
Claims priority, application Netherlands, Mar. 21, 1962, 276,218
Int. Cl. C08g *20/12*
U.S. Cl. 260—78 **4 Claims**

A process for polymerizing caprolactam in an aqueous reaction mixture at a temperature of between 180° and 300° C., in which process volatiles are removed by passing a current of inert gas therethrough, the improvement wherein said current of gas is intermittently injected into said reaction mixture, said gas injections being at least four per minute, the period between injections being longer than the duration of each injection. This process involves the use of a reduced amount of inert gas and results in an efficient and high feed rate for the lactam to be polymerized.

3,450,680
ACRYLAMIDE TERPOLYMERS AND THEIR USE IN PAPER MAKING PROCESS

Myron J. Jursich, Chicago. and Gail T. Randich, Palos Heights, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Application Sept. 22, 1964, Ser. No. 398,418, which is a continuation-in-part of application Ser. No. 205,495, June 27, 1962. Divided and this application May 25, 1966, Ser. No. 552,718
The portion of the term of the patent subsequent to June 14, 1983, has been disclaimed
Int. Cl. C08f *15/40;* **D21h** *3/38*
U.S. Cl. 260—78.5 **2 Claims**

Novel terpolymers which are useful for improving the retention of filler and fiber fines in the processing of paper. The terpolymers are formed by copolymerizing specific quantities of the following three monomers:

(a) acrylamide—85–95 parts by weight (89.5–94.5 preferred);
(b) a polymerizable polycarboxylic acid selected from the group consisting of maleic acid, formic acid, and maleic anhydride—0.3–2.0 parts by weight (0.5–1.5 preferred);
(c) an ethylenically unsaturated water-soluble monomer such as acrylic acid, vinyl acetate, vinyl pyrrolidone, etc.—3–15 parts by weight (5–9 preferred).

The polymers when used as retention aids (a) are unaffected by other additives, (b) are unaffected by changes in pH, (c) are unaffected by electrokinetic charges, (d) are capable of acting on both fiber fines and filler, and (e) are highly effective in retaining fiber fines and filler and thereby increasing the opacity and strength of the paper.

3,450,681

CURABLE ACRYLATE INTERPOLYMERS CONTAINING ALKOXYETHYL OR ALKYLTHIOETHYL ACRYLATES

Riad H. Gobran, Levittown, and Philip Bernstein, Yardley, Penn., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed May 22, 1967, Ser. No. 640,367
Int. Cl. C08f *15/40, 45/72*
U.S. Cl. 260—80.72 18 Claims

Curable acrylate elastomers are based on acrylate interpolymers prepared from butyl acrylate, alkoxyethyl or alkylthioethyl acrylate, and at least one other comonomer providing active cure sites, such as halogen groups, epoxy groups, or ethylenically unsaturated groups.

3,450,682

PROCESS FOR PREPARATION OF CRYSTALLINE HIGH POLYMERS OF OLEFINS

Juntaro Sasaki, Iwakuni-shi, Tadaichi Tokuzumi, Ootakemachi, and Toshio Senoue, Ootake-shi, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Nov. 9, 1964, Ser. No. 409,931
Claims priority, application Japan, Nov. 14, 1963, 38/60,895; Mar. 24, 1964, 39/15,897
Int. Cl. C08f *1/42, 15/04, 15/40*
U.S. Cl. 260—80.78 6 Claims

Process for the preparation of solid polyolefine having a high stereo-regularity and crystallinity comprising polymerising propylene or a mixture of propylene with ethylene by the use of a three-component catalyst composed of (1) a product obtained by the reaction of a halogen compound of a transition metal at the highest valency with an organometallic compound, (2) an aluminium alkoxy compound represented by the general formula $AlRn(OR')_{3-n}$ (R and R'=monovalent hydrocarbon radicals; $n=1$ or 2) and (3) a halide of a metal of Groups I–B, II–B, III–B, IV–B and V–B of the Periodic Table.

3,450,683

ORGANOMAGNESIUM - ZIRCONIUM BETA - DIKETONES AS CATALYSTS FOR ALKENE OXIDE POLYMERIZATION

Henry L. Hsieh and William R. Busler, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 7, 1965, Ser. No. 462,103
Int. Cl. C08g *23/14;* **B01j** *11/00*
U.S. Cl. 260—88.3 4 Claims

Epoxide compounds are polymerized with a catalyst comprising (a) an organomagnesium compound and (b) a zirconium salt of a beta-diketone. The rubbery polymers produced have substantial utility in the automobile industry for fabricating articles such as motor mounts, body mounts, suspension parts, hoses, tubing and the like.

3,450,684

FLUOROCARBON POLYETHERS

Robert Albert Darby, Vienna, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 158,124, Dec. 8, 1961. This application July 24, 1963, Ser. No. 297,241
Int. Cl. C08f *3/34;* **C07c** *43/14*
U.S. Cl. 260—87.5 17 Claims

Fluorocarbon ethers of the formula

$$XCF_2CF_2(OCFXCF_2)_nOCF{=}CF_2$$

or

$$CF_2{=}CFO(CF_2CFXO)_l(CF_2)_m(OCFXCF_2)_pOCF{=}CF_2$$

wherein X is F, Cl, H, CF_2H, CF_2Cl, or CF_3, n is at least 1, m is at least 2, the sum of l and p is at least 1 and the total number of carbon atoms does not exceed 24 and polymers of these fluorocarbon ethers and copolymers thereof with other monomers, as well as the free radical polymerization of these fluorocarbon ethers.

3,450,685

POLYMERIZATION

William J. Trepka and Richard J. Sonnenfeld, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Apr. 28, 1967, Ser. No. 634,454
Int. Cl. C08d *3/16*
U.S. Cl. 260—94.2 7 Claims

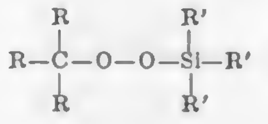
Isoprene is polymerized using monobromophenyllithium and 1,3-dibromobenzene.

3,450,686

POLYMERIZATION OF ETHYLENE UTILIZING AN ORGANOPEROXYSILANE AS THE CATALYST

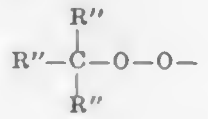
George A. Mortimer, La Marque, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 324,238, Nov. 18, 1963. This application Dec. 31, 1964, Ser. No. 422,553
Int. Cl. C08f *1/60*
U.S. Cl. 260—94.9 9 Claims

1. A process for producing normally solid ethylene polymers which comprises polymerizing ethylene at temperatures from about 140° to about 350° C. and pressures from about 5,000 to about 50,000 p.s.i. in the presence of an amount sufficient to initiate said polymerization of an organoperoxysilane of the formula



$$R-\overset{\displaystyle R}{\underset{\displaystyle R}{C}}-O-O-\overset{\displaystyle R'}{\underset{\displaystyle R'}{Si}}-R'$$

wherein R is a hydrocarbon moiety selected from the group consisting of alkyl, cycloalkyl, aryl and aralkyl radicals and R' is selected from the group consisting or alkyl, cycloalkyl, aryl and aralkyl radicals and a radical corresponding to the formula



$$R''-\overset{\displaystyle R''}{\underset{\displaystyle R''}{C}}-O-O-$$

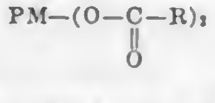
wherein R'' is selected from the group consisting of alkyl, cycloalkyl, aryl and aralkyl radicals.

3,450,687

LOWER ALKANOYL ESTERS OF POLYMYXIN ANTIBIOTICS

Donald C. Hobbs, Niantic, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 24, 1966, Ser. No. 529,638
Int. Cl. C07g *11/00, 7/00;* **A61k** *21/00*
U.S. Cl. 260—112.5 5 Claims

Oxygen-di-substituted derivatives of polymyxin of the formula:



$$PM-(O-\underset{\displaystyle \overset{\|}{O}}{C}-R)_2$$

wherein PM is the dedihydroxy radical of Polymyxin B or E, R is alkyl of from 1 to 3 carbon atoms and the pharmaceutically acceptable N-acid addition salts thereof and their improved biological activity.

3,450,688

PROCESS FOR ISOLATING PROTEINS FROM BEANS IN A CRYSTALLINE STATE USING AN ALKALI SALT OF A CARBOXYLIC ACID

Paul Melnychyn, 9826 Camino Real, Arcadia, Calif. 91006
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,614
Int. Cl. C07g *7/022;* **A23j** *1/14;* **C09j** *3/18*
U.S. Cl. 260—123.5 13 Claims

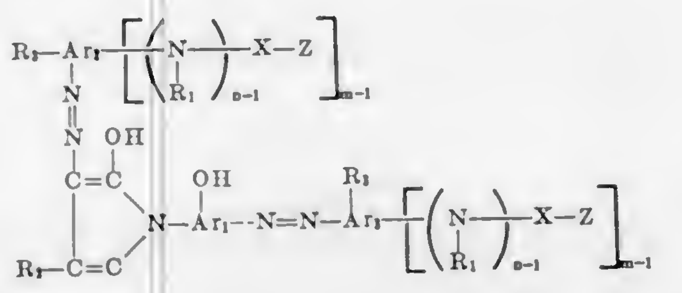
A method for isolating bean protein in preferably crystalline form and in high yield directly from beans, comprising the steps of mixing ground beans with a dilute aqueous solution of a salt of a mono-, di- or tri-carboxylic acid having a salt normality between about 0.1 and about 0.8 and an acid pH, separating undissolved material from the resulting solution, allowing the solution to stand while preferably keeping the solution refrigerated until the protein preferably crystallizes out of the solution, and thereafter separating the crystalline protein from the solution.

3,450,689

WATER-SOLUBLE DISAZO DYESTUFFS AND THEIR COMPLEX METAL COMPOUNDS

Gerhard Langbein, Hofheim, Taunus, and Fritz Meininger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed June 13, 1966, Ser. No. 556,874
Claims priority, application Germany, June 18, 1965, F 46,375
Int. Cl. C09b *29/02*
U.S. Cl. 260—147 6 Claims

Water-soluble disazo-dyestuffs and copper, cobalt, chromium, nickel, and iron complex compounds thereof having the formula



wherein Ar_1 is benzene or naphthalene, Ar_2 and Ar_3 are benzene, naphthalene, benzene-sulfonic acids, naphthalene-sulfonic acids, lower alkoxybenzenes, nitrobenzenes, nitrobenzene-sulfonic acids, lower alkoxy-nitrobenzene-sulfonic acids or chlorobenzene-sulfonic acids, R_1 is hydrogen or lower alkyl, R_2 is lower alkyl, phenyl, —COOH or —COO-lower alkyl, R_3 is hydrogen, hydroxyl, carboxyl or lower alkoxy, X is sulfonyl or carbonyl, Z is β-chloroethyl, β-sulfatoethyl, β-phosphatoethyl or vinyl, and n and m are integers from 1 to 2, at least one m being 2, the substituents R_3 in Ar_2 and —OH in Ar_1 being in o-position to the adjacent azo groups.

3,450,690

PREPARATION OF ALKALI-STABLE ALKYL GLUCOSIDES

John P. Gibbons, Western Springs, and Lawrence Wondolowski, Lemont, Ill., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 23, 1966, Ser. No. 604,187
Int. Cl. C08b *19/00*
U.S. Cl. 260—210 7 Claims

The present invention relates to a method for the removal of alkali labile color-producing bodies from crude alkyl glucoside products. Crude alkyl glucoside in aqueous solution is subjected to a temperature in the range from about 50° C. to about 200° C. at a pH of at least 8 for a sufficient period of time to permit conversion of the impurities in the crude solution to a readily separable form. The impurities are then separated from the solution, resulting in an aqueous solution of alkali-stable alkyl glucoside.

3,450,691

PROCESS OF PRODUCING A WATER SOLUBLE HORSE CHESTNUT SAPONIN OF LOW HEMOLYTIC ACTIVITY AND PRODUCT

Josef Wagner and Wolfgang Schlemmer, Munich, Germany, assignors to Chemisch-Pharmazeutische Fabrik Adolf Klinge & Co., Munich, Germany, a German company
Filed June 7, 1967, Ser. No. 644,117
Int. Cl. C07c *173/00*
U.S. Cl. 260—210.5 10 Claims

A process of converting a horse chestnut saponin which in its acid form is difficultly soluble in water and has a high hemolytic activity, i.e., β-escin, into a readily water soluble saponin of low hemolytic activity, i.e., α-escin, by keeping the difficultly soluble saponin in aqueous solution of a pH between about 4.5 and about 7.5 and preferably between 6.0 and 6.9 until the hemolytic index of the saponin has decreased. The conversion temperature is between 10° C. and 100° C. and preferably between 60° C. and 90° C. The pH-value is preferably adjusted by means of an alkali metal hydroxide solution. An aqueous or aqueous-alcoholic horse chestnut extract may be used as starting material. The resulting α-escin has a high antiedematous activity and high foaming power.

3,450,692

OXIDATION OF STARCH

Roy G. Hyldon, Doris E. Fink, and Halim G. Aboul-Saad, Columbus, Ohio, assignors to The Keever Company, Columbus, Ohio, a corporation of Ohio
Filed Feb. 5, 1965, Ser. No. 430,651
Int. Cl. C08b *19/04;* **C13l** *1/08*
U.S. Cl. 260—233.3 6 Claims

A two-step method of oxidizing starch is described. The first, a partial oxidation step, is carried out in a manner to yield a relatively high ratio of starch-carbonyls to starch-carboxyl groups. The second step, starting with the product of the first step, is carried out in a manner to yield a different (or corrective) ratio of starch-carboxyl to starch-carbonyl groups. In this manner selected variation in the extent to which each step is carried out becomes a means for adjusting the carbonyl to carboxyl ratio to a predetermined value independently of the total degree of oxidation. The invention is particularly useful in providing for extremely rapid oxidation and in providing controllable starch substrates to which to add sulfite.

3,450,693

METHOD OF SYNTHESIZING ADENOSINE, 2',3'-O-ISOPROPYLIDENE-ADENOSINE AND INTERMEDIATES THEREOF

Katsumi Suzuki, Tokyo, and Izumi Kumashiro, Yokohama-shi, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan
No Drawing. Continuation-in-part of application Ser. No. 646,166, June 15, 1967. This application Mar. 12, 1968, Ser. No. 712,371
Claims priority, application Japan, June 18, 1966, 41/39,419
Int. Cl. C07d *57/36*
U.S. Cl. 260—211.5 6 Claims

Adenosine may be synthesized from AICAR (5-amino-4-carbamoyl-1-β-D-ribofuranosyl-imidazole) by acetylation to protect the hydroxyl groups in position 2',3',5', followed by treatment with an acyl chloride in the presence of an organic base to convert the 4-carbamoyl group to a cyano group by dehydration, and closure of a pyrimidine ring by means of formamide or lower-alkyl orthoformate and ammonia. The acetyl groups are removed during ring closure or may be removed prior to ring closure. 2′,3′-isopropylideneadenosine is prepared by analogous reactions from 2′,3′-isopropylidene-AICAR.

3,450,694
SUBSTITUTED BENZOXAZEPINES AND BENZOTHIAZEPINES

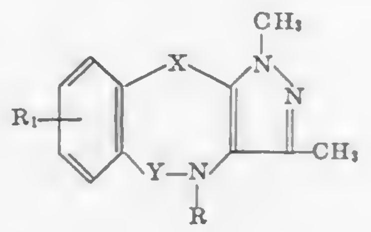
Leo Ralph Swett, Waukegan, Ill., Robert George Stein, Milwaukee, Wis., and Eugene Tatsuru Kimura, Morton Grove Village, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 529,201, Feb. 23, 1966. This application Dec. 8, 1966, Ser. No. 600,035

Int. Cl. C07d *93/36;* **A61k** *27/00*

U.S. Cl. 260—239.3 **19 Claims**

This invention is directed to chemical compounds of the formula:



wherein X signifies oxygen, sulfur or sulfonyl; Y signifies carbonyl or methylene; R signifies hydrogen, straight and branched saturated and unsaturated loweralkyl, formyl and substituted-formyl, carbamoyl and substituted-carbamoyl, benzyl, benzoyl, diloweralkylaminoloweralkyl alkanol, acetyl and substituted acetyl, thiocarbamoyl and substituted thiocarbamoyl, beta-(2-N-loweralkylpiperidino)-loweralkyl, di-loweralkylaminoloweralkyl and carbo-loweralkoxyloweralkyl; and R_1 signifies hydrogen, halogen, loweralkyl and loweralkoxy. These compounds are useful as anti-inflammatory and anti-pyretic agents.

3,450,695
BENZODIAZEPINE COMPOUNDS AND METHODS FOR THEIR PRODUCTION

Leo Henryk Sternbach, Upper Montclair, and Arthur Stempel, Teaneck, N.J., assignors to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 19, 1967, Ser. No. 610,249

Int. Cl. C07d *53/06;* **A61k** *27/00*

U.S. Cl. 260—239.3 **8 Claims**

New and novel 5-phenyl-2H-1,4-benzodiazepin-2-ones which are etherified in the 3 position with an aminoalkyl or haloalkyl moiety. These new and novel benzodiazepin-2-ones are useful as anticonvulsants, muscle relaxants and sedatives.

3,450,696
PROCESS FOR PREPARING 4,1-BENZOTHIAZEPINES

Werner Metlesics, Clifton, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Apr. 2, 1965, Ser. No. 445,248, now Patent No. 3,346,638, dated Oct. 10, 1967. Divided and this application Sept. 6, 1967, Ser. No. 665,718

Int. Cl. C07d *93/38*

U.S. Cl. 260—239.3 **8 Claims**

Preparing 4,1-benzothiazepines by treating a 2-aminobenzylmercaptan (A) with a halo acetyl halide. (A) is obtained by treating a 3,1-benzothiazin-2-one with an aqueous alkaline material. 4,1-benzothiazepines are choloretics and antidepressants.

3,450,697
PROCESS FOR THE PREPARATION OF 5(10),7-DEHYDRO-STEROIDS

Ann Gale, London, and Gordon Hanley Phillipps, Greenford, England, assignors to Glaxo Laboratories Limited, Greenford, Middlesex, England, a British company

No Drawing. Filed June 21, 1966, Ser. No. 559,074

Claims priority, application Great Britain, June 22, 1965, 26,388/65

Int. Cl. C07c *167/12, 169/10, 173/00*

U.S. Cl. 260—239.55 **15 Claims**

5(10), 7-dehydro-steroids useful as intermediates in the preparation of equilin and related steroids having hormonal activity are prepared by reacting a 5(10),6,8(9)-dehydro-steroid with a metal/ammonia reducing system in the presence of a substance liberating protons in liquid ammonia. The reducing system is preferably an alkali metal or alkaline earth metal, particularly lithium, in liquid ammonia, and the substance providing protons is conveniently an alcohol, preferably a tertiary aliphatic alcohol such as t-butanol.

3,450,698
PHENTHIAZINE DERIVATIVES

Daniel Farge, Thiais, Claude Jeanmart, Brunoy, and Mayer Naoum Messer, Sceaux, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Oct. 25, 1965, Ser. No. 505,428

Claims priority, application France, Oct. 29, 1964, 993,221, 993,222; Oct. 30, 1964, 993,385; Dec. 28, 1964, 101; Sept. 24, 1965, 32,594, 32,595, 32,596

Int. Cl. C07d *93/14,* **C07c** *149/42;* **A61k** *27/00*

U.S. Cl. 260—243 **9 Claims**

α-(3-phenthiazinyl) lower alkanoic acids are useful anti-inflammatory agents.

3,450,699
STABLE BROMINE ADDITION COMPOUNDS OF 2-PHENYL-2-OXAZOLINE AND 2-PHENYL-4H-5,6-DIHYDRO-1,3-OXAZINE

Wolfgang Seeliger and Ernst Aufderhaar, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,238

Claims priority, application Germany, Apr. 24, 1965, C 35,683

Int. Cl. C07d *87/14, 85/36;* **A61l** *13/00*

U.S. Cl. 260—244 **1 Claim**

A mol of 2-aryl-oxazoline (or-hydrooxazine) is reacted with one to two gram atoms of bromine, at 0–80° C. to yield a stable bromine compound of the class of bromine complexes of organic bases. These complexes are useful as disinfectants and also as pesticides and as brominating agents.

3,450,700
2-TERTIARY AMINO-4H-3,1-BENZOXAZIN-4-ONES

Adnan A. R. Sayigh, North Haven, and Henri Ulrich, North Branford, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,146

Int. Cl. C07d *87/16, 87/40;* **C07c** *119/00*

U.S. Cl. 260—244 **7 Claims**

Novel 2-dialkylamino- or 2-heteroamino-4H-3,1-benzoxazin-4-ones, which are unsubstituted or substituted in the benzene nucleus. The compounds are useful as antifertility agents and as intermediates in chemical synthesis.

3,450,701
UNSYMMETRICAL ISOCYANURATE PRODUCTION

Alwyn G. Davies, London, England, assignor to M & T Chemicals, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,400

The portion of the term of the patent subsequent to Aug. 6, 1985, has been disclaimed

Int. Cl. C07d *55/12;* **C07f** *7/22*

U.S. Cl. 260—248 **8 Claims**

In accordance with certain of its aspects, the process of this invention for preparing useful unsymmetrical isocyanurates comprises condensing one organic isocyanurate with 0.5–1 molar equivalent of an organotin compound R_3SnOR' wherein R is selected from the group consisting of alkyl, aryl, and alkenyl and R′ is selected from the group consisting of alkyl, aryl, alkenyl, and $—SnR_3$ thereby forming an organotin carbamate; condensing said organotin carbamate with sufficient amount of at least one other organic isocyanate to form said unsymmetrical isocyanurate; and recovering said unsymmetrical isocyanurate.

3,450,702
2-OXO- OR THIO-4-ALKOXY OR ALKOXYALKOXY-ALKYL-HEXAHYDROPYRIMIDINES

Harro Petersen, Mannheim, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 12, 1966, Ser. No. 564,528

Claims priority, application Germany, May 25, 1966, B 87,285; June 4, 1966, B 87,425; June 15, 1966, B 87,567

Int. Cl. C07d *51/18;* **A01n** *7/00*

U.S. Cl. 260—251 **6 Claims**

Hexahydropyrimidines of Formula V, below, where R^1 and R^2 are H or 1–8 carbon alkyl, R^3 and R^4 are 1–4 carbon alkyl, R^5 is H or 1–2 carbon alkyl, and R^6 is 1–6 carbon alkyl or alkoxyalkyl (1–4 carbon alkoxy and 1–6 carbon alkyl); useful as intermediates to produce corresponding 4-hydroxyhexahydropyrimidines which in turn are intermediates for producing ureidohexahydroprimidones.

3,450,703
2-OXO- OR THIO-4-HYDROXY-ALKYL-HEXAHYDROPYRIMIDINES

Harro Petersen, Mannheim, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 12, 1966, Ser. No. 564,529

Claims priority, application Germany, July 22, 1965, B 82,984; May 25, 1966, B 87,289; May 27, 1966, B 87,332; June 15, 1966, B 87,566

Int. Cl. C07d *51/18*

U.S. Cl. 260—251 **4 Claims**

Hexahydropyrimidines of Formula IV, below, where R^1 and R^2 are H or 1–8 carbon alkyl, R^3 and R^4 are 1–4 carbon alkyl, R^5 is H or 1–2 carbon alkyl, and X is O or S; intermediates to produce slow acting nitrogen fertilizers, i.e., ureidohexahydropyrimidones.

3,450,704
SUBSTITUTED 2 - [3 - ARYL - 3 - KETO (OR 3-HYDROXY)-PROPYL] - 1,2,3,4 - TETRAHYDROISOQUINOLINES

John Mervyn Osbond, Hatfield, and Graham Alwyn Fothergill, Knebworth, England, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

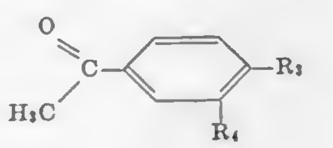
No Drawing. Filed July 7, 1966, Ser. No. 563,396

Claims priority, application Great Britain, July 19, 1965, 30,549/65

Int. Cl. C07d *35/08*

U.S. Cl. 260—289 **8 Claims**

Pharmacologically active 2-[3-aryl-3-keto (or 3-hydroxy) - propyl]-6,7 - B-1,2,3,4-tetrahydroisoquinolines, wherein B is dialkoxy of alkylenedioxy, with or without position-1 substitution, are prepared from a 6,7-B-1,2,3,4-tetrahydroisoquinoline, formaldehyde and a ketone of the formula



wherein R_3 and R_4 are lower alkyl or together are trimethylene, tetramethylene or butadien-1,3)-ylene-(1,4), e.g., 3,4-dimethyl acetophenone, 5-acetylindane, 2-acetyl naphthalene and 2-acetyl - 5,6,7,8 - tetrahydronaphthalene. The products are useful as antitussive and analgesic agents.

3,450,705
1a- AND/OR 7-SUBSTITUTED DERIVATIVES OF MITOMYCIN

Masanao Matsui, Yasuhiro Yamada, Tadashi Hirata, and Shigetoshi Wakaki, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

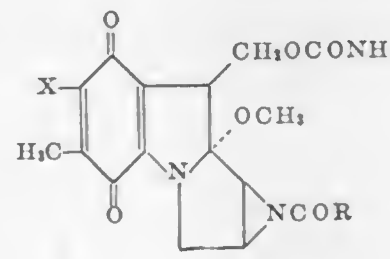
Filed July 9, 1965, Ser. No. 470,849

Claims priority, application Japan, July 9, 1964, 39/38,195

Int. Cl. C07d *57/00;* **A61k** *21/00*

U.S. Cl. 260—295 **8 Claims**

Compounds of the formula



wherein X is amino, lower alkylamino, phenylamino or pyridyl and COR is halo (lower) alkanoyl, halobenzoyl, nitrobenzoyl, alkenoyl, acetylglycyl, sorbyl or acetylmethionyl and, when X is other than amino, COR is lower alkanoyl or benzoyl.

3,450,706
PROCESS FOR PREPARING NICOTINAMIDE

Norman L. Wendler, Summit, David Taub, Metuchen, and Chan Hwa Kuo, South Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 3, 1966, Ser. No. 554,963

Int. Cl. C07d *31/44, 29/30*

U.S. Cl. 260—295.5 **3 Claims**

Nicotinamide is prepared from 1-acyl-3-cyano-4-amino-1,2,5,6-tetrahydropyridine or 1-acyl-3-cyano-4-ketohexahydropyridine by reaction with an acid and tertiary butyl ions to form N-t-butyl-1-acyl-4-ketohexahydronicotinamide which is subsequently reduced and then acylated to effect reduction of the keto group at the 4 position to a hydroxy substituent and then to an acyloxy group. The thus formed N-t-butyl-1-acyl-4-acyloxyhexahydronicotinamide is then treated with a noble metal to effect the simultaneous removal of the substituents in the 1,4 position and aromatization of the ring to form N-t-buyl-nicotinamide, the latter which upon hydrolysis yields nicotinamide.

3,450,707
CERTAIN 2-ANILINO-PYRIDINE DERIVATIVES

Denis M. Bailey, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 13, 1966, Ser. No. 601,333
Int. Cl. C07d *31/42*
U.S. Cl. 260—296 **7 Claims**

2-(3-Q-anilino)-6-R-pyridines where Q is trifluoromethyl or fluoro and R is hydrogen or lower-alkyl and 1-oxides thereof, having anti-inflammatory properties, are prepared by reacting 2-halo-6-R-pyridine with 3-Q-aniline. The 1-oxides are prepared by oxidizing said anilinopyridines.

3,450,708
4-ACETYL-5,5-DIMETHYL-2-(5-NITRO-2-FURYL)-Δ^2-1,3,4-OXADIAZOLINE

Homer Albert Burch, Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York
No Drawing. Filed June 30, 1967, Ser. No. 650,249
Int. Cl. C07d *99/02;* **A61k** *27/00*
U.S. Cl. 260—307 **1 Claim**

A chemical compound, 4-acetyl-5,5-dimethyl-2-(5-nitro-2-furyl)-Δ^2-1,3,4-oxadiazoline, is effective in ridding mice of *Trichomonas foetus* infection when administered perorally.

3,450,709
PROCESS FOR THE PREPARATION OF RING-SUBSTITUTED 2-AMINOIMIDAZOLES

Giancarlo Lancini, Pavia, and Ettore Lazzari, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed Mar. 28, 1966, Ser. No. 537,683
Claims priority, application Great Britain, Apr. 14, 1965, 16,050/65
Int. Cl. C07d *49/36*
U.S. Cl. 260—309 **2 Claims**

2-aminoimidazole and its alkyl, benzyl and aryl ring-substituted derivatives are prepared by reacting cyanamide with α-(primary and secondary) amino-ketones and α-secondary amino aldehydes. The products are useful as intermediates for the preparation of the known antibiotic azomycin and known and also new homologues and analogues thereof.

3,450,710
PROCESS FOR THE PREPARATION OF NITROIMIDAZOLE CARBAMATES

Vincent F. Verdi, Edison, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 6, 1967, Ser. No. 607,674
Int. Cl. C07d *49/36*
U.S. Cl. 260—309 **8 Claims**

Nitroimidazole carbamates are prepared by reacting hydroxyalkyl nitroimidazoles with alkali metal cyanates in liquid hydrogen fluoride. The nitroimidazole carbamates prepared by the process of this invention are useful in the treatment of protozoal diseases.

3,450,711
BIS-IMIDE CONTAINING DIEPOXIDE COMPOUNDS

Ignazio Salvatore Megna, Somerville, N.J., and John Christos Petropoulos, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed July 1, 1965, Ser. No. 468,964
Int. Cl. C07d *27/74, 99/04;* **C09j** *3/14*
U.S. Cl. 260—326 **8 Claims**

A novel class of bis-imide intermediates containing diepoxy groups prepared by reacting certain acid anhydrides and organic diamines which are then reacted with peracids to produce diepoxide compounds containing a bis-imide structure.

3,450,712
METHOD FOR ISOLATING TRYPTOPHAN

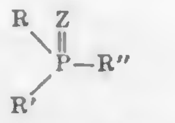
Hirotoshi Samejima, Yuji Nagano, and Shigenori Ohta, Machida-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Sept. 13, 1966, Ser. No. 579,126
Claims priority, application Japan, Sept. 21, 1965, 65/57,422, 65/57,423
Int. Cl. C07d *27/60*
U.S. Cl. 260—326.14 **10 Claims**

A method for isolating tryptophan from a mixture of amino acids by ion exchange which comprises passing the mixture through a strongly acidic cation exchange resin or a strongly basic anion exchange resin, eluting and removing substantially all of the amino acids except tryptophan by passing an inorganic salt through the resin, and eluting the tryptophan with a base (from a cation exchange resin) or an acid (from an anion exchange resin). Preferred ion exchange resins are those having a low degree of cross-linking (e.g., with not more than 6% of cross-linking) or a macro-reticular structure with a high porosity. These types of resins provide better adsorption and elution of tryptophan.

3,450,713
CYCLIC DICARBOXIMIDO-SUBSTITUTED PHOSPHONOTHIOATES

Henry Tolkmith and Herman O. Senkbeil, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Original application Jan. 6, 1964, Ser. No. 336,035, now Patent No. 3,336,188, dated Aug. 15, 1967. Divided and this application Nov. 14, 1966, Ser. No. 611,493
Int. Cl. C07d *27/52;* **A01n** *9/36;* **A61k** *27/00*
U.S. Cl. 260—326 **7 Claims**

Compounds, useful as parasiticides for control of insects, mites, helminths, fungi and bacteria, have the formula:



wherein Z represents oxygen or sulfur; each R independently represents loweralkylamino, alkoxy, alkylthio, alkyl, phenyl, substituted phenyl, phenoxy, or substituted phenoxy, substituted phenyl and substituted phenoxy being independently substituted with from 1 to 3 substituents each of which is independently halo or loweralkyl; R′ represents R or amino; and R″ represents cyclic dicarboximido such as succinimido, dichloromaleimido, cyclic hydrocarbon-ortho-dicarboximido or substituted cyclic hydrocarbon-ortho-dicarboximido.

3,450,714
N-DIALKYLAMINOALKYL-NAPHTHALENE-DICARBOXIMIDES

Eugene Wagner, Zionsville, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 15, 1967, Ser. No. 638,571
Int. Cl. C07d *27/52;* **A61k** *27/00*
U.S. Cl. 260—326 **2 Claims**

N-dialkylaminoalkyl - 1,4,5,8 - tetrahydro-4a,8a-naphthalenedicarboximides and their hydrohalide salts wherein the alkyl groups are methyl, ethyl or propyl, and a method for their preparation. The novel compounds are useful as anticonvulsants and as antimicrobial agents.

3,450,715
N-HYDROCARBON SUCCINIMIDYL POLYMERS

Eddie G. Lindstrom, Martinez, and Enver Mehmedbasich, El Cerrito, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Original application Apr. 9, 1965, Ser. No. 447,096, now Patent No. 3,379,515, dated Apr. 23, 1968. Divided and this application Dec. 8, 1967, Ser. No. 706,736
Int. Cl. C10l *1/08, 1/10*
U.S. Cl. 260—326.3 **6 Claims**

Fuel detergents comprising succinimidyl substituted high molecular weight hydrocarbon polymers wherein the nitrogen substituent is a hydrocarbon group and the equivalent weight per succinimidyl group is from about 3,000 to 10,000.

3,450,716
PERFLUORO-4-OXO-2,5-DIMETHYL-2-FLUOROCARBONYL-1,3-DIOXOLANE

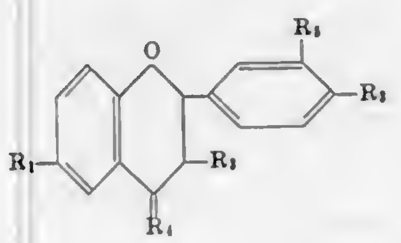
Stanley Selman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 226,737, Sept. 27, 1962. This application May 26, 1966, Ser. No. 553,047
Int. Cl. C07d *13/02*
U.S. Cl. 260—340.2 **5 Claims**

Perfluoro-4-oxo-2,5-dimethyl-2-fluorocarbonyl - 1,3 - dioxolane can be prepared by contacting and reacting hexafluoropropylene epoxide with a carbonyl compound at a temperature between 100 and 300° C. to produce perfluoropyruvyl fluoride. The perfluoropyruvyl fluoride is then held at a temperature between 100 and 300° C. to cause dimerization of the perfluoropyruvyl fluoride to the compound perfluoro-4-oxo-2,5-dimethyl-2-fluorocarbonyl-1,3-dioxolane.

3,450,717
NOVEL SUBSTITUTED FLAVANOIDS

Josef Krämer and Klaus Irmscher, Darmstadt, Hans-Otto Vöge, Ober-Ramstadt, and Herbert Halpaap, Jugenheim, Germany, assignors to E. Merck Aktiengesellschaft, Darmstadt, Germany
No Drawing. Filed Aug. 26, 1964, Ser. No. 392,304
Claims priority, application Germany, Aug. 28, 1963, M 57,991; Oct. 5, 1963, M 58,433; Jan. 18, 1964, M 59,597; Mar. 4, 1964, M 60,149; May 9, 1964, M 60,951
Int. Cl. C07d *13/00, 21/00*
U.S. Cl. 260—340.5 **31 Claims**

1. A compound of the formula



wherein:

R_1=OH; acyloxy of 1–6 carbon atoms, the acyl portion being derived from a carboxylic acid; alkoxy of 1–6 carbon atoms; or alkoxy of 1–6 carbon atoms in the alkoxy chain substituted by carbalkoxy of 2–9 carbon atoms by pyrrolidinocarbonyl.

R_2=alkoxy of 1–6 carbon atoms; or, together with R_5, methylenedioxy;

R_3=alkyl of 1–3 carbon atoms; or alkoxy of 1–3 carbon atoms;

R_4=H_2 or O;

R_5=H or OCH_3 or, together with R_2, methylenedioxy; and wherein the 2,3-position of said compound is optionally connected by a double bond.

3,450,718
METHOD OF PURIFYING CRUDE GRISEOFULVIN

Valjter Osvaljdovich Kuljbakh, Leningrad, Nina Abramovna Rabinovich, Moscow, and Valentina Jakovlevna Raigorodskaja, Leningrad, U.S.S.R., assignors to Leningradsky Nauchno-Issledovateljsky Institute Antibiotikov, Leningrad, U.S.S.R.
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,108
Int. Cl. C07d *5/32;* **A01n** *9/28*
U.S. Cl. 260—346.2 **4 Claims**

An improved method of purifying griseofulvin using carbontetrachloride and methylene chloride.

3,450,719
SUBSTITUTED 2,7-DIOXASPIRO(4.4)NONANES

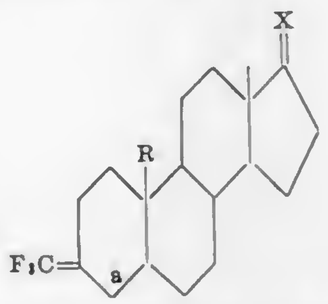
Burton Kendall Wasson, Valois, Quebec, and John Mulvin Parker, London, Ontario, Canada, assignors to Charles E. Frosst & Co., Montreal, Quebec, Canada, a corporation of Quebec
No Drawing. Continuation-in-part of application Ser. No. 283,536, May 27, 1963. This application Dec. 2, 1965, Ser. No. 511,230
Int. Cl. C07d *5/00*
U.S. Cl. 260—347.7 **5 Claims**

Novel 3,3 - dimethyl - 8 - (substituted-methyl)-2,7-dioxaspiro(4.4)nonanes are described which exhibit sedative properties. They are prepared by treatment of 2-methallyl-2-allyl-1,3-propanediol with bromine followed by treatment with quinoine to give 3,3-dimethyl-8-bromomethyl - 2,7-dioxaspiro(4.4)nonane. Treatment of this 8-bromomethyl intermediate with amines provides 8-aminomethyl compounds.

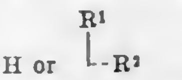
3,450,720
3-DIFLUOROMETHYLENE STEROIDS

Eugene A. La Lancette, Lansdowne, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 23, 1966, Ser. No. 596,463
Int. Cl. C07c *169/10, 169/22*
U.S. Cl. 260—397 **9 Claims**

Described and claimed are 3-difluoromethylene steroids of the formula



wherein R is methyl or hydrogen; X is O=,



R^1 being hydroxy or O-lower alkanoyl containing up to 8 carbon atoms and R^2 being hydrogen, methyl, ethyl, vinyl or ethynyl where R^1 and R^2 are chosen such that when R^1 is hydroxy R^2 is not H and when R^1 is O-lower alkanoyl R^2 is H; and *a* is a single or a double bond. The 3-difluoromethylene steroids of this invention possess a variety of useful androgenic activities.

3,450,721
N′-SUBSTITUTED N-ARYLSULFONYL UREA

Henri Dietrich, Arlesheim, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 22, 1965, Ser. No. 441,927
Int. Cl. C07c *143/80, 143/82;* **A61k** *27/00*
U.S. Cl. 260—397.7 **5 Claims**

The compounds are of the class of tricyclic benzene sulfonyl ureas, useful as hypoglycaemic agents.

3,450,722
PREPARATION OF BISNORCHOLANIC ACID DERIVATIVES

Francisco S. Alvarez, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed May 9, 1967, Ser. No. 637,098
Int. Cl. C07c *167/00, 169/00*
U.S. Cl. 260—397.1 10 Claims

3β,6β-diacyloxy-5α-hydroxy bisnorcholanic acid and 3β,5α,6β-triacyloxy bisnorcholanic acid derivatives prepared from 3β-acyloxy stigmasterols.

3,450,723
3-UREIDO PREGNANES

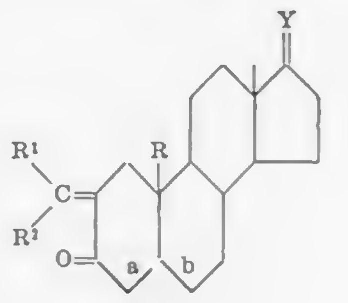
John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Aug. 15, 1966, Ser. No. 572,243
Int. Cl. C07c *169/32, 169/34;* **A61k** *17/06*
U.S. Cl. 260—397.3 15 Claims

Novel steroids, 3-ureidopregnanes and 3-ureidopregn-4-enes having a keto or hydroxy group at C–20 are prepared by reacting the corresponding 3-amines with an alkali metal isocyanate. These ureido compounds have hormonal properties characteristic of progestational agents.

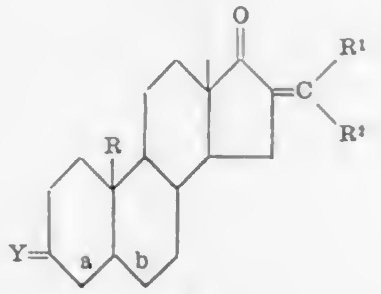
3,450,724
BIS(PERFLUOROALKYL)METHYLENE STEROIDS

Eugene A. La Lancette, Lansdowne, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 23, 1966, Ser. No. 596,444
Int. Cl. C07c *169/10, 169/18*
U.S. Cl. 260—397.3 9 Claims

The di(perfluoroalkyl)methylene steroids of general formulas

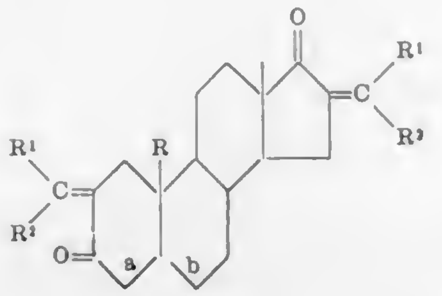


(I)



(II)

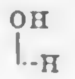
and



(III)

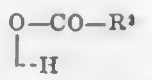
wherein

R is H or CH_3; R^1 and R^2 are C_1–C_6 perfluoroalkyl;
Y is =O,



$\begin{array}{l}\text{OH}\\ \llcorner\text{-H}\end{array}$

or



$\begin{array}{l}\text{O—CO—R}^3\\ \llcorner\text{-H}\end{array}$

R^3 is C_1—C_7 alkyl; and
a and *b* are single or double bonds, but are not both double bonds. The di(perfluoroalkyl)methylene steroids of this invention possess a variety of useful pharmaceutical properties.

3,450,725
6,17,19-SUBSTITUTED 3α,5α-CYCLOANDROSTANES

John Soloman Tadanier, Chicago, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,733
Int. Cl. C07c *169/20, 169/24, 167/00*
U.S. Cl. 260—397.4 11 Claims

6 - (substituted)amino - 19 - hydroxy - 3α,5α - cycloandrostan-3-ones and closely related derivatives thereof are made from 6β,19-oxido-3α,5α-cycloandrostan-17-one through a new 3β-alkyl-(or aryl or arylalkyl)-3-sulfonoxy-19-hydroxyandrost-5-en-17-one or its analogs. The new 6-aminosteroids are endocrine agents which cause a favorable anabolic/androgenic balance.

3,450,726
POLYHALOHYDRINS FROM EPOXIDIZED FATTY MATERIALS

Enrique Roberto Witt, Corpus Christi, Tex., and Sammy Carpenter, Bolckow, and Kwang Yuen Zee-Cheng, Kansas City, Mo., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 23, 1966, Ser. No. 551,906
Int. Cl. C09f *5/02;* **C07d** *31/34*
U.S. Cl. 260—408 6 Claims

Disclosed herein are methods for preparing halohydroxy fatty compounds which are useful for imparting flame resistance to plastics such as urethane polymers. For example, bromo hydroxy derivatives of higher fatty acid glycerides are prepared by epoxidizing such glycerides and then reacting them with hydrogen bromide in a non-aqueous medium.

3,450,727
CONTINUOUS SOLVENT WINTERIZATION OF PARTIALLY HYDROGENATED SOYBEAN OIL

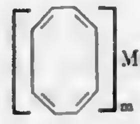
Louis H. Going, Deerfield Township, Warren County, Robert E. Mersfelder, Springfield Township, Hamilton County, and Robert O. Schmitt, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 29, 1965, Ser. No. 467,920
Int. Cl. C11b *7/00*
U.S. Cl. 260—428.5 11 Claims

A continuous process for fractionating partially hydrogenated soybean oil to remove high melting fatty glycerides therefrom which comprises forming a miscella of partially hydrogenated soybean oil in an oil solvent; adding high melting fatty glyceride seed crystals to the miscella when the temperature of the miscella is between 30° F. and 45° F. in an amount from about 0.5% to about 3% by weight of the partially hydrogenated soybean oil in the miscella; immediately thereafter rapidly continuously chilling the seeded miscella at a cooling rate of about 5° F. to about 15° F. per minute to a temperature below the crystallization temperature of the high melting fatty glycerides in the seeded miscella to permit the high melting fatty glycerides to crystallize in solid form; maintaining the miscella at the crystallization temperature of the high melting fatty glycerides for a period of time to induce complete crystallization; and, separating the miscella and crystallized solids.

3,450,728
PROCESS FOR THE PRODUCTION OF COMPLEXES OF TRANSITION METALS WITH CYCLOOCTATETRAENE

Gunther Wilke and Heinz Breil, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany, a corporation of Germany
No Drawing. Filed Mar. 7, 1967, Ser. No. 621,115
Claims priority, application Germany, Mar. 9, 1966, St 25,089
Int. Cl. C07f *7/28, 15/06, 15/02*
U.S. Cl. 260—429 17 Claims

Process of reducing transition metal complexes by reacting a dialkali metal cyclooctatetraene with a compound of a transition metal of Group IV–*b*, V–*b*, VI–*b* or the iron subgroup of Group VIII at about 20 to 200° C. with the exclusion of air and humidity to produce cyclooctatetraene transition metal complexes of the formula



wherein *m* is 1, 2 or 3; *n* is 1 or 2; and Me is vanadium, chromium, molybdenum, tungsten, or iron.

These products are useful as catalyst for the polymerization of ethylene and/or for the purification of the elemental metal portion of the complex.

3,450,729
PROCESS FOR THE PREPARATION OF GALLIUM LACTATE

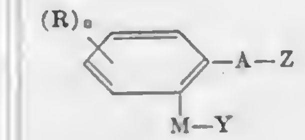
Thomas H. Larkins, Jr., and Michael O. Malcolm, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 3, 1967, Ser. No. 680,304
Int. Cl. C07f *5/00*
U.S. Cl. 260—429 15 Claims

Gallium lactate may be prepared by forming a water-insoluble gallium compound, washing said compound to substantially remove halogen therefrom, and adding said substantially halogen-free compound to an aqueous solution of lactic acid to form gallium lactate.

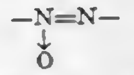
3,450,730
NOVEL ORGANOMETALLIC COMPLEXES

John A. Scheben, Erlanger, Ky., and Irving L. Mador and Milton Orchin, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 14, 1967, Ser. No. 653,344
Int. Cl. C08f *1/28*
U.S. Cl. 260—429 9 Claims

This invention relates to novel organometallic complexes useful as catalytic agents in chemical reactions involving unsaturated organic compounds and which complexes have the formula:



wherein *n* is an integer from zero to four; each R is alkyl, aryl, hydroxy, nitro, halide, alkoxy, aryloxy, or a secondary alkyl or arylamino; M is ruthenium, platinum, osmium, palladium, iridium or rhodium; Y is halide, nitrate, acetate, thiocyanate or cyanide; A is—CR′=N—, (where R′ is hydrogen, alkyl or aryl), —NH—NH— or



$$-\underset{\overset{\downarrow}{O}}{N}=N-$$

and Z is alkyl, aryl, alkaryl, alkoxy, aryloxy, hydroxy, and alkyl or aryl amino.

3,450,731
PROCESS FOR THE PREPARATION OF PHENYLMERCURIC SALTS

Charles J. Conner, New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Sept. 1, 1967, Ser. No. 665,695
Int. Cl. C07f *3/12, 11/00, 15/02*
U.S. Cl. 260—429 14 Claims

This invention relates to the preparation of phenylmercuric salts. More particularly, this invention relates to the precipitation of phenylmercuric salts with aqueous sodium or potassium salts. Still more particularly, this invention relates to a reaction between a triethanolammonium phenylmercuric salt complex and aqueous sodium or potassium salts of various inorganic and organic acids.

3,450,732
PROCESS FOR THE PRODUCTION OF CARBON MONOXIDE-FREE COMPLEX COMPOUNDS OF THE TRANSITION METALS

Gunther Wilke, Ernst Willi Müller, Michael Kroner, Paul Heimbach, and Heinz Breil, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle, Muehlheim (Ruhr), Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 104,221, Apr. 20, 1961. This aplication Aug. 21, 1968, Ser. No. 755,508
Claims priority, application Germany, Apr. 28, 1960, St 16,427
Int. Cl. C07f *11/00, 9/00;* **C07c** *3/20*
U.S. Cl. 260—429 16 Claims

Carbonyl-free complexes of transition metals of groups I, IV, V, VI and VII and a Lewis base wherein the transition metal has a zero valence and is π-bonded to the Lewis base, and processes for their preparation. The compounds are catalysts for the dimerization of trimerization of 1-3-diolefins.

3,450,733
COMPLEXES OF $B_9H_{14}^-$ OR $B_9H_{12}S^-$ WITH SELECTED METALS AND PHOSPHINES

Frank K. Klanberg, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 13, 1966, Ser. No. 601,326
Int. Cl. C07f *9/50, 5/02*
U.S. Cl. 260—430 9 Claims

Complexes of selected metals, phosphines, and one of the anions $B_9H_{14}^-$ or $B_9H_{12}S^-$ wherein the metal is copper, silver or gold and the organic group of the phosphine is aryl or alkaryl. These complexes are prepared by reacting a salt of the polyboron a⁻ion with a salt of the metal in the presence of the phosphine and an inert solvent. The compounds are useful as metal film-plating agents.

3,450,734
METHOD OF PREPARING TRIALKYL LEAD ACETATE

Evan A. Mayerle and Richard L. Craig, Lake Jackson, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 3, 1966, Ser. No. 554,995
Int. Cl. C07f *7/24*
U.S. Cl. 260—436 3 Claims

Trialkyl lead acetates are prepared by reacting a tetraalkyl lead with cupric acetate.

3,450,735
PRODUCTION OF ALUMINUM TRIALKOXIDE AND ALIPHATIC ALCOHOLS

Allan J. Lundeen and James E. Yates, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,698
Int. Cl. C07f *5/06*
U.S. Cl. 260—448 **7 Claims**

During the oxidation of trialkylaluminum compounds with oxygen, isopropanol is added to suppress the formation of side products. Acetone subsequently formed is removed by heating.

3,450,736
MODIFIED SILOXANE POLYMERS AND COMPOSITIONS CONTAINING SAME

Francis G. A. De Monterey, Woodbury Heights, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Sept. 12, 1963, Ser. No. 308,335
Int. Cl. C07f *7/08*
U.S. Cl. 260—448.2 **9 Claims**

1. An oil-soluble modified siloxane polymer produced by the process comprising reacting a siloxane polymer, having a molecular weight of 500 to about 10,000 and containing Si—H bonds, with an unsaturated compound selected from the group consisting of mono-olefins, cycloolefins, polyolefins, aromatic olefins, acids and amine salts and esters of acids containing olefinic unsaturation, and mixtures thereof, said compounds having from 4 to about 30 carbon atoms, being reacted with said siloxane polymer in an amount of from about 30% to about 50% of the stoichiometric requirement, thereby being insufficient to substitute all of the Si—H bonds in the siloxane polymer, said reaction being conducted in the presence of a suitable catalyst therefor.

3,450,737
PREPARATION OF ALKENYLOXYSILANES

Yves Colleuille, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,191
Claims priority, application France, Oct. 28, 1964, 993,004
Int. Cl. C07f *7/18*
U.S. Cl. 260—448.8 **9 Claims**

Vinyloxysilanes are made by reacting a compound containing a silicon-hydrogen bond with an olefin in which a hydrogen atom is directly bonded to an olefinically double bonded carbon atom and with carbon monoxide, preferably at elevated temperature and pressure in the presence of hydrogen, using, as catalyst, a Group VIII metal carbonyl.

3,450,738
FLUOROORGANO SILICON COMPOUNDS

Walter Blochl, Karlsruhe, Germany, assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 9, 1965, Ser. No. 486,208
Claims priority, application Germany, Sept. 12, 1964, B 78,510; May 7, 1965, B 81,814
Int. Cl. C07f *7/18;* **D06m** *13/00*
U.S. Cl. 260—448.8 **6 Claims**

Fluoroalkyl silicon compounds, useful as stain repellents and having the formula

$$(RR')_mR''_nSiZ_{4-(m+n)}$$

in which R is $X(CF_2)_p$—, where X is hydrogen, chlorine or fluorine and *p* is 6–18, R′ is $—(CH_2)_q—$,

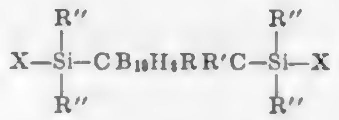
$$—CH{=}CH—$$

or $—C_3H_6OC_3H_6—$, where *q* is 2–6, *m* is 1–2, R″ is lower alkyl or lower alkenyl, *n* is 1–2, Z is an organooxy group derived from an aliphatic hydroxy compound selected from the class consisting of a glycol, a glycol ether, a polyol, a polyol ether, a hydroxycarboxylic acid and an alkanolamine are described.

3,450,739
BIS(DIORGANO-ALKOXYSILYL) NEOCARBORANES

Theodore L. Heying, North Haven, and Stelvio Papetti, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Continuation-in-part of application Ser. No. 361,409, Apr. 21, 1964. This application Sept. 28, 1967, Ser. No. 671,266
Int. Cl. C07f *7/12, 5/02, 7/08*
U.S. Cl. 260—448.8 **13 Claims**

Silicon-containing organoboranes are prepared by reacting a compound of the formula:



$$X—\underset{R''}{\overset{R''}{Si}}—CB_{10}H_{10}RR'C—\underset{R''}{\overset{R''}{Si}}—X$$

wherein R, R′ are hydrogen or alkyl, R″ is alkyl or aryl and X is a halogen selected from the group consisting of chlorine, bromine and iodine, with a stoichiometric excess of an alcohol of the formula:

$$R'''OH$$

wherein R‴ is an alkyl radical of from 1 to 6 carbon atoms. The alkoxy-substituted neocarborane derivatives can be utilized to prepare polymeric condensation products which have a high degree of inertness to solvent action and have high softening points.

3,450,740
PREPARATION OF POLYHALOGENATED PHENYLENE POLYISOCYANATES

David F. Gavin, New Haven, Ehrenfried H. Kober, Hamden, and Wilhelm J. Schnabel, Branford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed July 21, 1965, Ser. No. 473,818
Int. Cl. C07c *119/04*
U.S. Cl. 260—453 **4 Claims**

Polyhalogenated phenylene polyisocyanates are prepared by simultaneously introducing a solution of a polyhalogenated phenylene polyamine having a halogen in each position ortho to an amino group, in an inert solvent and phosgene into a reactor and then reacting the polyamine and the phosgene at a temperature of about 130 to 180° C.

3,450,741
PRODUCTION OF ω-HYDROXY-ALKANCARBONITRILES

Friedrich Becke, Heidelberg, and Helmuth Hagen, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Nov. 8, 1966, Ser. No. 592,709
Claims priority, application Germany, Nov. 17, 1965, B 84,534
Int. Cl. C07c *121/12, 121/10, 121/02*
U.S. Cl. 260—465.2 **4 Claims**

Process for the production of a nitrile of a hydroxyalkane mono-carboxylic acid or a hydroxyalkene monocarboxylic acid, the hydroxy group being separated from the nitrile group by at least 6 carbon atoms, by heating the corresponding hydroxyalkane mono-carboxylic acid or hydroxyalkene mono-carboxylic acid of 7 to 20 carbon atoms or their $—COO·NH_4$ ammonium salts or $—CONH_2$ amides in the presence of at least 2 moles of ammonia

per mole of the carboxylic acid or at least one mole of ammonia per mole of said ammonium salt or amide to a temperature of from 250° to 400° C., preferably in a medium which is essentially free of dehydration catalysts and at a pressure of from 50 to 150 atmospheres.

3,450,742
PREPARATION OF TRINITRATOPENTA-ERYTHRITYL ACRYLATE

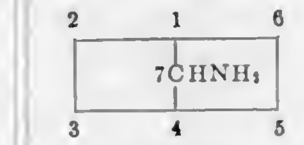
William D. Emmons, Huntingdon Valley, and Henry A. Rolewicz, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 644,956, Mar. 8, 1957. This application Nov. 3, 1958, Ser. No. 771,679
Int. Cl. C07c *77/02;* **C06b** *3/00*
U.S. Cl. 260—467 **4 Claims**

1. A process for preparing trinitratopentaerythrityl acrylate which comprises reacting acryloyl chloride, pentaerythritol trinitrate, and dimethylaniline in an inert polar organic solvent from the class consisting of acetonitrile, methylene chloride, acetone, methyl ethyl ketone, dioxane and mixtures thereof at temperatures not over about 30° C., the proportion of dimethylaniline being from about equivalent to the pentaerythritol trinitrate up to a 30% excess.

3,450,743
AMINONORBORNANE DERIVATIVES

Hiroshi Tanida, Osaka, and Teruji Tsuji, Takatsuki-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan
No Drawing. Filed Dec. 17, 1965, Ser. No. 514,664
Claims priority, application Japan, Dec. 19, 1964; 39/71,837, 39/71,838; Dec. 25, 1964, 39/73,365
Int. Cl. C07c *87/64, 93/00, 87/02*
U.S. Cl. 260—468 **15 Claims**

The 7-aminonorbornenyl compounds of the formula



wherein a double bond or a condensed benzene ring with or without one or more substituents is present between the 5- and 6-positions are useful as anti-depressants and psychomotor stimulants.

3,450,744
DICARBAMATE DERIVATIVES OF ALKYLADAMANTANES

Robert E. Moore, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Apr. 25, 1967, Ser. No. 633,361
Int. Cl. C07c *69/74*
U.S. Cl. 260—468 **7 Claims**

Diesters of 5,7-dialkyladamantane-1,3-dicarbamic acid are disclosed. These compounds exhibit antiviral activity against tobacco mosaic virus and against several viruses including Columbia SK polio in virology tests with mice.

3,450,745
ALKYL AND ARYL 4-(METHYLCARBAMOYLOXY) CARBANILATES

Linwood K. Payne, Jr., Charleston, W. Va., and Mathias H. J. Weiden, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 18, 1966, Ser. No. 521,410
Int. Cl. C07c *79/16, 79/38, 153/00*
U.S. Cl. 260—471 **10 Claims**

A series of new alkyl and aryl 4-(methylcarbamoyloxy) carbanilates have been found to be exceptionally active insecticides particularly against larval stages of lepidopterous pests. These compounds are effective systemic insecticides and possess desirable residual properties.

3,450,746
TETRAPHENOLIC ESTERS

Christian Stapfer, Newtown, Pa., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,991
Int. Cl. C07c *69/76*
U.S. Cl. 260—473 **7 Claims**

Tetraphenolic-substituted acid esters such as

2,2,4,4-tetramethyl-1,3-cyclobutyl-di[bis(3,5-di-tert-butyl-4-hydroxyphenyl)]-acetate;
1,4-phenyl-di[bis(3,5-di-tert-butyl-4-hydroxyphenyl)]-acetate;
2,2,4,4-tetramethyl-1,3-cyclobutyl-di[4,4-bis(3-tert-butyl-4-hydroxyphenyl)]-pentanoae;
1,4-cyclohexyl-di[bis(3,5-di-tert-butyl-4-hydroxyphenyl)]-acetate;

etc., are described. These tetraphenolic esters, which can be prepared by condensing 2 moles of a diphenol-substituted acid chloride with 1 mole of the desired cyclic diol in the presence of air or moisture using a base as catalyst, are effective oxidation stabilizers for polymers, particularly polyolefins.

3,450,747
PREPARATION OF AROYL ISOCYANATES AND ARYL ISOCYANATOFORMATES

Lowell R. Smith, St. Louis, and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 221,302, Sept. 4, 1962. This application May 7, 1965, Ser. No. 454,209
The portion of the term of the patent subsequent to Oct. 19, 1982, has been disclaimed
Int. Cl. C07c *119/04, 135/00;* **A01n** *9/20*
U.S. Cl. 260—479 **14 Claims**

Method of making aroyl isocyanates from oxalyl chloride and an aroylamide and aryl isocyanatoformates from oxalyl chloride and an aryl carbamate, the respective methods involving heating the reactants under anhydrous conditions to effect evolution of hydrogen chloride. The respective end products are precursors for a wide variety of useful N-(aroyl) carbamate esters, N-(aroyl) substituent ureas, imidodicarboxylates and allophanates.

3,450,748
PREPARATION OF VINYL ACETATE, ACETALDEHYDE AND ACETIC ACID FROM ETHYLENE

William D. Schaeffer, Pomona, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Continuation-in-part of application Ser. No. 241,713, Dec. 3, 1962. This application May 11, 1966, Ser. No. 554,272
Int. Cl. C07c *69/14, 53/08*
U.S. Cl. 260—497 **10 Claims**

1. The manufacture of vinyl acetate from ethylene which comprises contacting in a reaction zone ethylene and oxygen at reaction conditions comprising a temperature between about 30° and 300° C. and a pressure between 10 and about 100 atmospheres and sufficient to maintain the liquid phase with an acetic acid reaction medium containing:

(a) from 5 to about 12 weight percent water;
(b) from about 0.001 to about 5.0 weight percent of a Group VIII noble metal;
(c) from about 0.05 to about 5.0 weight percent of a soluble halide selected from the class consisting of chloride and bromides that are soluble in said acetic acid reaction medium; and

(d) from about 0.1 to about 10.0 weight percent of a soluble acetate salt;

so as to form vinyl acetate from said ethylene and acetic acid, recovering a crude reaction product, separating unreacted ethylene, acetaldehyde and vinyl acetate from said crude reaction product, contacting said acetaldehyde with oxygen at a temperature between 30° and 300° C. to oxidize said acetaldehyde to acetic acid, and adjusting within the aforesaid limitations, at least one of the variables of water content, acetate salt concentration and halide salt concentration of said reaction medium to produce acetaldehyde and vinyl acetate in approximately equal molar quantities and thereby provide sufficient acetaldehyde for oxidation to acetic acid to replace that depleted in the formation of vinyl acetate.

3,450,749
ORGANIC SULFONATE PRODUCTION AND PURIFICATION

Clarence L. Furrow, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,355
Int. Cl. C07c *139/12;* **C07d** *1/00, 139/12*
U.S. Cl. 260—513 6 Claims

Extraction of alkali metal bisulfites from mixtures containing same and alkali metal alkylsulfonates by a multiple stage water extraction process.

3,450,750
[4-[2-(ALKOXYMETHYL)ALKANOYL]PHENOXY] ACETIC ACIDS AND DERIVATIVES THEREOF

Edward J. Cragoe, Jr., Lansdale, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed July 27, 1966, Ser. No. 568,110
Int. Cl. C07c *65/02, 65/14*
U.S. Cl. 260—521 9 Claims

[4 - [2 - (alkoxymethyl)alkanoyl]phenoxy]acetic acid products which may be nuclear substituted by halogen, lower alkyl, lower alkoxy or 1,3-butadienylene; and the nontoxic, acid addition salts, alkyl esters and amide derivatives thereof. The compounds are useful as diuretics and saluretics and, therefore, have application in the treatment of conditions associated with electrolyte and fluid retention and hypertension.

The products are synthesized by treating a [4-(2-methylenealkanoyl)phenoxy]acetic acid with a lower alkanol in the presence of a base and the [4-[2-(alkoxymethyl) methyl]phenoxy]acetate thus formed may then be isolated or, if desired, the said salt may be converted to the free acid or to its corresponding ester or amide derivative by conventional means.

3,450,751
CONTINUOUS OPTICAL RESOLUTION OF RACEMIC GLUTAMIC ACID OR ITS SALTS

Gentaro Noyori, Hidemoto Kurokawa, and Teiko Watanabe, Tokyo, Japan, assignors to The Noguchi Institute, Tokyo, Japan, a corporation of Japan
Filed June 15, 1964, Ser. No. 375,078
Claims priority, application Japan, June 15, 1963, 38/30,625; July 29, 1963, 38/37,699; Aug. 20, 1963, 38/43,584; Feb. 20, 1964, 39/8,784
Int. Cl. C07c *51/42, 67/06*
U.S. Cl. 260—534 17 Claims

A process for the optical resolution of a racemate such as glutamic acid, racemic acylglutamic acid, and salts resolvable by seeding fractional crystallization. The process is continuously carried out by forming an aqueous supersaturated solution of the racemate, seeding with seed crystals of the desired isomer of the enantiomorphic, L- or D-form optically active isomer, allowing the seeded solution to flow in one direction without causing back flow mixing, growing the seed crystals of the optically active form and separating the grown crystals from the solution.

3,450,752
METHODS FOR PREPARING SOLID SALTS OF AMINO ACIDS

Petrus A. Inklaar, Schalkhaar, Diepenveen, Netherlands, assignor to Vasco Industries Corp., New York, N.Y., a corporation of New York
No Drawing. Filed June 3, 1966, Ser. No. 555,009
Claims priority, application Netherlands, June 4, 1965, 6507108
Int. Cl. C07c *99/00, 101/04*
U.S. Cl. 260—534 8 Claims

Solid hydrated alkali metal salts of amino acids such as glycine, glutamic acid, beta-alanine, lysine, etc., are prepared with high yields by intimately contacting fine particles of amino acid and of NaOH or KOH in substantially dry solid state at reaction temperatures below the melting and decomposition temperatures of the amino acid. The reaction may be initiated by heating a mixture of powders, by grinding solid amino acid with solid hydroxide, or by contacting powders at room temperature in the use of KOH. A solid mass produced by reaction heat can be ground after cooling to form a powder of the hydrated amino acid salt.

3,450,753
PROCESS FOR REACTING AMMONIA-UREA-POLYAMINO POLYCARBOXYLIC ACID TO FORM A CHELATING AGENT

Frederick C. Bersworth, East Orange, N.J., assignor to Weston Chemical Corporation, Morristown, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 2, 1967, Ser. No. 672,022
Int. Cl. C07c *101/00;* **C05c** *9/00*
U.S. Cl. 260—534 8 Claims

A process comprising reacting ammonia and urea essentially on a one to one molar basis to produce a condensation product which is further reacted with a polyamino polycarboxylic acid complexing agent to form a composition useful generally as a chelating agent and, more particularly, as a chelating agent suitable for addition to soil as a metal carrier or as a metal solubilizing agent.

3,450,754
PURIFICATION OF FORMIC ACID

Ben W. Kiff, Ona, W. Va., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,734
Int. Cl. C07c *53/02, 51/00*
U.S. Cl. 260—542 4 Claims

This invention relates to a process for the purification of formic acid to remove minute amounts of color forming impurities. Purification is achieved by treating the formic acid with a minor amount of hydrogen peroxide or alkali metal dichromate such as sodium or potassium dichromate at an elevated temperature, as set forth in the following specification. Formic acid has many known uses.

3,450,755
PERFLUOROALKYL SULFONAMIDES AND CARBOXAMIDES

Arthur H. Ahlbrecht, Dellwood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 350,563, Mar. 9, 1964. This application Feb. 23, 1967, Ser. No. 617,796
Int. Cl. C07c *143/72;* **C09d** *3/48*
U.S. Cl. 260—556 2 Claims

N-alkyl, N-omega(primary)aminoalkyl perfluoroalkanesulfonamides and -carbonamides are provided and are

useful, inter alia, as epoxy resin curing agents to form coatings.

3,450,756
BROMINATION PROCESS OF SALICYLANILIDE

Vincent Lamberti, Upper Saddle River, and Henry Lemaire, Leonia, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 8, 1967, Ser. No. 644,479
Int. Cl. C07c *103/20*
U.S. Cl. 260—559 8 Claims

A process for the bromination of one mole of salicylanilide with about three to about four moles of bromine which utilizes a very dilute aqueous acid stable organic surfactant reaction medium containing an appreciable amount of a water-soluble inorganic bromide salt in order to produce a light colored germicidal mixture of reaction products rich in 3,4′,5-tribromosalicylanilide and low in undesirable 3,5-dibromosalicylanilide and 2′,3,4′,5-tetrabromosalicylanilide.

3,450,757
BROMINATION PROCESS

Charles A. Carroll, Hillsdale, and James J. Vaka, Englewood, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 9, 1967, Ser. No. 644,817
Int. Cl. C07c *103/20*
U.S. Cl. 260—559 5 Claims

A process for the bromination of salicylanilide with from about 2.8 moles to about 3.5 moles of bromine for each mole of salicylanilide which utilizes an inexpensive aqueous sulfuric acid reaction medium in order to produce a light colored germicidal mixture of reaction products rich in 3,4′,5 - tribromosalicylanilide and low in undesired 3,5-dibromosalicylanilide content.

3,450,758
MANUFACTURE OF WATER-SOLUBLE AMIDES

Janice L. Greene, Orange Village, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 7, 1966, Ser. No. 599,705
Int. Cl. C07c *103/10, 103/30*
U.S. Cl. 260—561 9 Claims

Water-soluble amides are prepared by the neutralization of an aqueous solution of an amide salt with a water-immiscible organic amine or a solution of a water-immiscible organic amine in a water-immiscible solvent. The amide is then recovered from the water phase and the amine-salt is regenerated to the free amine in the solvent phase by treatment with a base.

3,450,759
PREPARATION OF CYCLOALIPHATIC DIAMINES FREE OF o-DIAMINES

James M. Cross, New Martinsville, Clyde D. Campbell, Wheeling, and Sidney H. Metzger, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 7, 1965, Ser. No. 485,386
Int. Cl. C07c *87/28, 91/16, 87/64*
U.S. Cl. 260—563 7 Claims

Production of cycloaliphatic diamines by removing the o-aromatic diamines from aromatic diamines and hydrogenating the substantially o-diamine free aromatic diamines.

3,450,760
PROCESS FOR PRODUCTION OF ANHYDROUS ALKYL AND CYCLOALKYL AMINES

Leonard William Hoffman, Southgate, and Roland Maurice Guertin, Rockwood, Mich., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1965, Ser. No. 483,534
Int. Cl. C07c *85/02, 87/36, 87/04*
U.S. Cl. 260—563 13 Claims

Process for production of anhydrous alkyl and cycloalkyl amines by reacting a mixture of alkyl amines containing two different alkyl groups in the vapor phase at a space velocity of about 200 to 4000 at a temperature of about 125° to about 325° C. at superatmospheric pressure in the presence of hydrogen and a hydrogenation catalyst, recovering the alkyl amine containing two different alkyl groups from the reaction products mass in substantially anhydrous form, and recycling all or part of the remainder of the reaction mass through the reaction system.

3,450,761
1-AMINOETHYLDIMETHYLADAMANTANE

Abraham Schneider, Overbrook Hills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,946
Int. Cl. C07c *87/42, 87/40*
U.S. Cl. 260—563 1 Claim

An adamantane derivative, 1-amino-3-ethyl-5,7-dimethyladamantane, is disclosed. It exhibits activity against herpes simplex virus in virology tests with mice.

3,450,762
PROCESS FOR PREPARING PERFLUOROGUANIDINE

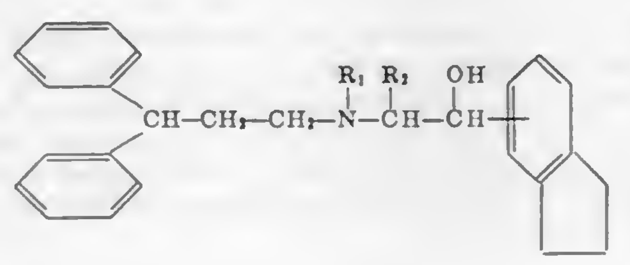
Donald L. Esmay, Coon Rapids, and Gerald W. Kottong, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Mar. 11, 1966, Ser. No. 535,642
Int. Cl. C07c *129/02*
U.S. Cl. 260—564 3 Claims

Direct fluorination process which comprises direct fluorination of ammeline in the presence of from about 0.1 to 10 times its weight of water, and/or sodium fluoride, or additional inert liquid diluent, to produce improved yields of perfluoroguanidine. Temperatures of the order of −40° to +35° C. and pressures up to 10 atmospheres are employed.

3,450,763
α-(N-ALKYL - N - 3,3 - DIPHENYL PROPYLAMINOMETHYL)-INDANMETHANOLS AND THE SALTS THEREOF

Albert Hofmann and Franz Troxler, Bottmingen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Nov. 30, 1966, Ser. No. 597,883
Claims priority, application Switzerland, Dec. 8, 1965, 16,918/65
Int. Cl. C07c *85/12, 87/28*
U.S. Cl. 260—570 3 Claims

1. A compound selected from the group consisting of a compound of formula:



in which R_1 is hydrogen or alkyl of 1 to 4 carbon atoms and R_2 is hydrogen or methyl, and the pharmaceutically acceptable acid addition salts thereof.

3,450,764

PREPARATION OF HYDROXY SUBSTITUTED DIARYLAMINES

Elmar R. Altwicker, Somerville, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,944

Int. Cl. C07c *85/06*

U.S. Cl. 260—571 **16 Claims**

Use of benzene and naphthalene sulfonic acids to catalyze the reaction of arylamines with dihydroxy aryl compounds to produce hydroxy substituted diarylamines.

3,450,765

AMMONOLYSIS OF HALIDES

Walter E. Steinmetz, Shreveport, La., assignor to El Paso Products Company, Odessa, Tex., a corporation of Texas

No Drawing. Continuation-in-part of application Ser. No. 484,801, Sept. 3, 1965. This application July 5, 1966, Ser. No. 562,456

Int. Cl. C07c *85/04*

U.S. Cl. 260—585 **5 Claims**

Process for producing alkylenediamines, useful as an intermediate for producing nylon, comprising reacting an alkylene dihalide with about 50 to 300 moles of anhydrous liquid ammonia per mole of 1,6-dihalohexane at a temperature of about 0° to 100° C. and a pressure of about 100 to 1000 p.s.i.g. and recovering the products produced.

3,450,766

AMMONOLYSIS OF 1,6-DIHALOHEXANE

Walter E. Steinmetz, Shreveport, La., assignor to El Paso Products Company, Odessa, Tex., a corporation of Texas

No Drawing. Continuation-in-part of application Ser. No. 484,801, Sept. 3, 1965. This application July 5, 1966, Ser. No. 562,505

Int. Cl. C07c *85/04*

U.S. Cl. 260—585 **5 Claims**

Process for producing hexamethylenediamine, useful as an intermediate for producing nylon, comprising reacting 1,6-dihalohexane with about 50 to 300 moles of anhydrous liquid ammonia per mole of 1,6-dihalohexane at a temperature of about 0° to 100° C. and a pressure of about 100 to 1000 p.s.i.g., and recovering the product produced.

3,450,767

PROCESS FOR PRODUCING PURE HEXAMETHYLENEDIAMINE

Norbert F. Cywinski, Odessa, Tex., assignor to El Paso Products Company, Odessa, Tex., a corporation of Texas

No Drawing. Filed Sept. 13, 1966, Ser. No. 578,970

Int. Cl. C07d *31/04;* **C07c** *87/14, 85/04*

U.S. Cl. 260—585 **6 Claims**

Process for producing pure hexamethylenediamine by reacting a mixture comprising 1,6-dihalohexane, 1,4-dihalohexane, 1,5-dihalohexane and 2,5-dihalohexane with ammonia to form hexamethylenediamine from the 1,6-dihalohexane and lower boiling cyclic amines from the remaining halogenated hexanes and separating the products produced.

3,450,768

POLYHALOCYCLOPENTENYL ARYLATION PRODUCTS

Samuel Gelfand, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

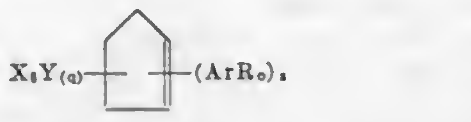
No Drawing. Filed Oct. 24, 1963, Ser. No. 318,522

The portion of the term of the patent subsequent to Nov. 1, 1983, has been disclaimed

Int. Cl. C07c *49/76, 25/04, 63/00*

U.S. Cl. 260—590 **14 Claims**

1\. A polyhalocyclopentene as represented by the structure



wherein

X is selected from the group consisting of chlorine and bromine;

Y is selected from the group consisting of hydrogen, chlorine, bromine and an alkyl radical of 1 to 8 carbon atoms;

Ar is phenyl;

R is selected from the group consisting of chlorine, bromine and fluorine;

n is from 2 to 4; and

z is from 1 to 2, *q* is a number from 0 to 1, said *q* being zero when *z* is two.

3,450,769

VAPOR-PHASE ALDOL CONDENSATION OF ACETALDEHYDE

Jackie E. Payne, 1952 Johnston Place, Bartlesville, Okla. 74003, and Larry D. Hinson, Kingsville, Tex. (% Celanese Chemical Company, Bishop, Tex. 78343)

No Drawing. Filed Sept. 7, 1967, Ser. No. 665,974

Int. Cl. C07c *45/00, 47/20*

U.S. Cl. 260—601 **12 Claims**

Crotonaldehyde is produced by bringing vapors of aqueous acetaldehyde (AcH) into contact with a catalyst comprising at least one member of the group consisting of lithium aluminate and zirconium dioxide, and isolating crotonaldehyde from the resulting reaction mass. The aqueous acetaldehyde contains AcH and water in a weight ratio of from ca. 0.25 to ca. 4.0, e.g., from 1 to 4. The temperature in the reaction zone may range up to ca. 800° F., e.g. ca. 200°–800° F., preferably ca. 450°–580° F. The reaction pressure is from 0 to about 20 p.s.i.g., preferably from ca. 5–15 p.s.i.g. Comparative data are given in Table I when $LiAlO_2$ and ZrO_2 are compared with other catalysts in this reaction; and in Table II, when compared with each other.

3,450,770

POLYPHENYL THIOETHERS

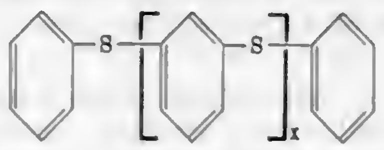
John Robert Campbell, Creve Coeur, and Roger E. Hatton, Kirkwood, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 253,253, Jan. 23, 1963. This application Feb. 27, 1963, Ser. No. 261,470

Int. Cl. C07c *149/30*

U.S. Cl. 260—609 **5 Claims**

1\. A meta-linked polyphenyl thioether represented by the structure



where *x* is a whole number from 1 to 3.

3,450,771

PROCESS FOR PRODUCING ORGANIC SULFIDES FROM THE REACTION OF MERCAPTANS WITH ALCOHOLS

Robert A. Dombro, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Oct. 12, 1966, Ser. No. 586,032

Int. Cl. C07c *149/26, 149/32, 149/30*

U.S. Cl. 260—609 **9 Claims**

Organic sulfides can be prepared by reacting a mercaptan, such as n-octyl mercaptan, with an alcohol, such as methanol, in an alkaline medium. The process is useful in removing mercaptans from petroleum products.

ERRATUM

For Class 260—613 see:
Patent No. 3,451,061

3,450,772

POLYPHENYL ETHERS

Robert F. Bridger, Hopewell, Robert E. Kinney, Lawrence Township, Mercer County, and Albert L. Williams, Hopewell Township, Mercer County, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 416,127, Dec. 4, 1964. This application Sept. 24, 1965, Ser. No. 490,072

Int. Cl. C07c *43/28*

U.S. Cl. 260—613 **4 Claims**

Polyphenyl ether synthetic lubricants are prepared from dihydric phenols directly by reacting the alkali-metal disalt of the dihydric phenol with an aryl halide, using a copper salt catalyst and a polar solvent that complexes with the copper salt. Novel polyphenyl ethers, including hexafluoisopropylidine derivatives are disclosed.

3,450,773

ANESTHETICALLY ACTIVE FLUORINATED METHYL ETHERS

Robert E. A. Dear, Parsippany, and Everett E. Gilbert, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 16, 1966, Ser. No. 550,116

Int. Cl. C07c *43/28*

U.S. Cl. 260—614 **7 Claims**

Methyl ether of fluorinated alkanes useful as inhalation anesthetics and bactericides.

3,450,774

HYDROXYL-ENDED EPIHALOHYDRIN POLYMERS

Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 562,514, July 5, 1966, which is a continuation-in-part of application Ser. No. 298,434, July 29, 1963. This application June 11, 1968, Ser. No. 736,026

Int. Cl. C08g *23/20, 23/06*

U.S. Cl. 260—615 **6 Claims**

Low molecular weight, crystalline, double hydroxyl-ended poly(epihalohydrin) and particularly poly(epichlorohydrin) are produced by cleaving high molecular weight crystalline poly(epihalohydrin)s with alkali metal alkoxides, phenoxides, or hydroxides and then converting the end groups to hydroxyl groups, as by hydrolysis. The polymers are especially useful in chain extension reactions and in the preparation of polyurethane foams having improved properties.

3,450,775

DIMETHYLETHYLADAMANTANOL

Abraham Schneider, Overbrook Hills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 395,557, Sept. 10, 1964. This application Nov. 30, 1966, Ser. No. 597,885

Int. Cl. C07c *35/22*

U.S. Cl. 260—617 **1 Claim**

1-hydroxy-3,5-dimethyl-7-ethyladamantane, a new compound normally obtained as white crystals with a melting point of 82.5–83.5° C. It exhibits antiviral activity for eradication of plant virus and also antiviral activity in animal tests.

3,450,776

PROCESS FOR THE HYDROGENATION OF WATER-MISCIBLE ACETYLENE COMPOUNDS INTO OLEFIN COMPOUNDS

Alessandro Di Cio and Marcello Massi Mauri, Milan, Italy, assignors to Snam Progetti S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation-in-part of application Ser. No. 364,759, May 4, 1964. This application Feb. 16, 1968, Ser. No. 705,930

Int. Cl. C07c *29/00, 31/12, 31/18*

U.S. Cl. 260—635 **4 Claims**

A water-miscible acetylene compound is converted to an olefin by feeding the compound, mixed with water, and an aqueous solution of a zinc salt, selected from the group consisting of zinc acetate, zinc sulfate, zinc nitrate, zinc chloride, and zinc oxalate, onto a palladium-based catalyst, the reaction being effected at a temperature between 20° C. and 60° C. and a pressure between 1 and 20 atmospheres. The process may be practiced either as a batch or as a continuous process. Preferably an amine compound is added to the reaction mixture.

3,450,777

PROCESS FOR PREPARING ALCOHOLS BY HYDRATION OF OLEFINS

Yukio Mizutani and Hirofumi Ihara, Tokuyama-shi, Japan, assignors to Tokuyama Soda Kabushiki Kaisha, Tokuyama-shi, Yamaguchi-ken, Japan, a corporation of Japan

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,808

Claims priority, application Japan, Sept. 29, 1964, 39/54,792

Int. Cl. C07c *29/04, 35/00*

U.S. Cl. 260—641 **5 Claims**

A method for the preparation of alcohols by the hydration of olefins in the presence of a novel solid acid catalyst consisting essentially of the three elements zirconium tungsten and oxygen, the weight ratio of the constituents being within the range of Zr:W:O=1:2–8:0.5–3.5.

3,450,778
DODECANITROQUATERPHENYL

Joseph C. Dacons, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Dec. 15, 1965, Ser. No. 514,146
Int. Cl. C07c *79/10*
U.S. Cl. 260—645 **1 Claim**

1. The compound 2,2′,2″,2‴,4,4′,4″,4‴,6,6′,6″,6‴-dodecanitroquaterphenyl.

3,450,779
PROCESS FOR PREPARATION OF CHLOROTRIFLUOROMETHANE

Louis Foulletier, Lyon, France, assignor to Ugine Kuhlmann, Paris, France, a corporation of France

No Drawing. Filed Nov. 30, 1965, Ser. No. 510,667
Claims priority, application France, Dec. 8, 1964, 997,786
Int. Cl. C07c *17/10*
U.S. Cl. 260—653 **1 Claim**

A process for the production of chlorotrifluoromethane substantially free from trifluoromethane; the reaction essentially comprises reacting chlorine and trifluoromethane in a respective ratio of 1:0.95 and 1:1.05 at a temperature between 600 and 700° C.

3,450,780
DEHYDROHALOGENATION OF 1,2-DICHLOROETHANE

Robert L. Hartnett, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 23, 1966, Ser. No. 536,656
Int. Cl. C07c *21/06, 17/24*
U.S. Cl. 260—656 **6 Claims**

A process for producing halogenated unsaturated hydrocarbons such as vinyl chloride by dehydrohalogenation of halogenated saturated hydrocarbons such as dichloroethane at elevated temperatures in contact with a naturally-occurring mineral silicate of the iron garnet group.

3,450,781
DECAHYDROACENAPHTHENE PROCESS AND USE

Milton S. Konecky, South Plainfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 31, 1960, Ser. No. 65,887
Int. Cl. C07c *15/24, 5/00*
U.S. Cl. 260—666 **8 Claims**

Decahydroacenaphthene, an improved high energy jet fuel, is formed by reacting cyclododecatriene with an acid catalyst at temperatures in the range of from 50° to 250° C. In addition to decahydroacenaphthene, octahydroacenaphthene and acenaphthene are recovered as by-products of the reaction. These by-products are easily hydrogenated to decahydroacenaphthene in high yields.

3,450,782
PROCESS FOR THE PREPARATION OF CYCLIC ALKANES

Daniel S. Connor, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

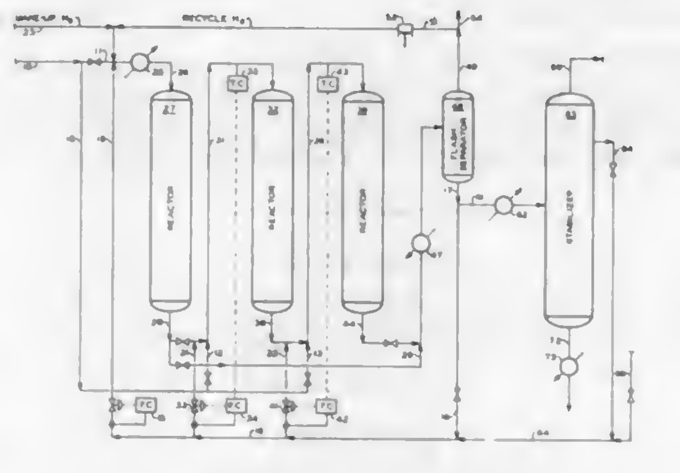
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,738
Int. Cl. C07c *1/28*
U.S. Cl. 260—666 **8 Claims**

This invention concerns the preparation of cyclic alkanes from dihalogenated alkanes using lithium amalgam.

3,450,783
METHOD FOR PRODUCTION OF CYCLOHEXANE

George E. Merryfield, deceased, late of Bartlesville, Okla., by Darall G. Hawk, Administrator, Bartlesville, and John T. Cabbage, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 8, 1966, Ser. No. 571,140
Int. Cl. C07c *5/10*
U.S. Cl. 260—667 **10 Claims**

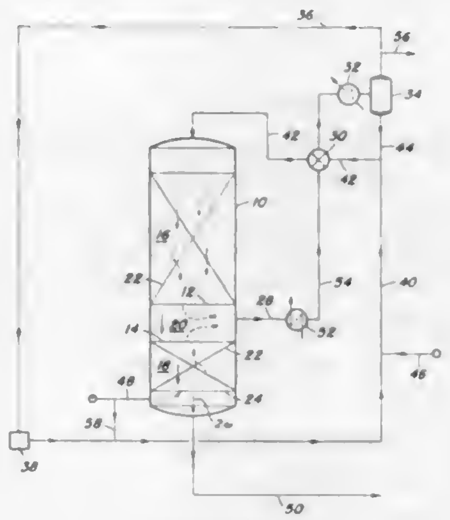


Benzene is hydrogenated to cyclohexane in the presence of a diluent selected from the group consisting of normal pentane, isopentane, and mixtures thereof.

3,450,784
HYDROGENATION OF BENZENE TO CYCLOHEXANE

James W. Reilly, Westfield, N.J., and Morgan C. Sze, Garden City, N.Y., assignors to The Lummus Company, Bloomfield, N.J., a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 581,238
Int. Cl. C07c *5/10, 13/18*
U.S. Cl. 260—667 **7 Claims**

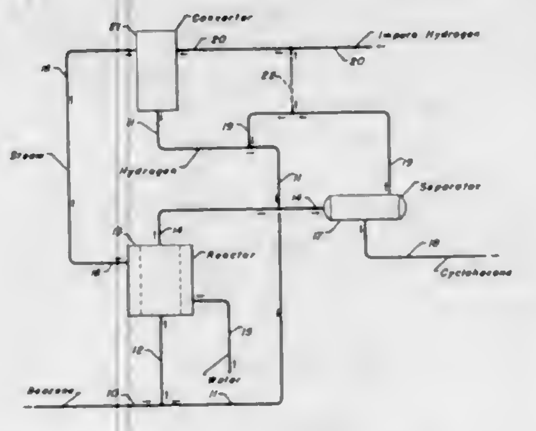


A process for the hydrogenation of hydrocarbons, particularly for the production of cyclohexane from benzene, in which the temperature profile of the reaction is controlled so as to maximize benzene conversion and cyclohexane yields. The feed is passed cocurrently with hydrogen into a first reaction zone, gaseous products are drawn off, and the liquid effluent is passed into a second reaction zone, where it is contacted counter-currently by cold hydrogen. Vapors from this second zone can be combined with vapors from the first zone, cooled and condensed to provide a liquid stream which can be used as recycle if desired and mixed with the feed, and a gaseous hydrogen-containing stream. Liquid product in the second reaction zone is drawn off as 99.9 plus percent pure cyclohexane.

3,450,785
HYDROGENATION OF BENZENE TO FORM CYCLOHEXANE

Don B. Carson, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,422
Int. Cl. C07c *5/10, 13/18*
U.S. Cl. 260—667 **4 Claims**



A method for catalytically hydrogenating benzene to cyclohexane utilizing high purity hydrogen of consistent purity produced by steam-reforming an impure hydrogen stream and/or light gases.

3,450,786
PROCESS FOR POLYMERIZING NORMAL MONO-1-ALKENES

Thomas J. Clough, Glenwood, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 235,146, Nov. 2, 1962, Ser. No. 361,582, Apr. 21, 1964, and Ser. No. 447,046, Apr. 9, 1965. This application Aug. 23, 1966, Ser. No. 574,308
Int. Cl. C08f *15/04, 15/16, 1/72*
U.S. Cl. 260—669 **15 Claims**

Normal mono-1-alkenes of 5 to about 25, preferably about 12 to 20, carbon atoms are addition polymerized using a catalyst solution of about 2 to 7 wt. percent of aluminum chloride in ethyl chloride, a temperature of about 5 to 30° C., and a catalyst solution-to-monomer ratio sufficient to provide about 5 to 30% of aluminum chloride, based on the weight of monomers. In addition to homopolymerization, the process is suitable for effecting copolymerization of the mono-1-alkene with dissimilar, addition polymerizable, olefinically-unsaturated monomers such as butadiene-1,3; styrene; isoprene; and indene.

3,450,787
DEHYDROGENATION PROCESS

William L. Kehl and Raymond J. Rennard, Jr., Pittsburgh, Pa., assignors to Goodrich-Gulf Chemicals, Incorporated, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 21, 1968, Ser. No. 730,916
Int. Cl. C07c *5/18*
U.S. Cl. 260—680 **22 Claims**

Process for the oxidative dehydrogenation of hydrocarbons which comprises contacting a mixture of a hydrocarbon and oxygen with a magnesium chromium ferrite catalyst at a temperature above about 250° C., thereby producing a dehydrogenated hydrocarbon having the same number of carbon atoms as said hydrocarbon.

3,450,788
DEHYDROGENATION PROCESS

William L. Kehl and Raymond J. Rennard, Jr., Pittsburgh, Pa., assignors to Goodrich-Gulf Chemicals, Incorporated, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 21, 1968, Ser. No. 730,917
Int. Cl. C07c *5/18*
U.S. Cl. 260—680 **22 Claims**

Process for the oxidative dehydrogenation of hydrocarbons which comprises contacting a mixture of hydrocarbon and oxygen with a zinc chromium ferrite catalyst at a temperature above about 250° C., thereby producing a dehydrogenated hydrocarbon having the same number of carbon atoms as said hydrocarbon.

3,450,789
DEHYDROGENATION PROCESS

William L. Kehl, Raymond J. Rennard, Jr., and Michael R. Basila, Pittsburgh, Pa., assignors to Goodrich-Gulf Chemicals, Incorporated, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 21, 1968, Ser. No. 730,956
Int. Cl. C07c *5/18*
U.S. Cl. 260—680 **22 Claims**

Process for the oxidative dehydrogenation of hydrocarbons which comprises contacting a mixture of a hydrocarbon and oxygen with a lanthanum chromium ferrite catalyst at a temperature above about 250° C., thereby producing a dehydrogenated hydrocarbon having the same number of carbon atoms as said hydrocarbon.

3,450,790
POLYSULFIDE POLYMER BLENDS

Billy D. Simpson, Akron, Ohio, assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 19, 1967, Ser. No. 610,234
Int. Cl. C08g *33/00;* **C09d** *5/34*
U.S. Cl. 260—823 **10 Claims**

A polysulfide polymer prepared by the reaction of sulfur with at least one dithiol selected from the group consisting of 3-(2-mercaptoethyl)cyclohexanethiol, 4-(2-mercaptoethyl)cyclohexanethiol, and mixtures thereof, is blended with a polysulfide polymer prepared by the reaction of sulfur with a dithiol having two primary mercapto groups, a minor amount of a polythiol having at least three mercapto groups being used in the preparation at least one of the polysulfide polymers; the resulting blend can be cured at ambient temperature with conventional curing agents.

3,450,791
MODIFIED POLYURETHANE-SILICONE POLYMERS

Kazys Sekmakas, Chicago, and Joseph E. Gaske, Bridgeview, Ill., assignors to De Soto, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,092
Int. Cl. C08g *31/12, 47/10*
U.S. Cl. 260—826 **23 Claims**

Heat-hardening resins are provided by condensing a hydrocarbon-substituted polysiloxane with an hydroxy-functional polyurethane produced by reacting an excess of hydroxy-functional polyester which is preferably oil-free and unsaturated with 1–20% by weight of aliphatic diisocyanate. These resins are solvent-soluble and cure rapidly to provide weather resistant coatings. A small proportion of lipophilic monomer is preferably copolymerized into the product to improve the capacity of the coating solution to flow and wet the substrate which is coated.

3,450,792

HEAT-HARDENABLE CONDENSATES OF POLYALKOXY SILOXANES WITH UNSATURATED POLYESTERS MODIFIED WITH LIPOPHILIC MONOMER

Kazys Sekmakas, Chicago, Ill., assignor to De Soto, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 519,524, Jan. 10, 1966. This application Sept. 20, 1966, Ser. No. 580,573

Int. Cl. C08g *31/06*

U.S. Cl. 260—827 **21 Claims**

Thermosetting coatings are provided based on heat-hardening derivatives of unsaturated poyesters. To this end, the unsaturated polyester is copolymerized with from 1–10%, based on total weight, of a lipophilic monomer such as stearyl or lauryl acrylate and the so-modified polyester is then condensed with a polyalkoxy siloxane to provide a composite resin capable of curing rapidly and which exhibits good flow and wetting properties.

3,450,793

MODIFIED POLYCARBONATES CONTAINING URETHANE GROUPS

Hermann Schnell, Krefeld-Urdingen, and Ludwig Bottenbruch, and Dietrich Michael, Krefeld, Bockum, Germany, assignors to Farbenfabriken, Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,045

Claims priority, application Germany, Nov. 27, 1964, F 44,555

Int. Cl. C08g *41/04*

U.S. Cl. 260—858 **16 Claims**

Polycarbonates containing polyurethane segments which are substantially linear prior to incorporation into the polymeric structure, and have alkyl, cycloalkyl or aryl substitution on the nitrogen atoms thereof.

3,450,794

BUTADIENE-STYRENE-ACRYLONITRILE RESINS CONTAINING POLYPROPYLENE GLYCOL AS ANTISTATICIZER

Harold Ebneth and Heinrich Baer, Leverkusen, and Karl-Heinz Ott, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a Germany corporation

No Drawing. Filed July 1, 1964, Ser. No. 379,703

Claims priority, application Germany, July 11, 1963, F 40,209

Int. Cl. C08g *33/08;* **C09j** *3/16*

U.S. Cl. 260—876 **5 Claims**

Synthetic thermoplastic copolymer mixtures of a butadiene elastomer and a thermoplastic styrene-acrylonitrile copolymer, plus about 1–10% by weight of a polypropylene glycol having a mean molecular weight of 2000–5000. The above mixture is found to be a good moulding composition which possesses and retains desirable antistatic properties.

3,450,795

NOVEL COPOLYMERS AND THE PROCESS FOR PRODUCING THEM

Arthur W. Langer, Jr., Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 266,188, Mar. 19, 1963. This application Feb. 19, 1965, Ser. No. 434,103

Int. Cl. C08f *1/28, 15/22, 15/04*

U.S. Cl. 260—878 **13 Claims**

Block copolymers of ethylene and an anionically polymerizable polar monomer are prepared by sequential polymerization employing, as a catalyst, a combination of an organometal and a chelating Lewis base.

3,450,796

PRODUCTION OF THERMOPLASTIC POLYMERIC MATERIALS

Brian Philip Griffin, Welwyn Garden City, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 293,194, July 5, 1963. This application June 19, 1968, Ser. No. 738,125

Claims priority, application Great Britain, July 9, 1962, 26,214/62

Int. Cl. C08f *3/68, 3/64*

U.S. Cl. 260—885 **19 Claims**

Craze resistant methyl methacrylate copolymers are prepared by polymerizing (A) methyl methacrylate monomer in an aqueous suspension polymerization process in the presence of (B) a cross linked copolymer prepared by emulsion polymerization of (1) methyl methacrylate in the presence of a cross linked alkyl acrylate polymer or (2) alkyl acrylate and a cross linking monomer in the presence of polymeric methyl methacrylate. The final polymer has been polymerized in three continuous stages the first two of which are emulsion polymerization, the third being a suspension polymerization.

3,450,797

PROCESS FOR OBTAINING A CONTROLLED INCREASE IN THE MOLECULAR WEIGHT OF UNSATURATED POLYMERIC HYDROCARBONS

Johannes Schäfer, Gerhard Berg, and Frederico Engel, Marl, Germany, assignors to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed Feb. 1, 1966, Ser. No. 523,921

Claims priority, application Germany, Feb. 1, 1965, C 34,988

Int. Cl. C08d *5/02, 9/00*

U.S. Cl. 260—888 **2 Claims**

A method of increasing the molecular weight of a mixture of at least two different solution polymerized diolefin polymers, by adding to a solution of such polymers, a catalyst system of:

(a) A compound of the formula:

$$R_n{}^1MeX^1{}_{y-n}$$

wherein

Me is B, Al, Ga, Be, Mg, Ca, Zn, Si, Sn, As, Sb, Ti, Zr, P, Mo, W, Bi, Fe, Hg, Cd, V, U, or VO;

X^1 is F, Cl, Br, or I;

R^1 is hydrogen, or an alkyl, cycloalkyl, aryl, aralkyl, alkoxy, or sulfoxy residue, or a carboxylate anion;

y is the valence of Me; and

n is a number between 0 and the valence of Me, inclusive; and

(b) A compound different from compound (a), and of the formula

$$RX$$

wherein

R is a residue selected from the group consisting of halogeno, alkyl, cycloalkyl, aryl, aralkyl, acyl, thionyl, sulfuryl, chromyl, vanadyl, phosphorus oxy, thiophosphorus, sulfonic acid, sulfinic acid, arsenic oxy, antimony oxy, titanyl, imide, or a component selected from the group consisting of phosphorus, arsenic, sulfur, selenium, vanadium, titanium, tin, or silicon, and

X is at least one halogen atom,

wherein component (a) is added in amounts of from 0.01 to 10% by weight of the polymers present, and the catalyst component (b) is added in quantities of 0.002 to 2 mols per mol of component (a), and the addition of the catalyst components is such that component (a) is added first and the reaction mixture is mixed until a homogeneous dispersion is obtained, and then component (b) is added in proportion to the desired increase in molecular weight.

3,450,798

PHOSPHATE ESTERS OF HYDROXY-CARBORANES

Joseph Green, Dover, and Anatole P. Kotloby, Fair Lawn, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Oct. 18, 1965, Ser. No. 502,790

Int. Cl. C07d *107/02, 105/04;* **C08g** *33/18*

U.S. Cl. 260—922 **24 Claims**

Novel phosphate esters of substituted-carborane wherein the substituents include mono- or bis-hydroxyalkyl, alkylhydroxyalkyl, epoxy, and alkyl radicals, and polymers of such esters, are prepared by condensing, and in the case of the polymers by polymerizing, a phosphorus compound providing H_3PO_4 with the substituted-carborane at an elevated temperature. The compounds are useful as flame retardants, heat transfer materials and various resin applications.

3,450,799

CYCLIC POLYMERS OF HYDROXYMETHYLPHENOXY PHOSPHONITRILES

Ehrenfried H. Kober, Hamden, Henry F. Lederle, North Haven, and Gerhard F. Ottmann, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,660

Int. Cl. C07d *105/02;* **C09j** *3/28;* **C08g** *22/04*

U.S. Cl. 260—927 **2 Claims**

Cyclic polymers of chloromethylphenoxy phosphonitriles can be hydrolyzed by heating at a temperature of 60 to 150° C. and in the presence of an alcoholic alkali metal hydroxide to yield cyclic polymers of hydroxymethylphenoxy phosphonitriles. These products can, in turn, be reacted with a diisocyanate in the presence of a suitable fluorocarbon blowing agent to yield fire-resistant polyurethane products.

3,450,800

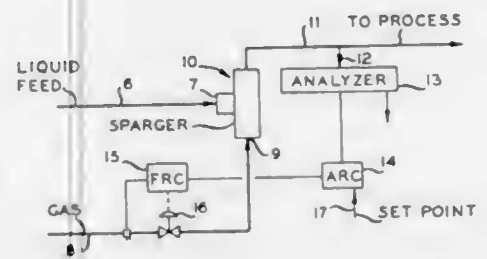
DISPERSING GASES INTO LIQUIDS

Dexter E. Smith, Arthur B. Broerman, and Robert M. Keeler, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 31, 1964, Ser. No. 341,661

Int. Cl. C08f *1/80, 1/06, 1/98*

U.S. Cl. 260—93.7 **2 Claims**



1. In a process for polymerizing propylene wherein a liquid propylene stream containing a measured concentration of hydrogen is passed to a polymerization zone, the method of maintaining the hydrogen concentration of the propylene stream substantially constant which comprises passing said propylene stream upwardly through a conduit; introducing hydrogen gas into said propylene stream through a plurality of capillary openings spaced at different distances over the cross-sectional area of the liquid stream and positioned substantially normal to the flow of propylene; sensing the hydrogen concentration of the propylene stream substantially immediately downstream from the hydrogen gas introduction; and controlling the quantity of hydrogen passed into said propylene in response to the sensed hydrogen concentration of the propylene stream.

3,450,801

PHOSPHONATE ESTERS OF ALKYL ACETOACETATES

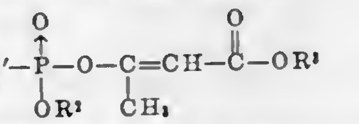
Thomas P. Dawson, Bel Air, and Charles E. Williamson, Edgewood, Md., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Continuation-in-part of application Ser. No. 564,585, Feb. 9, 1965. This application Apr. 26, 1957, Ser. No. 655,449

Int. Cl. C07f *9/40*

U.S. Cl. 260—941 **23 Claims**

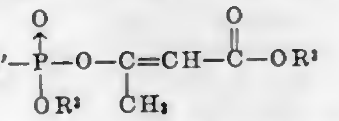
1. A compound having the formula



$$R'\text{—}\overset{\overset{\displaystyle O}{\uparrow}}{\underset{\underset{\displaystyle OR^2}{|}}{P}}\text{—}O\text{—}\underset{\underset{\displaystyle CH_3}{|}}{C}\text{=}CH\text{—}\overset{\overset{\displaystyle O}{\|}}{C}\text{—}OR^3$$

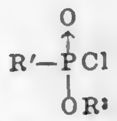
wherein R′ is an open chain alkyl radical containing not more than 3 carbon atoms, R² is selected from the group consisting of open chain alkyl radicals containing not more than 8 carbon atoms, the cyclohexyl radical, and alkyl-substituted cyclohexyl radicals containing not more than 16 carbon atoms, and R³ is an alkyl radical containing not more than three carbon atoms.

15. A process of preparing a compound of the formula



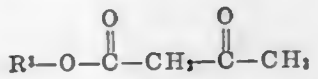
$$R'\text{—}\overset{\overset{\displaystyle O}{\uparrow}}{\underset{\underset{\displaystyle OR^2}{|}}{P}}\text{—}O\text{—}\underset{\underset{\displaystyle CH_3}{|}}{C}\text{=}CH\text{—}\overset{\overset{\displaystyle O}{\|}}{C}\text{—}OR^3$$

which comprises mixing an alkylphosphonochloridate of the formula



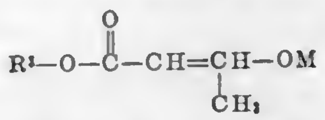
$$R'\text{—}\overset{\overset{\displaystyle O}{\uparrow}}{\underset{\underset{\displaystyle OR^2}{|}}{P}}Cl$$

in an inert solvent with a compound selected from the group consisting of alkyl acetoacetates of the formula



$$R^3\text{—}O\text{—}\overset{\overset{\displaystyle O}{\|}}{C}\text{—}CH_2\text{—}\overset{\overset{\displaystyle O}{\|}}{C}\text{—}CH_3$$

and their alkali metal derivatives of the formula



$$R^3\text{—}O\text{—}\overset{\overset{\displaystyle O}{\|}}{C}\text{—}CH\text{=}\underset{\underset{\displaystyle CH_3}{|}}{C}H\text{—}OM$$

R′ in the above formulas being an alkyl group containing not more than three carbon atoms, R² being selected from the class consisting of alkyl groups containing not more than eight carbon atoms, the cyclohexyl group, and alkyl-substituted cyclohexyl groups containing not more than sixteen carbon atoms, R³ being an alkyl group containing not more than three carbon atoms, and M being selected from the class consisting of sodium and potassium.

3,450,802

2-HYDROXYBENZOPHENONE CONTAINING PHOSPHOROUS ACID ESTERS

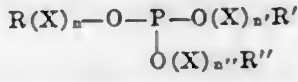
George Wright Taylor and Derek Harold Wood, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,623

Int. Cl. C07f *9/06*

U.S. Cl. 260—946 **4 Claims**

Phosphorous acid derivatives having the structure



$$R(X)_n\text{—}O\text{—}\underset{\underset{\displaystyle O(X)_{n''}R''}{|}}{P}\text{—}O(X)_{n'}R'$$

wherein R represents a 2-hydroxybenzophenone radical which may contain other substituents in the rings. R′ and R″ represent aryl or alkyl groups having at least 6 carbon atoms, X represents the same or different alkylene or alkyleneoxy groups and *n*, *n′* and *n″* are integers having the value 0 or 1.

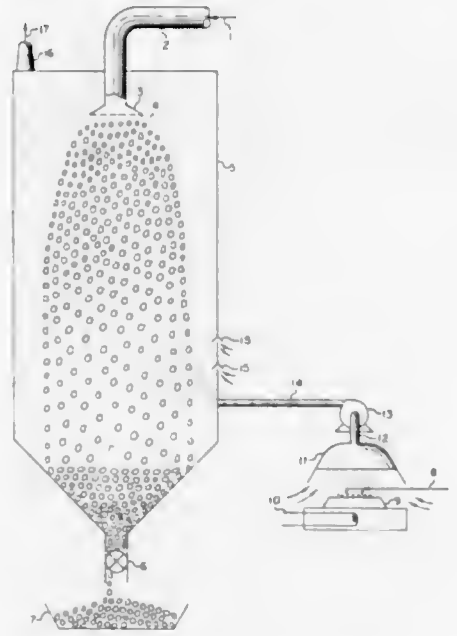
3,450,803
PREPARATION OF POLY (HYDROXYPROPYL) POLYPHOSPHATES

Alec Odinak, New Haven, and Edward J. Thompson, Watertown, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,659
Int. Cl. C07f *9/08;* **C08g** *33/16*
U.S. Cl. 260—978 **13 Claims**

The hydroxyalkoxylation of phosphoric acids which have a P_2O_5 content of at least 78% (normally two viscous to alkoxylate without the use of an inert solvent) is effected by reaction with alkylene oxides using as reaction medium a previously prepared batch of desired end product. Semicontinuous operation is described in which, after reaction is complete in a first alkoxylation, part of the batch is removed, more starting phosphoric acid is added to the remainder of the batch, alkylene oxide is added, and the cycle of operations is repeated.

3,450,804
METHOD OF PRILLING UREA

Harry G. Bockkino, Somerville, Thomas J. Dillon, Elizabeth, and John F. Villiers Fisher, Kendall Park, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,433
Int. Cl. B22d *23/08*
U.S. Cl. 264—14 **4 Claims**

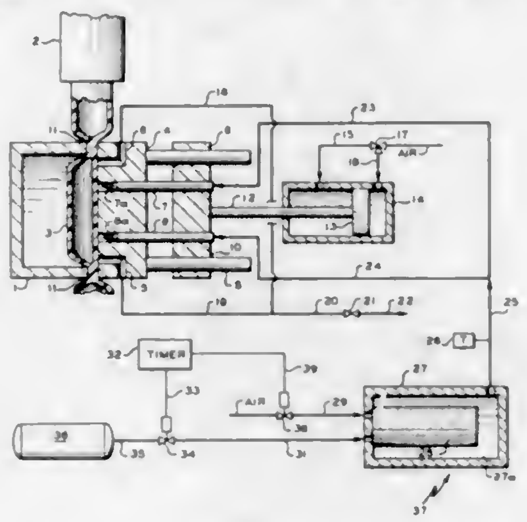


Anhydrous molten urea is prilled by spraying urea droplets in a solidification zone through which air is circulated, and a dispersion of finely divided solid particles is maintained within the solidification zone, so that the droplets solidify without substantial supercooling and thus have reduced content of absorbed water.

3,450,805
PROCESS OF COOLING A BLOWN ARTICLE

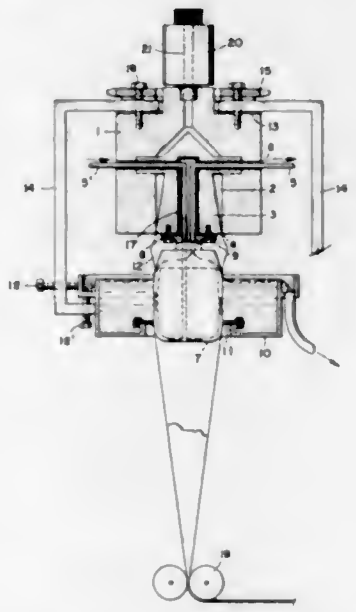
John F. Chesser, Brownwood, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,822
Int. Cl. B29c *17/04*
U.S. Cl. 264—28 **4 Claims**

The cycle time in the blow molding of hollow thermoplastic articles is speeded up without causing distortion to the article being formed by first expanding a parison or sheet or the like against mold walls by means of air and thereafter circulating through the hollow object a mixture of air and a vapor from a warmed liquefied gas. Initial blowing may be done with air at ambient temperature or air which has been passed through the mixing zone and cooled by contact with the cold walls of the mixing zone. Distortion of the inner surface of the formed article which can occur if CO_2 and the like is introduced directly against the thermoplastic material is avoided.



3,450,806
PROCESS AND APPARATUS FOR THE FORMATION OF FILM

Ryota Matsuo and Shido Tanabe, Yoshiwara, Japan, assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,596
Claims priority, application Japan, Nov. 26, 1965, 40/72,541
Int. Cl. B29d *23/04*
U.S. Cl. 264—89 **24 Claims**

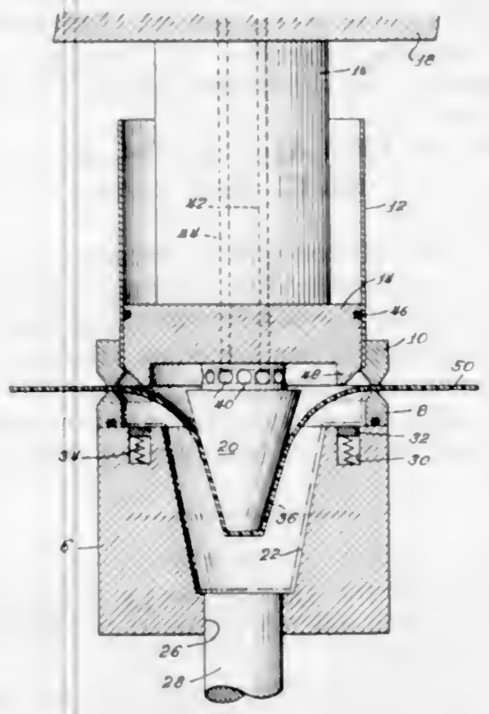


Thermoplastic resin film is formed by extruding resin through a ring die, preliminarily cooling the extruded film with a cooling gas, and then passing the film over a mandrel positioned within a cooling liquid bath. The die, mandrel, and bath are connected in a fixed relationship to each other and are rotated simultaneously to randomize film thickness imperfections over a portion of the film surface.

3,450,807
THERMOPLASTIC SHEET FORMATION

Grant W. Cheney, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation of application Ser. No. 307,573, Sept. 9, 1963. This application June 26, 1967, Ser. No. 649,056
Int. Cl. B29c *17/04*
U.S. Cl. 264—89 **3 Claims**

Method for forming thermoplastic sheet into containers including a housing with a forming plug therein and a sheet clamping means on the lower end of the housing. The sheet is clamped, then billowed into the housing into contact with the forming plug. Then the plug descends into an open-end container mold and the sheet blown to conform to the walls of the mold to form a container. The sheet may be severed after clamping.



3,450,808
METHOD OF PREPARING A SYNTHETIC STONE MATERIAL

Albert L. Roberts, 4309 Paseo de las Tortugas, Torrance, Calif. 90505
No Drawing. Filed Aug. 24, 1966, Ser. No. 574,550
Int. Cl. B29c *3/00*
U.S. Cl. 264—120 **14 Claims**

A method of manufacturing a structural material having the properties of natural stone, said method comprising mixing a thermosetting resin including conventional resin additives and having a viscosity ranging from about 50,000 to about 100,000 centipoises with a sized aggregate, the largest size particle fraction in said aggregate having a mesh size not larger than about ⅕ the thickness of the final product with the average mesh sizes of succeeding smaller particle fractions varying with respect to the preceding larger sized particle fraction by a factor of about three until the smallest size particle size fraction is reached in which the particles have an average size of about 1 to about 10 microns, said resin comprising from about 5 to about 11% by weight and said sized aggregate comprising substantially the balance, molding the mixture of resin and sized aggregate, and curing said molded mixture.

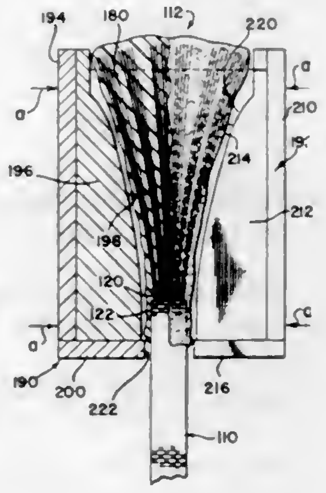
3,450,809
PRODUCTION OF VOLUMINOUS FLEECE BATTS

Robert Schabert, Weinheim an der Bergstrasse, and Helmut Fischer, Unterflockenbach, Germany, assignors to Carl Freudenberg, Weinheim an der Bergstrasse, Germany, a German corporation
No Drawing. Filed Apr. 1, 1966, Ser. No. 539,323
Claims priority, application Germany, Apr. 7, 1965, F 45,755
Int. Cl. D04h *1/64*
U.S. Cl. 264—128 **4 Claims**

A process for producing voluminous nonwoven fleeces which comprises forming a voluminous-nonwoven batt of fibers, at least some of which have been waterproofed prior to batt formation, and thereafter impregnating the voluminous batt with an aqueous dispersion of binder. The waterproofing of the fibers provides the batt with a voluminous nature following impregnation with the binder dispersion.

3,450,810
METHOD OF FORMING A COUPLING DEVICE

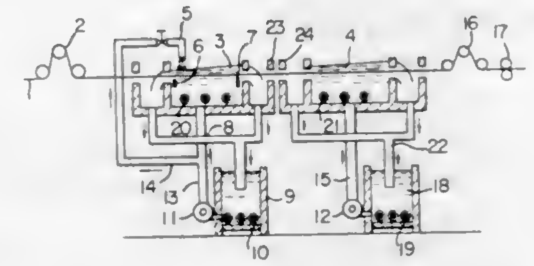
Roe Howe Lagarde, Oxford, Md., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Application Feb. 19, 1965, Ser. No. 438,459, now Patent No. 3,263,289, dated Aug. 2, 1966, which is a continuation-in-part of application Ser. No. 492,973, Sept. 10, 1965. Divided and this application May 13, 1966, Ser. No. 549,915
Int. Cl. B29g *1/00;* **B28b** *23/00;* **B29c** *6/04*
U.S. Cl. 264—137 **5 Claims**



There is provided a method of forming a plastic coupling lug on the end of woven, plastic tape having transverse and longitudinal strands, each strand being formed of many individual plastic filaments. In accordance with this method, the transverse strands at the end of the tape are removed which cause an unravelling of the plastic filaments into an oriented mass. These filaments are then oriented and coated with an uncured plastic material. Then the plastic is molded and cured to provide a plastic lug with the filaments homogeneously distributed therethrough.

3,450,811
METHOD OF DRAWING A POLYESTER TOW AND APPARATUS THEREFOR

Haruki Takizawa and Akitomo Kitamura, Matsuyama-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 268,422, Mar. 27, 1963. This application Sept. 9, 1966, Ser. No. 578,241
Int. Cl. D01d *5/12;* **B29c** *17/02*
U.S. Cl. 264—290 **3 Claims**



A method and apparatus for drawing a tow of polyester fibers between feed and draw rolls without interposing other rolls therebetween, such method and apparatus being one wherein the tow of polyester fibers is first drawn in a liquid bath maintained at a temperature within the range of 40°–80° C. so as to produce the draw points of a major number of monofils and thereafter drawing the remaining monofils in a second bath maintained at a temperature of from 5°–40° higher than the first liquid bath, such temperature not exceeding 100° C.

3,450,812
SOLUBILIZATION OF ANTI-CARIES AGENT

Don Navarro Harris, Somerset, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 30, 1966, Ser. No. 561,698
Int. Cl. A61k *7/16, 27/00*
U.S. Cl. 424—49 **3 Claims**

Solubilization of the antimicrobial agent described in U.S. Patent No. 3,218,239 in a fatty acid ester of a polyethylene glycol of a molecular weight of 400, such as the monococoate ester. The solution of the antimicrobial agent is readily incorporated into oral compositions such as toothpastes.

3,450,813
DENTIFRICE COMPOSITIONS COMPRISING ZIRCONIUM SILICATE OF PARTICULAR PARTICLE SIZE

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a not for profit corporation of Indiana
No Drawing. Continuation-in-part of application Ser. No. 453,515, May 5, 1965. This application Oct. 6, 1967, Ser. No. 673,283
The portion of the term of the patent subsequent to July 11, 1984, has been disclaimed
Int. Cl. A61k *7/16*
U.S. Cl. 424—52 **19 Claims**

New and more effective dentifrice preparations may be obtained by employing zirconium silicate ($ZrSiO_4$) having particle sizes in the range of up to about 8 microns particle size as a cleaning and polishing constituent thereof, as hereinafter described in detail. Additionally, the zirconium silicate agents of the present invention have been shown to enhance the effectiveness of other dentifrice cleaning and polishing constituents such as calcium pyrophosphate ($Ca_2P_2O_7$), calcium hydrogen phosphate dihydrate/anhydrous calcium hydrogen phosphate

$$(CaHPO_4 \cdot 2H_2O/CaHPO_4)$$

insoluble sodium metaphosphate $[(NaPO_3)_x]$, calcium carbonate ($CaCO_3$), talcs $[Mg_3Si_4O_{10}(OH)_2]$ containing at least a minor amount of tremolite $[(CaMg_3(SiO_3)_4]$, and substantially water-impervious, cross-linked, thermosetting, highly polymerized synthetic resins (e.g., melamine formaldehyde resins), such as those described in Cooley et al. U.S. Patent No. 3,070,510. Further, anticariogenic adjuvants (such as stannous fluoride, SnF_2) may advantageously be incorporated in such dentifrice preparations since the described cleaning and polishing mixtures exhibit a high degree of ionic compatibility with fluoride, tin (II), and zirconium ions. Talcs containing at least a minor amount of tremolite have independent utility as dentifrice cleaning and polishing agents.

3,450 814
OPHTHALMIC COMPOSITIONS CONTAINING ALGINIC ACID SALTS OF PILOCARPINE, ATROPINE AND PHYSOSTIGMINE

Arthur W. Bechtold, Boonton, and Vincent J. Rizzo, North Arlington, N.J., assignors to Chemway Corporation, Wayne, N.J., a corporation of Delaware
No Drawing. Filed July 15, 1964, Ser. No. 382,963
Int. Cl. A61k *27/00*
U.S. Cl. 424—180 **6 Claims**

The invention relates to isotonic aqueous ophthalmic solutions containing atropine alginate or pilocarpine alginate or physostigmine alginate.

3,450,815
METHOD OF STIMULATING A HOST DEFENSE MECHANISM WITH AN ACTINOVACCINE

Bernard Fishbein, Princeton, N.J., assignor to Princeton Laboratories, Inc., Princeton, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 24, 1964, Ser. No. 362,498
Int. Cl. A61k *23/00*
U.S. Cl. 424—88 **7 Claims**

A new class of non-specific vaccines termed actinovaccines are produced from the water insoluble component of the mycelia obtained from the growth of cultures of microorganisms of the families Actinomycetaceae and Streptomycetaceae. These novel vaccines are non-specific and when administered to mammals stimulate immunity against a wide variety of heterologous pathogenic microorganisms.

3,450,816
STERILIZATION OF FEMALE MOSQUITOES WITH A HORMONE DERIVED FROM MALE MOSQUITOES

George B. Craig, Jr., and Morton Fuchs, South Bend, Ind., assignors to the United States of America as represented by the Secretary, Department of Health, Education, and Welfare
No Drawing. Filed Nov. 28, 1967, Ser. No. 686,336
Int. Cl. A01n *9/00, 23/00;* **C07q** *17/00*
U.S. Cl. 424—95 **4 Claims**

A method of sterilizing female mosquitoes with a substance extracted from the accessory glands of male mosquitoes, the method of extracting and purifying the substance, and the purified material, named "matrone." Matrone is obtained from the male terminalia by extraction with saline solution or, alternatively, by extracting whole male bodies with organic solvents, followed by extraction of matrone with saline solution. Matrone can be lyophilized and stored. Female mosquitoes to which matrone has been administered by injection or feeding are sterilized for life.

3,450,817
USE OF NICKEL MORPHOLINE DITHIOCARBAMATE AS A NEMATOCIDE

John Joseph Draney, Jr., deceased, late of Livingston, N.J., by Jane Carolee Draney, executrix, Livingston, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed July 18, 1966, Ser. No. 566,080
Int. Cl. A01n *9/12*
U.S. Cl. 424—245 **2 Claims**

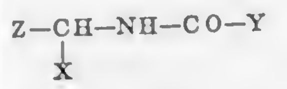
1. A process for the control of nematodes which comprises contacting nematodes infesting soil with nematocidal amounts of nickel morpholine dithiocarbamate.

3,450,818
SIMULTANEOUSLY EFFECTIVE ANTIFUNGAL AND INSECTICIDAL OR ACARICIDAL PESTICIDES

Max Pianka, St. Albans, and John Duncan Edwards, Luton, England, assignors to The Murphy Chemical Company Limited, St. Albans, England, a British company
No Drawing. Filed Apr. 22, 1965, Ser. No. 450,181
Int. Cl. A01n *9/12, 21/00;* **C07c** *155/04*
U.S. Cl. 424—300 **14 Claims**

Certain compounds have been found to have activity

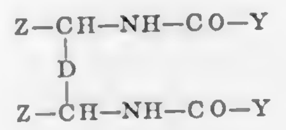
against two or more pests, particularly dissimilar fungal pathogens. These compounds are defined by the structural formulae



$$\begin{array}{l} Z-CH-NH-CO-Y \\ \quad\;\, | \\ \quad\;\, X \end{array}$$

(I)

and



$$\begin{array}{l} Z-CH-NH-CO-Y \\ \quad\;\, | \\ \quad\;\, D \\ \quad\;\, | \\ Z-CH-NH-CO-Y \end{array}$$

(II)

in which:

Z is selected from the group consisting of hydrogen and halogenoloweralkyl groups;
X is selected from the group consisting of:
  (i) the group R.R^{1}N—C(S)—S— where R is selected from the group consisting of hydrogen atom and alkyl groups of from 1–3 carbon atoms and R^1 is an alkyl group of from 1–3 carbon atoms;
  (ii) the group R^{1}O—C(S)—S—, where R^1 has the meaning defined above; and
  (iii) 8-quinolyloxy;
Y is selected from the group consisting of hydrogen, alkyl of from 1–12 carbon atoms, alkenyl of from 2–6 carbon atoms, halogenoloweralkyl, phenyl, halogenophenyl, nitrophenyl, R.R^{1}N — C(S) — S - loweralkyl-, where R and R^1 have the meanings defined above, R^{1}O—C(S)—S-lower alkyl, where R^1 has the meaning defined above, alkoxy of from 1–12 carbon atoms, halogenoalkoxy of from 1–12 carbon atoms, furyl and loweralkoxyphenyl groups, and
D is a loweralkylene bisdithiocarbamoyl group.

The compounds of Formulae I and II can be formulated for use in any desired way. Generally such formulations will include the pesticidal compound in association with a suitable carrier or diluent. Such carriers may be liquid or sold and designed to aid the application of the pesticide either by way of dispersing it where it is to be applied or to provide a formulation which can be made by the user into a dispersible preparation.

Liquid preparations thus particularly include preparations of the pesticide in the form of solutions, suspensions or emulsions which can be used on their own or be adapted to be made up with water or other diluents to form sprays etc.; in such cases the carrier is water or a solvent or emulsion base non-phytotoxic under the conditions of use. Generally such preparation will include a wetting, dispersing or emulsifying agent. Other liquid preparations include aerosols in which the pesticide is associated with a liquid carrier or propellant.

Solid preparations include dusts and wettable powders, granulates and pellets, and semi-solid preparations such as pastes. Such preparations may include inert solid or liquid diluents such as clays, which may themselves have wetting properties, and/or wetting, dispersing or emulsifying agents; binding and/or adhesive agents may also be included. Solid preparations also include thermal fumigating compositions wherein the pesticide is associated with a solid pyrotechnic component.

The pesticide may be used in admixture with other pesticides e.g. other fungicides so as to obtain a product having a wider spectrum of activity.

3,450,819
SYNTHETIC THERAPEUTIC FAT

Vigen K. Babayan, Livingston, N.J., and George Barsky, New York, N.Y., assignors to Drew Chemical Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of applications Ser. No. 312,769, Sept. 30, 1963, Ser. No. 86,408, Feb. 1, 1961, Ser. 651,901, Apr. 10, 1957, Ser. No. 599,703, July 24, 1956. This application July 12, 1965, Ser. No. 476,777
Int. Cl. A61k *27/00*
U.S. Cl. 424—307 **16 Claims**

This invention relates to a novel oil which is the triglyceride of a mixture of 65–95% of caprylic acid, 5–35% of capric acid and 0–5% of caproic and lauric acids, said oil having a setting point below about 0° C. This oil may contain an amount of an essential fatty acid. This oil is particularly useful for people who have difficulty absorbing fats.

3,450,820
PHARMACEUTICAL COMPOSITION CONTAINING TRIACETATE OF ANTHRALIN

Hyman Yarrow, 11 Ossulton Way, Finchley, London N. 2, England, and Martin Whitefield, London, England; said Whitefield assignor to said Yarrow
No Drawing. Filed Sept. 22, 1965, Ser. No. 489,392
Claims priority, application Great Britain, Oct. 16, 1964, 42,377/64
Int. Cl. A61k *27/00, 9/00*
U.S. Cl. 424—311 **7 Claims**

Tri-esters of dithranol (1,8,9-trihydroxyanthracene), especially 1,8,9-triacetoxyanthracene, are useful in the treatment of psoriasis.

3,450,821
STABLE COMPOSITIONS CONTAINING EICOSATETRAYN - (5,8,11,14) - OIC-(1) ACID AND DERIVATIVES THEREOF

Jens Thuroe Carstensen, Montvale, Harold Leon Newmark, Maplewood, and John James Vance, Park Ridge, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 2, 1967, Ser. No. 619,955
Int. Cl. A61k *27/00*
U.S. Cl. 424—318 **6 Claims**

A stable therapeutic composition containing eicosatetrayn-(5,8,11,14)-oic-(1) acid or its lower alkyl esters or pharmaceutically acceptable salts thereof which will not deteriorate or decompose after long periods of standing or storage. This composition contains, in addition to eicosatetrayn-(5,8,11,14)-oic-(1) acid or its aforementioned derivatives, a material selected from the group consisting of edible oils, edible waxes or mixtures thereof.

3,450,822
BROMODICHLOROACETANILIDES AS FUNGICIDES AND NEMATOCIDES

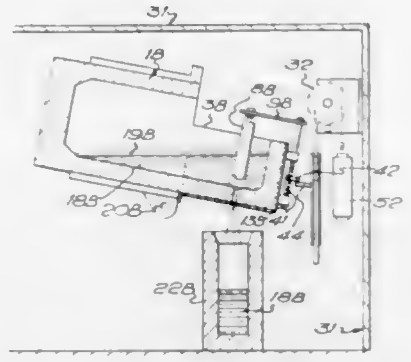
Basil S. Farah, Allentown, Pa., and Everett E. Gilbert, Morris Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Nov. 6, 1964, Ser. No. 409,574, now Patent No. 3,405,176, dated Oct. 8, 1968. Divided and this application Apr. 15, 1968, Ser. No. 735,950
Int. Cl. C07c *103/34;* **A01n** *9/20*
U.S. Cl. 424—324 **3 Claims**

The invention relates to bromodichloroacetanilides which have fungicidal and nematocidal activity.

ELECTRICAL

3,450,823
METAL MELTING FURNACES

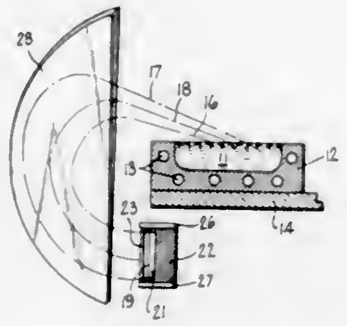
Geoffrey L. Willan, Sheffield, England, assignor to G. L. Willan Limited
Filed Aug. 21, 1967, Ser. No. 661,973
Claims priority, application Great Britain, Sept. 1, 1966, 39,070/66, 39,071/66
Int. Cl. H05b *7/18*
U.S. Cl. 13—10 **3 Claims**



An electric metal melting furnace is provided with a launder extending from the furnace wall at one side, the end of the launder remote from the furnace having a closing wall, the furnace and launder having a tilting axis parallel to the intersection of the rim of the furnace and the rim of the launder, and the launder having an outlet nozzle generally perpendicular to both the tilting axis and the longitudinal (i.e., normally vertical) axis of the furnace, together with removable means for closing the nozzle, and, particularly for vacuum melting, the removable means comprises a stopper automatically withdrawable to open the nozzle and automatically replaceable to close the nozzle.

3,450,824
METHOD AND APPARATUS FOR PRODUCING AND DIRECTING AN ELECTRON BEAM

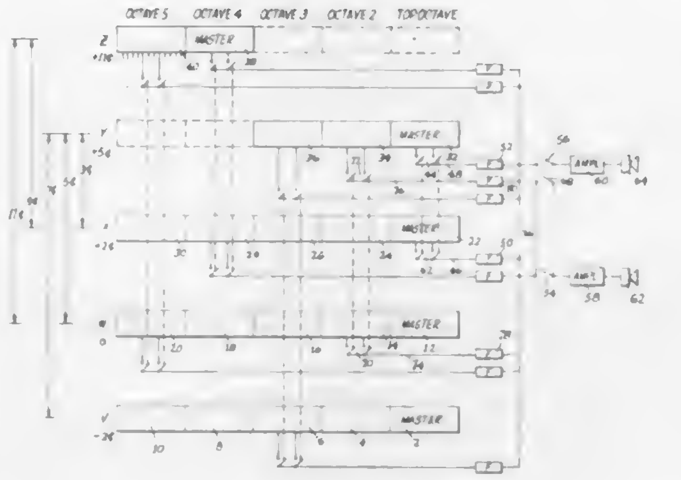
Charles W. Hanks, Orinda, and Howard R. Harker, Mill Valley, Calif., assignors, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
Filed May 22, 1967, Ser. No. 640,138
Int. Cl. H01j *37/30*
U.S. Cl. 13—31 **6 Claims**



Apparatus for producing and directing an electron beam, which incorporates a transverse magnetic field for deflecting the beam through an arcuate path, the electrons toward the outer edge of the arcuate portion of the beam for the greater part of their path of travel passing through a weaker region of the field relative to the electrons toward the inner edge of the arcuate portion of the beam.

3,450,825
CELESTE SYSTEM FOR A LOCKED-OCTAVE ELECTRONIC ORGAN

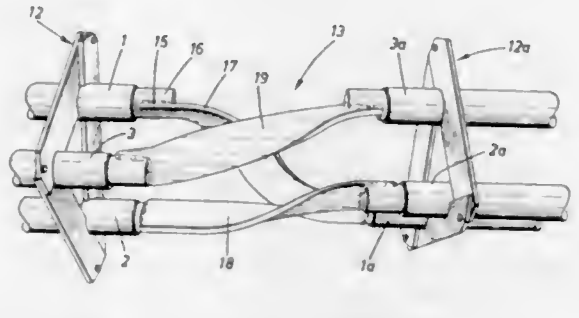
Thomas W. Cunningham, Union Township, Clermont County, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 26, 1965, Ser. No. 509,747
Int. Cl. G10h *1/02*
U.S. Cl. 84—1.24 **15 Claims**



An electronic organ wherein two or more locked-octave tone generators are detuned one from another to an extent sufficient to produce an ensembled effect, while one or more additional locked-octave tone generators are detuned with respect to the first mentioned generators by an amount sufficient to produce a celeste effect, the celeste generators preferably being of lesser pitch range, so that two, for example, may cover the same range as the ensemble generators, the outputs of the generators being keyed and filtered prior to combination so that, if desired, the tone signals can be acoustically mixed.

3,450,826
TRANSPOSITION FOR BUS BARS

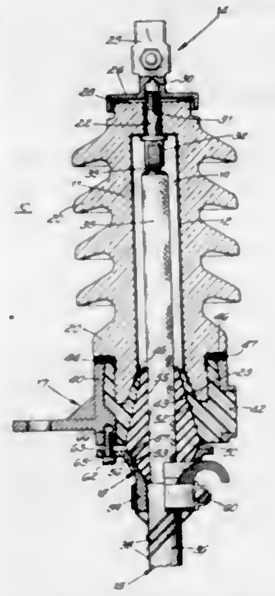
Glenn M. Hanes, Lakefield, Ontario, Canada, assignor to Canadian General Electric Company, Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Dec. 30, 1966, Ser. No. 606,122
Int. Cl. H01b *11/06*
U.S. Cl. 174—34 **9 Claims**



Disclosed is a transposition for electric bus bars spaced apart in a circular pattern inside a metal duct. The transposition comprises curved strips cut helically from a tube having approximately the same outside diameter as the diameter of the circle on which the centers of the bus bars are located. These strips are connected between the ends of circumferentially-spaced bus bars in longitudinally-adjacent bus bar groups.

3,450,827
CABLE TERMINATION HAVING STRESS RELIEF MEANS

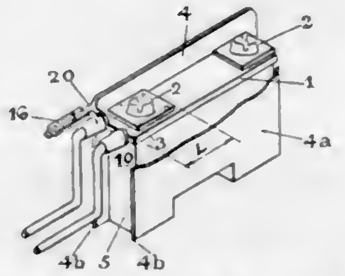
Davis M. Phillips, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed May 23, 1967, Ser. No. 640,624
Int. Cl. H02g *3/06*
U.S. Cl. 174—73 **2 Claims**



A cable termination comprising a hollow insulating housing for receiving a cable and having a connector adjacent one end and stress relief means adjacent its other end and conductive means disposed on the internal surface of the housing and extending between the terminal means and the stress relief means.

3,450,828
TERMINAL PIECE FOR THE CONNECTION OF ELECTRICAL CABLES

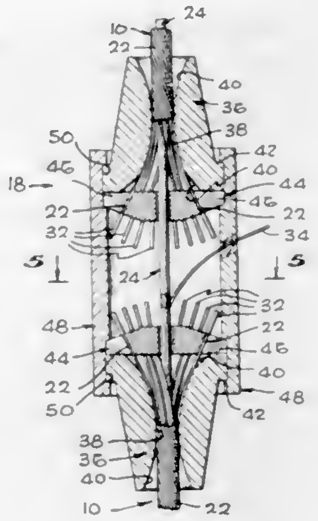
Jean L. Joly, Houilles, France, assignor to La Telemecanique Electrique, Nanterre, France
Filed Oct. 17, 1966, Ser. No. 587,229
Claims priority, application France, Oct. 20, 1965, 35,521
Int. Cl. H02g *15/02*
U.S. Cl. 174—75 **6 Claims**



1. A terminal secured to a stranded electrical conductor comprising:
- (a) a stranded electrical conductor with an insulating sheath covering thereon,
- (b) a portion of said insulating sheath being stripped a predetermined distance,
- (c) a tube of malleable metal having an inner diameter slightly larger than the stripped stranded conductor, said tube being relatively thin and collapsed over said stripped stranded conductor,
- (d) a terminal flared portion at one end of said tube,
- (e) an insulating ring having said terminal flared portion embedded therein,
- (f) a sleeve having an internal diameter approximately corresponding to the outside diameter of said insulating sheath portion and projecting from said ring, and
- (g) rib means on said sleeve frictionally gripping said insulating sheath portion.

3,450,829
PROCESS FOR SALVAGING ARMORED CABLE AND STRUCTURE USED FOR THE SAME

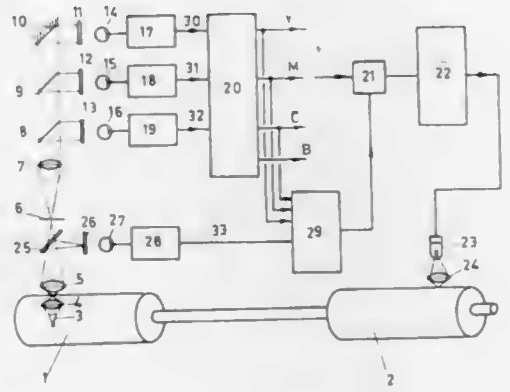
Albert E. Paul, Savage, Md., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,858
Int. Cl. H02g *15/08, 15/02*
U.S. Cl. 174—89 **8 Claims**



The disclosure relates to a cable connecting structure for attaching two ends of a previously used armored cable. The connecting structure includes a substantially non-corrosive malleable metal coating provided on the opposing sets of the exposed ends of the armored cable's protective wire. Such a coating serves as a malleable interface for permitting a swaged member to be attached to the ends of each of the protective wires. The connecting structure also includes a pair of foraminated discs for receiving each set of the protective wires and engaging the swaged members in a load bearing relationship. These discs are then joined together by a cylindrical housing to provide a load bearing transmission path between the two sets of protective wires. The disclosure also relates to a process for treating the ends of the protective wires for depositing the layer of corrosion resistant malleable metal thereon.

3,450,830
PHOTOGRAPHIC REPRODUCTION EMPLOYING BOTH SHARP AND UNSHARP MASKING

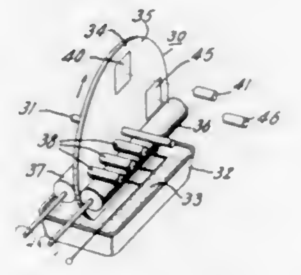
Derek J. Kyte, 117 Valley Road, Chorleywood, England
Filed Sept. 14, 1966, Ser. No. 579,298
Claims priority, application Great Britain, Sept. 20, 1965, 40,081/65
Int. Cl. H04n *5/38, 5/44*
U.S. Cl. 178—5.2 **3 Claims**



Three color separation signals are produced by photoelectric "sharp" scanning apparatus, and a luminescence ("white") signal is produced by "unsharp" scanning apparatus. The maximum and minimum values of the four signals are then electronically processed to form a secondary correction signal which is added to each of the color correction signals, each of which is recorded on a photo-sensitive record. Reconstruction of the multicolor image from the record yields an image in which the details appear more sharply than in the original.

3,450,831
INFORMATION RECORDING AND DISPLAY WITH PARTICLE MIGRATION IN AN ELECTRIC FIELD

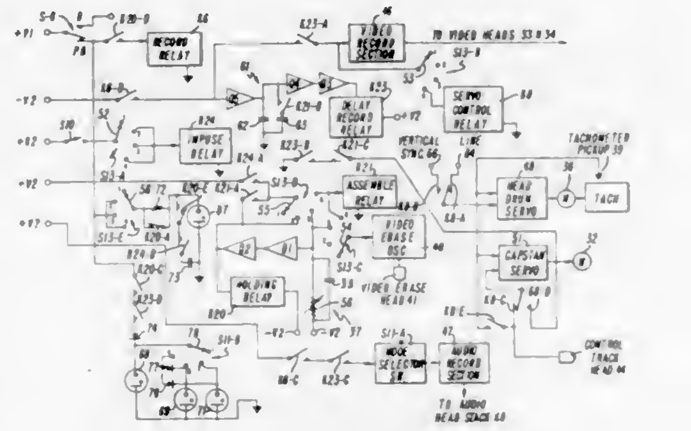
Joseph Gaynor, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 11, 1966, Ser. No. 526,757
Int. Cl. H04n *5/76, 3/16, 5/44*
U.S. Cl. 178—6.6 **21 Claims**



An information recording and display system has a film of liquid dielectric recording material on a substrate, with fine particles suspendend in the film. The particles migrate through the film when subjected to a non-uniform electric field, forming an image. The liquid film may be a heated thermoplastic, permitting cooling to retain the image.

3,450,832
ELECTRONIC EDITING SYSTEM FOR HELICAL SCAN VIDEO TAPE RECORDER

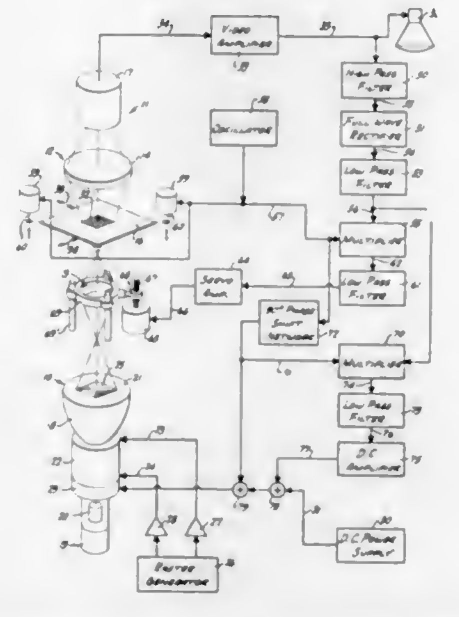
Donald B. MacLeod, Woodside, and Arnold Macklin, San Jose, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Jan. 3, 1966, Ser. No. 518,408
Int. Cl. H04n *5/78*
U.S. Cl. 178—6.6 **6 Claims**



An electronic editing system for helical scan video tape recorders. The system includes means for selectively energizing video record head means with desired video signals when predetermined points of an existing video tape recording are adjacent the head means. Means are also provided for selectively energizing a video erase head disposed upstream from the record head and adjacent the tape. Means are further included to selectively deenergize the video head means in predetermined delayed relation to the energization of the erase head. The system also incorporates means for maintaining the capstan and head drum servos of the recorder in a playback mode during recording of the new signal or selectively recording a control track on the tape which is in synchronism with both the original and new recorded signals. Appropriate correlated action of the foregoing means to conduct various editing operations may be effective by logic circuitry means associated therewith and controlled by an editing mode selector.

3,450,833
AUTOMATIC FOCUSING SYSTEM FOR A FLYING-SPOT SCANNER

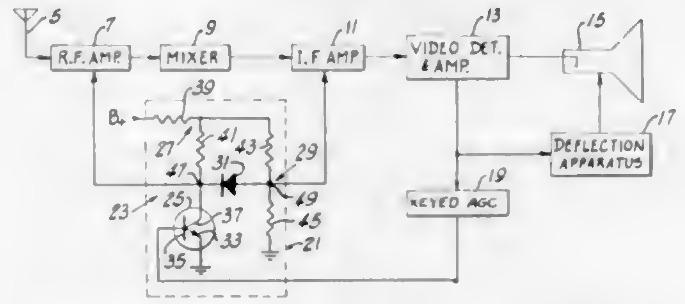
Gilbert L. Hobrough, Woburn, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,601
Int. Cl. H04n *5/38*
U.S. Cl. 178—7.2 **2 Claims**



This disclosure relates to an automatic focusing system useful with electro-optical scanning mechanisms such as those employed in the conversion of photographic images into video signals; and in greater particularity, the disclosure is concerned with the automatic maintenance of accurate optical and election beam focus in a high resolution, large aperture flying-spot scanning mechanism comprising a flying spot scanning assembly and a light-collection assembly operatively arranged therewith.

3,450,834
AUTOMATIC GAIN CONTROL CIRCUIT

Joseph V. De Marinis and Benton B. Scott, Batavia, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,955
Int. Cl. H04n *3/16, 5/38;* **H04b** *1/16*
U.S. Cl. 178—7.3 **4 Claims**

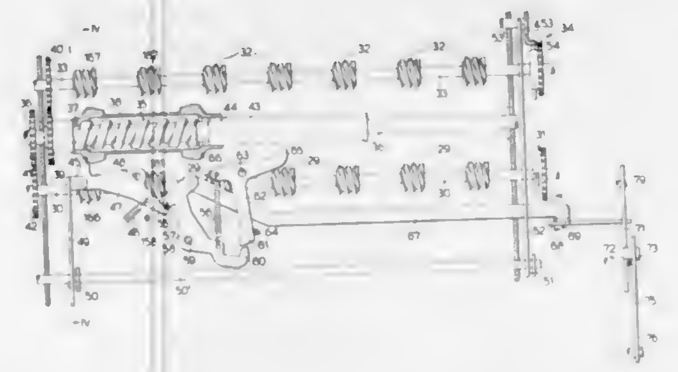


A transistor and a voltage dependent impedance and cascaded first and second voltage dividers selectively

couple automatic gain control signals of equal rates and magnitudes below a received signal threshold level to first and second amplifier stages and of unequal rates and magnitudes above a given threshold value of received signals.

3,450,835
STORING DEVICE FOR CODE COMBINATIONS OF TELEPRINTERS OR SIMILAR MACHINES

Giuseppe Ricciardi and Boris Ukmar, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed June 21, 1967, Ser. No. 647,648
Claims priority, application Italy, June 24, 1966, 34,046/66
Int. Cl. H04l *15/28, 15/32*
U.S. Cl. 178—17.5 **13 Claims**

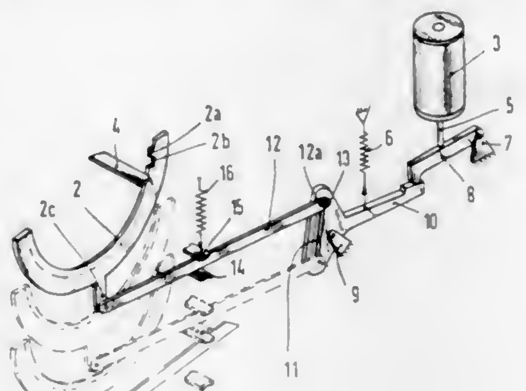


A storing device for code combinations of teleprinters comprises a set of independent memory cells settable stepwise by setting members rotatable concomittantly with a nut and readable by reading members rotatable with a screw engaging said nut which is axially displaceable with respect thereto. The nut when displaced from a rest position causes the reading operation and when it reaches another position locks the keyboard. A pair of additional memory cells causes the shift combination to be automatically transmitted. In a modified embodiment a few combinations on the memory can be read only when a function combination is set up or a memory clearing key is depressed.

3,450,836
PRINTING MACHINE IN A TRANSMISSION SYSTEM HAVING A PARITY STEP ADDED TO THE INFORMATION STEPS TO PROVIDE A SAFEGUARD AGAINST INTERFERENCES

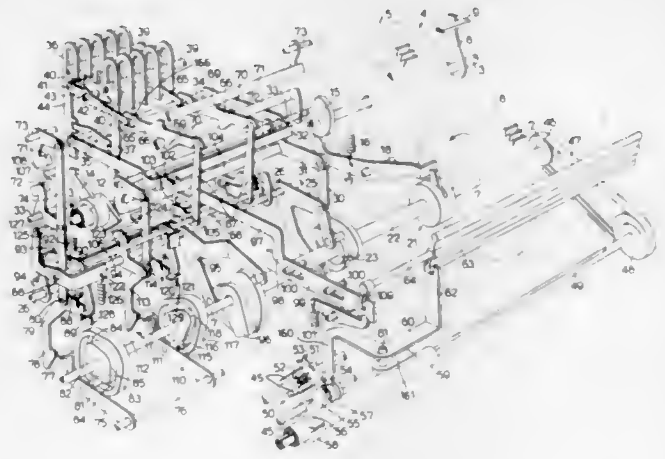
Werner Bester, Munich, Fritz Butzke, Baierbrunn-Buchenhain, Fritz Hennig, Munich-Solln, and Sven Voelcker, Richard Reier, and Rudolf Rekewitz, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 22, 1965, Ser. No. 505,134
Claims priority, application Germany, Dec. 11, 1964, S 94,577
Int. Cl. H04l *15/34, 15/24*
U.S. Cl. 178—23 **10 Claims**

Teletype transmission system in which a parity step is added to the information steps of each Teletype character. A parity member is associated with each series of selector members or code bars, and an electromagnet controlled by a signal current selectively moves the selector members to align the slots adjacent a selected message type lever, to accommodate operation of the type lever pull bar to print a character. The parity member is in alignment with the selector members and is controlled by a signal current and moves into position to block the pull bar from dropping into a selector member slot upon a signal designating an error. A leverage arrangement connected with the mechanism for operating the type lever pull rods is provided to effect the printing of an error mark. A leverage arrangement operated by an error signal is, also, provided to prevent the printing of a character in error.



3,450,837
CODE TRANSLATING DEVICE FOR A START-STOP TELEPRINTER

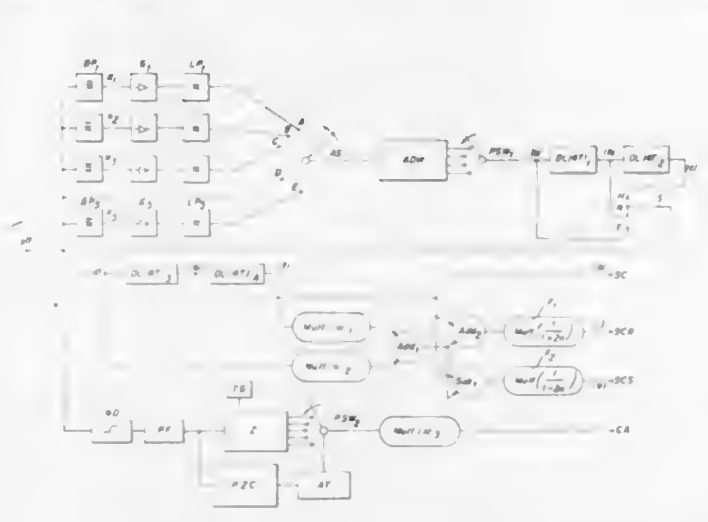
Giuseppe Ricciardi and Bruno Sandrone, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy
Filed July 21, 1967, Ser. No. 655,132
Claims priority, application Italy, July 25, 1966, 17,584/66
Int. Cl. H04l *15/34*
U.S. Cl. 178—23 **8 Claims**



In a start-stop teleprinter wherein a code combination is received under the control of an arrhythmical cyclically operating shaft, and wherein a set of printing code members is simultaneously and rhythmically settable by a shaft continuously rotating at a predetermined frequency, a translating device comprises a first set of transfer members adapted to be predisposed arrhythmically and operable by a first pair of universal bars repeatedly driven at a frequency multiple of said predetermined frequency by a second shaft rotatable concomitantly with the first shaft. The transfer members of the first set upon being so operated predispose a second set of transfer members operable by a second pair of universal bars at said predetermined frequency to accordingly set the printing code members.

3,450,838
DEVICE MODIFYING PITCH FREQUENCY AND/OR ARTICULATION SPEED FOR NATURAL SPEECH

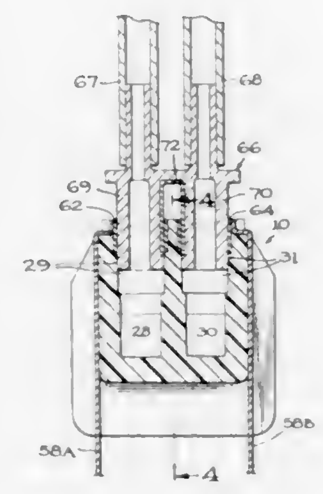
Kurt Bandat and Ernst Rothauser, Vienna, Austria, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 1, 1965, Ser. No. 444,686
Claims priority, application Austria, Oct. 16, 1964, A 8,823/64
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 **3 Claims**



An apparatus for modifying the pitch frequency, the tone and the articulation speed of natural speech. The speech signal is operated on by two channels. The first of these being the speech channel in which an encoding unit separates the incoming speech into a group of frequency bands, an A to D converter for digitizing the signals in each of the frequency bands, a chain of digital storage units each having two inputs, adders for adding the values occurring at the two inputs of the digital storing units, and multiplying circuits for varying the number of pulses transmitted to thereby achieve variation in the speech frequency, tone, and articulation speed. The second channel is an analyzing device for performing arithmetic and logical operations on the speech signal to control the variation in pitch frequency, tone and articulation speed in the speech channel.

3,450,839
SELECTIVE TRANSDUCER APPARATUS FOR PASSENGER VEHICLES

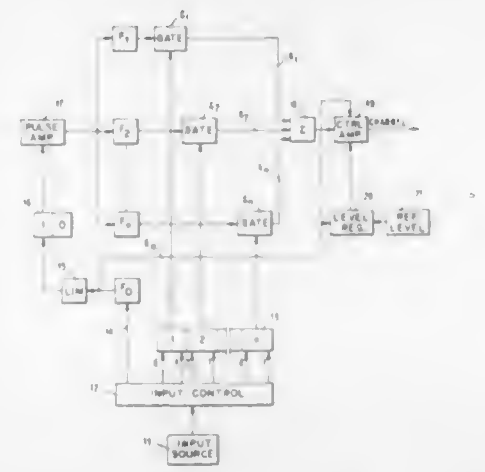
Thomas Albert Scanlon, Barrington, R.I., assignor to PM & E Electronics, Inc., East Providence, R.I., a corporation of Rhode Island
Filed Nov. 7, 1966, Ser. No. 592,519
Int. Cl. H04m *1/02*
U.S. Cl. 179—1 **5 Claims**



This specification discloses transducer apparatus intended for installation at the seat of a passenger vehicle which enables a passenger to listen to any one of several regular or free audio programs with a regular headrest or any of these programs and a special program which is receivable only by a special headset for which a fee is paid. The apparatus comprises a transducer, a sound tube headset, a detachable connection between the headset and the transducer, a plurality of audio circuits, a switch for selectively connecting one of said circuits to the transducer, one of said circuits being interrupted by spaced contacts, and a key included in said detachable connection for bridging said contacts to complete said one circuit when it is selected by said switch.

3,450,840
MULTIPLEX DATA TRANSMISSION SYSTEM USING ORTHOGONAL TRANSMISSION WAVEFORMS

Edwin Vogt, Hartsdale, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,769
Int. Cl. H04j *1/02, 3/04;* **H04b** *7/00*
U.S. Cl. 179—15 **3 Claims**

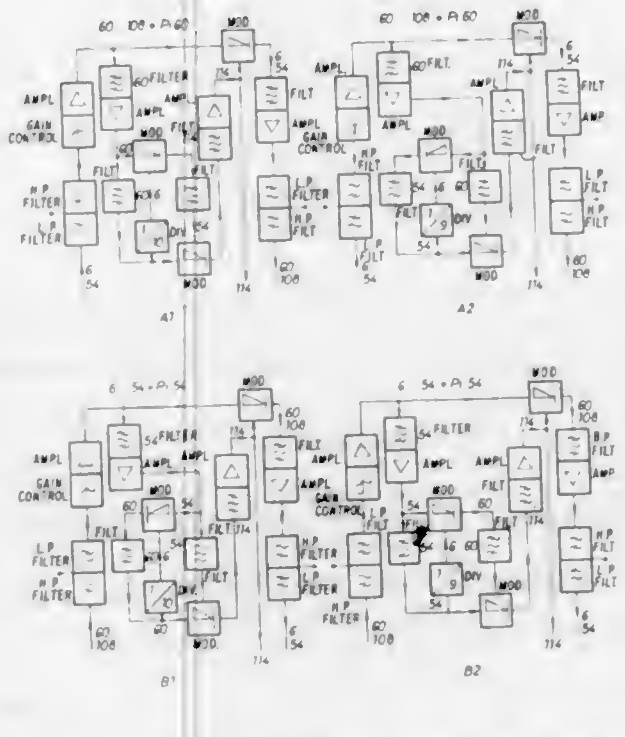


Apparatus for multiplex transmission of data wherein the transmitting apparatus includes a set of filters chosen so their characteristic responses to excitation by unit impulses provide a set of orthogonal transmission waveforms. A gate circuit is associated with each filter so that during each transmission interval, combinations of waveforms are selected under control of data presented at the corresponding input channels. The selected waveforms are then superimposed to form a composite signal for transmission to the receiving apparatus. The receiving apparatus includes a distributor having one output for each channel. Each of the outputs is connected to an evaluation circuit, each of which is responsive to the presence or absence of a separate one of the orthogonal transmission waveforms.

3,450,841
CARRIER FREQUENCY STABILIZATION FOR CARRIER FREQUENCY SYSTEMS WITH SUPPRESSED CARRIER WAVES

Walter Zeiser, Stuttgart, Hans Loffler, Ludwigsburg, and Otmar Kolb, Stuttgart-Weilimdorf, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1965, Ser. No. 476,430
Int. Cl. H04j *1/04*
U.S. Cl. 179—15 **1 Claim**

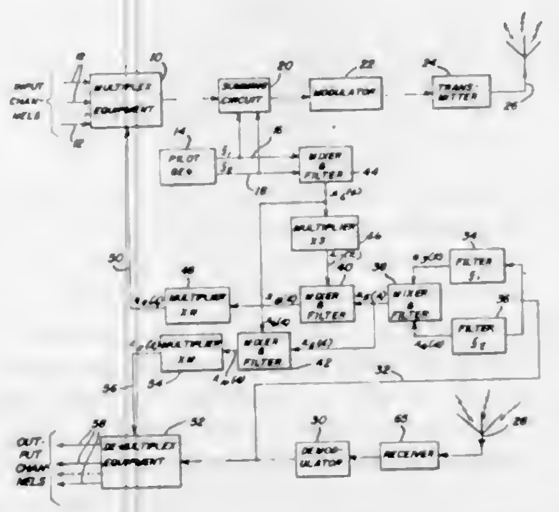
Carrier frequency systems utilizing carrier suppression. Pilot signals are transmitted from west-to-east and from east-to-west. The pilots are individually used at the repeaters and at certain terminal stations to reconstruct



the carrier signal for use in stabilizing the systems, such as with frequency frogging.

3,450,842
DOPPLER FREQUENCY SPREAD CORRECTION DEVICE FOR MULTIPLEX TRANSMISSIONS

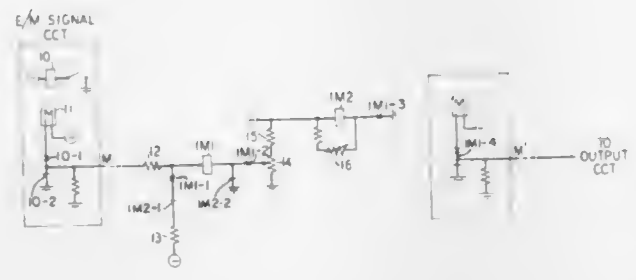
David W. Lipke, Bethesda, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 22, 1965, Ser. No. 502,753
Int. Cl. H04j *1/00;* **H04l** *5/00;* **H04b** *1/40*
U.S. Cl. 179—15 **12 Claims**



A device for automatic correction of the baseband Doppler spread encountered in communication systems designed for multiplex transmissions is described. Multiplex equipment receives incoming signals and "stacks" them one atop the other in frequency so that the output frequency spectrum extends to XN kilocycles per second where X=the bandwidth of each channel and N=the number of input channels. The device makes use of the method employed in the multiplex equipment for generating translation frequencies. In essence, it replaces the oscillator with a signal which has Doppler information. This signal is derived from pilot tones or frequencies. The new signal is equal in frequency to that of the replaced oscillator plus or minus the Doppler on the oscillator frequency, i.e., the one-way Doppler that the oscillator frequency would experience if it were transmitted to a moving vehicle. All harmonics will have corresponding multiples of the required Doppler spread correction and as a result, the Doppler spread will be compensated incrementally in X kilocycles per second steps across the baseband.

3,450,843
DIAL PULSE REPEATING AND CORRECTING CIRCUIT

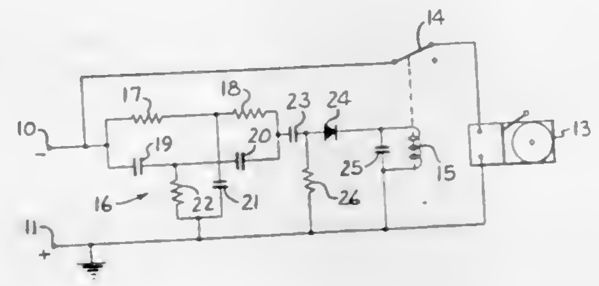
Walter W. Fritschi, Seaview Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 24, 1965, Ser. No. 509,496
Int. Cl. H04m *3/18;* **H04q** *1/36*
U.S. Cl. 179—16 **4 Claims**



Circuitry is disclosed to reshape direct current input pulses so as to provide pulses conforming to desired minimum "break" and "make" intervals. A pair of relays and their contact sets are arranged so that the first relay is initially responsive to the input pulses and the second relay is responsive to the operation of the first relay. Contacts of the second relay in a holding path for the winding of the first relay inhibit the first relay from releasing until the second relay is operated. This insures a minimum operate, or "make," time for the contacts of the first relay equal to the operate time of the second relay plus the release time of the first relay. The contacts of the two relays are further arranged so that the first relay cannot reoperate until the second relay is released, thereby insuring a minimum "break" interval equal to the release time of the second relay.

3,450,844
FREQUENCY SELECTIVE CONTROL CIRCUIT

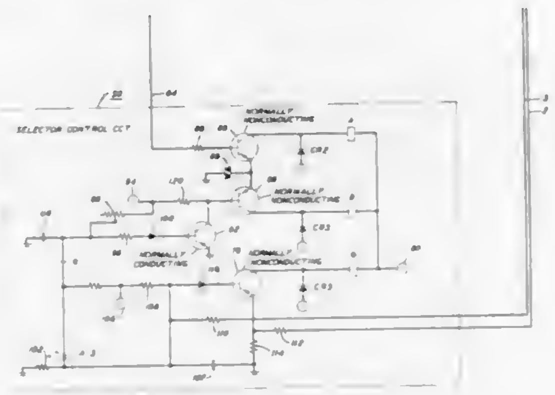
James E. MacDowell, Lawrenceville, Ill., assignor to Suttle Corporation, a corporation of Illinois
Filed Nov. 26, 1965, Ser. No. 509,880
Int. Cl. H04m *1/00, 3/56*
U.S. Cl. 179—84 **3 Claims**



A telephone ringing circuit responsive to a particular ringing frequency is described in which a normally closed relay and a twin-T selective frequency rejection network which cause all but a given predetermined ringing frequency to open the normally closed relay and disconnect the ringing device.

3,450,845
DIAL SELECTIVE INTERCOMMUNICATION SYSTEM

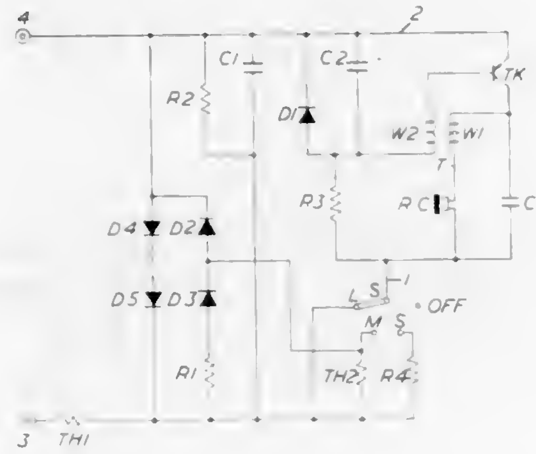
Charles E. Morse, Holmdel, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 29, 1965, Ser. No. 491,349
Int. Cl. H04m *1/00*
U.S. Cl. 179—84 **8 Claims**



A dial selective intercom system is disclosed wherein all stations of the system are connected to a common talking path and the system provides the capability for applying a single burst of ringing to a selected station of the system in response to the dialing of its associated dial code by a calling station in the system.

3,450,846
TELEPHONE TONE RINGER

John Frederick Why, Dunstable, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 18, 1966, Ser. No. 566,135
Int. Cl. H04m *3/02*
U.S. Cl. 179—84 **8 Claims**

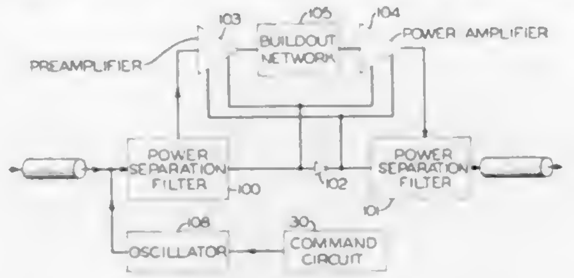


A telephone tone ringer circuit using a thermally sensitive component to delay the application of the full volume of the audible signal.

3,450,847
METHOD AND APPARATUS FOR MONITORING THE OPERATION OF UNATTENDED AMPLIFIERS

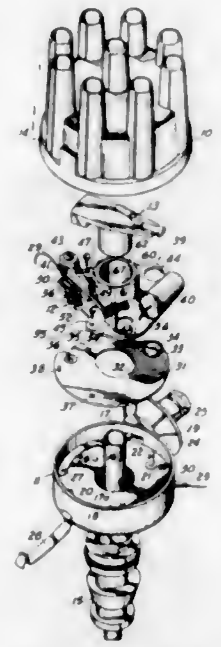
Richard R. Barnes, Dallas, Tex., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed July 28, 1966, Ser. No. 568,498
Int. Cl. H04b *3/46*
U.S. Cl. 179—175.31 **5 Claims**

A repeater monitoring system capable of locating a faulty or inoperative repeater and measuring its operating characteristics. Each repeater is provided with an oscillator for generating a test tone having a frequency peculiar to and indicative of that repeater, and to be turned on in groups or test sections along the transmission line. The frequency is reduced by means of a beat frequency and the reduced frequency signal is passed through appropriate filters that respond to a special sequencing arrangement. A nulling system is provided for comparison of the received signals.



3,450,848
DISTRIBUTOR WITH REMOVABLE BREAKER CAM AND POINTS

Etienne P. Prins, 644 Cherokee St., Marietta, Ga. 30060
Filed Sept. 21, 1967, Ser. No. 669,516
Int. Cl. H01h *19/00*
U.S. Cl. 200—22 **8 Claims**

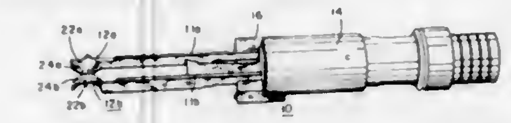


A distributor with a removable breaker cam and points of the type utilized with an internal combustion engine, comprising a support plate defining an aperture inserted over the upper end of the distributor drive shaft, a breaker cam freely rotatably supported in the aperture by the support plate and slidably received over the upper end of the drive shaft in such a manner as to be rotatably secured to the drive shaft, and circuit breaker points supported on the support plate adjacent the breaker cam and responsive to the rotation of the breaker cam to open and close an electrical circuit. The support plate, circuit breaker points, and breaker cam are removable from the distributor housing as a unit, so that the gap of the points can be set at a point remote from the engine.

3,450,849
CONTACT ASSEMBLY

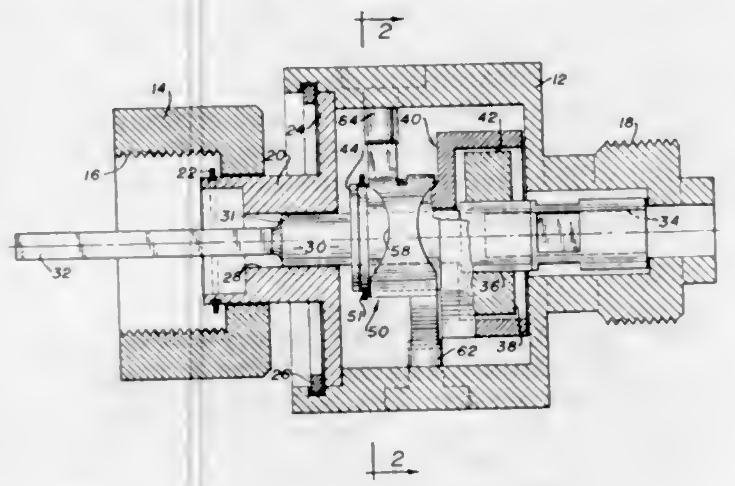
Gerhart Klaiber and Charles H. Maps, Jr., West Long Branch, N.J., assignors to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Continuation of application Ser. No. 501,832, Oct. 22, 1965. This application Dec. 5, 1967, Ser. No. 688,262
Int. Cl. H01v *33/30*
U.S. Cl. 200—51.1 **11 Claims**

In accordance with the present invention there is provided an electrical contact assembly for receiving a patchcord pin contact from both its front direction and from its side direction. The contact assembly comprises a pair of resilient spring blade members each having a relatively long longitudinal dimension and a relatively short transverse dimension. The blade members are secured in a body member remote from their front edges with the blade members being resiliently biased toward each other. Each of the blade members have a contact tip formed therein adjacent its front edge with each contact tip extending toward and opposing the other contact tip. Each contact tip has a surface flairing away from the other contact tip surface toward the front edge to form a pair of front entry flares. In addition each of the contact tip surfaces also flares away from the other contact tip surface of the blade member to form a pair of side entry flares. Thus the patchcord pin contact may be inserted from the side by way of the side entry flares to engage the tips or from the front by way of the front entry flares to engage the tips.



3,450,850
ROTATION RESPONSIVE SWITCH

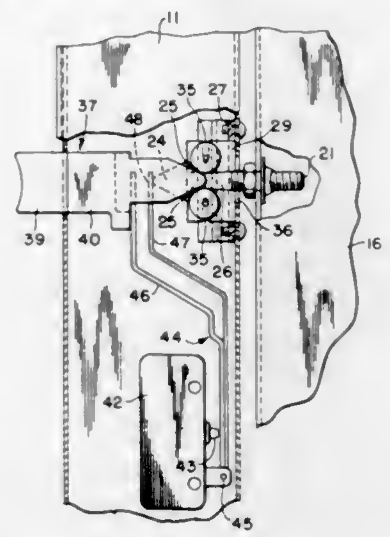
Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.
Filed Oct. 5, 1966, Ser. No. 584,545
Int. Cl. H01h *3/16;* **B60q** *1/26*
U.S. Cl. 200—61.39 **4 Claims**



An electrical switch that establishes a circuit in response to rotation of a rotatable member in one direction and which interrupts the circuit when the rotatable member is stationary or is rotating in an opposite direction. The rotatable member has a cylindric surface; a convoluted spring is disposed around such cylindric surface throughout approximately a full 360 degree extent of the cylindric surface. The convoluted spring has a spiral portion extending from the portion that circumscribes the cylindric surface and the free end of such spiral portion is fixed to the case in which the rotatable member is supported so as to rotatably bias the spring. A contact point extends radially from the spring and a contact post is attached to the case and extends radially inwardly toward the movable contact point. The spiral portion of the spring biases the contact point away from the contact post until the cylindrical member rotates in the appropriate direction to move the point in a direction toward the post. Such direction tends to unwind the spring so as to permit relative movement between the cylindric surface and the spring.

3,450,851
DOOR LATCH MECHANISM

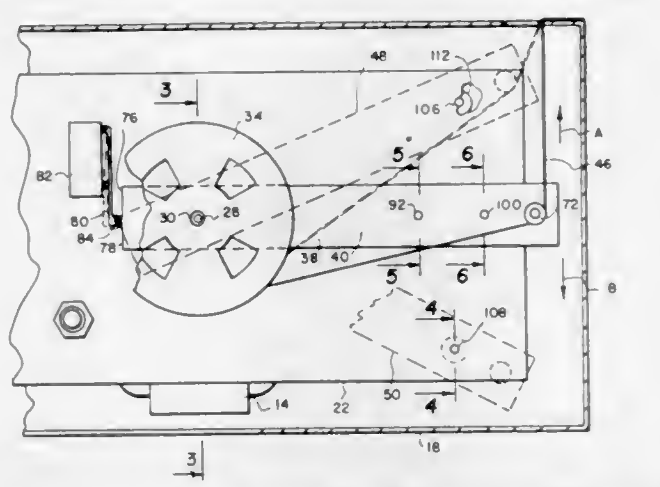
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Apr. 13, 1966, Ser. No. 542,391
Int. Cl. H01h *13/52*
U.S. Cl. 200—61.68 **9 Claims**



A combination latch and switch assembly for a dishwasher door, the latch having a push-button release which opens switch contacts to interrupt operation of the machine if running before the door opens. The latch includes a strike with a spear form head and spring biased rollers cammed apart by and engaging behind the strike head, with the release wedging the rollers apart to free the strike head.

3,450,852
FILAMENT ACTUATED ALARM DEVICE

William A. Rhodes, 4421 N. 13th Place, Phoenix, Ariz. 85014
Filed Sept. 29, 1966, Ser. No. 582,965
Int. Cl. H01h *3/14, 17/10;* **G08b** *13/12*
U.S. Cl. 200—61.93 **8 Claims**

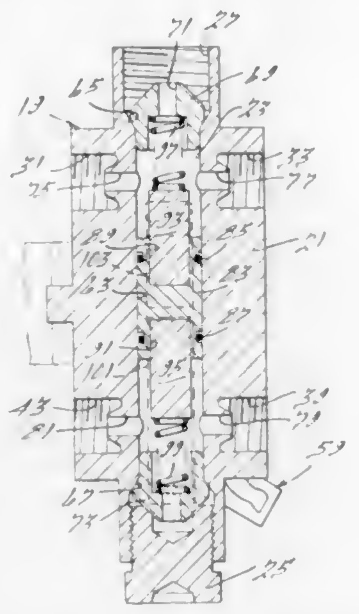


This is an alarm device using the force of gravity and a thread line to detect intrusion of burglars or fire when its thread is tighthened, cut, burned or released to provide an audible or silent alarm from a source of electricity.

3,450,853
MAGNETICALLY OPERATED SIGNAL SWITCH FOR HYDRAULIC BRAKE SYSTEM

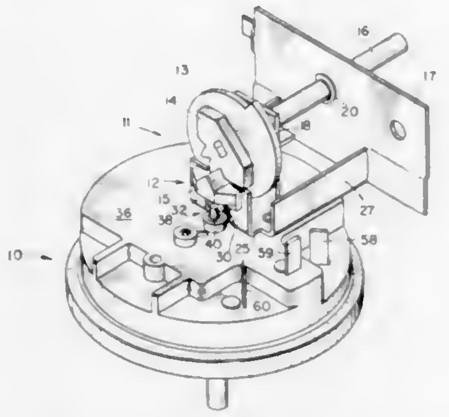
George D. Snyder, Oak Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,925
Int. Cl. H01h *35/38*
U.S. Cl. 200—82 **2 Claims**

Switch device adapted to close an electrical circuit through a warning lamp in event of leakage in one fluid circuit of a two fluid circuit hydraulic brake system of a vehicle. Device includes a housing having a pair of magnets movable as a unit in response to a predetermined pressure differential on opposite sides of the magnet unit, the magnet movement causing an external pair of contacts under the influence of the magnetic field to close, thereby closing the electrical circuit.



3,450,854
CONTROL MEANS FOR PRESSURE RESPONSIVE SWITCH

Harold T. Simmons, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,144
Int. Cl. H01h *35/40*
U.S. Cl. 200—83 **9 Claims**

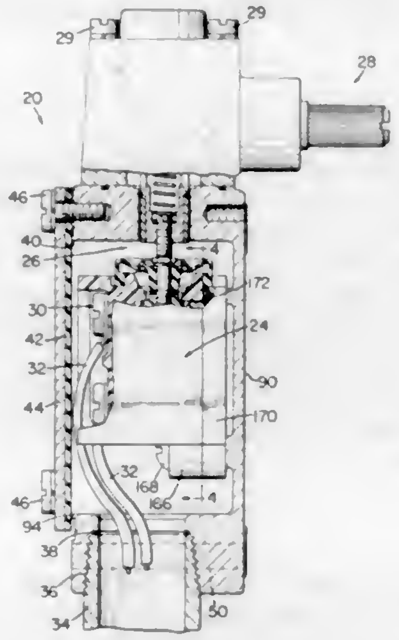


A pressure responsive switch that is actuated by fluid pressure acting against a diaphragm. A control means calibrates and sets an overcenter snap switch, the control means having a calibration means and a detent cam with an actuator responsive to the cam. The detent cam with the actuator is so constructed that the actuator cannot get "hung up" on the cam.

3,450,855
SEALED LIMIT SWITCH

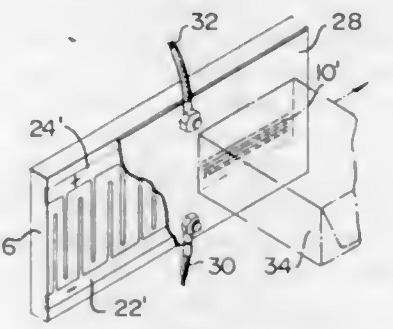
William J. Russell, Malvern, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 577,011
Int. Cl. H01h *9/02*
U.S. Cl. 200—168 **13 Claims**

This application discloses a switch casing construction with a switch therein. Switch power lines are connected to connecting means or screws on the switch to connect switch power lines for control of one or more circuits by the switch. A switch access opening is provided on the casing for access to the switch line connecting means, for attaching the switch power lines to the switch. A cover is provided for the access opening, which will be used when the switch casing construction is to be used alone without any plug-in casing. Such switch casing construction can be mounted on any support desired, and may operate in the usual manner. A plug-in casing has prong interlock means in the casing and plug-in power line connecting means for connection of the plug-in power lines to the interlock means. A plug-in access opening is provided for access for the prong interlock means in the plug-in casing. A plug-in change prong interlock means or construction is provided to replace the switch power line connecting means, so that the switch casing may be changed to be connected to the plug-in casing. This is accomplished by omitting the cover and securing the switch casing and the plug-in casing together at the access openings and with power lines connected to the plug-in power line connecting means.



3,450,856
ELECTRICAL HEAT TREATING SYSTEM FOR SEALING CARTONS OR THE LIKE

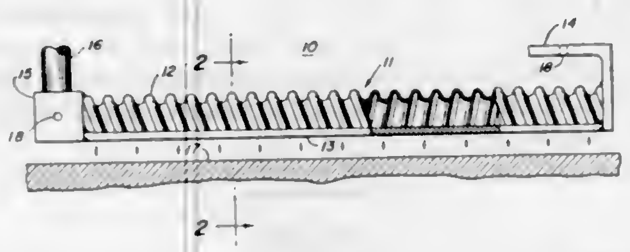
James G. Buck, Western Springs, Robert A. Winkless, Oak Lawn, and Howard L. Gerber, Park Forest, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,380
Int. Cl. B23k *13/02*
U.S. Cl. 219—10.53 **12 Claims**



Methods and apparatus for heat sealing cartons by positioning upon carton portions to be sealed an electrical conductor and establishing an alternating electric field in the area of the electrical conductor to effect heating of the conductor and proximate heat-reactive material by electrical conduction in the conductor induced therein by capacitive coupling with nearby field producing electrodes.

3,450,857
GAS SHIELDING DEVICE

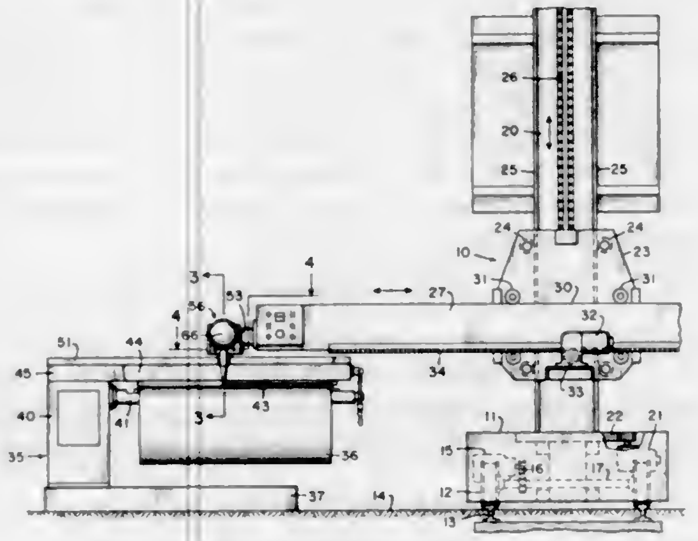
Walter S. Webb, Albuquerque, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 25, 1967, Ser. No. 612,296
Int. Cl. B23k *9/16, 35/38*
U.S. Cl. 219—74 **2 Claims**



A device to supply inert gas shielding to a desired zone, e.g., oxidizable material while the material is in an oxidizable condition such as a weld that is still at an oxidizing temperature, which can be readily configured to conform generally to the shape of the oxidizable material or an associated workpiece. The device includes a flexible conduit having a flexible, porous, sintered metal wall along one side thereof which may be disposed adjacent said zone.

3,450,858
WELDING MECHANISM

Anthony K. Pandjiris, St. Louis, Mo., assignor to The Pandjiris Weldment Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 16, 1965, Ser. No. 440,325
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 **12 Claims**

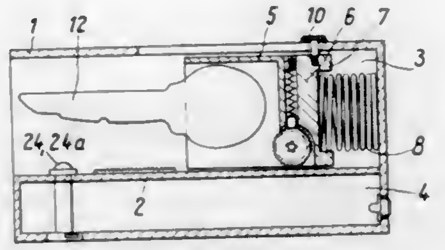


A welding mechanism in which a welding machine is mounted on the boom of a manipulator, and a follower means interconnects the welding machine with a track means that duplicates an arc path to be followed on a workpiece. The track means is on the workpiece-positioning device spaced from the workpiece. A resilient means operatively interconnects the welding machine and boom and tends to urge the welding machine in one lateral direction or the other to a predetermined position between its range of transverse shifting movement relative to the linear boom path upon lateral displacement from such predetermined position.

In an operating assembly, a plurality of workpiece-positioning devices are located in predetermined positions relative to the manipulator, the manipulator being adjustable to bring the follower means into operative engagement with the track selectively of any one of the workpiece-positioning devices and thereby effect welding operation on the workpiece positioned by such device.

3,450,859
DEVICE FOR HEATING KEYS FOR DEFROSTING FROZEN LOCKS

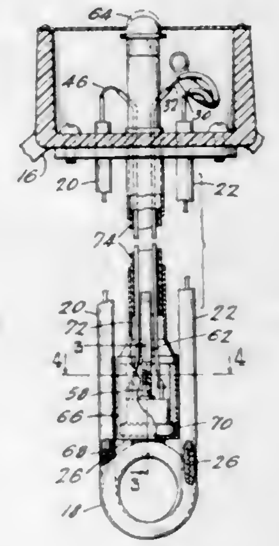
Horst Brucker, Sternstrasse 2, Berlin 65, Germany
Filed Jan. 13, 1967, Ser. No. 609,165
Claims priority, application Germany, Dec. 2, 1966, B 90,100
Int. Cl. H05b *3/00;* **F23q** *1/02*
U.S. Cl. 219—201 **9 Claims**



A device for heating keys for defrosting frozen locks comprises a housing having an opening at one end and a carriage having clamping means for clamping the head of a key and which is movable backwardly and forwardly to project the shank portion of the key into and out of the housing. The housing includes heating means such as a burner which is started and ignited by the movement of the carriage from an inward retracted position to an outward position at which it projects the shank portion of the key out of the housing.

3,450,860
LIQUID HEATER WITH HIGH TEMPERATURE SAFETY CONTROL

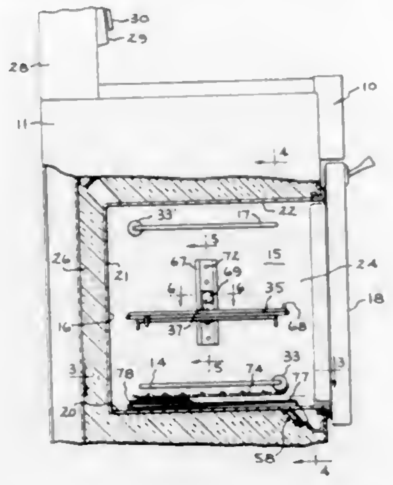
Richard F. Kneisley, Toledo, Ohio, assignor to The Kneisley Electric Company, Toledo, Ohio, a corporation of Ohio
Filed Mar. 28, 1966, Ser. No. 537,969
Int. Cl. H05b *1/00, 3/02, 11/06*
U.S. Cl. 219—331 **1 Claim**



A liquid heater, such as a vaporizer, is provided with a high temperature safety shutoff which is simple, reliable, and low in cost. A bimetallic element is located within a housing in thermal contact with the heater element and is effective to open and close a pair of adjacent contacts through a conducting plate, which contacts are in series with one of the leads for the heater element. A resetting shaft extends upwardly from the conducting plate to a point above the liquid container for purposes of manually resetting the bimetallic element. The heater, safety device, and resetting mechanism are all carried by a removable support mounted on top of the container.

3,450,861
BROILING OVEN WITH TILTING HEATING MEANS

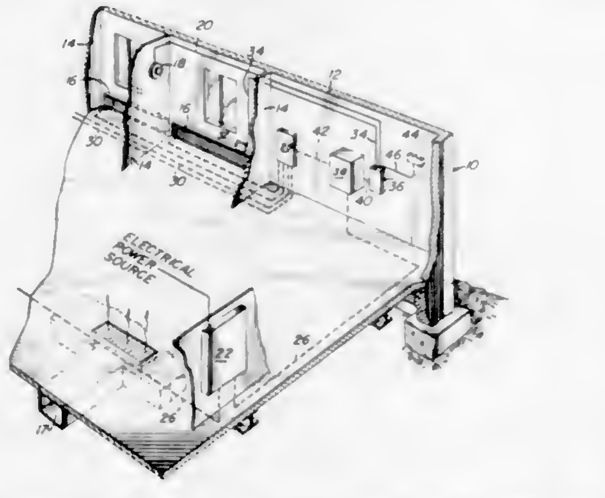
Bohdan Hurko, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 21, 1967, Ser. No. 669,619
Int. Cl. F27d *11/00;* **A21b** *1/22*
U.S. Cl. 219—404 **11 Claims**



A broiling oven having walls forming an oven cooking cavity. An oven rack is arranged intermediate an upper broiling element and a lower baking element. Both the two elements and the oven rack are pivotally mounted from the oven walls such that the two elements may be tilted toward each other to decrease the distance separating them and obtain two-sided, speed broiling. The rack is moved to follow suit so as to remain generally parallel to the two elements for obtaining uniformity of cooking over the surface of the meat. An external linkage mechanism is connected between the three pivoted units so that they move in unison. A snubber is incorporated in the mechanism to prevent the inadvertent movement of the units. Moreover, the oven rack is provided with vertical adjustability with respect to the upper and lower elements to accommodate various thicknesses of meat. A reflecting shield of minimal surface area is carried under the lower baking element for reflecting the heat of the lower baking element away from the bottom wall of the oven to reduce the amount of smoke generated. A grease drain pan is located on the floor of the oven and it has a sloping bottom wall which carries the grease toward the back of the oven cavity.

3,450,862
CONTROL OF ELECTRIC HEAT

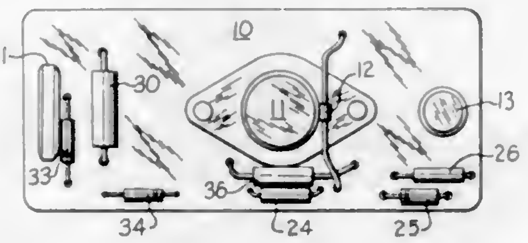
Edward M. Kralovec, Jr., 6767 N. Wildwood, Chicago, Ill. 60646
Filed Dec. 2, 1965, Ser. No. 511,199
Int. Cl. H05b *1/02;* **G05d** *23/20*
U.S. Cl. 219—494 **4 Claims**



An electric heating system for proportionately varying the output heat to enclosures including an indoor heat sensing element mounted immediately adjacent an electric resistance heating element for directly sensing the actual output heat. Outdoor sensing means including a temperature sensing element and solar radiation sensors respond to changes in the outdoor environment to unbalance the heating system and proportionately vary the output heat from the heating element. The heat sensing element directly senses changes in the resultant output heat and controls the output heat until a balanced condition is obtained. Heating and ventilating air is supplied to the enclosure to set the final temperature under control of an indoor thermostat which senses the actual temperature in the enclosure.

3,450,863
THERMAL STABILIZER FOR THERMALLY SENSITIVE COMPONENTS

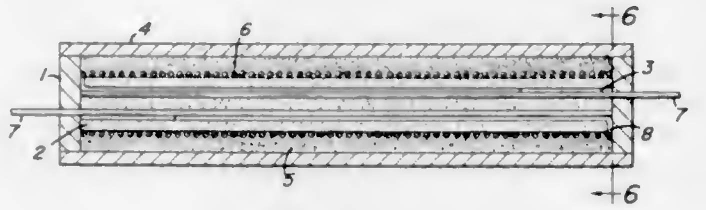
Rolland D. Scholl, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed June 19, 1967, Ser. No. 646,807
Int. Cl. H05b *1/02*
U.S. Cl. 219—501 **2 Claims**



A temperature-regulating device for maintaining a thermally sensitive component at a constant temperature during changes in the ambient temperature, which regulating device uses a power transistor to add heat to the system, with the conduction of the transistor being controlled in response to changes in the temperature of the thermally sensitive component so stabilized. The thermally sensitive component is mounted in a heat-transfer relationship with the power transistor.

3,450,864
ELONGATED INFRARED HEATER

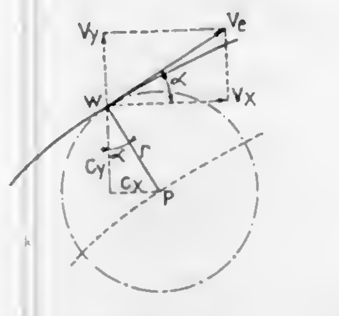
Hugh R. Carlon, Edgewood, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed May 24, 1967, Ser. No. 642,662
Int. Cl. H05b *3/18*
U.S. Cl. 219—553 **2 Claims**



Structure treated with a coating and pitted with an abrasive thereby emitting infrared spectrum meeting or exceeding Globar emissivities in air. A metal envelope encasing a resistance wire wound upon a core and an insulating material therebetween, axial leads of the ends of the resistance wire connected to an external source of electrical energy, and the textured and carbon coated external surface of the said metal envelope.

3,450,865
METHODS AND DEVICES FOR GENERATING A CURVE

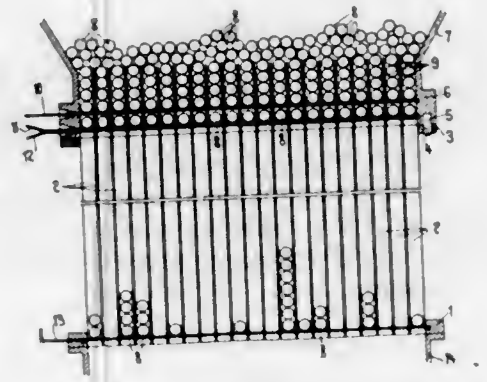
Lucien Peras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Jan. 29, 1963, Ser. No. 254,641
Claims priority, application France, Dec. 3, 1962, 917,397
Int. Cl. G06f *15/46;* **G06k** *11/02*
U.S. Cl. 235—61.7 **7 Claims**



1. An apparatus for generating a curve corresponding to a curve upon which a number of data corresponding to elementary arcs of the curve are derived in the form of coordinates of a limited number of points plotted on the curve, said apparatus comprising means successively recording in a digital system the data of said elementary arcs, tracing means, an analog computer controlling said tracing means, and feeding means feeding said data for each elementary arc from said recording means to said analog computer which generates the magnitudes representing the coordinates of successive points of said elementary arc from a parametric equation of an interpolation curve such that the terms of said equation comprise the data of the points defining said elementary arc, means for automatically sensing and measuring the data of the point attained by said tracing means upon completion of its tracing an elementary arc and measuring these data with values constituting the theoretical data, and compensating means coupling to said analog computer the difference signal resulting from said last mentioned means for compensating the generation of the next elementary arc.

3,450,866
APPARATUS FOR THE REGISTRATION OF THE MEDICAMENTS AND OF THEIR VALENCE ON THE BASIS OF OBSERVED SYMPTOMS

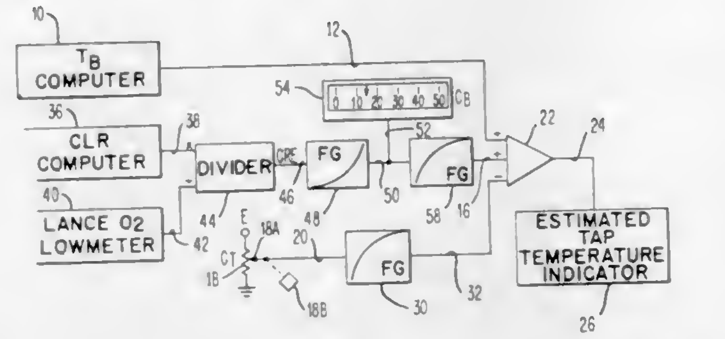
Léon Jaccard, Neuchatel, Switzerland, assignor to Laboratoire Suisse de Recherches Horlogeres, Neuchatel, Switzerland
Filed July 28, 1965, Ser. No. 475,448
Claims priority, application Switzerland, Aug. 14, 1964, 10,649/64
Int. Cl. G06k *7/00;* **G06c** *1/00;* **A63f** *1/18*
U.S. Cl. 235—61.11 **10 Claims**



A homoeopathic remedy is determined by isolating a layer of balls above a series of tubes and interposing one of a plurality of punch cards between the balls and the tubes to preferentially pass only certain of the balls to the tubes. The process is repeated for each card and the total accumulation of balls and tubes determine the homoeopathic remedy.

3,450,867
ESTIMATED TAP TEMPERATURE CALCULATOR FOR BASIC OXYGEN FURNACE

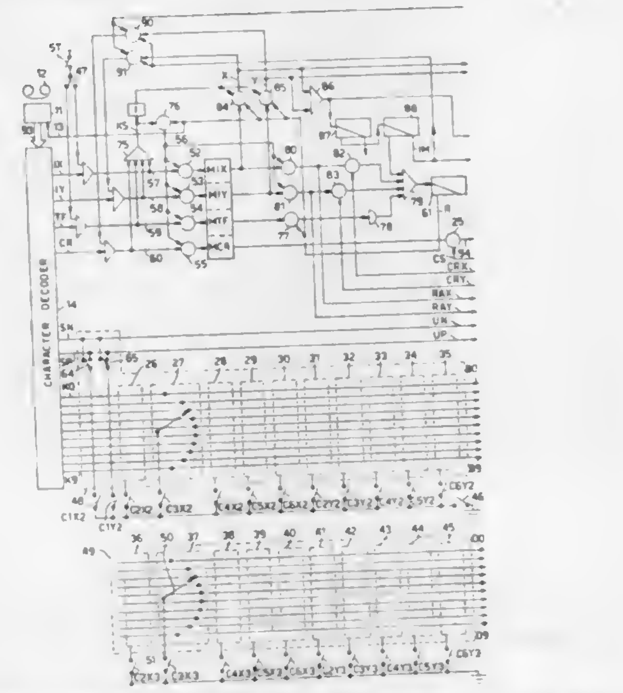
Bernard Blum, Kenmore, N.Y., and John W. Schwartzenberg, Maple Glen, Pa., assignors to Leeds & Northrup Company, a corporation of Pennsylvania
Filed Mar. 14, 1966, Ser. No. 534,043
Int. Cl. G06g *7/48*
U.S. Cl. 235—151.3 **12 Claims**



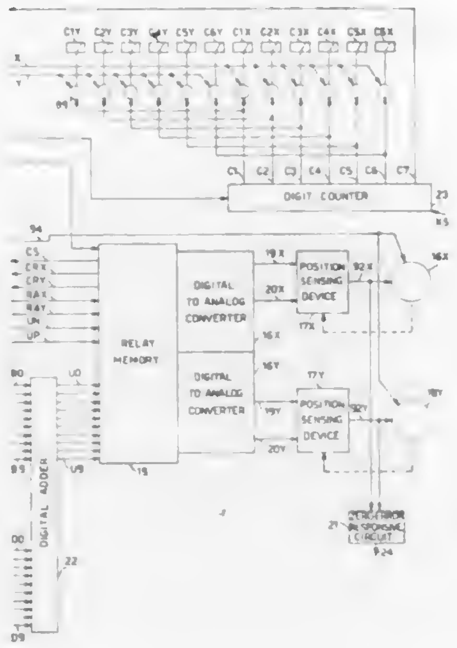
1. Apparatus for computing an estimated tap temperature for the bath of a basic oxygen furnance comprising
means for producing a bath temperature signal representative of the existing bath temperature,
means for producing a tap carbon signal representative of the temperature change associated with the desired tap carbon content,
means for producing a bath carbon signal representative of the temperature change associated with the existing bath carbon content, and
means for producing from said bath temperature signal, said tap carbon signal, and said bath carbon signal a composite signal representative of the estimated tap temperature, said composite signal being equal to the sum of said bath temperature signal and said bath carbon signal minus said tap carbon signal.

3,450,868
DIGITAL POSITIONING CONTROL FOR MACHINE-TOOLS EMPLOYING ABSOLUTE AND RELATIVE REFERENCE POINTS

Joseph Elbling and Piero Pomella, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Mar. 31, 1965, Ser. No. 444,125
Claims priority, application Italy, Apr. 7, 1964, 7,518/64
Int. Cl. G06f *15/46*
U.S. Cl. 235—151.11 **2 Claims**



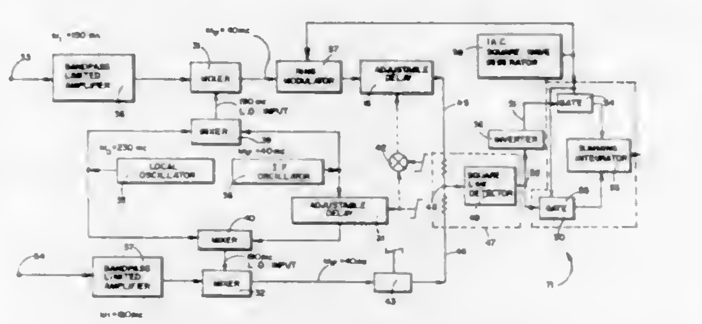
A digital position control device for machine tools and the like, having a movable part positioned by a servo-system under control of a program unit supplying orders each representing in digital form a position of the movable part with respect to a relative reference point. The servo-system is fed by the order corrected by the addition



of a correcting constant in digital form which responds the position of the relative reference point with respect to an absolute reference point.

3,450,869
HIGH SENSITIVITY UNAMBIGUOUS CORRELATOR

Carl A. Wiley, Corona Del Mar, James A. Canaday, Fullerton, Herbert C. Loeschen, Anaheim, and James B. Gaston, La Mirada, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,335
Int. Cl. G06g *7/19*
U.S. Cl. 235—181 **9 Claims**

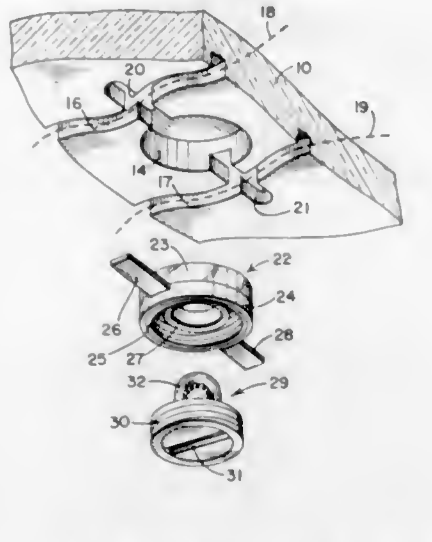


Intermediate frequency apparatus for correlating two time-varying signals, including means for reducing the ambiguities associated with the cosine sensitivity factor of coherent IF processing. Ancillary IF means changes the frequency of a local oscillator input to the IF stage for each of the two signal-to-be-correlated, and compensatory phase-shift means adjusts the phase of the ancillary frequency change to one of the local oscillator inputs as a function of a selected correlation interval.

3,450,870
MINIATURE LIGHT STRUCTURE

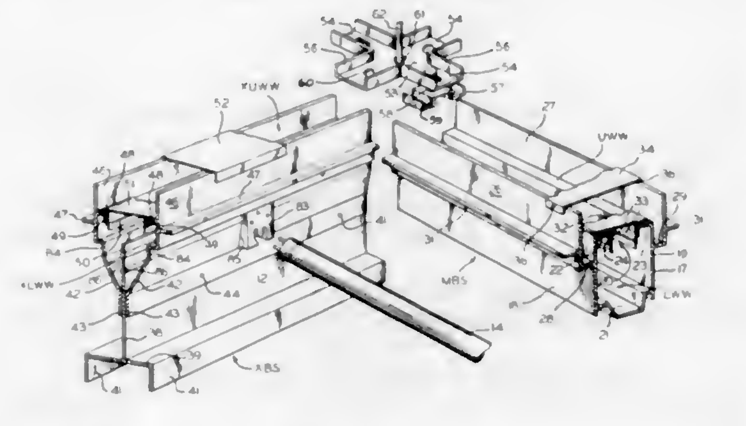
Gerald A. Curl, Van Nuys, Calif., assignor to Coastal Dynamics Corporation, a corporation of California
Filed Sept. 21, 1966, Ser. No. 581,011
Int. Cl. B60q *3/04*
U.S. Cl. 240—8.16 **9 Claims**

A miniature light mounted within an edge lighted panel having a light conducting core. The structure has 2 basic portions. The first portion is a lamp housing, which includes a filter, with electrical leads extending laterally from the housing to be permanently connected to the power circuit. The second portion is the lamp and cap assembly removably received in the lamp housing so that the lamp may be replaced without disturbing the permanently connected lamp housing.



3,450,871
BAFFLE SUPPORT FOR SUSPENDED CEILING CONSTRUCTION

Arthur W. Segil, 1209 Lincoln Ave., South Highland Park, Ill. 60035, and Richard N. White, 1300 Lee St., Des Plaines, Ill. 60016
Filed May 24, 1967, Ser. No. 640,885
Int. Cl. F21s *3/00;* **E04f** *19/00*
U.S. Cl. 240—9 **4 Claims**



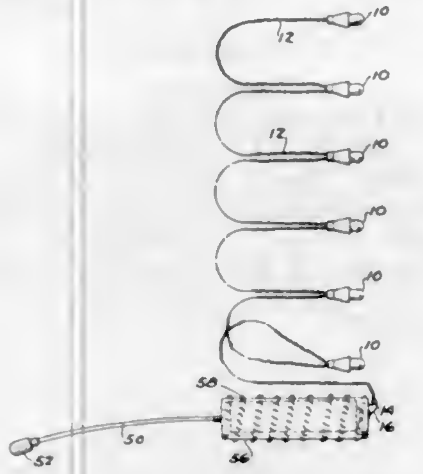
A baffle support for the baffle members of a suspended ceiling construction wherein the baffle support includes wireways having structure for isolating low and high supply voltages from each other, and wherein the wireways are adapted to provide isolation of high and low supply voltages from leads to control and communication equipment. In a form of such baffle support, a wireway is provided with structure for locating receptacles for elongated fluorescent luminaires.

3,450,872
ILLUMINATED HAIRPIECE

Samuel Aiello, Jr., Detroit, Mich., assignor of one-half to Lawrence J. Aiello, Detroit, Mich.
Filed July 25, 1966, Ser. No. 567,673
Int. Cl. F21l *7/00, 15/08;* **F21v** *33/00*
U.S. Cl. 240—59 **5 Claims**

An illuminated hairpiece having a plurality of light bulbs interconnected by flexible electrical conductors and

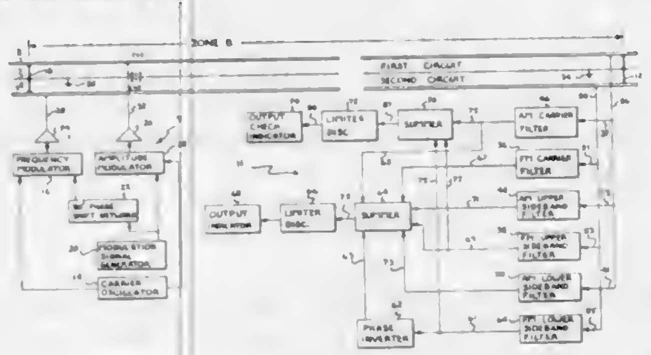
connected to a battery. The battery is housed in a cylindrical battery case provided with an elongate flexible



member adapted to be actuated for opening and closing the circuit between the battery and the light bulbs.

3,450,873
RAIL VEHICLE DETECTION SYSTEM

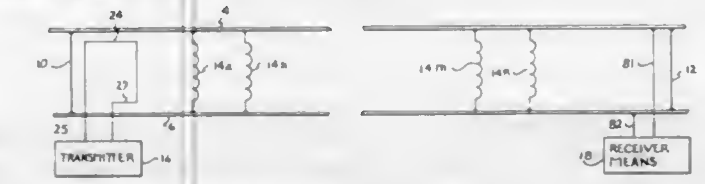
James R. Whitten, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 20, 1967, Ser. No. 617,099
Int. Cl. B61l *21/06, 25/02*
U.S. Cl. 246—34 **19 Claims**



A track circuit includes an "earthed" third conductor mounted near (preferably between) the track rails so as to be sensitive to ballast impedance changes. Two modulated signals are generated one AM and the other FM. The AM signal is applied cross one rail and the third conductor and the FM signal to the other rail and the third conductor. A receiver is connected to the track circuit arranged to add the two signals so that the absence of a vehicle between the signal source and the receiver is indicated by reception of a modulated AM carrier and the presence of a vehicle by reception of a modulated FM carrier.

3,450,874
RAILWAY TRACK CIRCUIT

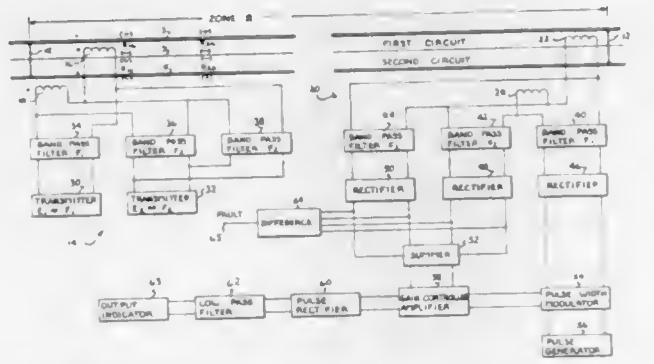
James R. Whitten, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 31, 1967, Ser. No. 627,388
Int. Cl. B61l *21/00, 25/00*
U.S. Cl. 246—34 **17 Claims**



A track circuit for a section of railway track wherein a source of A-C signal energy is coupled to one end of the section, a receiver is coupled to the other end thereof to receive the signal energy from the source and a number of inductances are connected across the track rails in spaced relation along the section. Either in addition to or instead of the spaced inductances, at least one feedback means is provided—positive feed-back at the receiver, negative feed-back at the source or both of such feed-back arrangements; the feed-back signal being derived from the track circuit and proportional to the signal energy therein.

3,450,875
RAIL VEHICLE CONTROL SYSTEM

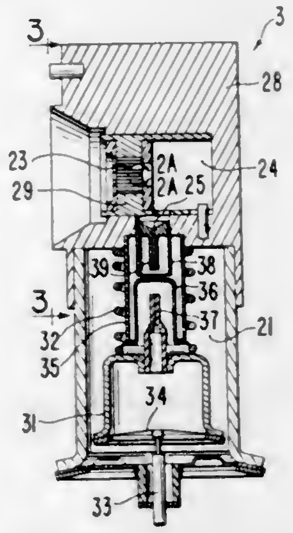
James R. Whitten, Scotia, N.Y., and Donald H. Rist, Erie, Pa., assignors to General Electric Company, a corporation of New York
Filed Feb. 20, 1967, Ser. No. 617,100
Int. Cl. B61l *21/06*
U.S. Cl. 246—34 **7 Claims**



A track circuit includes an "earthed" third conductor mounted near (preferably between) the track rails so as to be sensitive to ballast impedance changes. Two separate signals are provided one of which is applied across one rail and the third conductor and the other across the other rail and the third conductor. This arrangement provides one signal which is sensitive to ballast impedance changes and the presence of a vehicle while the other signal is sensitive only to ballast impedance changes. A detector is connected to the track circuit and is arranged to obtain the ratio of the two signals so that vehicle presence or absence between the signal sources and the detector will be reliably indicated under varying ballast conditions.

3,450,876
OVEN SOURCE FOR ATOMIC BEAM TUBES HAVING A NON-WETTABLY COATED GAS PASSAGEWAY BETWEEN THE RESERVOIR AND THE BEAM

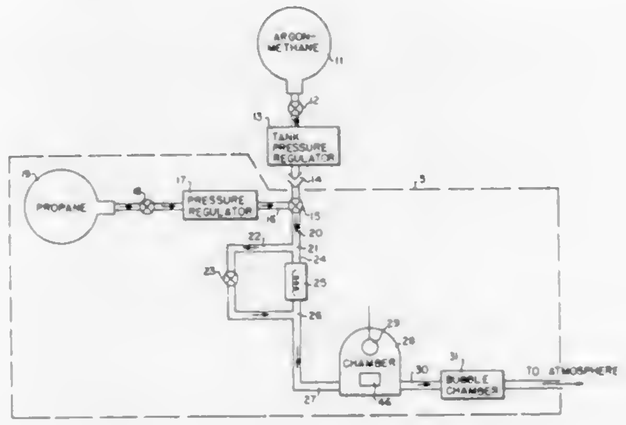
Robert H. Kern, Danvers, and Joseph H. Holloway, Topsfield, Mass., assignors, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed July 11, 1966, Ser. No. 564,117
Int. Cl. G01n *27/78*
U.S. Cl. 250—41.3 **6 Claims**



An atomic beam tube including an oven source having portions of its interior coated with a dichlorodimethylsilane material which is resistant to wetting and chemical attack by certain atomic beam materials at their operating temperatures and pressures. The non-wettable coating eliminates creepage and spillage of atomic beam material into the tube.

3,450,877
PORTABLE GAS FLOW PROPORTIONAL COUNTER FOR LABORATORY AND FIELD USE

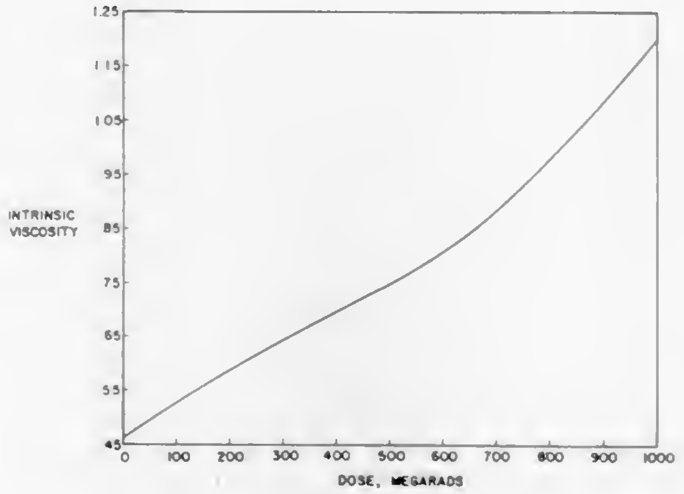
Glenn W. Zimmer, 6411 Fairborn Terrace,
Hyattsville, Md. 20784
Filed Oct. 22, 1965, Ser. No. 502,733
Int. Cl. G01n *23/12*
U.S. Cl. 250—43.5 **2 Claims**



The invention concerns a windowless, 2π, portable, gas-flow, proportional counter for laboratory and field use which comprises means for making the instrument portable to line voltage or to a battery back. The instrument may be operated from a self-contained gas supply in its portable condition or from a laboratory supply of gas external to the instrument while located within the laboratory.

3,450,878
DOSIMETER FOR HIGH LEVELS OF ABSORBED RADIATION

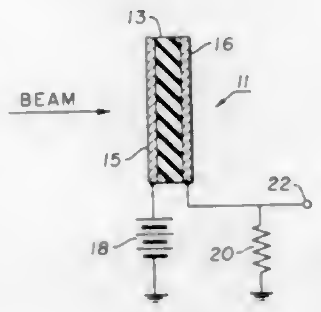
George F. Pezdirtz and Vernon L. Bell, Jr., Newport News, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 8, 1966, Ser. No. 600,266
Int. Cl. G01t *1/04*
U.S. Cl. 250—83 **5 Claims**



A dosimeter for measuring unknown radiation dosage in the range of 1–1000 megarads of absorbed radiation in which the intrinsic viscosity measurement is taken of a solution of the unknown with the unknown radiation dosage being read from a standard radiation curve plotted from known dosage/intrinsic viscosity measurements.

3,450,879
DIELECTRIC-TYPE CHARGED PARTICLE DETECTOR

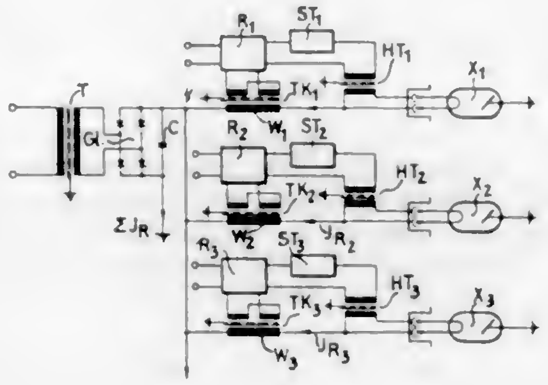
Edward J. Seppi, Menlo Park, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 5, 1968, Ser. No. 710,551
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **4 Claims**



A charged particle detector comprised of a thin dielectric in intimate contact with a pair of electrodes across which a voltage is applied to extract a current from the dielectric upon its being irradiated with charged particles that cause the dielectric to become proportionately electrically conductive.

3,450,880
ARRANGEMENT FOR THE SEPARATE REGULATION OF THE TUBE CURRENTS FOR A PLURALITY OF X-RAY TUBES

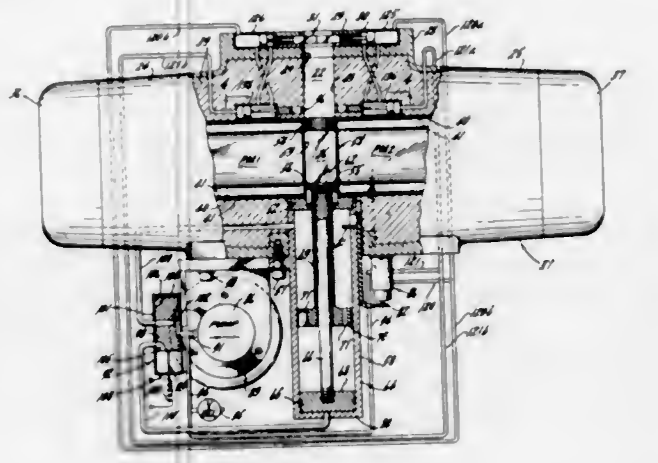
Bruno Mook, Karlsruhe, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Oct. 23, 1965, Ser. No. 505,316
Claims priority, application Germany, Dec. 3, 1964, S 94,428
Int. Cl. H05g *1/70*
U.S. Cl. 250—94 **8 Claims**



An arrangement for the regulation of individual X-ray tubes which are fed from a single high-voltage source and which X-ray tubes have their anodes connected to ground potential. A setting member is connected with each of the X-ray tube circuits and responsive to the X-ray tube current to control a filament transformer also associated with each X-ray tube. A transducer is connected in series with the cathode of each of the X-ray tubes for sensing the current flow through the X-ray tube. Connected to each of the transducers is a regulating device which, in turn, is connected to the setting member for controlling the current flow through the X-ray tube in response to a value selected by the setting member.

3,450,881
SAMPLE TRANSFERRING APPARATUS FOR RADIOACTIVE SAMPLES

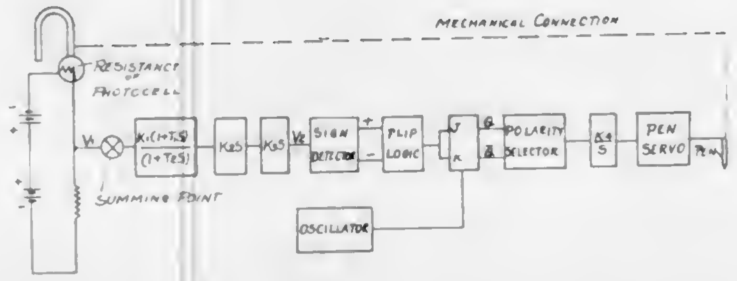
Roy E. Smith, Villa Park, Ill., assignor to Packard Instrument Company, Inc., Brookfield, Ill., a corporation of Illinois
Filed Apr. 6, 1965, Ser. No. 445,956
Int. Cl. H01j *1/52;* **G21h** *5/00*
U.S. Cl. 250—106 **2 Claims**



In an apparatus for detecting and measuring radioactivity emanating from a sample by scintillation techniques, a sample transferring mechanism is provided which permits a sample to be inserted into, or withdrawn from, the scintillation zone. The mechanism features a light lock with gates above and below a lock area so that the sample may be transferred via the lock area into the scintillation zone. The light lock is constructed to eliminate rubbing contact of the elevator or sample container which would produce static electricity and hence spurious scintillation signals. Gates surrounding the lock area are actuated by fluid operated interlocking controls.

3,450,882
LIGHT SENSITIVE CENTER LINE TRACKING SYSTEM

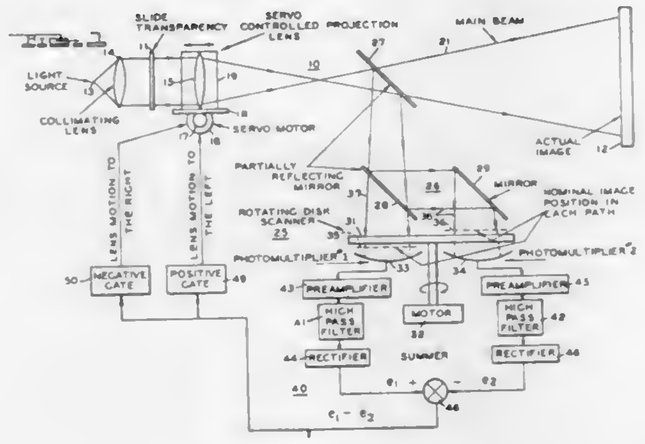
Robert L. Charlton, Earlysville, Va., assignor to Teledyne, Inc., Hawthorne, Calif.
Filed Mar. 17, 1967, Ser. No. 623,989
Int. Cl. G05b *1/00;* **G01n** *21/30*
U.S. Cl. 250—202 **1 Claim**



A very important feature of my invention is that a photocell or other sensing unit is caused by servo-means to follow the center of a line rather than to follow an edge or boundary of a line as in prior devices. The light means is placed beneath the page or other medium carrying the line. This light means may be stationary or movable with the photocell. Additional features are that the single photocell senses the umbra shadow of the line and the light guide has a diameter substantially equal to the width of the line.

3,450,883
AUTOMATIC FOCUSING APPARATUS

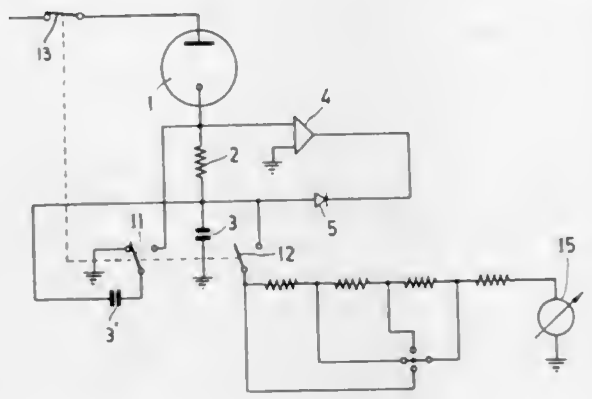
Carlton E. Thomas, Ann Arbor, Mich., assignor to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware
Filed Feb. 3, 1965, Ser. No. 429,993
Int. Cl. G01j *1/36*
U.S. Cl. 250—204 **3 Claims**



An automatic focusing apparatus for an optical system having a movable lens to change the focus which includes a system for selecting two nominal images from the actual image of the main optical axis and positioning these images on the respective sides of a single moving scanner device, the resultant light pattern from the scanner reaching a pair of photomultiplier units which can simultaneously determine not only the magnitude but the direction of the error and energize a correction system to shift the position of the movable lens.

3,450,884
MEASURING INSTRUMENT FOR USE WITH A THERMOLUMINESCENT DOSIMETER

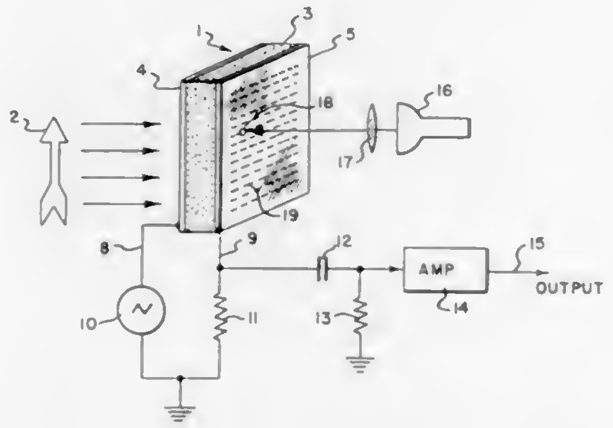
Raymond Schayes, Brussels, and Roger Gourlet, Foret, Belgium, assignors to Manufacture Belge de Lampes et de Materiel Electronique en abrege MBLE, Brussels, Belgium
Filed Oct. 3, 1966, Ser. No. 583,694
Claims priority, application Belgium, Oct. 1, 1965, 18,597
Int. Cl. H01j *3/12*
U.S. Cl. 250—206 **9 Claims**



A radiation detection system for a thermoluminescent dosimeter includes a photodiode, a resistor and a capacitor in series across a voltage source. A DC amplifier has its input terminals connected across the series combination of the resistor and capacitor. A diode is connected between the amplifier output and one electrode of the capacitor and is poled so as to charge the capacitor to a voltage that is equal and opposite to the maximum voltage developed across the resistor.

3,450,885
IMAGE CONVERTER HAVING PHOTO-SENSITIVE MATERIAL HAVING A RESPONSE TIME DEPENDENT ON INTENSITY OF INCIDENT LIGHT

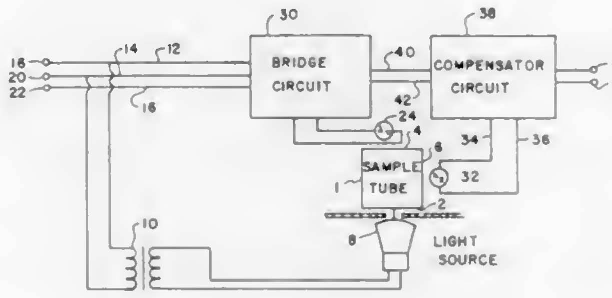
Robert L. Willes, 160 Chadwick Place,
Glen Rock, N.J. 07452
Filed Oct. 25, 1966, Ser. No. 589,405
Int. Cl. H01j *39/12*
U.S. Cl. 250—211 **8 Claims**



1. A method for converting a light image to an electric signal comprising the steps of:
   (a) Impinging a light image upon a surface of a layer of photosensitive material, the photoelectric response time of said material being dependent upon the intensity of light incident thereon;
   (b) impinging a scanning spot of light upon a surface of said layer; and
   (c) sensing the variation of the photoelectric response time of the material.

3,450,886
APPARATUS AND METHOD FOR MEASURING THE CONCENTRATION OF A SUSPENSION INCLUDING COMPENSATING FOR COLOR BY USING THE MEASUREMENT OF SCATTERED LIGHT TO ELECTRONICALLY INFLUENCE THE VALUE OF DIRECT LIGHT MEASURED

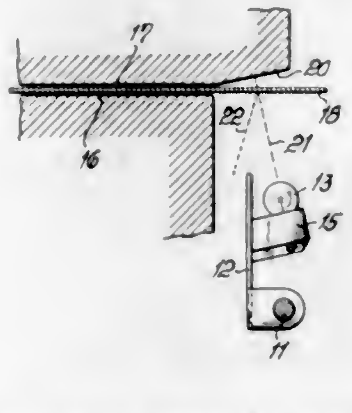
Charles S. Lown, Covington, Va., assignor to Westvaco Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 26, 1967, Ser. No. 678,301
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 **12 Claims**



A method and apparatus for measuring the concentration of a pulp slurry, the measurements being independent of suspension liquid color. A light transmission gauge is utilized to measure a direct light and a scattered light with photo sensitive devices. The output of scattered light measuring photo detectors is used to control the gain of an operational amplifier to compensate for suspension liquid color.

3,450,887
PHOTOELECTRIC CONTROL SYSTEM FOR POSTAGE METERS COMPRISING A LIGHT REFLECTING SURFACE INCLINED WITH RESPECT TO THE PLANE OF THE MAIL TO BE IMPRINTED

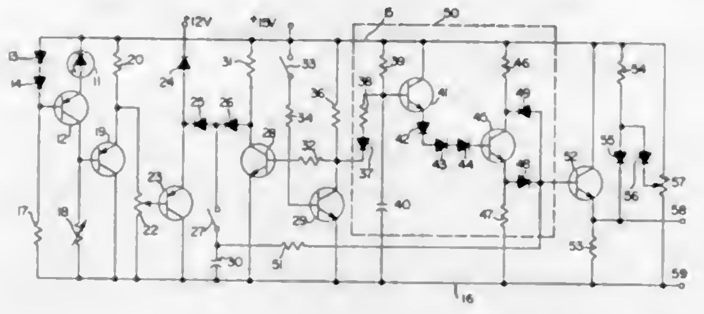
Hans Nirenberg, Frankfurt am Main, Germany, assignor to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany
Filed Dec. 15, 1965, Ser. No. 514,096
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **4 Claims**



A photoelectric control system for postage meters including a light sensitive element controlling the operation of imprinting means for mail in response to interruption of a beam of light by mail intercepting said beam of light is provided with means for precluding improper illumination of the light sensitive element by light reflected from the mail which, if occurring, results in malfunction of the postage meter.

3,450,888
SPEED CONTROL OF MOVING PAPER RESPONSIVE TO TRANSMITTANCE OF PAPER

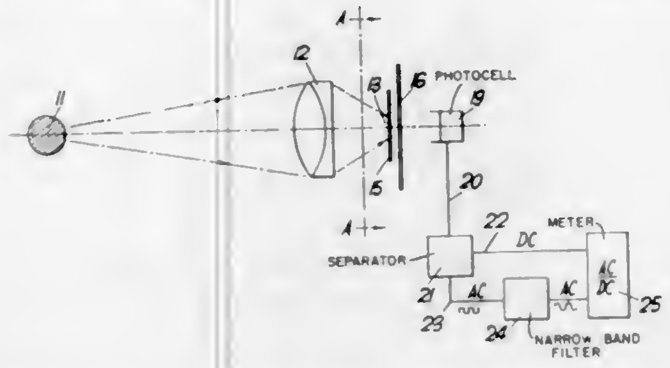
Charles W. Spangler, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,827
Int. Cl. H01j *39/12*
U.S. Cl. 250—219 **5 Claims**



The invention concerns the generation of a speed reference voltage for controlling the speed and therefore the exposure time of a copying machine as a direct function of the transmittancy of the negative paper. The same light source is employed to examine the paper to establish the speed reference voltage and to expose the paper, thereby eliminating the condition of the light source as a factor in determining speed of operation. A photocell reads the transmittancy and produces a voltage which is stored and directly applied to the speed control circuit to reference the drive speed of the copier.

3,450,889
RADIATION SENSITIVE APPARATUS FOR MEASURING LINEAR DIMENSIONS

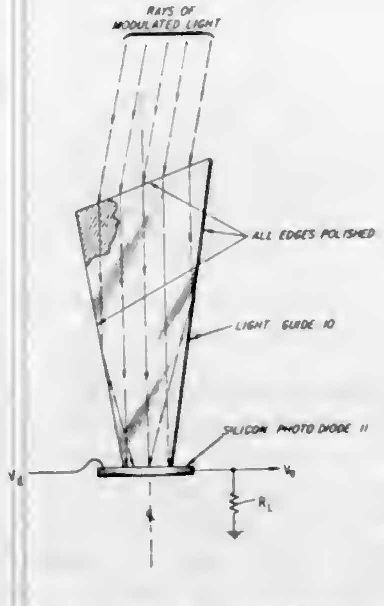
Lionel Richard Baker, Chislehurst, Kent, England, assignor to British Scientific Instrument Research Association, Chislehurst, Kent, England, a British company
Filed Feb. 1, 1966, Ser. No. 524,339
Claims priority, application Great Britain, Feb. 8, 1965, 5,471/65
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **10 Claims**



Apparatus for measuring a linear dimension of an object which emits, absorbs, transmits, partly screens or reflects radiation. An image of the dimension is formed on a slit and the image scanned by the lines of a radial grating. The grating modulates the beam with the degree of modulation depending upon the relationship between the spatial frequency of the grating lines in the direction of the said dimension and the width of the image. This relationship can be adjusted by adjusting the relative positions of the axis of the rotation of the grating and the image in a direction at right-angles to the axis, either by moving the axis and the image towards and away from each other or by rotating one to a limited extent about the other. In practice this adjustment is preferably carried out until the degree of modulation is zero or a minimum value which occurs when the spatial frequency and the linear dimension of the image are equal so enabling the linear dimension of the object to be measured.

3,450,890
WIDE-ENTRANCE, NARROW-EXIT THIN SHEET LIGHT GUIDE WITH JUXTAPOSED PHOTOSENSOR

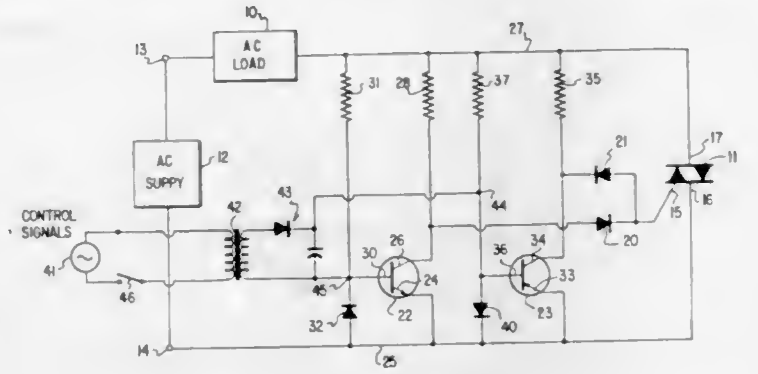
Gordon E. Skorup, Marlton, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 11, 1966, Ser. No. 564,714
Int. Cl. H01j *5/16;* **G02b** *5/14*
U.S. Cl. 250—227 **4 Claims**



There is disclosed a light collector-detector device comprising a thin tapered transparent glass sheet having coated sides. The light guide is coupled at its narrow end to a silicon photo diode. Light incident upon the wide entrance of the guide is guided by side to side reflections to the narrow end which corresponds in size to the silicon photo diode.

3,450,891
SYNCHRONOUS TRIAC CONTROL

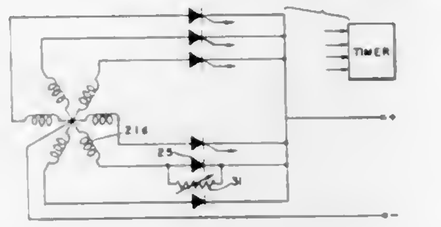
John E. Riley, Saugus, Mass., assignor to General Electric Company, a corporation of New York
Filed Aug. 18, 1966, Ser. No. 573,292
Int. Cl. H01h *7/16*
U.S. Cl. 307—133 **1 Claim**



A triac switching circuit. A pair of transistors are normally conductive during alternate half cycles of an energizing source to shunt the triac gate electrode and thereby disable the triac. Simulteanous energization by a control voltage and a zero energizing source voltage deenergizes one transistor to allow a gate current to turn on the triac for the next half cycle. Application of a control signal at other times is ineffective.

3,450,892
SOLID STATE RECTIFIER WITH REVERSE CURRENT BLEEDING

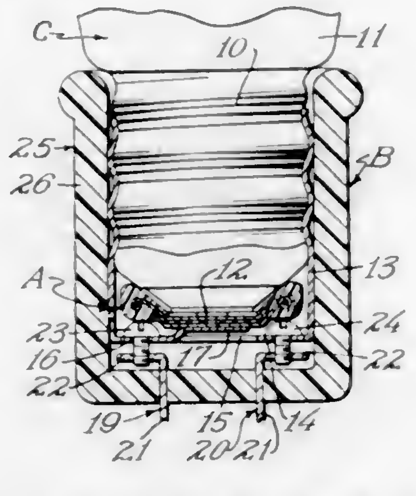
Joseph V. McNulty, Middletown, and David E. Goodwin, Red Bank, N.J., assignors to Hanson-Van Winkle-Munning Co., Matawan, N.J., a corporation of New Jersey
Filed July 9, 1964, Ser. No. 381,384
Int. Cl. H03k *3/00, 3/36, 3/44*
U.S. Cl. 307—107 **1 Claim**



The invention comprises a solid state rectifier for producing an asymmetrical output in a polyphase system in which the output is characterized by a momentary negative pulse with the amplitude and duration of the pulse subject to control. In its simplest form, the rectifying elements comprise diodes and a reverse current bleeding means in the form of a fixed or adjustable resistor is placed in shunt with one of the diodes to determine or limit the current magnitude of the negative pulse or partial wave output. A further diode leg is opened to permit the negative pulse to be developed by current bleed back. A modification of the invention employs an SCR and series resistor in shunt with a diode rectifying element and additionally timer to fire the SCR thereby controlling the duration of the negative pulse relative to firing of the SCR with the magnitude of the negative pulse being determined by the resistor. Additionally, combinations of diodes and SCR's may be employed as the rectifying elements so long as at least one of the diodes is shunted by a resistor to produce the negative pulse or partial wave while the SCR's are open and the SCR's are fired under control of timing means.

3,450,893
LIGHT SAVER COMPRISING A RECTIFIER IN A DISK INSERT

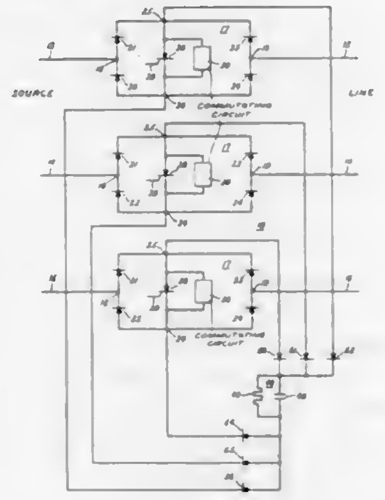
Donald G. Munson, St. Paul, Minn., assignor to Terado Corporation, a corporation of Minnesota
Filed Dec. 10, 1965, Ser. No. 513,054
Int. Cl. H02j *3/12*
U.S. Cl. 307—146 **6 Claims**



A device for prolonging the life of an electric light bulb is adapted to fit into a light socket between the central contact of the light pocket and the central contact of a light bulb. A rectifier having arcuate leads is enclosed in a ring-shaped body of insulation. Two disk-shaped contacts are supported in axially spaced relation within the body. Each disk is connected to a corresponding arcuate lead by conductor arms.

3,450,894
SURGE SUPPRESSING MEANS FOR STATIC CIRCUIT BREAKERS

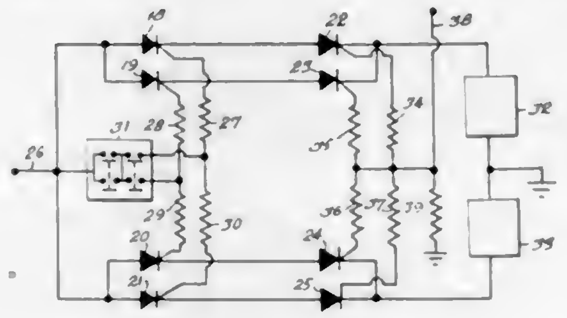
Ernest M. Pollard, Cherry Hill, N.J., assignor to General Electric Company, a corporation of New York
Filed Dec. 15, 1965, Ser. No. 601,965
Int. Cl. H02h *7/20*
U.S. Cl. 307—202 **3 Claims**



Surge suppressing means for protecting a polyphase static circuit breaker from voltage surges arising on either side of the breaker. The static breaker comprises diode bridges in each phase of the power circuit. A single surge suppressor common to all phases is connected in protective relationship with the circuit breaker by a rectifier network that includes the diodes in the bridges, as well as auxiliary diodes.

3,450,895
DIRECT COUPLED LOGIC CIRCUIT

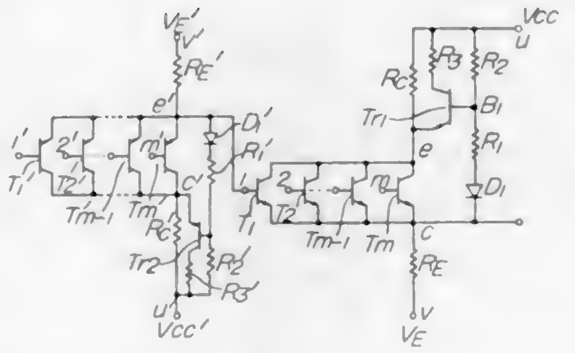
Edward D. Padgett, Morristown, Arthur H. Hendrickson, Parsippany, and Christ W. Anagnost, Dover, N.J., assignors to the United States of America as represented by the Secretary of the Army
Original application Mar. 7, 1962, Ser. No. 178,518, now Patent No. 3,218,470, dated Nov. 16, 1965. Divided and this application Mar. 23, 1964, Ser. No. 359,813
Int. Cl. H03k *19/08, 19/12*
U.S. Cl. 307—204 **1 Claim**



A direct coupled logic circuit consisting of two connected parallel circuits wherein each of the parallel circuits comprise first and second series connected SCR's in parallel with another first and second series connected SCR's. The anodes and gates of each of the first SCR's are connected to a first positive electrical signal source and the gates of each of the second SCR's are connected to another positive electrical signal source whereby when coincidence is obtained between the positive electrical signals the circuit will pass a signal to a load connected in the output of one of the parallel circuits and to a load connected in the output of the other of the two parallel circuits. In the event that one SCR fails, its parallel counterpart will continue to function and the signal will still be passed to the related load.

3,450,896
TRANSISTOR SWITCHING CIRCUIT HAVING COMPENSATING CIRCUIT

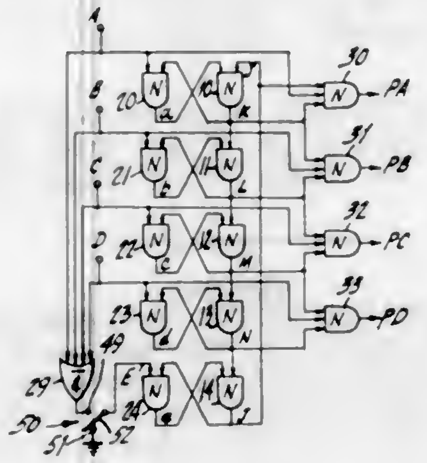
Kenji Taniguchi and Yuichiro Oya, Kodaira-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Oct. 20, 1965, Ser. No. 498,319
Claims priority, application Japan, Nov. 21, 1964, 39/65,715
Int. Cl. H03k *19/22, 19/30, 19/08*
U.S. Cl. 307—218 **3 Claims**



A transistor logic switching circuit is described having a plurality of switching transistors whose emitters and collectors are connected in common with respective operating voltage sources through a common emitter resistor and a common collector resistor, respectively, and a compensating circuit is provided for detecting the difference voltage across the switching transistors connected in common and for compensating the voltage of the commonly connected collectors to maintain the voltage of the commonly connected collectors within prescribed values.

3,450,897
STEPPING SWITCH EMPLOYING CHAIN OF LOGIC GATES HAVING MEANS FOR LOCKING A GATE IN A GIVEN STATE

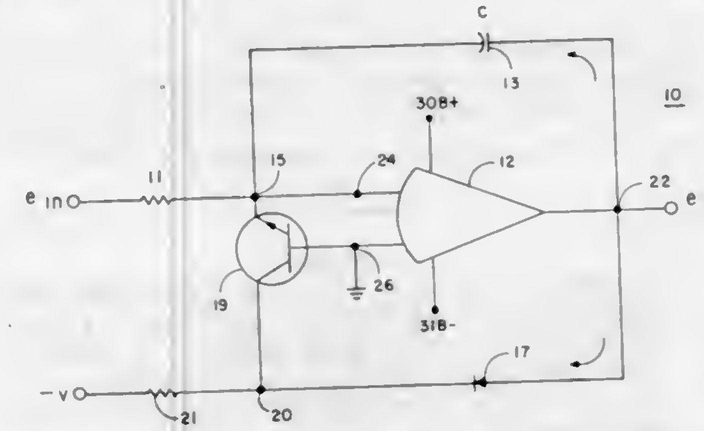
William Henn, Lexington, Mass., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 28, 1966, Ser. No. 561,269
Int. Cl. H03k *23/08*
U.S. Cl. 307—223 **6 Claims**



1. In combination:
a chain of logic gates interconnected in a ring and capable of producing oscillations;
means for applying a disabling signal to one gate for locking that gate in a given state and thereby preventing said oscillations; and
an output gate connected to said chain and to said means and normally producing an output representing one binary value, receptive of a signal complementary to said disabling signal, the signal produced by the gate locked in said given state and the signal produced by a second gate in said chain for producing an output representing the other binary value when the three signals it receives are of the same value.

3,450,898
INTEGRATION CIRCUIT

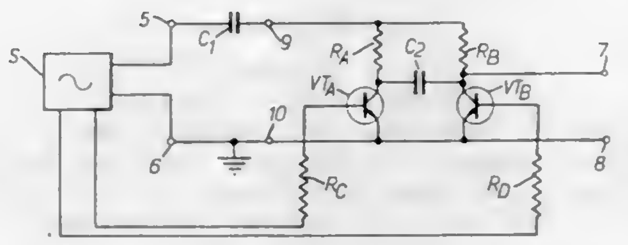
Howard J. Malan, San Diego, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,625
Int. Cl. G06g *7/12, 7/18;* **H03k** *5/00*
U.S. Cl. 307—229 **7 Claims**



1. In an integration circuit including a resistor coupled at one end to a variable voltage signal and at its other end in series with an amplifier shunted by a capacitor, the improvement comprising means for preventing the output of the amplifier from changing polarity, including
(a) a source of voltage,
(b) a transistor coupled between said source of voltage and the input to said amplifier, and
(c) a sensing diode connecting the output of said amplifier to the junction point of said transistor and voltage source and being adapted to turn on said transistor when said output voltage tends to change polarity.

3,450,899
QUADRATURE REJECTION CIRCUIT EMPLOYING TWO SWITCHING CIRCUITS CONNECTED IN PARALLEL ACROSS INPUT TERMINALS

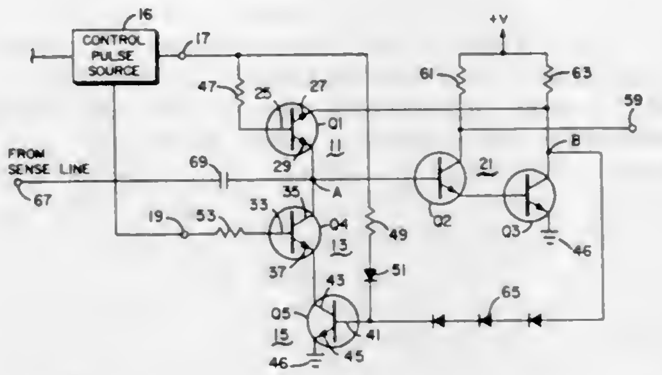
Peter Michael Knight, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed Aug. 17, 1966, Ser. No. 572,955
Claims priority, application Great Britain, Aug. 18, 1965, 35,328/65
Int. Cl. H03k *5/20*
U.S. Cl. 307—232 **7 Claims**



A quadrature rejection circuit is disclosed in which two switching transistors are connected in parallel across two input terminals, one grounded, between which an input signal is applied. A reference signal, in phase with the in-phase component of the input signal, switches on the transistors alternately and thus repeatedly forwardly and reversely charges a capacitor connected between the collectors of the two transistors. An output is taken from one terminal of the capacitor and ground and is thus free of quadrature components in the input signal.

3,450,900
DIGITAL SENSE AMPLIFIER

Le Roy A. Prohofsky, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 28, 1966, Ser. No. 561,194
Int. Cl. H03k *17/16*
U.S. Cl. 307—239 **11 Claims**

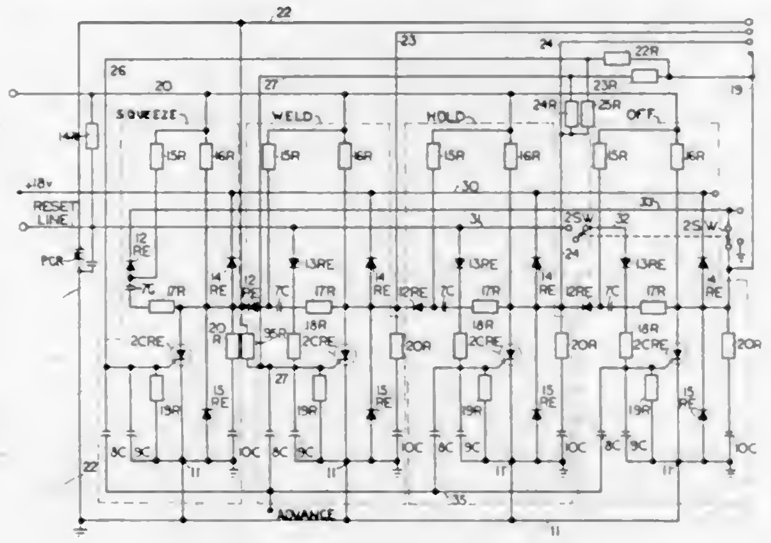


1. A low level digital pulse amplifier comprising:
first switching means;
second switching means;
third switching means;
first input means connected to said first and third switching means for applying a control signal to said first and third switching means;
second input means connected to said second switching means for applying a control signal to said second switching means;
said first, second, and third switching means being connected in series with a voltage source, said voltage source being connected to said first switching means;
amplifier switching means having one input and three outputs for switching all of said outputs from one state to a second state in accordance with an input signal;

third input means for applying a signal both to the series junction between said first and second switching means and for applying a signal to the input of said amplifier switching means;
the first output of said amplifier switching means being connected to said voltage source;
the second output of said amplifier switching means being connected to the junction between said first switching means and said voltage source; and
the third output from said amplifier switching means being connected to said third switching means to provide a second source of control signals for said third switching means.

3,450,901
SEQUENCING CIRCUIT

Richard W. Dick, Redford Township, Wayne County, Mich., assignor to Weltronic Company, Southfield, Mich., a corporation of Michigan
Filed Apr. 11, 1966, Ser. No. 541,658
Int. Cl. H03k *17/60*
U.S. Cl. 307—252 **8 Claims**

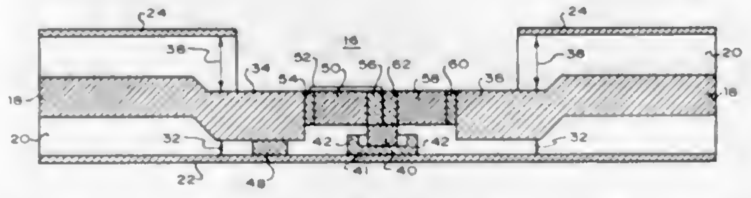


1. In a sequencing circuit, in combination, a plurality of stages arranged in sequence; each stage comprising a bistable current conductor having a conducting state and a nonconducting state, said conductor having a first power electrode, a second power electrode, and a control electrode; a load impedance arranged in series circuit with the bistable conductor and connected to the first power electrode; means connected to the control electrodes for momentarily rendering the conductor of each stage conducting; a commutating circuit comprising in series a unilateral conductor, a capacitor, and a commutating impedance connected between the first power electrode of one stage and the first power electrode of the next stage in sequence, said commutating circuit having an impedance that is small compared to said load impedance; and a charging circuit connected to said capacitor and tending to maintain a charge on said capacitor.

3,450,902
STRUCTURE FOR REDUCING MISMATCH BETWEEN SYMMETRICAL AND ASYMMETRICAL TRANSMISSION LINE AND FAST RISE TIME GENERATOR UTILIZING SAME

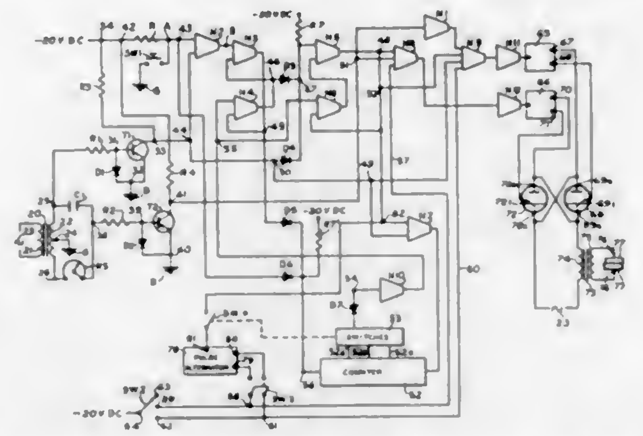
Wayne M. Grove, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Mar. 21, 1966, Ser. No. 535,898
Int. Cl. H03k *3/57, 5/00*
U.S. Cl. 307—260 **10 Claims**

The line conductor of a transmission line including a line-above-ground plane section connected between coaxial input and output sections is offset and enlarged beginning in the coaxial input section and ending in the coaxial ouptut section. This reduces the spacing between the line conductor and the reference conductor along the line-above-ground plane section. A tunnel diode is connected in shunt with the transmission line in the line-above-ground plane section. Impedance matching circuits provide a constant impedance looking from the tunnel diode towards the coaxial input sections and looking from the coaxial output section towards the tunnel diode.



3,450,903
TRANSISTOR SWITCHING CIRCUIT

James J. Eckl, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Mar. 25, 1966, Ser. No. 537,563
Int. Cl. H03k *5/13, 19/34*
U.S. Cl. 307—261 **5 Claims**

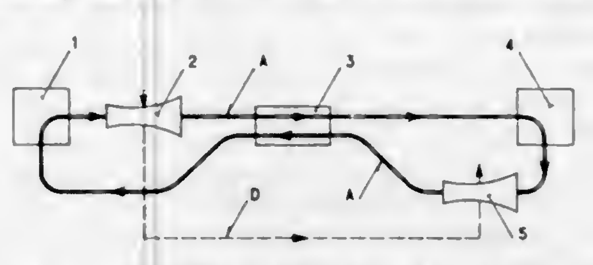


A circuit for synchronizing the switching of the logic circuits in a resistance welder control circuit with the reversal in current flow of an alternating current supply after a closure of an initiating switch. The circuit includes a transistor and a diode each having substantially equal minimal impedances when conducting in their forward directions. The transistor and the diode are connected across the output terminals of a transformer secondary winding so that the transistor will supply an input signal to a Nor circuit which also receives an input signal through the initiating switch so the Nor circuit will provide an output signal change only at the beginning of a predetermined polarity change of the current wave of the alternating current supply after the initiating switch is operated.

3,450,904
PROCESS AND APPARATUS FOR TRANSFORMING CALORIFIC ENERGY INTO ELECTRICAL ENERGY ALONG A THERMODYNAMIC CYCLE COMPRISING AT LEAST ONE MAGNETOHYDRODYNAMIC SYSTEM

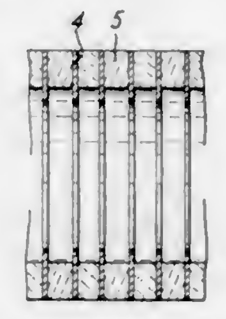
René Bidard, Paris, France, assignor to Cie Electro-Mecanique, Paris, France, a body corporate of France
Filed Sept. 28, 1965, Ser. No. 490,957
Claims priority, application France, Oct. 16, 1964, 991,685
Int. Cl. H02k *45/00*
U.S. Cl. 310—11 **18 Claims**

A power plant of the type including a magnetohydrodynamic generator in which the fluid circulated through the generator in a closed loop comprises an emulsion of a liquid metal and a fine bubble gas such as helium. The emulsion may simply be re-cycled as such through the generator after being re-compressed and re-heated, or the liquid metal and gas may be separated after passing through the generator, the liquid then being re-pressurized and reheated, the gas then being passed through a cold source and re-compressed, and the re-heated liquid and re-compressed gas then being passed into an emulsifier from whence it is passed again through the generator to start a new cycle.



3,450,905
WALL STRUCTURES OF MAGNETOHYDRODYNAMIC CONVERSION DUCTS AND METHOD OF FABRICATION OF SAID STRUCTURES

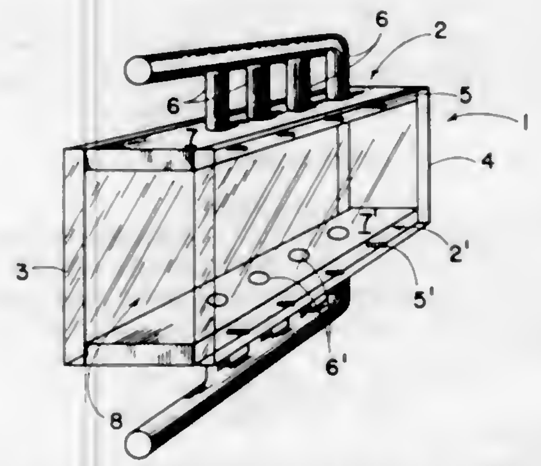
David Yerouchalmi, Issy-les-Moulineaux, and Pierre Zettwoog, Massy, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 20, 1967, Ser. No. 617,198
Claims priority, application France, Mar. 9, 1966, 52,619
Int. Cl. H02k *45/00;* **G21d** *7/02*
U.S. Cl. 310—11 **3 Claims**



A wall structure for magnetohydrodynamic conversion ducts is constituted by an alternate arrangement of thin segments of refractory metals which form conducting electrodes and segments of refractory materials which form thermal and electric insulators, said electrodes being adapted to project inwardly from the internal surface of the duct wall.

3,450,906
ABLATIVE MAGNETOHYDRODYNAMIC DUCT

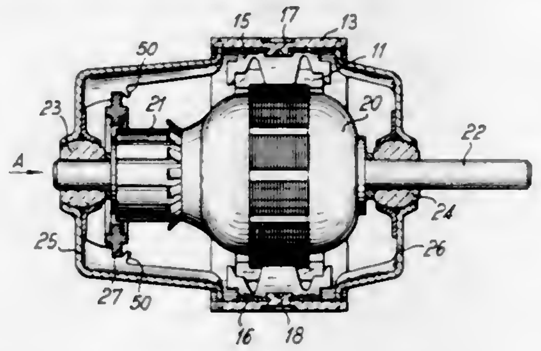
Henry E. Klopfer, Sunnyvale, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 22, 1967, Ser. No. 640,076
Int. Cl. H02k *45/00*
U.S. Cl. 310—11 **4 Claims**



A duct for the magnetohydrodynamic generation of electricity comprising electrode assemblies spaced apart by electrically insulating ablative walls of polymethylmethacrylate.

3,450,907
MINIATURIZED ELECTRICAL MACHINE CONSTRUCTION

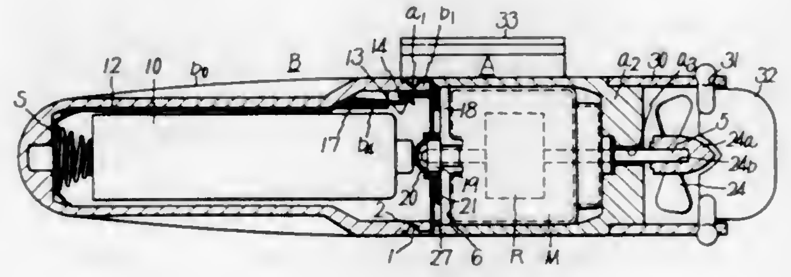
Willi Blume, Buhlertal, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Dec. 18, 1967, Ser. No. 691,356
Claims priority, application Germany, Dec. 17, 1966, B 90,367
Int. Cl. H02k *15/00*
U.S. Cl. 310—42 **7 Claims**



An assembly construction of an electrical machine having a stator and a rotor. The housing section has a planar wall section extending radially outward. This wall section rests upon the frontal side of the stator. The latter has axial projections forming shoulder surfaces between which the planar wall section extends. These projections on the stator serve to centrally locate and secure the housing section. The height of the projections on the stator are larger than the thickness of the planar wall section, when taken in the direction of the rotor axis. The projections also have retaining lugs between the frontal side of the stator and the shoulder surfaces. These lugs are chiseled from the frontal side and formed from a groove-shaped cut so as to extend beyond the rim of the housing section. In one embodiment the housing section is U-shaped and contains a shaft bearing at the base of the U. Tension blades are rivetted to the stator ring to position a pair of shell permanent magnets. A brush plate is retained by housing lugs adjacent the commutator.

3,450,908
ELECTRIC MOTOR FOR DIVERSE LOADS HAVING CYLINDRICAL HOUSING, SWITCH, AND GEARS

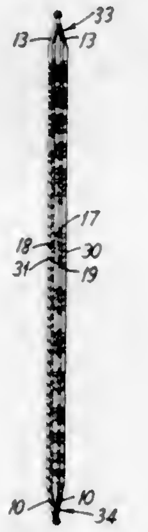
Takaichi Mabuchi, Tokyo, Japan, assignor to Tokyo Kagaku Kabushikikaisha, Tokyo, Japan, a corporation of Japan
Filed Aug. 28, 1967, Ser. No. 663,831
Claims priority, application Japan, Oct. 19, 1966, 41/97,182, 41/97,183, 41/97,184
Int. Cl. H02k *1/04, 1/06*
U.S. Cl. 310—43 **5 Claims**



A motor-driving unit comprising a plurality of detachable cylindrical case members, a miniature motor, a power source battery housed in the case members, and a rotary member exchangeably mounted on the rotary shaft of the miniature motor projecting outside of the closure end of the end case member, and designed so that electrical connection between the miniature motor and the power source battery is switched on and off by the relative rotation of two of the case members to control the rotation of the motor without the provision of a switch on the outside of the cases members.

3,450,909
ARMATURE WITHOUT DISC CARRIER

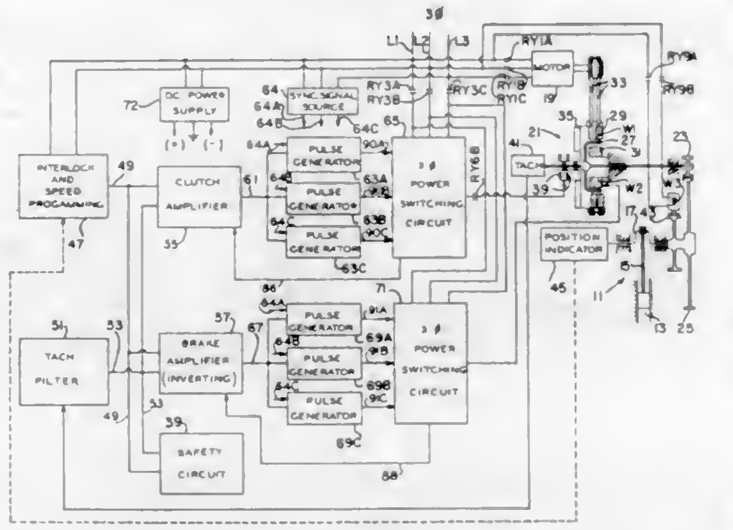
Robert Page Burr, Huntington, N.Y., assignor to Printed Motors, Inc., New York, N.Y., a corporation of Delaware
Filed May 9, 1966, Ser. No. 554,262
Int. Cl. H02k *1/32*
U.S. Cl. 310—58 **8 Claims**



An armature not including a dielectric carrier for the conductors. The conductor patterns for the armature are formed by a stamping process. The inner surfaces of the conductors are coated with a dielectric and then bonded to form the multilayer armature. As an alternative, the coating step can be eliminated by using a bonding adhesive having solid particles therein to maintain an insulating spacing.

3,450,910
PRESS SPEED CONTROL SYSTEM WITH EDDY CURRENT BRAKE-CLUTCH AND OVER-UNDER SPEED PROTECTIVE DEVICE

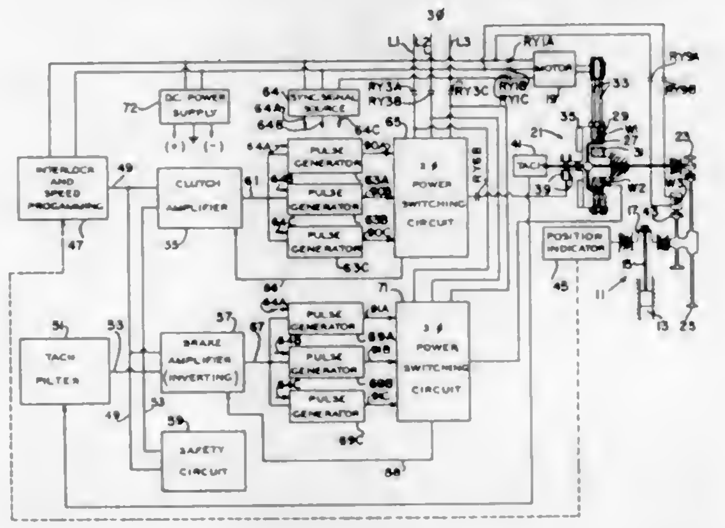
Ralph L. Jaeschke and Aubrey H. Smith, Kenosha, Wis., assignors to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 7, 1967, Ser. No. 651,831
Int. Cl. H02k *49/04*
U.S. Cl. 310—95 **11 Claims**



Apparatus for operating a press over a wide range of speeds or stroking rates from a flywheel which is rotated at substantially constant speed so that substantially constant energy is available per press stroke. The press is coupled to the flywheel through a coupling which includes an eddy current clutch and an eddy current brake and the clutch and the brake are energized under tachometer feedback control to maintain the press speed at a preselected level. The voltages applied to the clutch and brake are varied as inverse functions of the respective current level thereby to force or speed the response of the coupling. Further, over-under speed circuitry means are provided for deenergizing the coupling and for applying a mechanical brake if the actual speed of the press deviates from the desired speed by more than a preselected amount for more than a predetermined time.

3,450,911
PRESS SPEED CONTROL SYSTEM WITH FLYWHEEL AND EDDY CURRENT BRAKE AND CLUTCH

Aubrey H. Smith, Kenosha, Wis., assignor to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 18, 1967, Ser. No. 654,158
Int. Cl. H02k *49/04*
U.S. Cl. 310—95 **8 Claims**

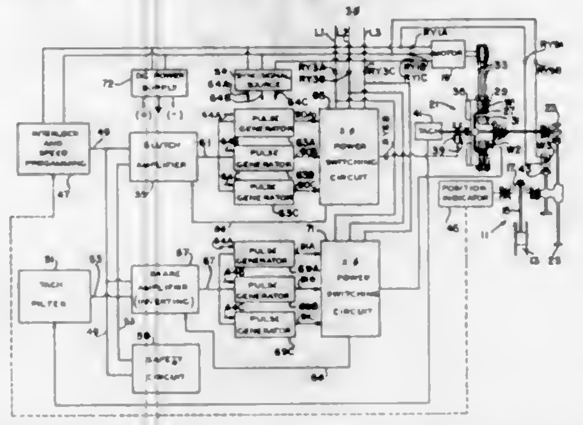


Apparatus for operating a press over a wide range of speeds or stroking rates from a flywheel which is rotated at substantially constant speed so that substantially constant energy is available per press stroke. The press is coupled to the flywheel through a coupling which includes an eddy current clutch and an eddy current brake and the clutch and the brake are energized under tachometer feedback control to maintain the press speed at a preselected level. The voltages applied to the clutch and brake are varied as inverse functions of the respective current level thereby to force or speed the response of the coupling. Further, safety circuit means are provided for deenergizing the coupling and for applying a mechanical brake if the actual speed of the press deviates from the desired speed by more than a preselected amount for more than a predetermined time.

3,450,912
METHOD OF OPERATING A PRESS OVER A FOUR-TO-ONE RANGE OF STROKING RATES

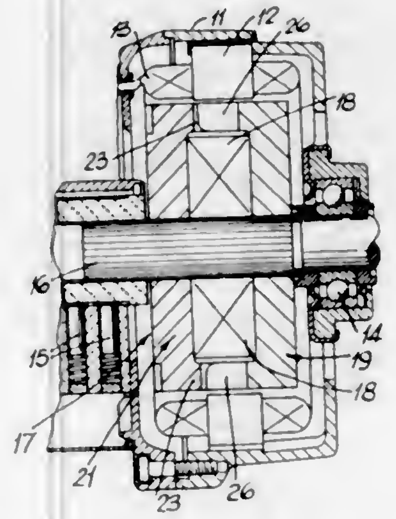
Theodore R. La Vallee, Ferndale, Mich., assignor to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 18, 1967, Ser. No. 654,166
Int. Cl. H02k *49/04*
U.S. Cl. 310—95 **3 Claims**

A method for operating a press over a wide range of speeds or stroking rates from a flywheel which is rotated at substantially constant speed so that substantially constant energy is available per press stroke. The press is coupled to the flywheel through a coupling which includes an eddy current clutch and an eddy current brake and the clutch and the brake are energized under tachometer feedback control to maintain the press speed at a preselected level. In the apparatus disclosed for practicing the method, the voltages applied to the clutch and brake are varied as inverse functions of the respective current level thereby to force or speed the response of the coupling. Further, safety circuit means are provided for deenergizing the coupling and for applying a mechanical brake if the actual speed of the press deviates from the desired speed by more than a preselected amount for more than a predetermined time.



3,450,913
INTERDIGITATED ROTOR ARRANGEMENT FOR ALTERNATOR

Alfred Dickens Baker, Solihull, England, and Maurice Albert Henry Howes, La Grange, Ill., assignors to Joseph Lucas (Industries), Limited, Birmingham, England
Filed Dec. 30, 1966, Ser. No. 606,106
Int. Cl. H02k *9/02, 1/22*
U.S. Cl. 310—159 **2 Claims**

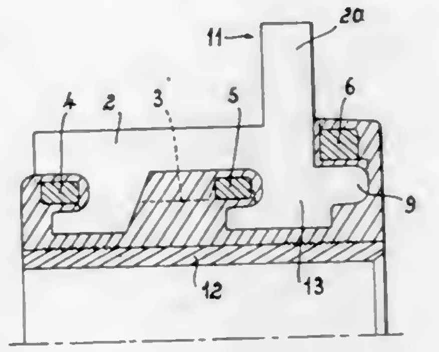


In an interdigitated rotor for an alternator, the fingers of the rotor do not extend axially as is the usual practice, but are inclined to the axis of the rotor so that the rotor draws air through the casing of the alternator.

3,450,914
COMMUTATORS OF ROTARY ELECTRIC MACHINES

Jean Demerciere, Serrieres-de-Briord, Ain, France
Filed June 9, 1966, Ser. No. 556,302
Claims priority, application France, July 8, 1965, 46,198
Int. Cl. H01r *39/04*
U.S. Cl. 310—236 **6 Claims**

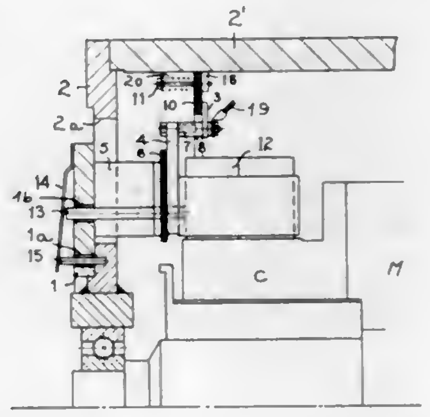
A communtator for rotary electrical machines having a sleeve on which are mounted a plurality of similar radial conductive elongated bars with interposed insulating plates separating successive bars. Each bar has a notch in its inner edge, which extends at least in part within the body of the bar to form a tongue therein along the edge. At one radial end of the bar is a further notch and at the other end is a radial outwardly directed extension and a lateral projection, the latter having an outline matching that of the further notch and being



disposed at the same level thereof. An insulating body is secured to the sleeve and fills the notches and encloses the projections of the bars, there being rings imbedded in the insulating body and fitted in corresponding notches of the different bars and extending around the lateral projections on the different bars.

3,450,915
BRUSH ARRANGEMENT FOR DIRECT CURRENT DYNAMOELECTRIC MACHINE

Viktor Zumsteg, Birr, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Apr. 25, 1966, Ser. No. 544,878
Claims priority, application Switzerland, May 10, 1965, 6,485/65
Int. Cl. H02k *5/14;* **H01r** *39/38*
U.S. Cl. 310—239 **6 Claims**

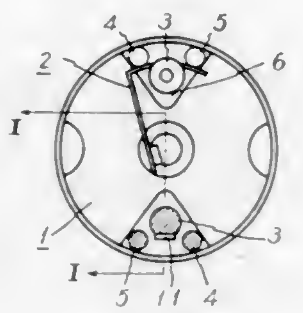


A dynamoelectric machine structure features a brush assembly which can be removed without disassembly of the machine. To this end the end plate of the machine housing is provided with an opening through which the brush holder and brushes are removed, the brush holder being secured to a ring which is removably attached to the end plate. As the ring is removed, a spring loaded pin comes into action automatically so as to apply an end pressure against the brushes in the brush holder to keep the brushes from falling out.

3,450,916
BRUSH SUPPORTING MEANS FOR MINIATURE ELECTRIC MOTORS

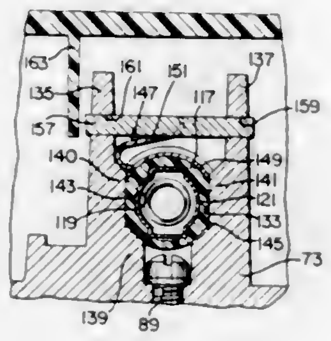
Takaichi Mabuchi, 262, Hondencho, Katsushika-ku, Tokyo, Japan
Filed Dec. 23, 1965, Ser. No. 516,039
Claims priority, application Japan, Aug. 18, 1965, 50,227
Int. Cl. H01r *39/38*
U.S. Cl. 310—244 **1 Claim**

Brush supporting means for a miniature electric motor having an elongated brush holder having attached to its one end a brush, brush holder supporting means including a pair of rods and a central rod for supporting the other end portion of said brush holder therebetween, said other end portion of said brush holder having formed thereon a recess, said brush holder supporting means having bored therein an opening at the position flush with one side surface of said central rod, and a terminal plate having a projection, said terminal plate being inserted through said opening between said other end portion and said central rod to adjust the contact pressure of said brush and to positively be connected with said brush-holder.



3,450,917
ELECTRIC MOTOR BRUSH HOLDER ASSEMBLY

Hynek J. Zelik and George W. Cowman, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed May 26, 1967, Ser. No. 641,692
Int. Cl. H02k *13/10*
U.S. Cl. 310—247 **5 Claims**

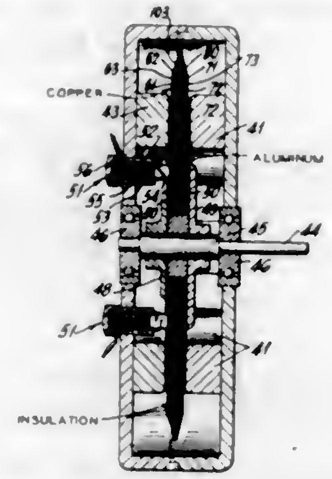


The device disclosed herein is a hand-held or portable router which includes a router bit driven directly by an electric motor. A composite housing encases and supports the motor and is adjustably secured to a base which supports the motor upon the work and selects the depth of cut of the tool bit. The motor includes a suction cooling fan which draws cooling air therethrough and discharges it around the tool bit to blow away chips, dust, etc. Brush holders carrying the electric brushes are supported and securely retained upon the motor housing and are covered and protected by a housing cap.

3,450,918
COPPER-ALUMINUM ARMATURES

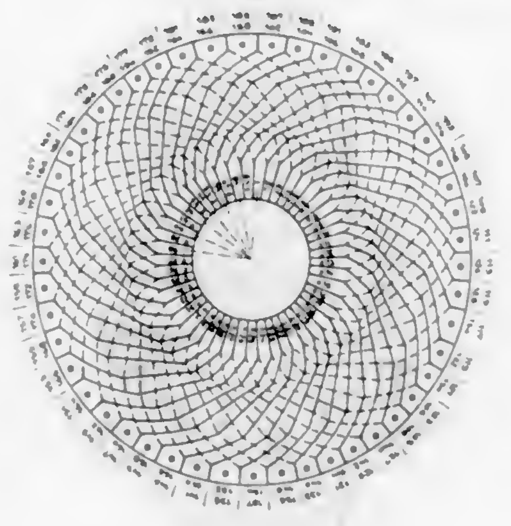
Robert Page Burr, Huntington, N.Y., assignor to Printed Motors, Inc., New York, N.Y., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,524
Int. Cl. H02k *1/22, 13/04;* **H01r** *39/00*
U.S. Cl. 310—268 **9 Claims**

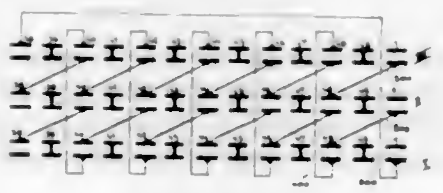
A two or more layer armature in which one layer is copper to provide a commutating surface and the remaining layers are aluminum. The conductor patterns forming the layers of the armature are made on a notching press, are then bonded to an insulating carrier, and the conductors are thereafter interconnected by welding.



3,450,919
MULTIPLE MEMBER WINDINGS FOR ELECTRICAL ROTATING MACHINES

Jacques Henry-Baudot, Antony, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, France
Filed Aug. 1, 1966, Ser. No. 569,330
Claims priority, application France, Sept. 16, 1965, 31,628; July 19, 1966, 69,906
Int. Cl. H02k *3/04*
U.S. Cl. 310—268 **13 Claims**

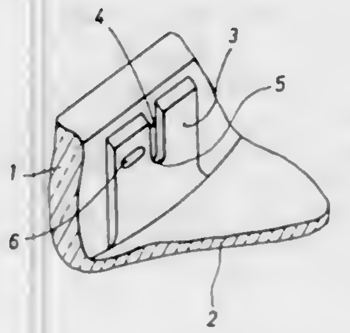




A multiple member winding for a dynamoelectric machine is disclosed in which each member is identical and includes on opposite sides of an insulating carrier, flat thin half turn conductors which extend from the inner to the outer edges of the member. In each member, a number of uniformly spaced ends of conductors at one edge of the member are left unconnected to the corresponding ends on the other face of the member, said number being equal to $q+1$ where q equals at least 3. This permits stacking of the members with registry between corresponding conductor ends in each layer and interconnecting of the members to form a complete winding regardless of the number of members employed.

3,450,920
FACEPLATE WITH LAND PORTIONS HAVING TWO CAVITIES FOR RECEIVING SHADOW MASK SUPPORT MEMBERS

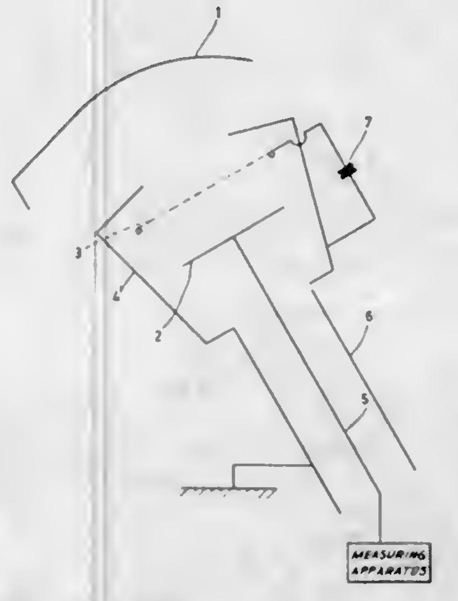
Günther Engels, Aachen, Gert Kablitz, Eilendorf, and Heinrich Wischmann, Aachen, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,409
Claims priority, application Germany, Jan. 13, 1967, P 41,195
Int. Cl. H01j *29/46, 1/96, 19/50*
U.S. Cl. 313—85 **6 Claims**



A shadow mask is supported by the wall of the window of a color television display tube. This wall has thickened portions for supporting the mask each of which has a recess therein extending parallel to the tube axis for receiving a supporting member for the mask as well as a cavity adjacent to the recess for receiving an additional member for preventing displacement of the mask along the tube axis.

3,450,921
FAST, HIGH CURRENT ELECTRON MULTIPLIER HAVING A COLLECTOR DECOUPLED FROM GROUND

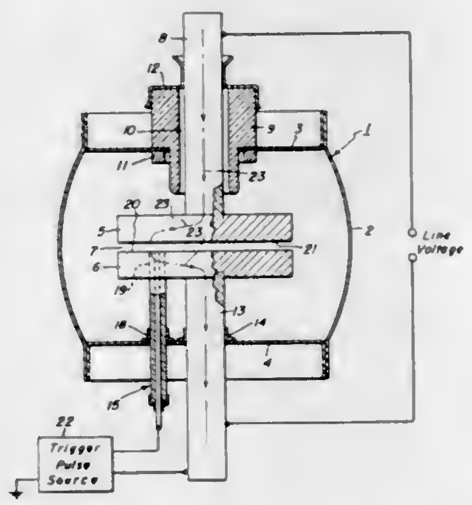
Andre Eugene Guillaume, deceased, late of Crosnes, Essonnes, France, by Georges Albert Boutry, representative, Villecrenes, France, assignor to Laboratoires d'Electronique et de Physique Appliquees L.E.P.
Filed Aug. 4, 1966, Ser. No. 608,466
Claims priority, application France, Aug. 4, 1965, 27,181
Int. Cl. H01j *43/00, 39/12, 39/20*
U.S. Cl. 313—104 **2 Claims**



A fast, high current electron multiplier is disclosed in which a measuring apparatus is included in a signal conducting lead connected to the last dynode and a collector for collecting electrons emitted by the last dynode is decoupled from ground by a capacitor. The last dynode and collector are disposed within a shield having an opening between the last dynode and the next to the last dynode. The dynodes, collector, and a decoupling capacitor between the collector and ground are all housed within an evacuated envelope.

3,450,922
TRIGGERABLE VACUUM GAP HAVING OFFSET TRIGGER

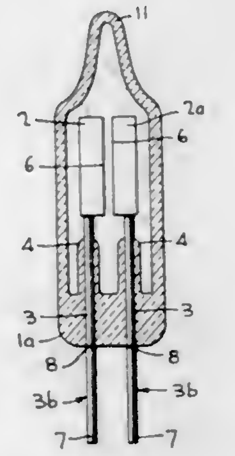
Charles J. Gallagher, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 3, 1966, Ser. No. 569,944
Int. Cl. H01j *1/50, 3/32, 23/10*
U.S. Cl. 313—155 **7 Claims**



Triggerable vacuum gap devices having longitudinally fed, substantially plane-parallel arc-electrodes are triggered by a trigger assembly, integral with one arc-electrode and decentered from the longitudinal axis thereof.

3,450,923
GAS-FILLED OVERVOLTAGE ARRESTER FOR TELECOMMUNICATION INSTALLATIONS

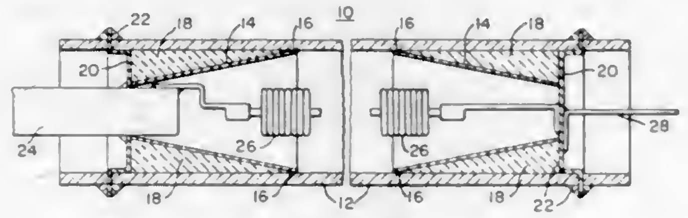
Gerhard Brumm, Erlenbach, Switzerland, assignor to Cerberus AG., Mannedorf, Switzerland, a corporation of Switzerland
Filed Mar. 7, 1966, Ser. No. 532,468
Claims priority, application Switzerland, Mar. 17, 1965, 3,725/65
Int. Cl. H01j *17/04*
U.S. Cl. 313—210 **10 Claims**



A novel gas-filled overvoltage arrester is disclosed, the overvoltage arrester being characterized by the features that plate-shaped electrodes retarding the fusion process are arranged in a glass body or bulb formed of hard glass, the plate-shaped electrodes possessing rounded edges and at least one millimeter thickness and having a surface area of thirty square millimeters. The plate-shaped electrodes are spaced from one another at a sufficiently small distance to render possible sudden short-circuits due to the formation of a fusion bead at the surface of the electrodes, the thermocapacity of the electrodes being so large that with a current load of ten or more amperes R.M.S. and with more than 1,000 watts per second, the fusion bead positively forms prior to the destruction of the glass body.

3,450,924
SEALING MEANS FOR REFRACTORY CERAMIC DISCHARGE DEVICE ENVELOPES

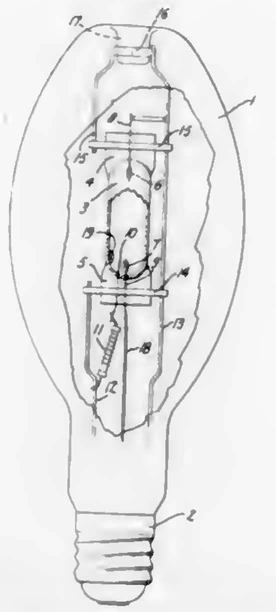
William J. Knochel, West Orange, N.J., and Francis C. M. Lin, New York, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1967, Ser. No. 640,528
Int. Cl. H01j *17/16, 61/36;* **H01k** *1/36*
U.S. Cl. 313—220 **10 Claims**



A ceramic discharge device including a polycrystalline alumina, tubular envelope hermetically sealed at each end by a refractory metal or refractory ceramic closure member. An axially extending electrode is mounted interiorly of each closure member and a lead-in conductor is electrically connected to said electrode through said closure member. The closure members sealing off the ends of the envelope have a generally frustoconically-shaped interior surface tapering from a larger diameter adjacent the arc sustaining electrode to a smaller diameter adjacent the electrode mount thereby reducing the volume of the area behind the electrodes.

3,450,925
MERCURY BISMUTH HALIDE PHOTOCHEMICAL ARC LAMP LIGHT SOURCES

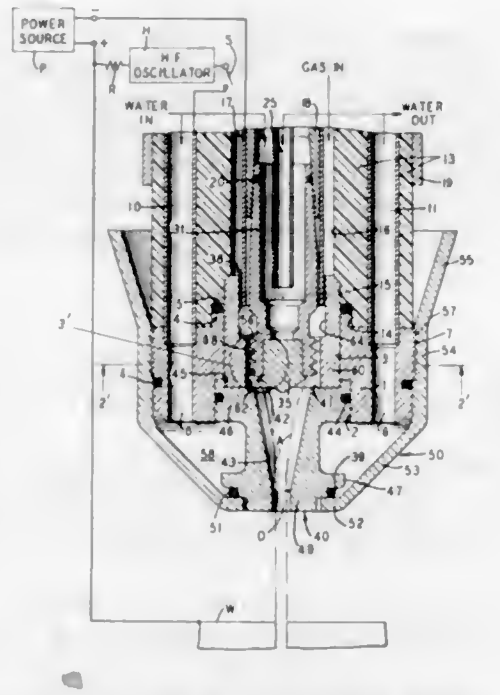
Peter D. Johnson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 17, 1967, Ser. No. 623,971
Int. Cl. H01j *17/20, 61/18;* **H01k** *1/50*
U.S. Cl. 313—229 **11 Claims**



A photochemical light source includes an evacuated arc chamber containing a pair of arc-electrodes and a filling of mercury sufficient to yield under operating conditions a mercury pressure of approximately ½ to 5 atmospheres, and a quantity of a bismuth halide sufficient to yield a partial pressure of approximately 10 to 200 torr of vaporized halide. The bismuth halide is thermally dissociated in a mercury vapor arc. High intensity, efficient photochemically useful radiation within the wavelength bands of 2800 to 3200 A.U. and 3200 to 4200 A.U. is produced by the combined line spectra of the excited mercury and bismuth atoms at their respective radiating wavelengths. Means are provided to supply the arc-electrodes with a sufficiently high voltage to initiate a high power, high current electric arc within the lamp envelope.

3,450,926
PLASMA TORCH

Joseph F. Kiernan, Dunellen, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 10, 1966, Ser. No. 585,528
Int. Cl. H01j *17/26, 61/28;* **B23k** *9/00*
U.S. Cl. 313—231 **8 Claims**

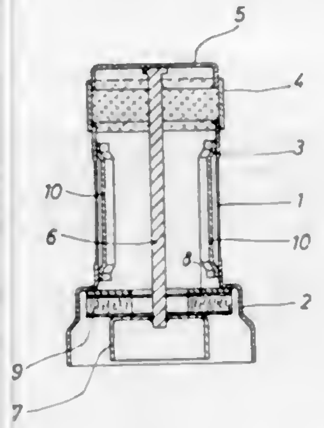


A plasma torch having a combined electrode and gas whirler member of substantially cylindrical form with an external threaded portion surrounded by a hollow concentric heat insulating spacer member having a smooth inner cylindrical wall is disclosed. The insulating spacer member is spaced from the threaded portion of the electrode member to form a clearance space around the threaded portion so that gas supplied by way of the space divides between the space within the threads of the threaded electrode portion and the clearance space surrounding the threads to provide a sheath of relatively non-whirled gas surrounding the whirled portion of the gas.

3,450,927
THERMIONIC CATHODE WITH HEAT SHIELD HAVING A HEATING CURRENT BY-PASS

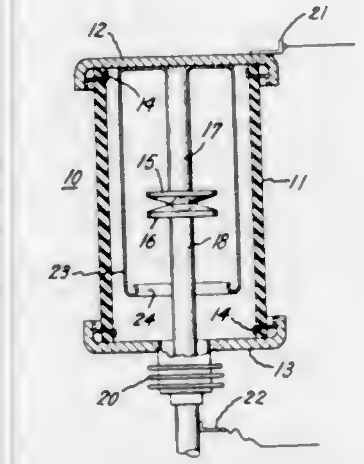
Wolfgang Schmidt, Hamburg-Othmarschen, and Horst Seifert, Hamburg, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 4, 1966, Ser. No. 584,142
Claims priority, application Germany, Nov. 16, 1965, P 38,132
Int. Cl. H01j *1/20, 1/94, 19/18*
U.S. Cl. 313—270 **7 Claims**

A thermionic cathode for an electrical discharge tube is provided with a heat shield also serving as an electrical current connection to the cathode. The heat shield is by-passed by electrical conductors, e.g., wires or strips of conductive material which have a small cross-sectional area in a plane perpendicular to the heat flow in order to limit the thermal contact and minimize heat loss while their total cross-section is larger than the area of the shield being by-passed.



3,450,928
GAS-FREE VACUUM GAP DEVICES AND METHOD OF PREPARATION THEREOF

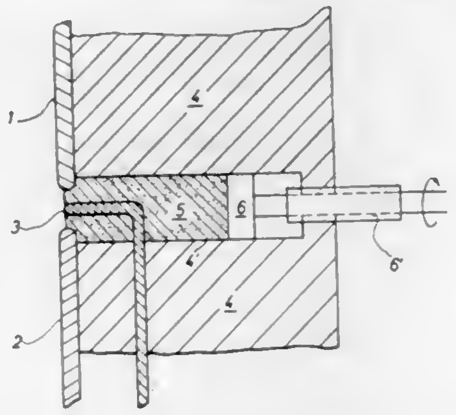
James D. Cobine, Rexford, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1966, Ser. No. 562,193
Int. Cl. H01j *1/38*
U.S. Cl. 313—311 **4 Claims**



1. A vacuum gap electric discharge device comprising:
(a) an hermetically sealed envelope evacuated to a pressure of 10^{-4} mm. Hg or less and including at least a portion thereof comprising a high voltage insulator;
(b) a pair of primary arc-electrodes disposed in insulating relationship within said envelope and defining therebetween a breakdown gap, said arc-electrodes each having at least a portion thereof adapted to present an arcing surface to sustain a footpoint of a high current electric arc,
  (bb) at least said portions of said electrodes comprising oxygen free vacuum refined material having a major constituent having an electrical conductivity suitable for arc-electrode use and high vapor pressure, and a minor constituent having a high affinity for oxygen and forming therewith an oxide which is stable at the temperature of the molten electrode at the arc footpoint sufficient to remove and retain from said major constituent prior to device assembly oxygen contained therein, and
    (bbb) said minor constituent being selected from the group consisting of zirconium and titanium,
(c) means for establishing a conducting electric arc between said arc electrodes.

3,450,929
SPARK GAP DEVICE HAVING INSULATORS IN THE FORM OF PLASTERS

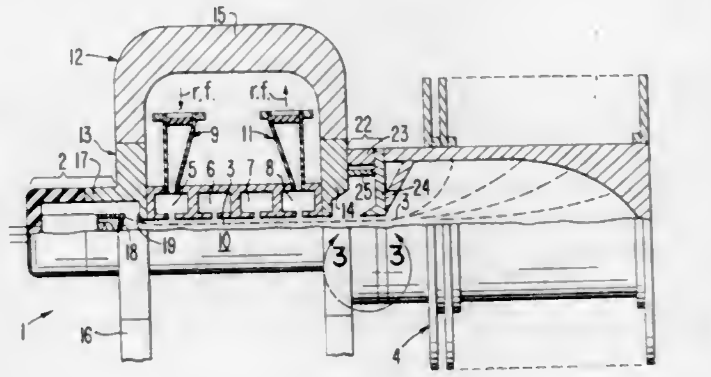
Uwe Dibbern, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 20, 1967, Ser. No. 651,935
Claims priority, application Germany, June 24, 1966, P 39,781
Int. Cl. H01j *1/00;* **H01t** *1/00*
U.S. Cl. 313—325 **10 Claims**



A surface-guided spark gap device is provided with an insulating support and a cavity in the surface of the insulating support. Two spaced spark electrodes are arranged on the surface of the insulating support overlying the cavity. A consumable and movable insulating paste is disposed in the cavity having a surface registering between the spark electrodes. Means are provided for replenishing the consumed portion of the insulating paste.

3,450,930
PERMANENT MAGNET FOCUSED LINEAR BEAM TUBE EMPLOYING A COMPENSATING MAGNET STRUCTURE BETWEEN THE MAIN MAGNET AND THE BEAM COLLECTOR

Erling L. Lien, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 14, 1966, Ser. No. 594,071
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 **8 Claims**

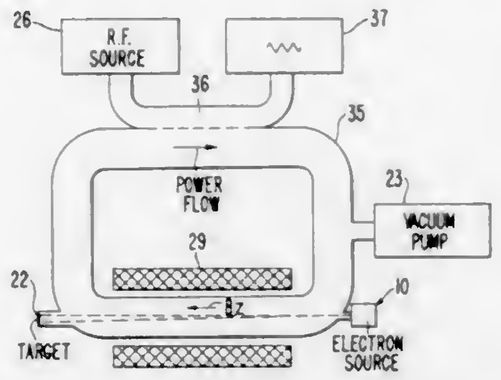


A permanent magnet focused linear beam tube is disclosed. The tube includes a main permanent magnet for producing an axially directed magnetic field over a substantial portion of the beam path for confining the electron beam to a desired path through an interaction circuit. The external fringing field of the main permanent magnet produces an undesired beam focusing effect in the collector structure preventing proper defocusing and spreading of the beam therein. A small compensating permanent magnet is disposed along the beam path between the main permanent magnet structure and the collector structure. The compensating magnet is oppositely polarized to the main permanent magnet such that its main magnetic field is in field aiding relation to the fringing field of the main permanent magnet and its external fringing field is in opposition to the fringing field of the main magnet in the collector region. In this manner, a relatively small compensating permanent magnet may be employed for canceling the relatively large fringing fields of the main magnet in the collector region to provide proper beam spreading therein.

3,450,931
CYCLOTRON MOTION LINEAR ACCELERATOR

Joseph Feinstein and Howard R. Jory, Menlo Park, and Alvin W. Trivelpiece, Lafayette, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Aug. 30, 1966, Ser. No. 576,406
Int. Cl. H01j *25/06, 25/50*
U.S. Cl. 315—5 **12 Claims**



Charged particle accelerators, preferably using electrons are advantageously constructed using a cyclotron-electromagnetic wave drive mechanism in which the R.F. Lorentz force causes the particle to move in the direction of power flow. The particle will accelerate in the direction of power flow in such a way that it takes an amount of wave momentum such that

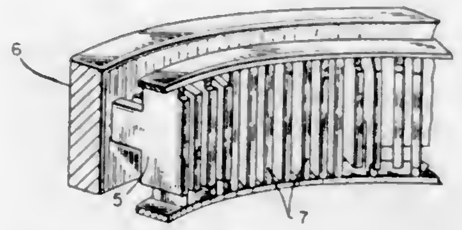
$$\frac{1}{2}\Delta m_{\perp}^2 = c\Delta m v_{\|}$$

By maintaining $\omega_{co} > \omega$ optimum conversion efficiency is realized. The accelerator can take the form of travelling or cavity types and the cyclotron field can be either magnetostatic or electrostatic.

3,450,932
REENTRANT BEAM CROSSED-FIELD AMPLIFIER WITH ELECTRONIC FEEDBACK INHIBITING FILTER

George K. Farney, New Providence, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Mar. 2, 1966, Ser. No. 533,127
Int. Cl. H01j *25/34, 25/50*
U.S. Cl. 315—3.6 **2 Claims**

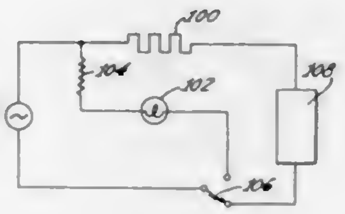


A filter used to inhibit electronic feedback in reentrant beam crossed-field amplifiers is disclosed. In reentrant beam crossed-field amplifiers, space charge remaining in a spoke formation as it rotates past the output end of the slow wave circuit back toward the input provides a source of electronic feedback if the space charge remains concentrated. The filter disclosed is incorporated in the slow wave structure of the amplifier tube and is itself a slow wave structure having a passband frequency different from the passband frequency of the slow wave structure of the amplifier tube.

3,450,933
LIGHT-ACTIVATED DEGAUSSING CIRCUIT

Fred M. Hayden, Sherman Oaks, and Robert W. Lewinski, Inglewood, Calif., assignors to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California

Filed Sept. 27, 1965, Ser. No. 490,298
Int. Cl. H01j *29/06*
U.S. Cl. 315—8 **1 Claim**

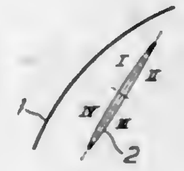


This invention relates to television degaussing circuits for use in a television receiver wherein the receiver includes a source of constant amplitude alternating signal and wherein a degaussing coil is included in the receiver. The present invention includes a circuit for producing a decaying amplitude alternating signal from the constant amplitude alternating signal and includes a light-sensitive resistor in series between the constant amplitude alternating signal and the degaussing coil so that the resistance of the light-sensitive resistor controls the amplitude of the alternating signal through the degaussing coil. A light source is coupled to the light-sensitive resistor so that the light energy from the light source controls the resistance of the light-sensitive resistor and means are electrically coupled to the light source so as to control the production of the light energy from the light source. The light source may, therefore, be controlled so as to change its resistance from a high to a low value so as to allow a larger current to flow through the degaussing coil. When the light energy is removed, the resistance of the light-sensitive resistor decays so as to produce a decaying amplitude alternating signal to the degaussing coil.

3,450,934
METHOD AND APPARATUS FOR TRACING A TRACK

Helmuth Frenk, Wetzlar, Germany, assignor to Ernst Leitz GmbH, Wetzlar, Germany

Filed June 7, 1967, Ser. No. 644,198
Claims priority, application Germany, Apr. 8, 1967, L 56,201; Apr. 15, 1967, L 56,253
Int. Cl. H01j *31/26*
U.S. Cl. 315—10 **11 Claims**



A new method for tracing a track by means of the flying spot of a cathode ray tube (hereinafter termed CRT) is outlined which method comprises the steps of generating an oblong pattern by means of a rotating flying spot; tilting the flying spot pattern in order to adjust the main axis to a direction parallel to the tangent to the track to be traced; shifting the flying spot pattern in order to bring the central point of said main axis into contact with said track to be traced and displacing said flying spot pattern in such a way as to move the central point along the track to be traced.

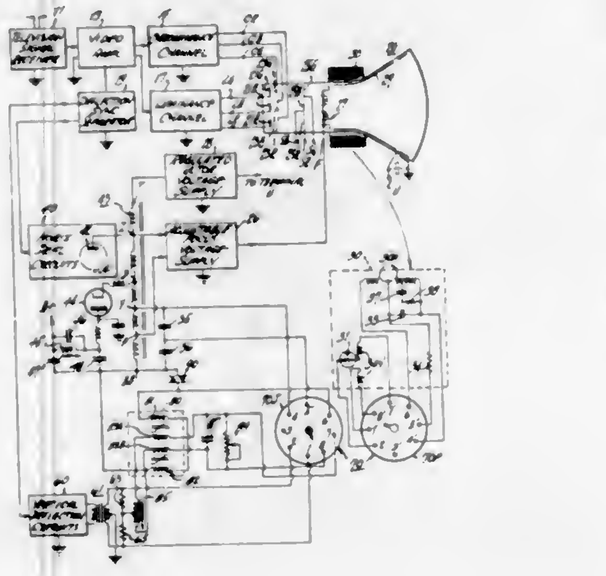
Thus it is not the flying spot itself that is used for tracing the track, but rather it is the central point of the flying spot pattern which serves this purpose.

A photoelectric receiver is employed for generating control signals for the tilting and the movement of the flying spot pattern. Additionally, a particular field of application of this new method is outlined in the disclosure: the method is used for tracing nuclear tracks on stereoscopic bubble chamber track photographs.

3,450,935
PROTECTION CIRCUIT

Neal W. Hursh, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 15, 1965, Ser. No. 439,578
Int. Cl. H01j *29/74*
U.S. Cl. 315—27 **6 Claims**



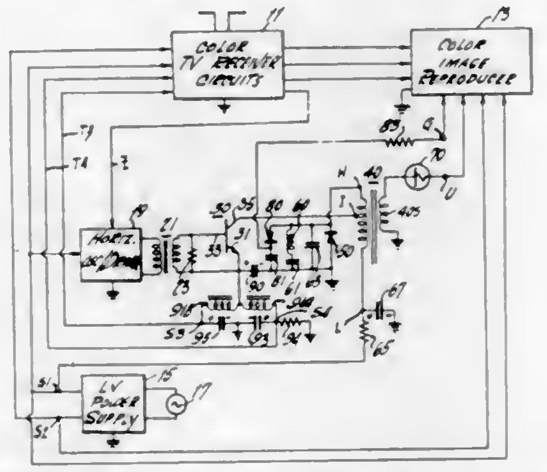
Protection circuit for color television receiver wherein raster pincushioning is corrected by saturable reactor circuits involving location of pincushion correction windings in connections to deflection yoke. Due to the presence of these windings, when kinescope ultor electrode arcs (e.g., under adverse operating conditions, or during servicing), large current pulse flowing through pincushion windings develops large amplitude voltage pulse that can damage components such as yoke "socket." Damage is precluded by shunting across pincushion windings a voltage dependent resistor (VDR). VDR resistance value under normal operating conditions is sufficiently large that VDR appears as an open circuit; when arcing occurs, resistance value drops to limit voltage buildup, with the VDR bypassing current pulse around pincushion windings.

3,450,936
TELEVISION SCANNING AND POWER SUPPLY SYSTEM

Mark Berwyn Knight, North Caldwell, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,258
Int. Cl. H01j *29/70*
U.S. Cl. 315—27 **8 Claims**

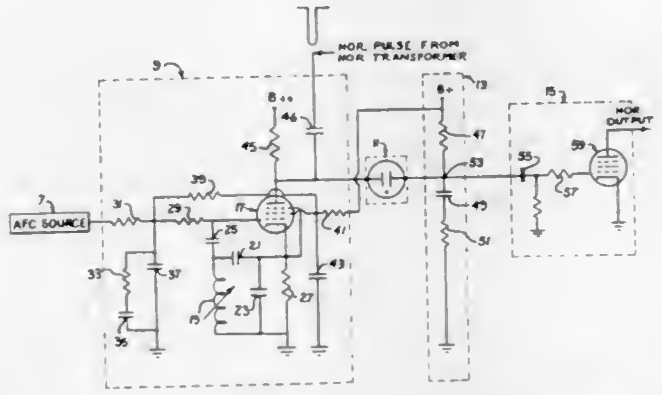
In transistorized horizontal deflection output circuit, damper diode is "tapped up" on output transformer primary relative to output transistor collector drive point. By providing a D.C. load in the output transistor emitter circuit, a D.C. operating potential of the order required by low power stages of a television receiver is conveniently developed at the emitter. Degree of "tapping up" of damper determines magnitude of supply potential developed at emitter. In one circuit arrangement, supply in emitter circuit also serves as source of centering current to horizontal deflection windings, D.C.-to-D.C. transformer action of output circuit permits design of receiver's low voltage power supply without need for power transformer.



3,450,937
OSCILLATOR DRIVE CIRCUITRY

Thomas Lester Taylor and Elwin Cleland Wigton, Batavia, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 18, 1968, Ser. No. 722,368
Int. Cl. H01j *29/70*
U.S. Cl. 315—27 **10 Claims**



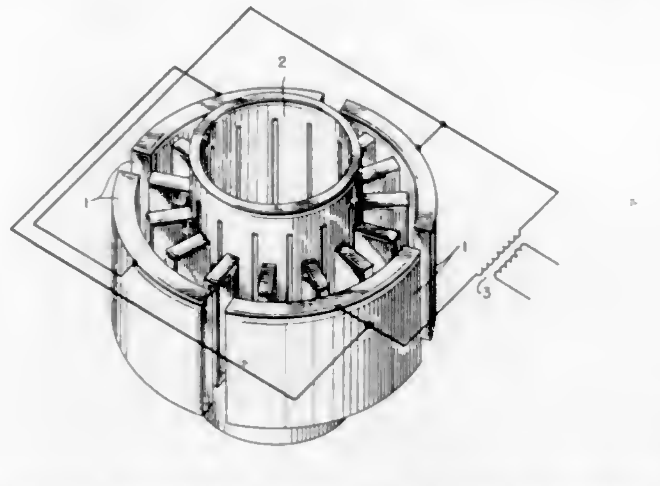
A fast switching signal drive circuit includes an oscillator means for developing a potential having a relatively slow switching period which is coupled by a switching means to a charging circuit connected intermediate a voltage source and a voltage reference level. The switching means isolates the oscillator means and charging circuit until such time as the potentials applied thereto render the switching means conductive. Upon conduction of the switching means, a drive signal having a relatively fast switching period is provided.

3,450,938
CONTROL ELECTRODE STRUCTURE FOR CROSSED-FIELD AMPLIFIER

George K. Farney, New Providence, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Mar. 2, 1966, Ser. No. 533,126
Int. Cl. H01j *25/34, 25/50, 1/20*
U.S. Cl. 315—39.3 **2 Claims**

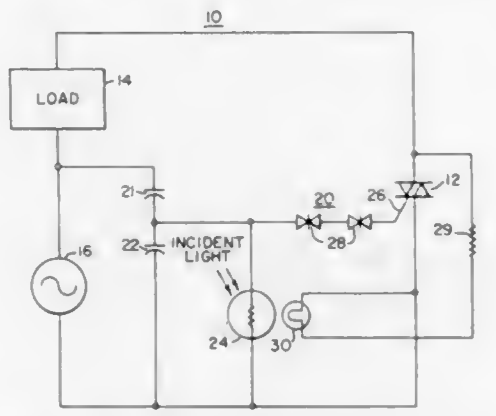
A cathode-control electrode structure for crossed-field amplifier tubes is disclosed. The cathode-control electrode structure is used in crossed-field amplifiers that operate from a DC power supply with heaterless cathodes. The disclosed cathode is a segmented cathode. The segments of the cathode are electrically insulated from each other. Positive pulses are applied to alternate segments of the cathode at the termination of an RF input pulse. The positive cathode segments attract the electron current and immediately cut-off the cathode current flow.



3,450,939
SOLID STATE CONTROL SWITCH WITH INSTANT ON CHARACTERISTIC AND LOW WATTAGE COMPONENTS

John J. Misencik, Shelton, Conn., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 9, 1967, Ser. No. 637,231
Int. Cl. H05b *37/02*
U.S. Cl. 315—156 **3 Claims**



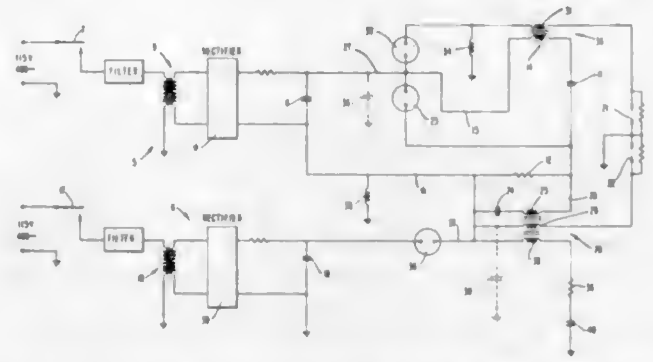
A circuit for controlling the application of an alternating supply voltage to a load in response to a predetermined condition, for example ambient light. The circuit comprises a solid state symmetrical switch connected in series with the load across the supply of voltage, and a gate circuit for the switch which includes two capacitors connected in series across the supply of voltage, a condition sensing means connected across one of the capacitors, and symmetrical trigger diode means connected between the gate terminal of the switch and the common junction of the capacitors and the condition responsive means. The circuit may include further a bias condition source, for example a light source, connected across the switch and disposed in energy transfer relationship with the condition sensing means.

3,450,940
ELECTRICAL PULSE GENERATING APPARATUS

Irving E. Linkroum, Hancock, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Filed Aug. 29, 1967, Ser. No. 664,171
Int. Cl. H05b *41/00*
U.S. Cl. 315—171 **15 Claims**

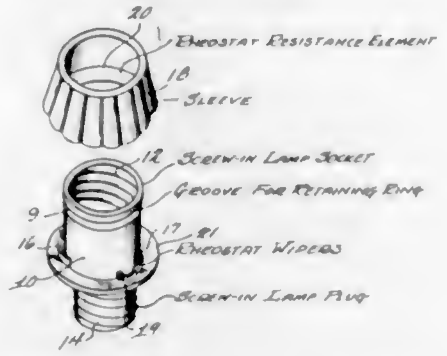
A condenser discharge type ignition system for jet engines comprising a combination of high and low energy circuits for supplying relatively high energy pulses to a pair of series connected igniter plugs for engine starting and alternatively for supplying lower energy pulses to only one of said igniter plugs during engine operation, said circuits having a common high frequency coil through which both high and low energy pulses are alternatively supplied to said one igniter plug.



3,450,941
LIGHT DIMMER SOCKET ADAPTER

Orville R. Butts, Pennsauken, N.J., assignor to G-L Industries, Westville, N.J., a corporation of New Jersey

Filed Apr. 26, 1966, Ser. No. 545,495
Int. Cl. G05f *1/66;* **H05b** *37/02, 41/36*
U.S. Cl. 315—194 **8 Claims**



A device for controlling the amount of electrical power delivered to a load from a power source including a Triac with two terminals connected between one side of the power source and the load, and the other terminal connected through a Diac to the common connection of a serially connected resistor and capacitor which are connected between the first two terminals of the Triac. The resistor is preferably a ring-shaped element mounted about the periphery of the device and having both conductive and resistive regions, so that the resistor alters the resistance of a path between the two wipers fixed on the periphery thereby to alter the amount of power delivered to the load. The device has especial utility in controlling the dimming of a light and the speed of a motor.

ERRATUM

For Class 315—209 see:
Patent No. 3,450,972

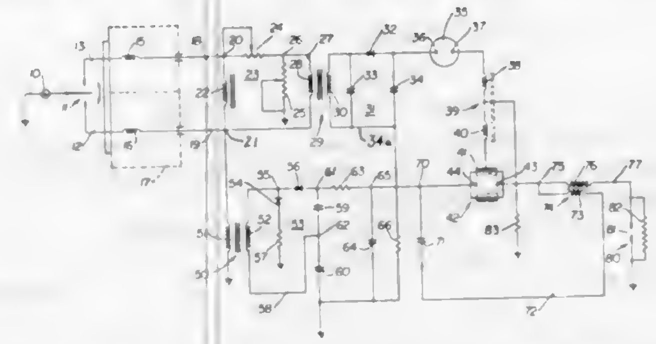
3,450,942
ELECTRICAL PULSE GENERATING SYSTEM

Louis H. Segall, Sidney, and Irving E. Linkroum, Hancock, N.Y., assignors to The Bendix Corporation, a corporation of Delaware

Filed Apr. 10, 1967, Ser. No. 629,674
Int. Cl. H05b *37/02*
U.S. Cl. 315—209 **22 Claims**

An electrical pulse generating system wherein two levels of energy are selectively supplied to a single load output from a common source. The source is selectively connectible to different points of two linked condenser discharge circuits to vary the division of input energy to

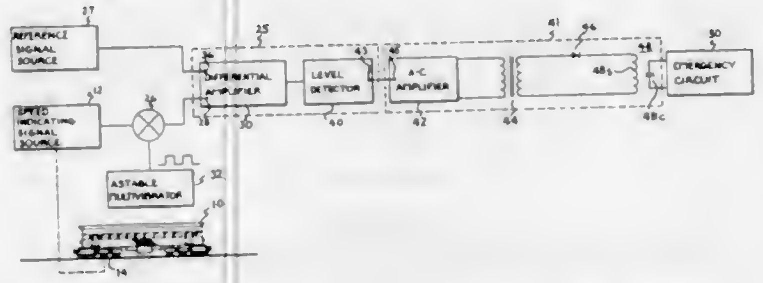
simultaneously charge the storage condensers in said circuits. One said circuit is a power circuit for supplying energy to the output through a normally nonconductive control gap and the other is a trigger circuit for ionizing and rendering said gap conductive in response to the combined voltages on the storage condensers of both circuits when the sum of said voltages attains the breakdown value of a second control gap in the trigger circuit.



3,450,943
OVERSPEED CHECKING CIRCUIT

Hubert K. Burke, Schenectady, and Gerald J. Michon, Waterford, N.Y., assignors to General Electric Company, a corporation of New York

Filed Jan. 9, 1967, Ser. No. 607,928
Int. Cl. H02h *3/26, 3/04;* **G08b** *23/00*
U.S. Cl. 317—5 **5 Claims**

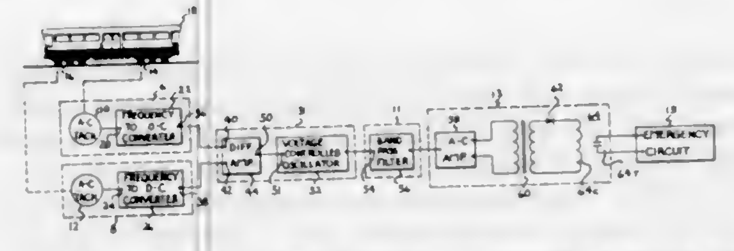


In a vehicle overspeed checking circuit, fail safe operation is provided by adding periodic pulses from an astable multivibrator to direct-current speed-indicating signals from a speed source. When the voltage level of the speed-indicating signals is less than that of maximum speed reference signals from a reference source, the periodic pulses turn a level detector on and off, providing alternating-current output signals which hold an emergency circuit off. However, if either the speed-indicating signal level is greater than the reference signal level or a malfunction interrupts the flow of pulses to the level detector, the level detector provides direct-current output signals which allow the emergency circuit to become actuated.

3,450,944
INTEGRITY CHECKING CIRCUIT FOR TRAIN CONTROL SYSTEM

Hubert K. Burke, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 9, 1967, Ser. No. 608,115
Int. Cl. H05h *3/26, 3/04;* **G08b** *23/00*
U.S. Cl. 317—5 **5 Claims**

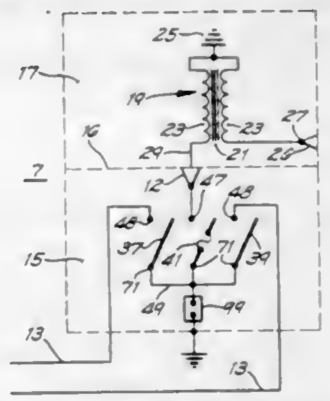


A fail-safe circuit checks the integrity of a pair of alternating current tachometers. The ouput voltage level of a differential amplifier varies as a function of the difference in the frequency of signals from the pair of tachometers. A voltage controlled oscillator generates oscillator signals having a frequency which varies with the output voltage level of the differential amplifier. When the frequency of the oscillator signals is within the pass band of a band pass filter, indicating that the tachometers are performing satisfactorily, an emergency circuit is prevented from initiating emeregency action. When there are no oscillator signals within this pass band, a failure is indicated, and the emergency circuit is enabled.

3,450,945
CIRCUIT SWITCHING AND PROTECTING ARRANGEMENT

Albert C. Wurdack, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Dec. 6, 1966, Ser. No. 599,428
Int. Cl. H02h *7/04, 1/04;* **H02g** *9/02*
U.S. Cl. 317—15 **12 Claims**

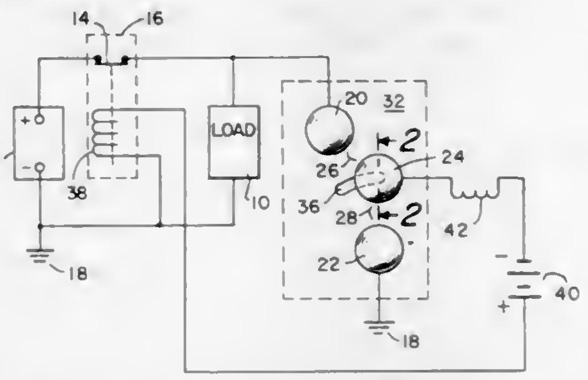


An electrical switch and fuse assembly and arrangement in which each switch and fuse has a lower pivotable end mounted at a substantially common point and electrically connected together. The upper ends of each switch and fuse are spaced apart and connected through jaw contacts to electrical cables. The electrical cables connected to the switches approach the switch and fuse assembly from below and are terminated through stress cones and insulation beside the fuse and switch assembly, utilizing the space created by mounting the lower switch ends at a substantially common point for termination.

3,450,946
PROTECTIVE CIRCUIT OF THE SPARK GAP TYPE

Salvador L. Camacho, Cupertino, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

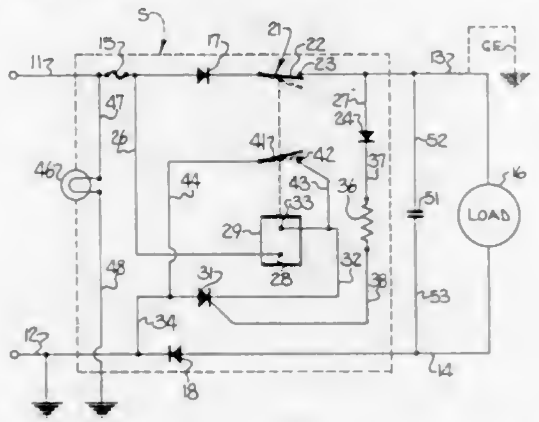
Filed Apr. 24, 1967, Ser. No. 634,060
Int. Cl. H02h *3/00, 3/28, 1/00*
U.S. Cl. 317—16 **7 Claims**



A spark gap type protective circuit including a pair of spaced electrodes and an intermediate electrode. The spaced electrodes are connected across a load to be protected, which load is connected to a high voltage source through the contacts of a high voltage relay. The high voltage relay has a mechanical latch in the open position, in order to prevent hunting. The relay control winding is connected in shunt with a gap between the intermediate electrode and one of the pair of spaced electrodes through a series connected choke coil and a relay control winding energization source. Upon occurrence of an overvoltage of predetermined level at the load, an arc occurs between the pair of spaced electrodes through the intermediate electrode for completion of the energization circuit for the relay control winding through the spark gap without flow of the arc current through the control winding. Upon energization of the relay, the relay contacts are opened to remove the load and the protective circuit from the high voltage source. The arc thereof is extinguished and the relay control winding is deenergized. The mechanical latch on the relay can be reset after the cause of the overvoltage has been determined.

3,450,947
ELECTRICAL SAFETY CIRCUIT

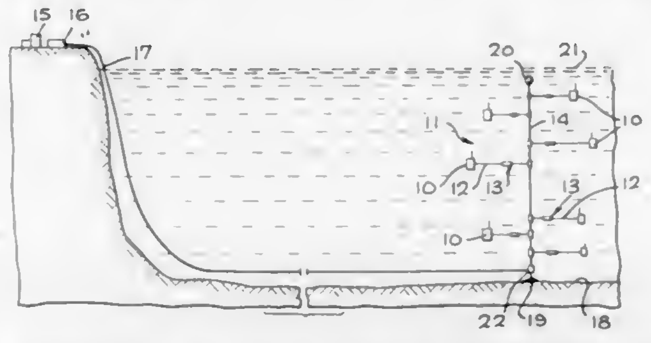
Charles J. Rogers, Sr., Charleston, S.C., assignor to C. J. Rogers Enterprises, Inc., Charleston, S.C., a corporation of South Carolina
Filed May 1, 1967, Ser. No. 635,024
Int. Cl. H02h *1/02*
U.S. Cl. 317—18 **9 Claims**



An electrical safety circuit for connecting a pair of load conductors to a pair of line conductors connected to a source of A.C. power wherein one of the line conductors is grounded. A pair of half-wave rectifiers connected in the line conductors between the source and the load so as to block one half-wave of the A.C. power source from the load. A ground fault sensing means connected to a switching means in the line conductor circuit for disconnecting the source from the load upon a ground fault condition.

3,450,948
ELECTRICAL DISTRIBUTION SYSTEM

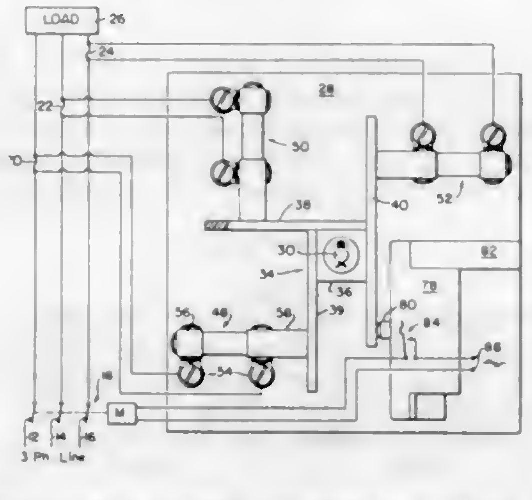
Glenn W. Gerlach, Thousand Oaks, Calif., and Albert E. Paul, Savage, Md., assignors to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 619,824
Int. Cl. H02h *3/00, 7/00, 5/04*
U.S. Cl. 317—26 **13 Claims**



An electrical distribution system for furnishing power to submerged power consuming stations carried on the end of conductors tethered from a common power cable incorporating a fuse apparatus in close proximity to the cable for the protection of all of the stations in the array in the event of malfunction or damage to the station or to a length of conductor disposed between the fuse apparatus and the station.

3,450,949
FUSE FAILURE DETECTOR

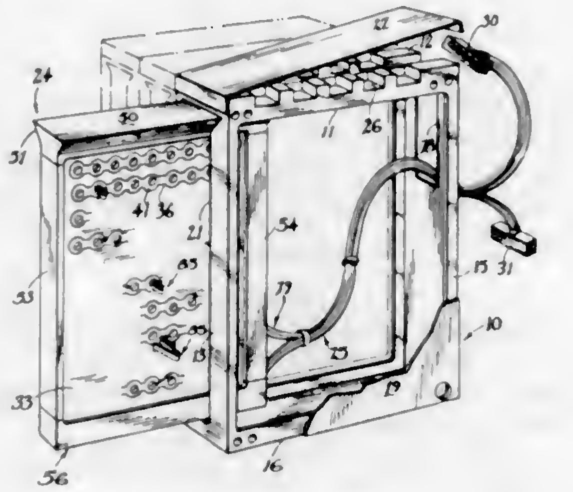
Jack S. Inglis, Hingham, Mass., assignor, by mesne assignments, to The Kelek Company, Norwood, Mass., a corporation of Connecticut
Filed Feb. 24, 1967, Ser. No. 619,891
Int. Cl. H02h *3/08*
U.S. Cl. 317—46 **3 Claims**



A multi-vaned pivotal insulating operator is situated between plural fuse actuators, each connected in parallel with a load fuse in a multi-phase load circuit. The actuators tend to pivot the operator in a common angular direction, whereby the operator may be pivoted into contact with a detector switch.

3,450,950
GRID ELECTRICAL INTERCONNECTING SYSTEM

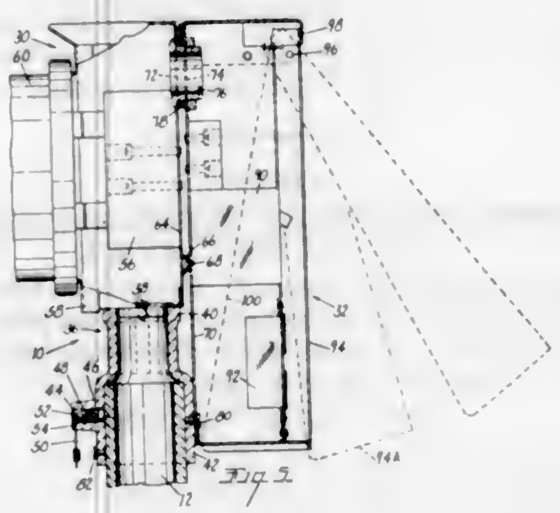
Charles Tarrats, 121 N. Bixel St., Los Angeles, Calif. 90026
Filed Oct. 18, 1966, Ser. No. 587,618
Int. Cl. H02b *1/04;* **H05k** *1/04*
U.S. Cl. 317—101 **5 Claims**



A means of effecting electrical connection between printed circuits on opposite sides of a perforated circuit board and between members of a set of circuit boards wherein the perforations receive removable connector clips having lateral contact elements engageable with portions of the printed circuits bordering the margins of a selected hole; and the circuit boards are insertable in frames carrying other contacts; the frames, in turn, being insertable in slots provided in the housing.

3,450,951
OUTDOOR ELECTRICAL METER BOX AND SERVICE OUTLET FOR MOBILE HOMES

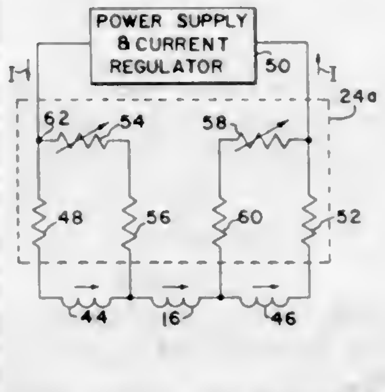
Francis B. Boyle, 3307 S. Westnedge Ave., Kalamazoo, Mich. 49001
Filed July 12, 1967, Ser. No. 652,774
Int. Cl. H02b *1/14, 9/00*
U.S. Cl. 317—105 **8 Claims**



A box having a meter socket and power line connections therein, a hollow cylindrical base secured to the bottom of the box by screws accessible only from within the box, the base communicating with the box and having a tamper proof mechanical connection engageable with a support that encloses power supply wires, and an electrical service outlet box connected to the back of the meter box by screws accessible only from within the meter box, the meter box and outlet box having registering openings formed through their adjacent back walls for passage of wires from the meter socket into the outlet box, and a weather seal between the backs of the boxes and around the holes, the outlet box having an open front side with a weather shedding cover hinged to the top of the box.

3,450,952
SUPERCONDUCTING MAGNET APPARATUS

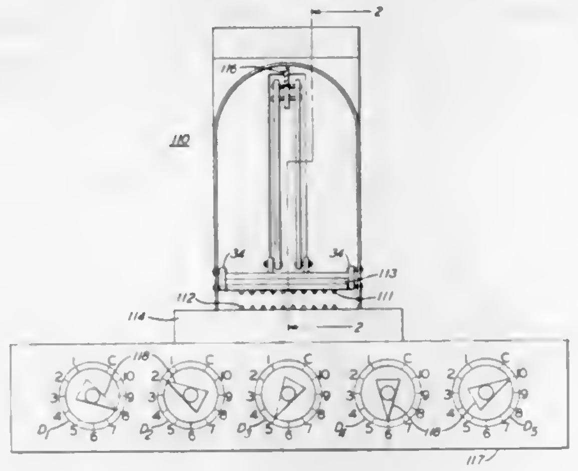
Forrest Arthur Nelson, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 30, 1965, Ser. No. 483,402
Int. Cl. H01h *47/00;* **G01n** *27/00;* **H01f** *7/22*
U.S. Cl. 317—123 **15 Claims**



A superconducting magnet apparatus is disclosed including a main superconducting coil and a pair of superconducting correction coils respectively disposed proximate the ends of the main coil. All three of the coils are connected in a single series circuit and variable resistance means are shunted across the coils so that the ratios of the currents flowing through the coils can be variably controlled thus enabling the configuration of the magnetic field to be adjusted as desired.

3,450,953
CODE CARD COMPARING DEVICE

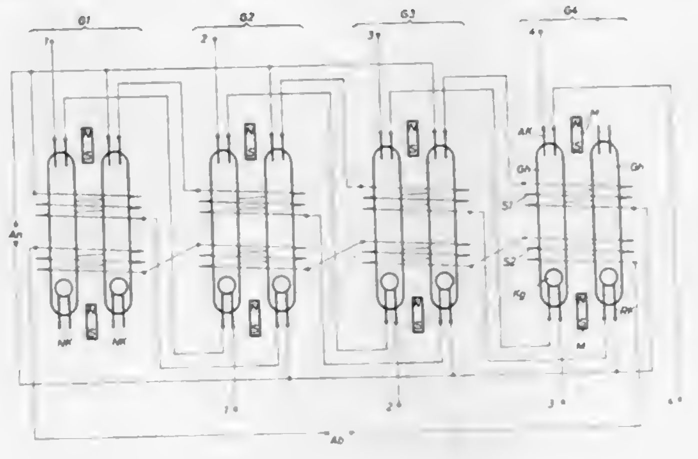
Clayton H. Gardner, 37 Girard Ave., Chatham, N.J. 07928
Filed June 17, 1965, Ser. No. 464,645
Int. Cl. H01h *47/00, 43/08, 3/16*
U.S. Cl. 317—134 **21 Claims**



A pressure sensitive code card containing fifty contact positions with only five positions providing conductive paths through the card is inserted in a code card comparing device having a bank of fifty upper electrical contacts arranged opposite fifty lower electrical contacts. If five dial selectors on the comparing device have been set to conform with the code in the card, an electrical path is established through the card to actuate a load.

3,450,954
COUNTING DEVICE

Heinz Ahnert, Stuttgart-Weilimdorf, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 496,827, Oct. 18, 1965. This application Jan. 29, 1968, Ser. No. 701,481
Claims priority, application Germany, Dec. 1, 1964, St 23,016
Int. Cl. H01h *47/14*
U.S. Cl. 317—140 **5 Claims**

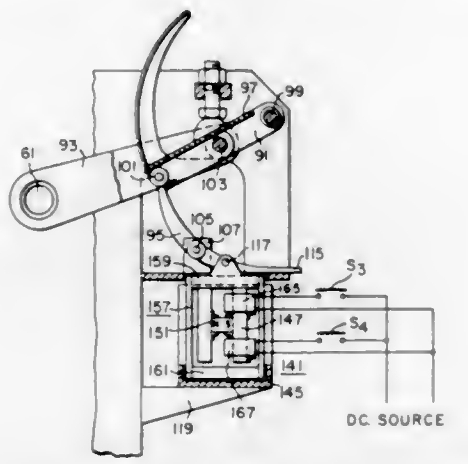


The invention uses a plurality of relay contacts in the form of ball armatures sealed in glass tubes with permanent magnets adjacent to the ends of the glass tubes. Coils around the tubes may be selectively energized to pull the ball armatures to either end of the tube where they are held latched by the field of the permanent magnet.

3,450,955

CIRCUIT BREAKER WITH MAGNETIC DEVICE RELEASABLE TO EFFECT OPENING OF THE BREAKER

Floyd D. Johnson, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 563,296, July 6, 1966, which is a continuation of application Ser. No. 407,333, Oct. 29, 1964, which is a continuation-in-part of application Ser. No. 103,635, Apr. 17, 1961. This application Mar. 24, 1967, Ser. No. 625,883
Int. Cl. H01h *47/04*
U.S. Cl. 317—155.5 **18 Claims**

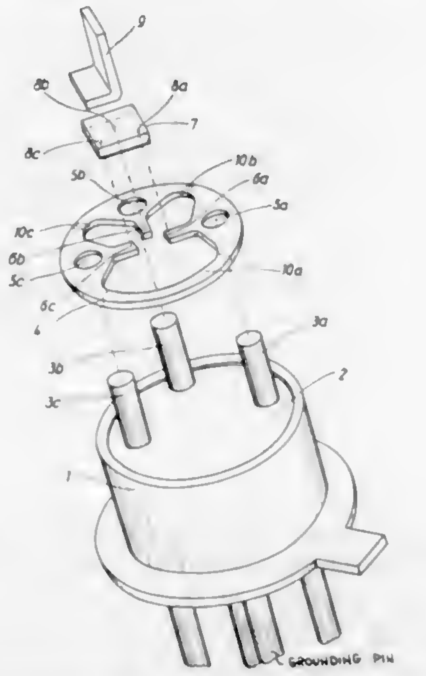


In electrical apparatus having a circuit breaker comprising an electromagnetic latching device of a U-shaped structure, having a permanent magnet disposed between its legs, an armature releasably held to the pole faces of the U-shaped structure and biased away from said structure and two magnetic circuits, one passing through the permanent magnet and the armature to hold the armature to the U-shaped structure while the other passes through the permanent magnet and the base part of the U-shaped structure.

3,450,956

METHOD FOR SIMULTANEOUSLY CONTACTING A PLURALITY OF ELECTRODES OF A SEMICONDUCTOR ELEMENT

Alfred Bauer, Weinsberg, and Walter Klossika, Heilbronn, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Oct. 12, 1966, Ser. No. 586,159
Claims priority, application Germany, Oct. 15, 1965, T 29,584
Int. Cl. H01l *5/02, 7/00*
U.S. Cl. 317—234 **8 Claims**

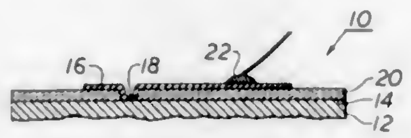


Method for electrically contacting electrodes of a semiconductor element with terminal posts of a support base. A planar contacting disc, with a plurality of inwardly directed tongues and holes is placed adjacent the support base so that each post thereof passes through a respective hole on the disc; said post being electrically connected to the disc in the region of its respective hole. The semiconductor element is then placed on the disc. Each electrode of the semiconductor element contacts a respective tongue and is electrically connected thereto. Subsequently, portions of the disc are removed to electrically isolate the electrodes from each other; each electrode being connected to only one of the posts. The intermediate product formed by the practice of the described method.

3,450,957

DISTRIBUTED BARRIER METAL-SEMICONDUCTOR JUNCTION DEVICE

Arjun N. Saxena and James C. McDade, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Jan. 10, 1967, Ser. No. 608,378
Int. Cl. H01l *3/00, 5/00*
U.S. Cl. 317—234 **5 Claims**

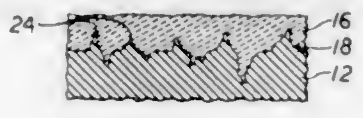


A planar metal-semiconductor junction device having low turn-on voltage is provided by forming a junction having a distribution in barrier height and width.

3,450,958

MULTI-PLANE METAL-SEMICONDUCTOR JUNCTION DEVICE

Arjun N. Saxena, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Jan. 10, 1967, Ser. No. 608,375
Int. Cl. H01l *3/00, 9/00*
U.S. Cl. 317—234 **6 Claims**



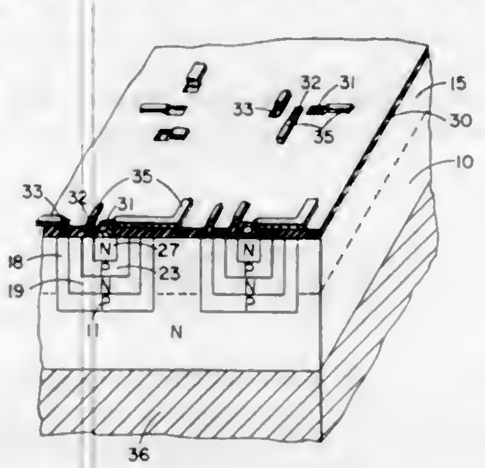
A metal in contact with a plurality of crystallographic planes of a semiconductive wafer provide a junction having a distribution in barrier height and width, and consequently, low turn-on voltage.

3,450,959

FOUR-LAYER SEMICONDUCTOR SWITCHING DEVICES IN INTEGRATED CIRCUITRY

Brian Dale, West Peabody, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 6, 1965, Ser. No. 469,567
Int. Cl. H01l *15/00, 11/60*
U.S. Cl. 317—235 **1 Claim**

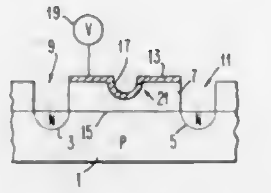
Silicon wafer containing several individually electrically isolated four-layer switching devices. Each device comprises four zones of silicon of alternating conductivity type. Each zone of a device is surrounded by the succeeding zone, and each zone has a surface area at the upper surface of the wafer to which electrical contact can be made. The outermost zone of each device forms a PN junction with the silicon of the wafer thus providing for electrical isolation of each device.



3,450,960

INSULATED-GATE FIELD EFFECT TRANSISTOR WITH NONPLANAR GATE ELECTRODE STRUCTURE FOR OPTIMIZING TRANSCONDUCTANCE

Leroy L. Chang, Croton-on-Hudson, and Leo Esaki, Chappaqua, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 29, 1965, Ser. No. 491,201
Int. Cl H01l *2/35*
U.S. Cl. 317—235 **16 Claims**

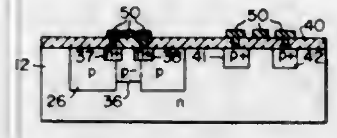


An insulated-gate field effect transistor includes a gate electrode formed in nonplanar, or corrugated fashion so as to apply electric fields having a nonuniform distribution transverse to the conduction channel. Accordingly, conduction between source and drain electrodes is controlled primarily along a small portion of the conduction channel which reduces essentially to a point at the threshold voltage whereby transconductance g_m is substantially increased and approaches infinity for small changes in gate electrode bias from the "cut off" voltage. Alternatively, the gate electrode can be formed in split-fashion, one segment being corrugated and remaining, or auxiliary, segments being planar to increase the gain-bandwidth product.

3,450,961

SEMICONDUCTOR DEVICES WITH A REGION HAVING PORTIONS OF DIFFERING DEPTH AND CONCENTRATION

Joseph C. Tsai, Laurel, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 26, 1966, Ser. No. 553,222
Int. Cl. H01l *11/06*
U.S. Cl. 317—235 **4 Claims**

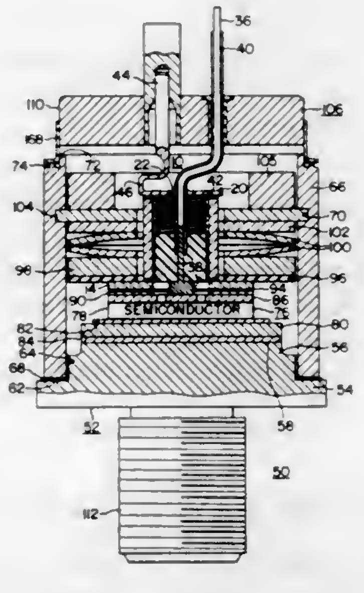


Semiconductor devices, such as MOS transistors, are provided with a P type region having portions of different depth and impurity concentration particularly suitable for the base region of bipolar transistors and the channel region of MOS transistors. Such structures are particularly useful in complementary MOS transistor structures. The method disclosed employs the differential effect of different types of insulating layers over a single diffused P type region.

3,450,962

PRESSURE ELECTRICAL CONTACT ASSEMBLY FOR A SEMICONDUCTOR DEVICE

Herbert E. Ferree, Greensburg, and Raymond C. Doran, Jeannette, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 1, 1966, Ser. No. 524,125
Int. Cl. H01l *11/04*
U.S. Cl. 317—235 **8 Claims**

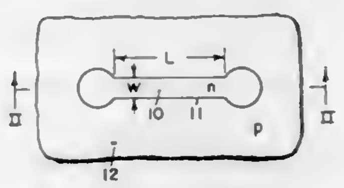


A pressure electrical contact assembly comprising an electrical contact comprising a tubular section attached to an offset member which also acts as a thermal and mechanical stress relief member, and a gate contact extending the full length of the tubular section, and upon a portion of which a resilient force means disposed within the tubular section acts, provides a means for centering two electrical contacts on a semiconductor element of a compact high current controlled semiconductor device.

3,450,963

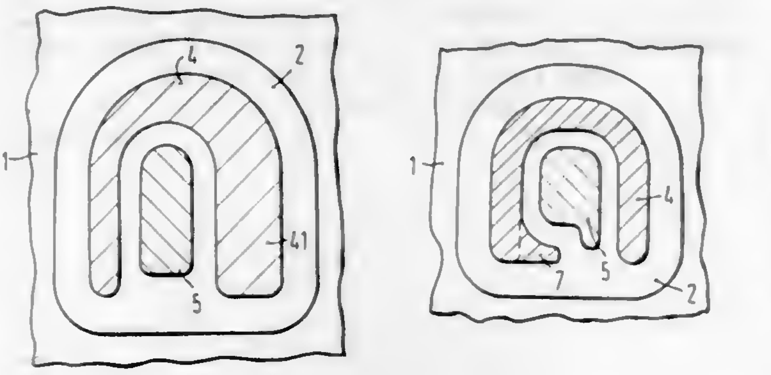
FIELD EFFECT SEMICONDUCTOR DEVICES OF THE JUNCTION TYPE AND METHOD OF MAKING

Joseph C. Tsai, Sinking Spring, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1966, Ser. No. 606,180
Int. Cl. H01l *11/00, 11/14;* **H03k** *23/22*
U.S. Cl. 317—235 **4 Claims**



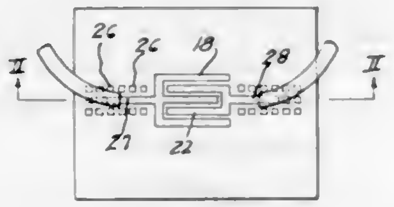
Junction type field effect devices, also known as unipolar devices, that have their principal regions, channel and gate, laterally disposed with respect to each other are disclosed. Included are complex structures wherein such unipolar devices are integrated with other elements and methods of fabrication including utilization of selective diffusion laterally under a diffusion mask.

3,450,964
MESA TRANSISTOR WITH AN ASYMMETRICAL U-SHAPE BASE ELECTRODE
Winfried Meer, Hohenbrunn, and Hans Hargasser and Wolfgang Schembs, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed June 26, 1967, Ser. No. 648,666
Claims priority, application Germany, July 6, 1966, S 104,643
Int. Cl. H01l *11/02*
U.S. Cl. 317—235 5 Claims



Described is a mesa transistor, having a substrate semiconductor body which serves as collector, with a base region and an emitter region located in said substrate. The emitter electrode is surrounded in the form of a U by the base electrode. The base electrode is asymmetrical with respect to an axis which extends parallel to the legs of the U.

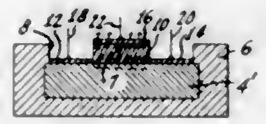
3,450,965
SEMICONDUCTOR HAVING REINFORCED LEAD STRUCTURE
Fumio Kubota, Machida-shi, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed May 26, 1967, Ser. No. 641,604
Claims priority, application Japan, May 28, 1966, 41/49,671
Int. Cl. H01l *5/00*
U.S. Cl. 317—235 8 Claims



A planar transistor having a silicon substrate layer and a silicon oxide layer disposed at one surface of the substrate and having a pair of principal electrodes electrically connected to oppositely conductive portions of the substrate layer. A plurality of island electrodes are formed on the passivated silicon oxide layer in the vicinity of the principal electrodes and a lead wire is bonded to the principal electrodes and to a portion of the further island electrodes such that a minimum capacitive effect is achieved at high frequency operation of the transistor.

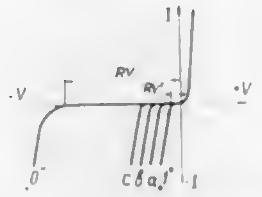
3,450,966
FERROELECTRIC INSULATED GATE FIELD EFFECT DEVICE
Stuart S. Perlman, Princeton, and Robert S. Silver, Kendall Park, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Sept. 12, 1967, Ser. No. 667,202
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 10 Claims

An adaptive semiconductor resistor of the insulating ferroelectric gate type comprising a body of single crystal ferroelectric material such as barium titanate, including an inner core having semiconducting properties and an outer shell having insulating properties, two spaced electrodes in contact with the core defining the ends of a current path through the core, and at least one metallic gate electrode on one or more portions of the shell overlying the current path. The resistance of the device is controlled by varying the polarization of that portion of the ferroelectric outer shell which is beneath the gate electrode (or electrodes) so that the current path has a greater or lesser number of charges induced therein.



A method of making the device, which includes reducing an entire body of ferroelectric material to convert it to a semiconducting state and oxidizing an outer shell portion back to its insulating state, is also disclosed.

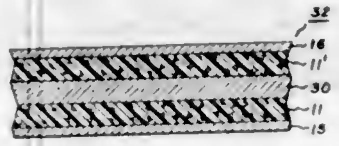
3,450,967
SELENIUM MEMORY CELL CONTAINING SILVER UP TO 2 ATOMIC PERCENT ADJACENT THE RECTIFYING CONTACT
Vitautas Balio Tolutis, Lenin Square, 9, Apt. 30, Vilnyus, U.S.S.R.
Continuation-in-part of application Ser. No. 295,885, July 18, 1963. This application Sept. 7, 1966, Ser. No. 577,766
Int. Cl. H01l *3/02, 9/02, 9/08*
U.S. Cl. 317—241 3 Claims



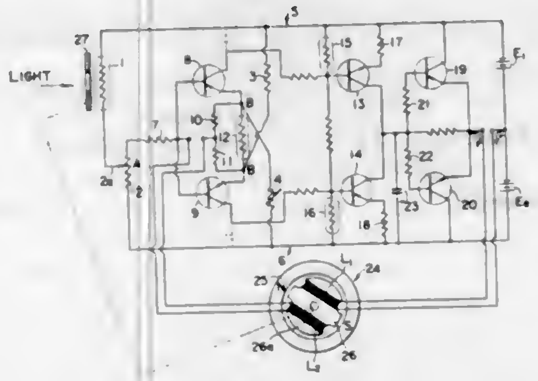
A semiconductor memory cell consisting of a selenium rectifier, in which the selenium in the region of a rectify- and silver until a layer having a pre-set thickness is ob- method of manufacturing said memory cell, wherein (1) onto the layer of a material that forms, in conjunction with selenium, an ohmic contact is simultaneously deposited by the vacuum sputtering technique selenium and silver until a layer having a pre-set thickness is obtained, followed by recrystallizing said layer and depositing thereonto the layer of a material that forms, in conjunction with the selenium, a rectifying contact, or (2) onto the layer of a material that forms, in conjunction with selenium, an ohmic contact is deposited by the vacuum sputtering technique a selenium layer, followed by recrystallizing said selenium layer, applying thereonto a thin layer of silver-doped selenium, and depositing the layer of a material that forms, in conjunction with the selenium, a rectifying contact.

3,450,968
ELECTRICAL ELEMENTS WITH IMPREGNATED DIELECTRICS AND INSULATORS
Eugene B. Cox, South Glen Falls, N.Y., assignor to General Electric Company, a corporation of New York
Original application Oct. 19, 1966, Ser. No. 587,835, now Patent No. 3,363,156, dated Jan. 9, 1968. Divided and this application Aug. 8, 1967, Ser. No. 659,133
The portion of the term of the patent subsequent to Jan. 9, 1985, has been disclaimed
Int. Cl. H01g *1/02*
U.S. Cl. 317—258 25 Claims

Capacitors have a dielectric and cables have an insulator formed from a nonporous polyolefin material essentially completely impregnated with a dielectric liquid. The impregnation is carried out under controlled temperature conditions which causes a partial solubility of the polyolefin as well as an absorption of the impregnant liquid by the dielectric itself.

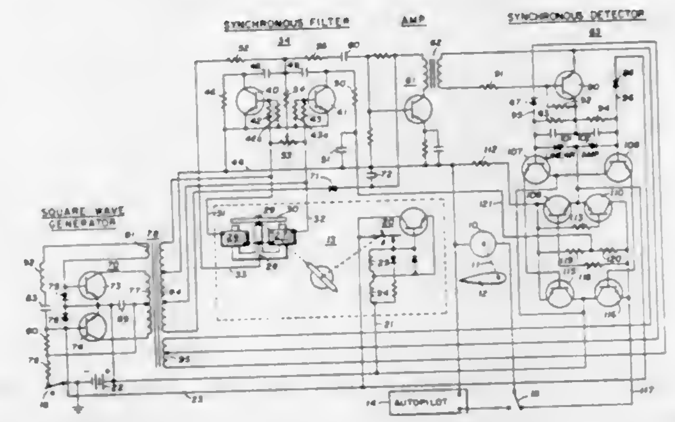


3,450,969
PHOTO-RESISTANCE BRIDGE SERVO-MECHANISM
Takayoshi Sato, Tokyo-to, Hiroshi Ueda, Yokohama, and Atsutada Nakatani and Ohtake Minoru, Tokyo-to, Japan, assignors to Kabushiki Kaisha Koparu, Tokyo, Japan
Filed Aug. 18, 1966, Ser. No. 573,260
Claims priority, application Japan, Nov. 6, 1965, 40/68,172; May 27, 1966, 41/34,128
Int. Cl. H02p *7/68, 7/74*
U.S. Cl. 318—18 5 Claims



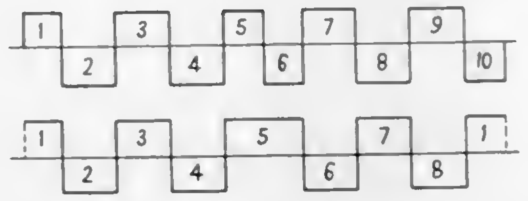
1. A servo-mechanism comprising a Wheatstone type electric bridge having branches composed of resistors and an electromagnetic device including a permanent magnet and a movable element influenced by the magnetic field of said magnet, means to connect said electromagnet device to an output terminal of said bridge to be actuated by an unbalanced voltage generated in said output terminal when said bridge is in an unbalanced state, means to balance said bridge again by virtue of the movement of said electromagnetic device, at least one of said resistors being composed of a photo-resistor adapted to change its resistance value in response to a change in the intensity of light incident thereto, a p-n-p type transistor and an n-p-n type transistor inserted for connection between the output points of connection of said bridge, said transistors having a common base electrode connected to one of the output points of connection of said bridge and having emitter electrodes connected to the other of said output points of connection of said bridge, said servo-mechanism containing at least one transistor amplifier including a transistor connected to the collector electrodes of said p-n-p type and said n-p-n type transistors, power sources connected to the input points of connection of said bridge for actuating said transistor amplifier, an energizing coil member and a damping coil member both being wound around said movable element, and a diaphragm means disposed in the foreground of said photo-resistor and operative to define the diaphragm aperture to alter the light receiving area for the light incident to said photo-resistor so that, when said bridge is placed into an unbalanced state due to a change in the amount of light incident to said photoresistor, said bridge may be able to resume the balanced state, said energizing coil member being inserted for connection between the common emitter electrode of said transistor of said transistor amplifier and said power sources, said damping coil member being inserted for connection between the output points of connection of said bridge in such manner that the polarity of the voltage induced in said energizing coil member is reverse to the polarity of the voltage produced between the output connections of said bridge.

3,450,970
FLIGHT CONTROL SYSTEM HAVING RATE-BASED STABILIZATION
James R. Younkin, Mineral Wells, Tex., assignor to Thurman & Younkin, Inc., a corporation of Texas
Filed Mar. 11, 1966, Ser. No. 533,702
Int. Cl. H02p *5/46, 7/68, 7/74*
U.S. Cl. 318—18 7 Claims



The disclosure is directed to a flight control system for an aircraft including a rate gyro which generates signals indicative of a roll rate and azimuth rate of the aircraft. An amplifying channel couples the output of the rate gyro to a servo actuator which controls the positions of ailerons of the aircraft. The amplifying channel is preferably unstable and oscillatory to maintain the system properly responsive to signals representative of minute deviation rates. A time delay feedback loop is provided to couple a delayed servo drive signal from the input of the actuator back into the amplifying signal channel to match the servo drive signal to the servo actuator.

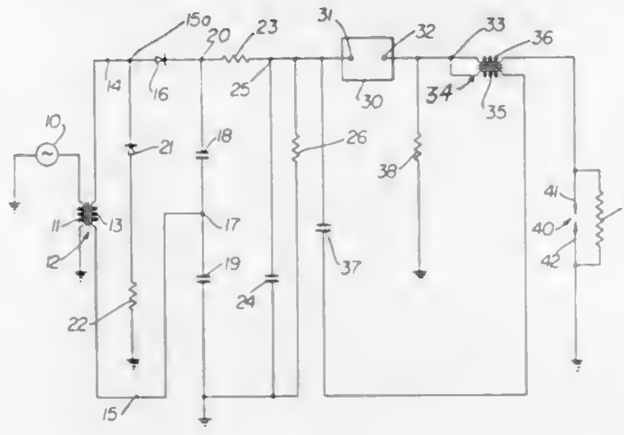
3,450,971
POLE-CHANGING SYNCHRONOUS ROTARY ELECTRIC MACHINES
Gordon H. Rawcliffe and William Fong, Bristol, England, assignors to National Research Development Corporation
Filed Oct. 21, 1965, Ser. No. 499,930
Claims priority, application Great Britain, Nov. 6, 1964, 45,380/64
Int. Cl. H02p *1/48, 7/48*
U.S. Cl. 318—173 13 Claims



1. A pole-changing, synchronous, alternating current rotary electric machine having a pole-amplitude modulated, pole-changing, alternating current armature winding providing, first and second alternative pole-numbers and a pole-changing, direct current, salient-pole, field system, in which the field system provides a fundamental field magnetic flux at said first and second alternative pole numbers together with harmonic flux for

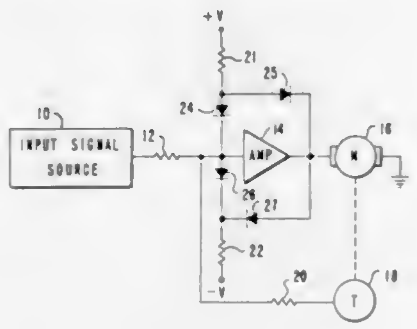
at least one of said first and second pole-numbers and the armature winding is of such form that the winding factor of each phase winding thereof is low with respect to E.M.F.'s generated therein by said field harmonic flux.

3,450,972
ELECTRICAL PULSE GENERATING APPARATUS
Irving E. Linkroum, Hancock, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,459
Int. Cl. H05b *37/02, 39/00, 41/14*
U.S. Cl. 315—209 **10 Claims**



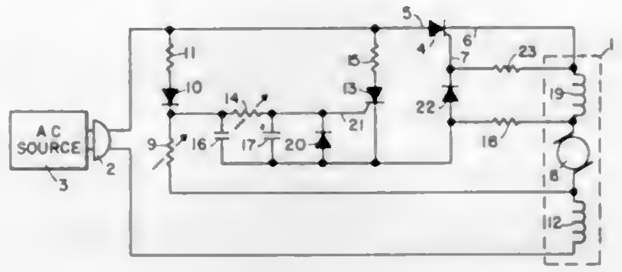
An electrical pulse generating circuit wherein a voltage doubler storage condenser system and a trigger condenser are incrementally charged by an alternating current source. The trigger condenser discharges through a pre-set control gap and the primary of a step-up transformer in series to ionize, in the secondary circuit, an igniter gap through which the storage condenser is thus enabled to discharge for providing untimed high energy ignition sparks. Components of the charging circuit are protected by resistance against damage from the condenser discharges.

3,450,973
TAPE TRANSPORT SYSTEM INCLUDING DEAD-BAND AMPLIFIER MEANS
Richard Tobey, Tustin, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Continuation of application Ser. No. 307,117, Sept. 6, 1963. This application Apr. 18, 1966, Ser. No. 543,203
Int. Cl. H02p *5/06;* **H02k** *27/20*
U.S. Cl. 318—307 **7 Claims**



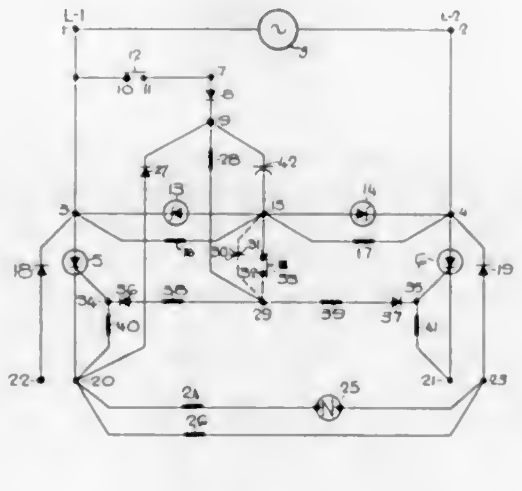
A magnetic tape transport system including an amplifier means coupled to energize a motor driving a capstan, the amplifier means including a "dead-band" operating characteristic. A bias diode arrangement clamps the amplifier output to the amplifier input in the absence of an input signal above a minimum predetermined reference level. When the input signal current exceeds the reference level, the diodes become back-biased to decouple the output from the input to permit normal amplification.

3,450,974
SOLID STATE MOTOR CONTROL
Irving Berlin, 2407 Connecticut Lane, Dallas, Tex. 75214
Filed Feb. 6, 1967, Ser. No. 614,091
Int. Cl. H02p *5/06;* **H02k** *27/20*
U.S. Cl. 318—331 **6 Claims**



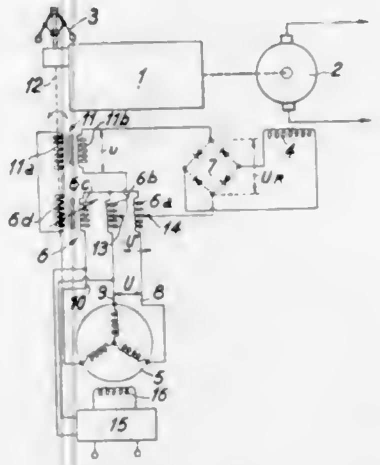
An apparatus for controlling the speed of motor driven tools through the use of proportional power control. Variable control is provided for unidirectional power supplied through a half-wave silicon controlled rectifier to a rotating machine which has substantial inductance.

3,450,975
IMPEDANCE NETWORK FOR CONTROLLED RECTIFIERS
Lewis G. Striggow, 1115 Marion Drive, Holly, Mich. 48442
Filed May 23, 1967, Ser. No. 640,549
Int. Cl. H02m *7/52, 7/12*
U.S. Cl. 321—46 **12 Claims**



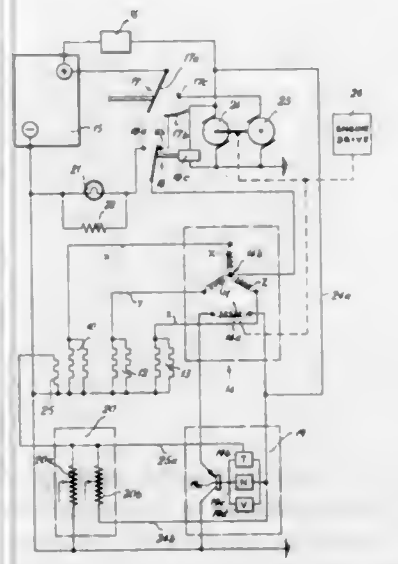
The invention is applied to a control circuit for supplying either alternating current or direct current from an alternating current source to a load. The control circuit includes a first controlled rectifier and a first diode rectifier connected in inverted parallel relation with each other and connected to one side of the source, and a second controlled rectifier and a second diode rectifier connected in inverted parallel relation with each other and connected to the other side of the source. The load may be connected to the controlled rectifiers and the diode rectifiers so that either alternating current or direct current is supplied to the load. Zener diodes connected across the source provide a point of reference potential. The improvement invention of this application is in the combination with the foregoing elements of the control circuit of an impedance network common to both controlled rectifiers and connected to one side only of the source for supplying firing voltage to the controlled rectifiers, the impedance network including charge storage means such as a capacitor for sustaining the firing voltage between half-cycles of the voltage supplied to the impedance network from the source.

3,450,976
POWER REGULATING DEVICES OF THERMAL-ENGINE DRIVEN GENERATORS
Paul Feugeas, Paris, France, assignor to Compagnie Electro-Mecanique, Societe Anonyme, Paris, France
Filed Jan. 6, 1967, Ser. No. 607,819
Claims priority, application France, Jan. 7, 1966, 45,163
Int. Cl. H02h *7/06;* **H02p** *9/02*
U.S. Cl. 322—30 **4 Claims**



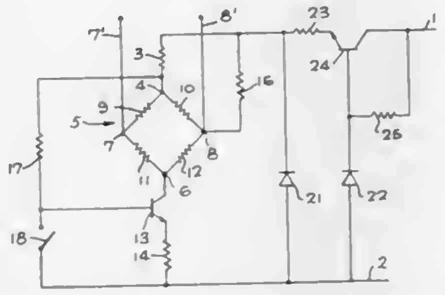
Device for regulating the power output of an electric current-generator unit or plant driven from an internal combustion or thermal engine, which comprises a main D.C. or A.C. current-generator rotatably driven from said engine, a circuit for delivering rectified current to the excitation winding of said generator, said circuit comprising an auxiliary alternator feeding through the medium of a rotary induction regulator having its rotor coupled to the control governor of said thermal engine, a rectifier connected to the excitation-winding, characterised in that there is inserted in the circuit energizing the excitation winding of the generator, between the induction regulator and the rectifier, a transformer mechanically and electrically connected to said induction regulator.

3,450,977
HEATING ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES
Heinz Krauss, Stuttgart-Unterturkheim, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed July 11, 1966, Ser. No. 564,284
Claims priority, application Germany, July 14, 1965, B 82,824
Int. Cl. H02p *9/10, 11/00*
U.S. Cl. 322—33 **7 Claims**



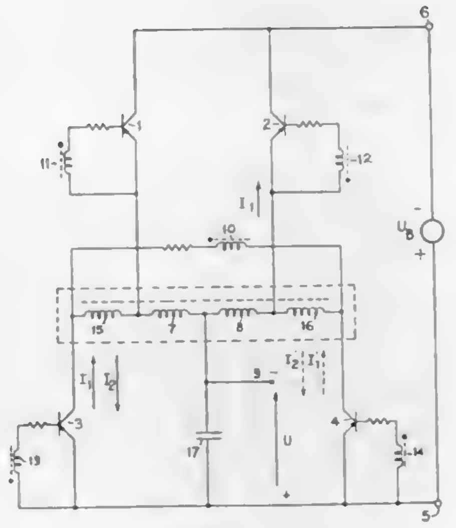
An arrangement for maintaining the temperature of spark plugs of an internal combustion engine substantially constant under varying load conditions. Heating elements provided in proximity of the spark plugs are fed with electrical current from a synchro generator mechanically driven from the crank shaft of the engine. A temperature sensing element in the vicinity of the spark plugs, adjusts the operation of the synchro generator to supply the proper electrical current to the heating elements. A fault-detecting indicator provides an alerting signal in cases of malfunctioning of the engine part being heated, and the heating arrangement.

3,450,978
RESISTIVE BRIDGE CALIBRATION CIRCUIT
Jacob J. Norman, North Oaks, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed June 1, 1965, Ser. No. 460,275
Int. Cl. H02p *13/14, 13/16;* **G05f** *1/16*
U.S. Cl. 323—17 **5 Claims**



A resistive bridge includes a shunt resistor circuit interrelating one output and one input terminal. Transistor switches are further provided selectively actuatable for controlling the application of excitation power to the bridge circuit, permitting calibration of the bridge whether or not it is affected by a physical stimulus tending to modify the bridge balance. The transistor switching circuit and calibration resistor can be packaged with the bridge, minimizing the impedance effect of transmission lines.

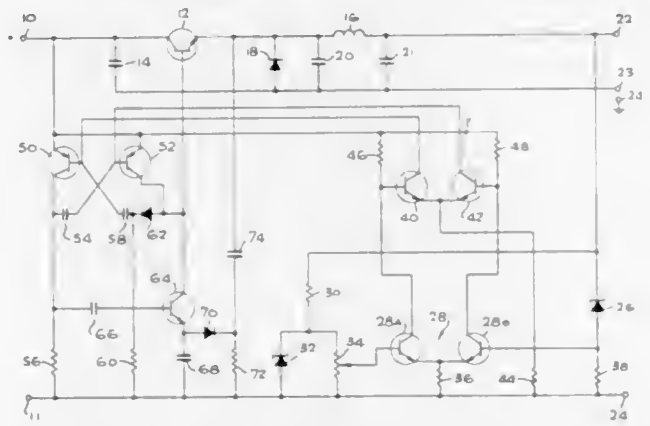
3,450,979
D.C. TO D.C. VOLTAGE DIVIDER UTILIZING TRANSISTOR BRIDGE
Ivan Horvat, Wettigen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed July 26, 1966, Ser. No. 567,867
Claims priority, application Switzerland, July 28, 1965, 10,544/65
Int. Cl. H02p *13/14, 13/16*
U.S. Cl. 323—18 **4 Claims**



A D.C. to D.C. voltage divider includes a transistorized electrical bridge and the D.C. input is connected across one diagonal. An auto-transformer having a series connection of two windings is connected across the other bridge diagonal, and the D.C. output is taken between the connecting point of the two series connected auto-transformer windings and a terminal point of the first mentioned bridge diagonal. The auto-transformer is also provided with auxiliary windings to compensate for the voltage drop in the main windings of the auto-transformer and to obtain a voltage division different from 2.

3,450,980
OSCILLATING SWITCH REGULATOR

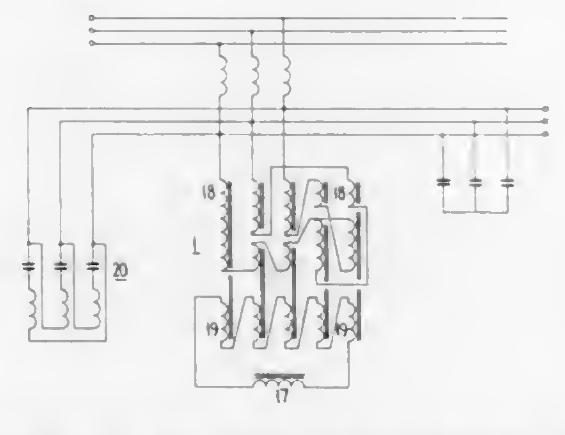
Arnold L. Betton, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Dec. 2, 1966, Ser. No. 598,821
Int. Cl. H02p *13/16*
U.S. Cl. 323—18 8 Claims



A regulating power supply for regulating an input source voltage to provide a DC output voltage of a predetermined level including a transistor switch and a filter connected between the input and output with an error signal being generated by comparing output voltage variations with a reference voltage, the error signal actuating a bistable device to a first or second stable state to generate a first or second control signal depending upon the output voltage being above or below the predetermined level, the control signals so generated controlling the transistor switch conductivity or non-conductivity to maintain the predetermined voltage level.

3,450,981
VOLTAGE STABILIZING ARRANGEMENTS FOR ALTERNATING CURRENT SUPPLIED UTILIZING SATURATED SHUNT REACTORS

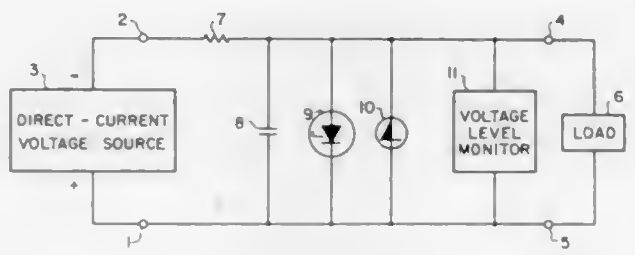
Charles Philip Fletcher, Birmingham, Erich Siegfried Friedlander, Sutton Coldfield, and Maurice Leslie Menzler and David John Young, Birmingham, England, assignors to The General Electric Company Limited, London, England, a British company
Filed July 25, 1966, Ser. No. 567,163
Int. Cl. G05f *3/04*
U.S. Cl. 323—60 12 Claims



An improved voltage stabilizing arrangement making use of at least one primary saturated shunt reactor having a plurality of reactor cores wound as for frequency multiplication with a phase displacement between core fluxes giving compensation of lower order harmonics, in combination with a compensating saturated reactor connected into a secondary mesh to reduce higher order harmonics.

3,450,982
VOLTAGE REGULATOR CIRCUIT UTILIZING A FOUR-LAYER DIODE TO CONVERT HIGH VOLTAGES TO LOW VOLTAGES

Alfred Dvorak, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Aug. 9, 1966, Ser. No. 571,234
Int. Cl. H02p *13/00;* **H02m** *3/06, 5/06*
U.S. Cl. 323—81 3 Claims

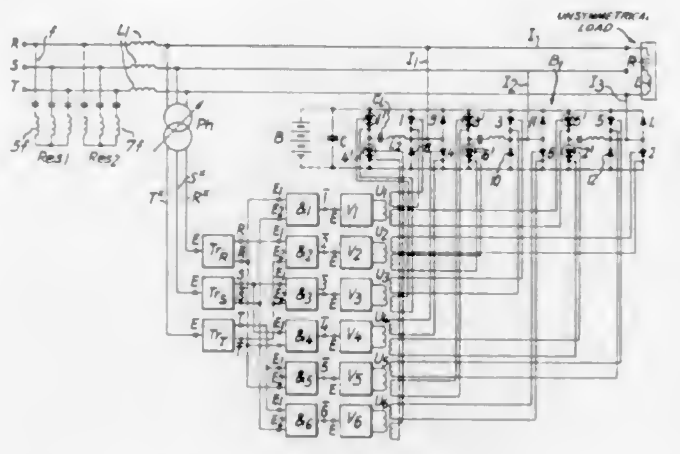


A four-layer diode is used to simplify the monitoring of an output voltage which is to be maintained at a predetermined level.

The diode converts a voltage higher than the desired level to a low voltage, thus removing the need for a high voltage monitor by allowing both high and low voltage conditions to be monitored by a single low voltage monitor.

3,450,983
CIRCUIT FOR BALANCING AN UNSYMMETRICALLY LOADED POLYPHASE NET

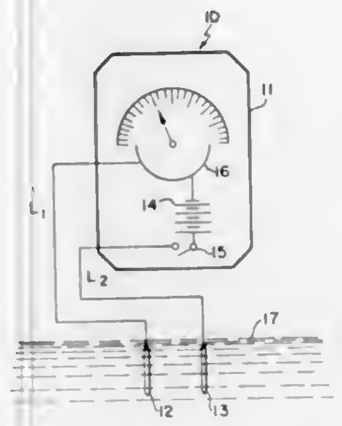
Floris Koppelmann, Michael Hausler, and Detlef Knuth, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Sept. 22, 1966, Ser. No. 581,342
Claims priority, application Germany, Sept. 22, 1965, L 51,685
Int. Cl. H03h *11/00, 1/00;* **H01g** *1/16*
U.S. Cl. 323—119 10 Claims



A polyphase reactive current rectifier circuit for balancing a polyphase net which is connected to an unsymmetrical load. The reactive current rectifier circuit is connected directly in parallel with the load and is operative to repeatedly connect a capacitor across individual phases of the net at the proper times to equally load each phase of the net.

3,450,984
METHOD AND APPARATUS FOR MEASURING THE FLOW VELOCITY OF AN ELECTROLYTIC FLUID BY ELECTROLYSIS

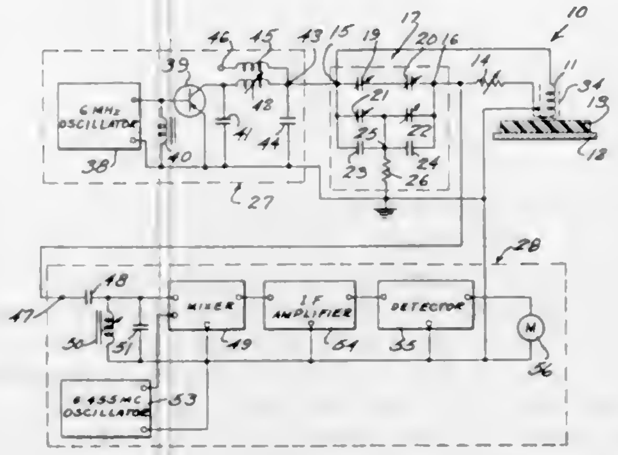
John F. Holmes, Andover, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,430
Int. Cl. G01r *11/44*
U.S. Cl. 324—30 6 Claims



This invention relates to flow meter apparatus and more particularly to a device for measuring the flow velocity of an electrolytic fluid. A pair of electrodes are inserted in the fluid and a polarizing current capable of electrolyzing the fluid is passed between the electrodes. During the electrolysis process a product of the electrolysis accumulates at one electrode and becomes a current limiting medium. The accumulation is a function of the relative velocity between the fluid and the electrode.

3,450,985
EDDY CURRENT TESTING SYSTEM INCLUDING BRIDGED-T NETWORK

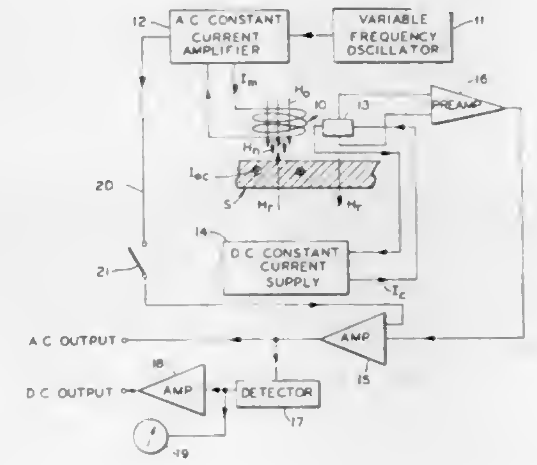
Donald E. Lorenzi, Des Plaines, and Kenneth K. Groble and Michael W. Retsky, Chicago, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 12, 1963, Ser. No. 322,634
Int. Cl. G01r *33/14*
U.S. Cl. 324—40 5 Claims



Eddy current testing system in which a test coil is placed in inductive relation to a part under test with its effective inductance being changed within a certain range with changes to be measured. A bridged T network including series capacitance means and shunt resistance means is connected between an oscillator and measuring means with the test coil being connected in parallel relation to the capacitor means which is preferably adjustable. The oscillator frequency and circuit values are such that a null is produced outside the range of change of values of the effective inductance of the coil and the frequency is preferably higher than 0.5 mHz., most preferably being on the order of 5 mHz. Additional features include the use of a Faraday shield about the coil, the provision of a parallel resonant circuit across the input of the measuring means, and the provision of a resistor in series with the coil, having a resistance at least five times that of the coil.

3,450,986
MAGNETIC REACTION TESTING APPARATUS AND METHOD OF TESTING UTILIZING SEMICONDUCTOR MEANS FOR MAGNETIC FIELD SENSING OF AN EDDY-CURRENT-REACTION MAGNETIC FIELD

Richard M. Chapman and Donald M. Yore, Columbus, Ohio, assignors to F. W. Bell Inc., Columbus, Ohio, a corporation of Ohio
Filed Apr. 6, 1966, Ser. No. 540,593
Int. Cl. G01r *33/14*
U.S. Cl. 324—40 6 Claims

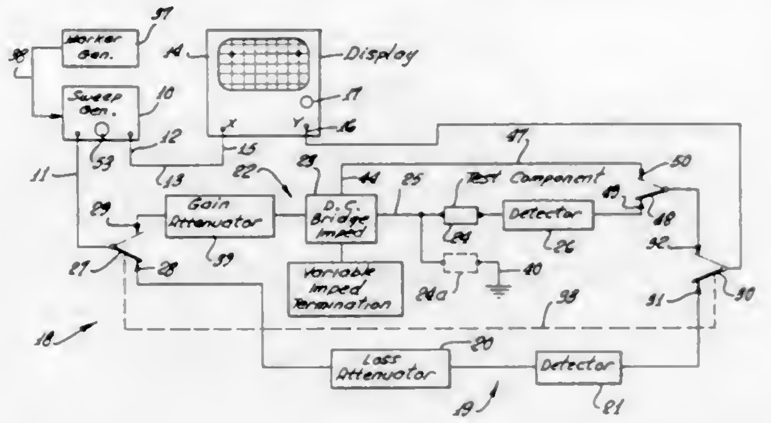

A C CONSTANT CURRENT AMPLIFIER
VARIABLE FREQUENCY OSCILLATOR
PREAMP
D C CONSTANT CURRENT SUPPLY
AMP
A C OUTPUT
D C OUTPUT
AMP
DETECTOR
11
12
13
14
15
16
17
18
19
20
21

Non-destructive testing of electrically conductive materials is accomplished utilizing apparatus which induces a flow of eddy currents in the test material and detects a resultant magnetic field which resultant magnetic field is indicative of the characteristics or condition of the test material in the region where the eddy currents are induced. The apparatus comprises a magnetizing coil forming a closed loop disposed in close proximity to a surface of the material, and thus induces a flow of eddy currents in the material, and a semiconductor, magnetic-field-sensing device disposed radially outward of the coil which responds to both the magnetizing field and the magnetic-reaction-field produced by the eddy-currents. The semiconductor device is of a size and configuration to respond to only a small portion of the total resultant magnetic field and is thereby capable of detecting relatively small, localized anomalies in the test material which affect the eddy current flow path.

3,450,987
MULTIPLE MODE R.F. MEASUREMENT APPARATUS USING SWEEP AND COMPARISON TECHNIQUES

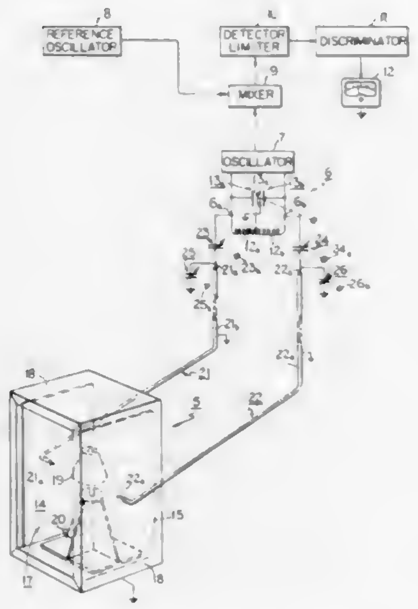
James A. Luksch and Lawrence C. Dolan, Indianapolis, Ind., and Robert A. Brooks, Sycamore, and Arie Zimmerman, De Kalb, Ill., assignors, by mesne assignments, to Anaconda Electronics Company, Anaheim, Calif., a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,778
Int. Cl. G01r *27/02*
U.S. Cl. 324—57 9 Claims

A gain attenuation and return loss measurement system for visually indicating changes in cable television systems. The system includes a sweep frequency generator alternately connectable to an oscilloscope having an adjustable gain through a first branch having a variable attenuator to set the trace of the display to a first level and through a second branch having an impedance bridge to which an electrical component under test is connectable to set the trace of the display to a second level, whereby the oscilloscope gain is then adjustable to shift the display trace from said second level to said first level, after which the variable attenuator is adjustable to again shift the display trace to said first level, the amount of attenuator adjustment corresponding to the amount of signal attenuation characteristic of said component.



3,450,988
CAPACITOR TEST CELL APPARATUS INCLUDING ERROR-REDUCING COUPLING CABLES

Stanley Breen, Norwood, and Warren E. Benson, Jr., Needham, Mass., assignors, by mesne assignments, to Kingsbury Technology Inc., Norwood, Mass., a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,568
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 **2 Claims**

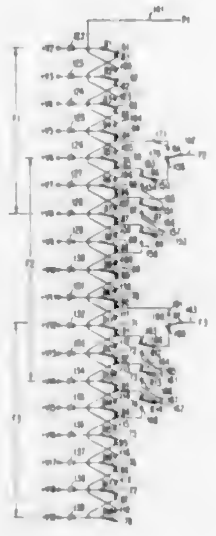


An opened test cell structure in which large-area partly-shielded electrode plates are each independently coupled with a different end of an associated tuned oscillator circuit by a coaxial cable.

3,450,989
FREQUENCY ANALYZER FOR DETECTION OF ENERGY PEAKS

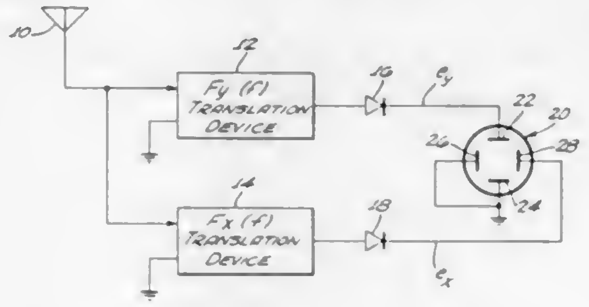
Wesley Edward Dickinson, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 28, 1965, Ser. No. 490,834
Int. Cl. G01r *23/16*
U.S. Cl. 324—77 **5 Claims**

Frequency analyzer capable of continuously tracking and identifying the frequencies of energy peaks (formants) of voiced speech sounds. A bank of frequency energy detectors are connected via automatic switching circuitry so as to be dynamically arranged in groups to provide a plurality of voltage outputs, each voltage output representing the frequency of one of the formants present in a given sample of speech.



3,450,990
FREQUENCY INDICATION SYSTEM

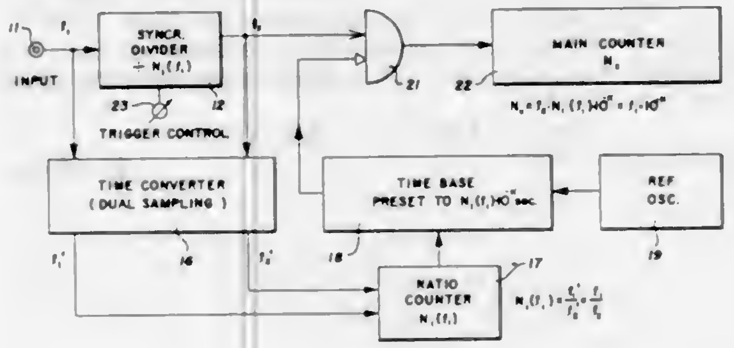
David J. Green, Pacific Palisades, Raymond B. Tasker, Van Nuys, and Donovan C. Davis, Pasadena, Calif., assignors to Gilfillan Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 16, 1957, Ser. No. 634,582
Int. Cl. G01r *23/02, 23/16, 27/02*
U.S. Cl. 324—78 **15 Claims**



1. In a system for frequency measurement having means to register the frequency of an input signal in a predetermined band of interest as a function of the ratio of the slopes of two sawtooth voltages, the combination comprising: first means responsive to said input signal for producing a first control signal having an amplitude proportional to a first function of the frequency of said input signal, second means also responsive to said input signal for producing a second control signal having an amplitude proportional to a second function of the frequency of said input signal, the absolute value of the slope of the ratio of one of said functions to the other always being greater than zero within the limits of said predetermined band of interest except at a frequency for which the rate of change of said slope is equal to zero, third means responsive to said first control signal for producing a first sawtooth voltage having a slope proportional to the amplitude of said first control signal, and fourth means responsive to said second control signal for producing a second sawtooth voltage having a slope proportional to the amplitude of said second control signal.

3,450,991
DIGITAL DIRECT READING HIGH FREQUENCY MEASURING APPARATUS AND METHOD

Zoltan Tarczy-Hornoch, Berkeley, Calif., assignor, by mesne assignments, to W. K. Rosenberry, doing business as Zeta Research, Lafayette, Calif.
Continuation of application Ser. No. 391,721, Aug. 24, 1964. This application June 5, 1967, Ser. No. 643,737
Int. Cl. G01v *23/14*
U.S. Cl. 324—79 **43 Claims**


11
INPUT
f_1
SYNCR. DIVIDER $\div N_1(f_1)$
f_0
23
12
TRIGGER CONTROL
21
MAIN COUNTER N_0
22
$N_0 = f_0 \cdot N_1(f_1) \cdot 10^{-n} = f_1 \cdot 10^{-n}$
TIME CONVERTER (DUAL SAMPLING)
16
f_1'
f_0'
TIME BASE PRESET TO $N_1(f_1) \cdot 10^{-n}$ sec.
18
REF OSC.
19
RATIO COUNTER $N_1(f_1)$
17
$N_1(f_1) = \frac{f_1'}{f_0'} = \frac{f_1}{f_0}$

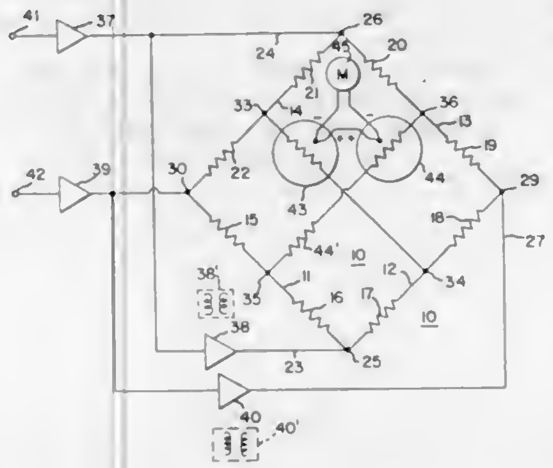
For an input signal with unknown f_0 frequency, a lower frequency f_1 signal is generated so that

$$\frac{df_0}{df_1}=n$$

is an integer, a circuit receiving f_0 and f_1 obtains the value of n, and a digital frequency counter, with time base variable according to n, counts the frequency f_1 in such a manner that the reading becomes a direct digital representation of the frequency of the input signal.

3,450,992
PRODUCT-TYPE PHASE SENSITIVE DETECTOR INCLUDING A BALANCED IMPEDANCE BRIDGE HAVING THERMOCOUPLE LOAD ELEMENTS CONNECTED ACROSS OPPOSITE BRIDGE ARMS

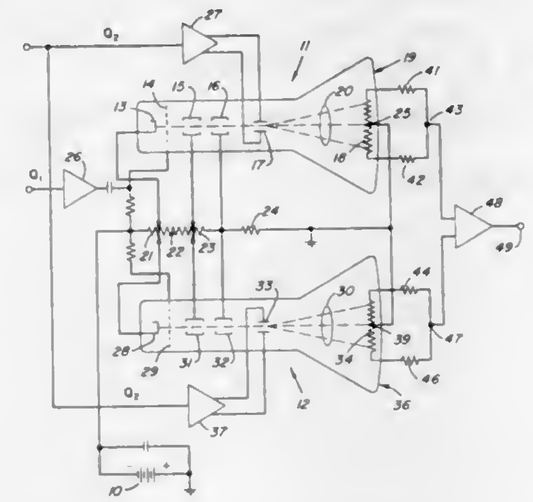
Lawrence R. Holland, Philadelphia, Pa., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed Apr. 27, 1966, Ser. No. 545,724
Int. Cl. G01r *5/26*
U.S. Cl. 324—106 **7 Claims**



A product-type phase sensitive detector having common mode rejection and a flat frequency response is provided wherein balanced output signals proportional to the square of the sum and the difference of applied input signals are taken across separate load means having a square law response and being connected across intermediate points of a balanced four-arm impedance bridge.

3,450,993
DEVICE FOR MEASURING THE INSTANTANEOUS PRODUCT OF TWO ELECTRICAL QUANTITIES

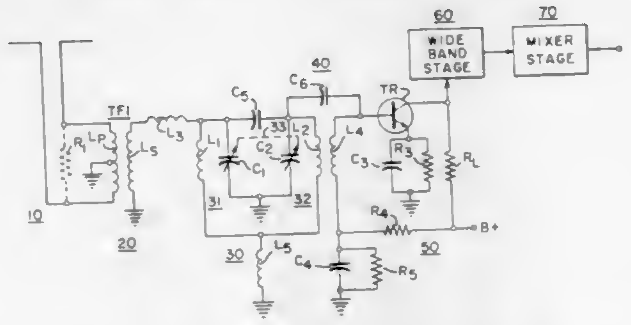
Martin J. Brown, Princeton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 8, 1966, Ser. No. 541,250
Int. Cl. G01r *13/20*
U.S. Cl. 324—121 **9 Claims**



A first electrical quantity is applied to a first of two identical cathode ray tubes to vary the intensity of a first of two electron beams, each quiescently biased to impinge on a point in a strip of resistive material on the inside target face of each tube. A second electrical quantity is applied to both tubes to deflect the electron beams the same distance along the strips. An output voltage which varies as a function of beam intensity and deflection is generated across part of each strip. The output voltage of the second cathode ray tube is utilized to compensate the output of the first tube by eliminating the effects of quiescent operation so that the combined output of both tubes is proportional to the product of the first and second electrical quantities.

3,450,994
DOUBLE TUNED FREQUENCY SELECTIVE CIRCUIT PROVIDING A CONSTANT BANDWIDTH

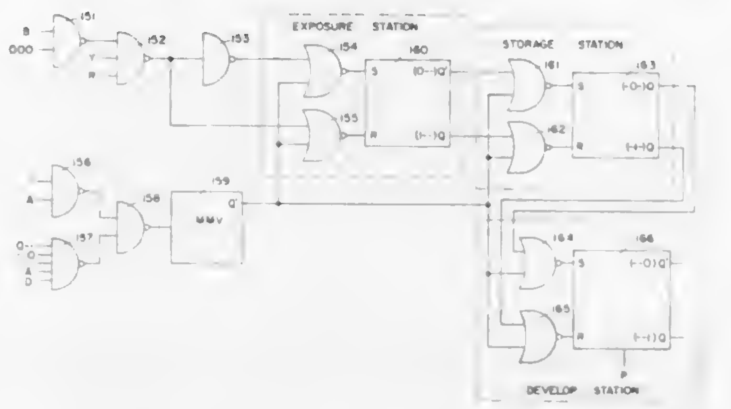
Arnt P. Arntsen and Dirk J. Boomgaard, Murrysville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1964, Ser. No. 359,560
Int. Cl. H04b *1/18;* **H03j** *5/00*
U.S. Cl. 325—383 **1 Claim**



The present disclosure provides a double tuned frequency selective circuit wherein two parallel tuned circuits are utilized for tuning. An input circuit, such as an antenna exhibiting a resistive component, is coupled to the first tuned circuit so that the loaded Q of the first tuned circuit is substantially proportional to the tuned frequency. An output circuit is utilized exhibiting a resistive component which is reflected across the second tuned circuit by a coupling circuit so that the loaded Q of the second tuned circuit is substantially proportional to the tuned frequency. A coupling circuit couples the first and second tuned circuits so that the effective coupling therebetween varies inversely with the tuned frequency so that a substantially constant bandwidth is provided across the frequency selective circuit.

3,450,995
SYSTEM USING SHIFT REGISTER, RING COUNTER AND LOGIC CIRCUITRY FOR CONTROLLING OPERATION IN PREDETERMINED SEQUENCE

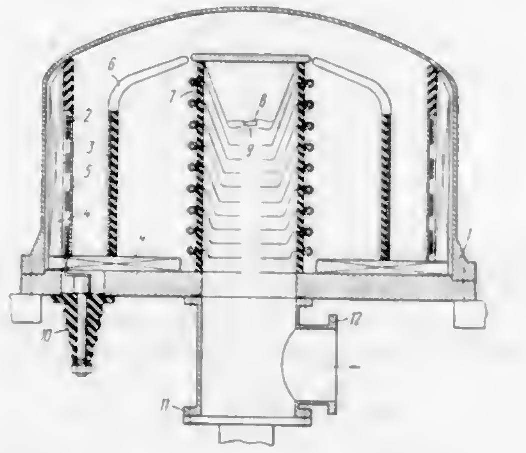
James A. Hirsch, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,661
Int. Cl. H03k *17/28*
U.S. Cl. 328—72 **27 Claims**



A control system for a device having a determined sequence of operation which includes a shift register having stages representing the condition of a component of the device, sensing means for advancing the shift register, gating means for advancing the shift register, and circuit means for connecting the shift register and the sensing means to elements of the device thereby energizing the elements during determined steps of the sequence of operation.

3,450,996
CHARGED PARTICLE PULSE ACCELERATOR INCORPORATING A TESLA COIL

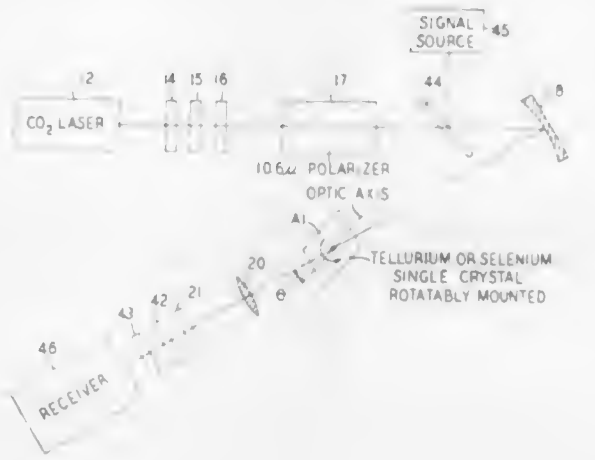
Evgeny Aramovich Abramyan, Ulitsa Tereshkovoi 15, kv. 1; Sakko Borisovich Vasserman, Ulitsa Pravdy 7, kv. 8; Vasily Alexandrovich Gaponov, Zolotodolinskaya ulitsa 9, kv. 27; and Gennady Sergeevich Krainov, Ulitsa Tereshkovoi 40, kv. 32, all of Novosibirsk, U.S.S.R.
Filed Mar. 1, 1967, Ser. No. 619,722
Int. Cl. H05h *5/02;* **H01j** *23/34*
U.S. Cl. 328—233 **3 Claims**



A charged particle pulse accelerator which incorporates a Tesla coil as the high voltage generator. A control electrode is introduced into the injector and a breaker of the primary winding for providing a considerably increased coupling coefficient between the windings due to some structural modifications made therein.

3,450,997
PARAMETRIC APPARATUS EMPLOYING ELEMENTAL TELLURIUM OR SELENIUM OR BOTH

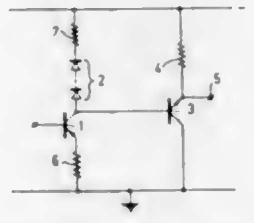
Chandra K. N. Patel, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Continuation-in-part of abandoned application Ser. No. 515,981, Dec. 23, 1965. This application Apr. 29, 1968, Ser. No. 733,189
Int. Cl. H03f *7/00;* **H03d** *9/00*
U.S. Cl. 330—4.5 **20 Claims**



The disclosed second harmonic generators, parametric oscillators, parametric amplifiers and the disclosed detector each employ a single crystal consisting essentially of elemental material selected from the group consisting of elemental tellurium, elemental selenium and a mixture of elemental tellurium and elemental selenium.

3,450,998
WIDE-BAND LOW DISTORTION TWO-TRANSISTOR AMPLIFIER

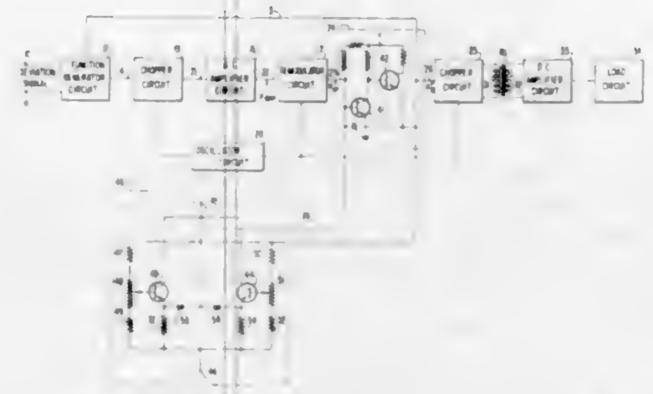
Johannes Anton Greefkes, Karel Riemens, Leendert Gerardus Krul, and Wilhelmus Antonius Joseph Marie Zwijsen, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,529
Claims priority, application Netherlands, Mar. 30, 1965, 6503996; Aug. 26, 1965, 6511134
Int. Cl. H03f *3/18*
U.S. Cl. 330—17 **3 Claims**



A low distortion wide-band amplifier including a first transistor of one conductivity whose output is coupled through an emitter-follower of opposite conductivity. The first transistor has a first resistor in its emitter circuit, and has in its collector circuit the series combination of a plurality of forward poled diodes and a second resistor. The ratio between the second and first resistors is selected to be one less than the number of diodes. The diodes may be replaced with a third transistor.

3,450,999
HIGH-LOW LIMIT CIRCUIT FOR D-C AMPLIFIER

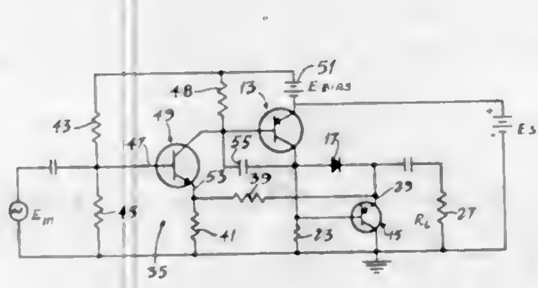
Elmer Paul Diehl, Wakefield, and John E. Riley, Saugus, Mass., assignors to General Electric Company, a corporation of New York
Filed June 13, 1966, Ser. No. 557,123
Int. Cl. H03f *1/02, 3/04, 3/68*
U.S. Cl. 330—9 **9 Claims**



A high-low limit circuit for a process controller amplifier. Each of two series circuits in parallel, connects D-C amplifier input and output terminals and includes a diode and transistor which is responsive to the output voltage from the D-C amplifier for biasing the diode into conduction at either a predetermined high or low voltage. Diode conduction clamps the D-C amplifier input at either the high or low level.

3,451,000
TRANSISTOR PUSH-PULL OUTPUT CIRCUIT

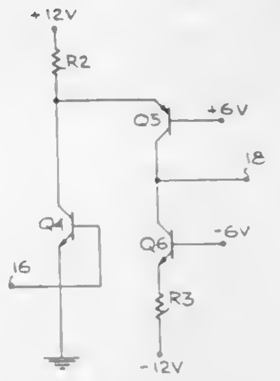
Harry H. Douglass, Greenbelt, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 25, 1966, Ser. No. 552,988
Int. Cl. H03f *3/26, 3/10*
U.S. Cl. 330—15 **1 Claim**



A Class AB operable push-pull transistorized amplifier utilizing two output transistors of the same conductivity type and a driver transistor of opposite type, the output transistors being isolated in output by a diode, linearity being improved by degenerative feedback from one of the output transistors to the driver transistor, and further characterized by a capacitive feedback from the collector of the other output transistor to the base thereof to reduce tendency to oscillate at higher frequencies. A second embodiment includes an additional transistor and diode for driving the second output transistor from the first output transistor to increase the power available from the second output transistor.

3,451,001
D.C. AMPLIFIER

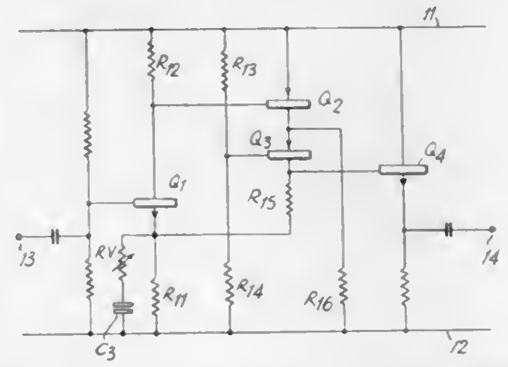
Roy P. Foerster, Thousand Oaks, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,373
Int. Cl. H03f *3/18, 3/34*
U.S. Cl. 330—17 **7 Claims**



A D.C. amplifier stage useful in an operational amplifier. The stage utilizes two transistors connected as a differential amplifier with the collector of the first transistor connected to an A.C. ground to avoid the Miller effect. The collector of the second transistor is connected to the emitter of a grounded base amplifier and through a common impedance to a source of direct current potenial. A constant current load is connected to the grounded base amplifier with an output terminal connected therebetween such that any excess current provided through the grounded base amplifier is steered through a signal utilization means connected to the output terminal resulting in a voltage gain at the output terminal. Oppositely, a decrease in current through the grounded base amplifier will draw current from the signal utilization means.

3,451,002
CASCODE-CONNECTED TRANSISTOR AMPLIFIERS

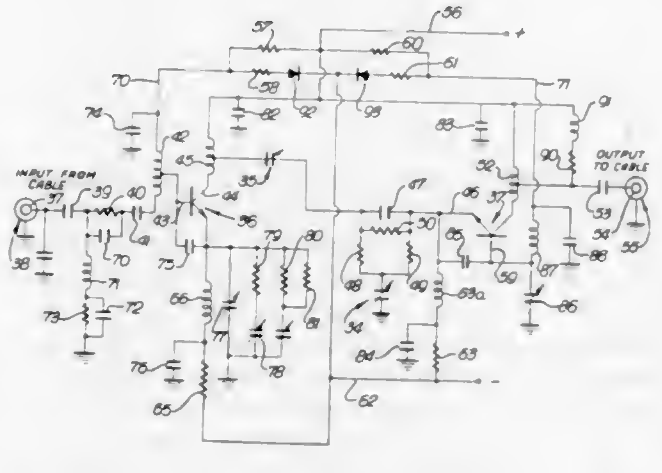
John Christian George Dawnay, Wykeham Abbey, Scarborough, Wykeham, England, and Eric Andrew Faulkner, 31 Bulmershe Road, Reading, England
Filed July 14, 1967, Ser. No. 653,380
Claims priority, application Great Britain, July 18, 1966, 32,132/66; Oct. 18, 1966, 46,493/66
Int. Cl. H03f *3/68, 1/08, 1/34*
U.S. Cl. 330—20 **5 Claims**



A transistor amplifier circuit has a stage comprising a cascoded pair of transistor preceded by a stage constituted by a transistor of complementary type to the cascoded pair. Current through the common emitter transistor of the cascoded pair is augmented by a resistor connected across the common base transistor and a feedback path is provided from the collector electrode of the common base transistor to the emitter electrode of the complementary transistor as by providing for the emitter load of the complementary transistor to form part of the collector load of the common base transistor.

3,451,003
CABLE TELEVISION AMPLIFIER GAIN AND TILT CONTROL

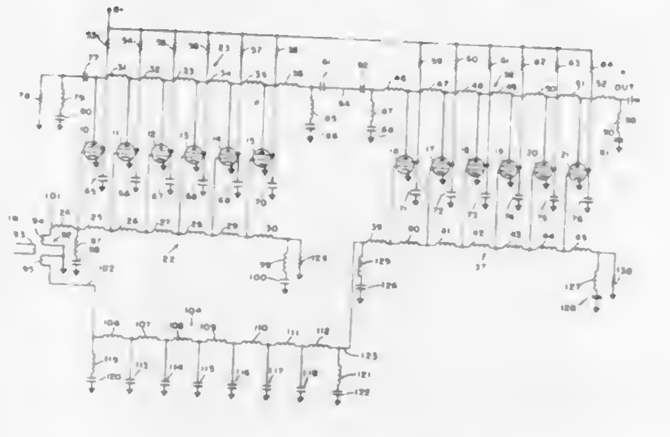
William A. Rheinfelder, South Laguna, Calif., assignor, by mesne assignments, to Anaconda Electronics Company, Anaheim, Calif., a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,160
Int. Cl. H03g *3/30;* **H03f** *3/10, 3/68*
U.S. Cl. 330—21 12 Claims



The disclosure concerns the provision, in a cable television system, of an amplifier or amplifiers having gain compensated tilt control, and tilt compensated gain control.

3,451,004
DISTRIBUTED AMPLIFIER SYSTEM

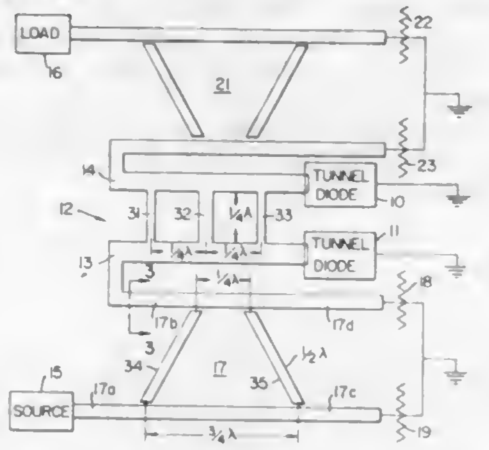
Leon Miller, Little Silver, and Charles W. Norton, Jr., Belmar, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed June 29, 1966, Ser. No. 562,931
Int. Cl. H03f *3/60*
U.S. Cl. 330—54 1 Claim



A distributed amplifier system with a plurality of partial stages, each partial stage having a plurality of sections, and means to divide the input signals to be amplified and to separately feed said divided input signals to the input of a corresponding partial stage.

3,451,005
NEGATIVE RESISTANCE AMPLIFIER ARRANGEMENT AND METHOD THEREFOR

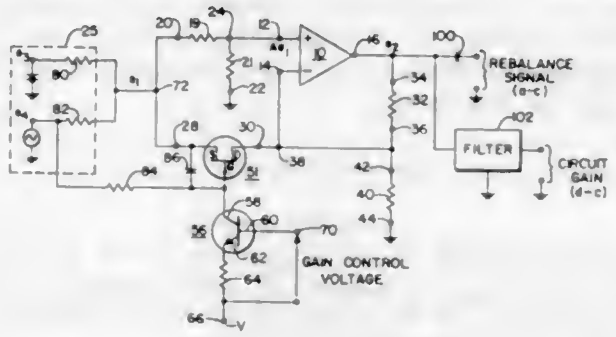
Per S. Skullestad, Sunnyvale, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed May 5, 1966, Ser. No. 547,808
Int. Cl. H03f *3/60, 15/00*
U.S. Cl. 330—61 2 Claims



Improved circuit arrangement for amplifying in the microwave frequency region. The arrangement employs tunnel diode amplifiers in combination with directional filters and a hybrid. The entire arrangement utilizes stripline channels.

3,451,006
VARIABLE GAIN AMPLIFIERS

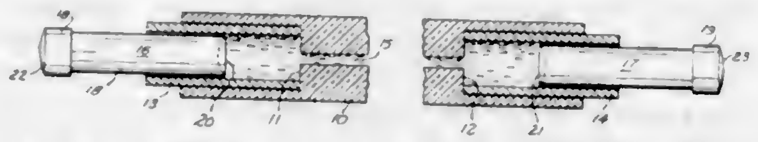
Orrin H. Grangaard, Jr., St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,750
Int. Cl. H03f *1/34*
U.S. Cl. 330—69 5 Claims



An amplifier circuit having a gain which can be controlled to be either negative, zero, or positive. A differential amplifier is provided with a feedback circuit and a variable impedance input circuit; the gain of the amplifier circuit depends on the magnitude of the variable impedance with respect to the impedance of the feedback circuit.

3,451,007
LIQUID LASER CELL

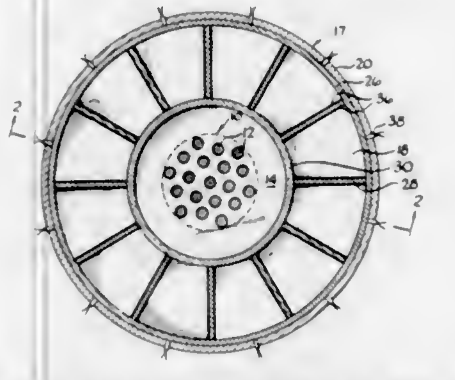
Erhard J. Schimitschek, 1622 Plum St. 92106, and Edward R. Schumacher, 4728 54th St. 92115, both of San Diego, Calif.
Filed Dec. 10, 1963, Ser. No. 329,593
Int. Cl. H01s *3/20, 3/05*
U.S. Cl. 331—94.5 2 Claims



A liquid laser cell formed of a quartz tube having an axial capillary passage filled with the lasing solution. Each end of the capillary opens into a reservoir of lasing solution and each reservoir is closed at its outer end by quartz pistons provided with partial mirror surfaces. Preferably the pistons slidably engage sleeve members carried by the reservoir walls so as to be drawn toward one another when the liquid is cooled. The pistons are drawn together by surface tension and thus maintain their essential flush contact with the liquid.

3,451,008
SHOCK WAVE OPTICALLY PUMPED LASER

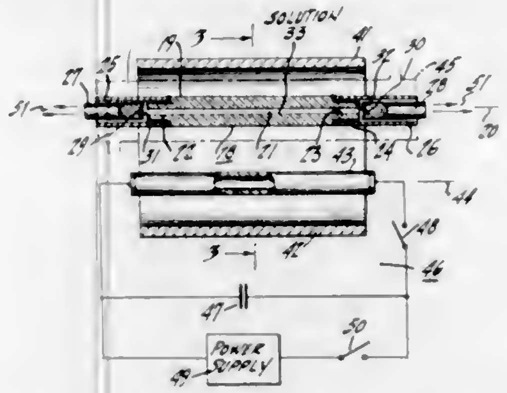
Brian B. Dunne, San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed July 22, 1964, Ser. No. 384,501
Int. Cl. H01s *3/02, 3/09, 3/22*
U.S. Cl. 331—94.5 13 Claims



1. Apparatus for optically pumping a laser comprising an annular containment vessel for substantially surrounding said laser, said containment vessel having an outer wall and an inner wall, high explosive material disposed on the inside of and adjacent said outer wall for substantially encircling said laser, noble gas disposed within said containment vessel, and means for detonating said high explosive material to produce a plurality of shock waves which interact with one another to produce Mach reflections sufficient to heat said noble gas to incandescence, and said inner wall being transmissive of light from said noble gas to said laser.

3,451,009
LUMINESCENT MATERIAL AND LASER APPARATUS UTILIZING SAID MATERIAL

Daniel L. Ross, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,915
Int. Cl. H01s *3/04, 3/20;* **C09k** *1/00*
U.S. Cl. 331—94.5 16 Claims



1. A composition of matter consisting essentially of an octacoordinate chelate compound represented by the formula d_α-Ad_λ-L_4Eu (III) where

(a) Eu (III) is trivalent europium,
(b) L is a 4,4,4-trifluoro-1-aryl-1,3-butanediono ligand wherein the aryl radical is an unsubstituted phenyl group, a phenyl group substituted in the meta or para position, or a thienyl group,
(c) A is an organic ammonium ion, wherein said ion essentially transmits radiation in the range between 2500 A. and 4300 A. and at about 6118 A. and where its energy states do not compete with the triplet levels of said ligand, and

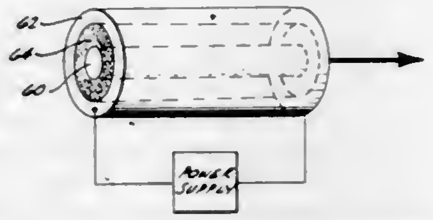
wherein a substantial proportion of the hydrogen atoms in said compound are replaced by deuterium atoms, said deuterium atom being represented by d_α and d_λ, the subscripts α and λ refer to the number of said deuterium atoms present on the A and L part of the chelate molecule respectively.

9. An apparatus for producing coherent radiation by stimulated emission comprising,

(a) a resonant cavity for coherent light, said cavity containing a solution of at least one of the compounds described in claim **1**, said compound being present in said solution in the range of about 5×10^{-3} molar to 2×10^{-2} molar, said solution being essentially transparent and nonscattering to the coherent radiation,
(b) means for exciting said compound to lasing action, and
(c) means for deriving said coherent radiation from said cavity.

3,451,010
LASER SYSTEMS EMPLOYING A SOLID LASER MATERIAL

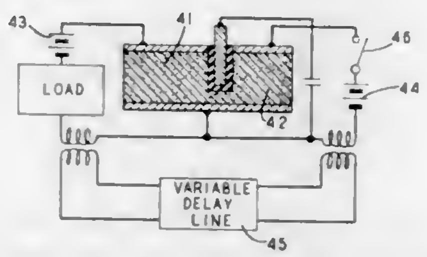
Theodore H. Maiman, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Continuation of application Ser. No. 361,363, Apr. 21, 1964, which is a continuation-in-part of application Ser. No. 102,698, Apr. 13, 1961. This application Mar. 10, 1967, Ser. No. 622,370
Int. Cl. H01s *3/16*
U.S. Cl. 331—94.5 3 Claims



This invention relates to a three-level ruby laser wherein a broadband light pump directly pumps the ruby to excite atoms from a predetermined low energy level to a predetermined broadband of upper energy levels from which radiationless decay of energy of the atoms to a discrete lower energy level takes place. A regenerative action is also incorporated in the laser for stimulating the atoms in the ruby to cause a coherent radiative transition of the atoms from the discrete energy level toward the low energy level.

3,451,011
TWO-VALLEY SEMICONDUCTOR DEVICES AND CIRCUITS

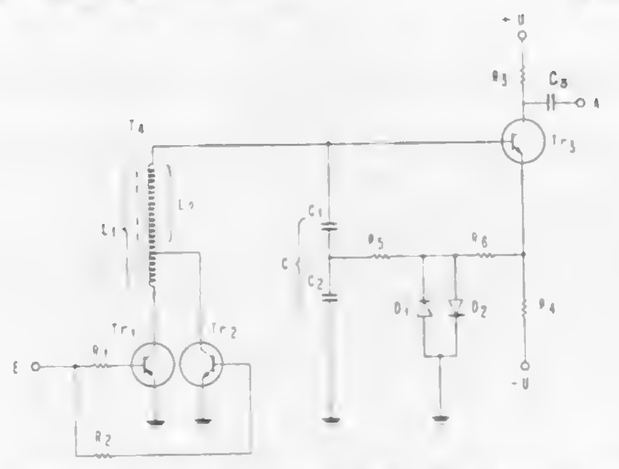
Michiyuki Uenohara, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Sept. 22, 1967, Ser. No. 669,844
Int. Cl. H03b *5/12, 5/24, 5/36*
U.S. Cl. 331—107 13 Claims



A slot extending into a two-valley semiconductor sample divides the sample into two active regions, a major section and a control section. The control section is of smaller cross-sectional area than the major section and is isolated from it by a radio frequency shield extending into the slot. A radio-frequency signal which extends periodically above the threshold voltage and below the domain sustaining voltage is applied between opposite contacts of the control section and amplified signal power is derived from the major section. In another embodiment, oscillation energy from the major section is fed back to the control section on a variable delay line that can be used to control output frequency.

3,451,012
FREQUENCY SHIFT KEYING MODULATOR

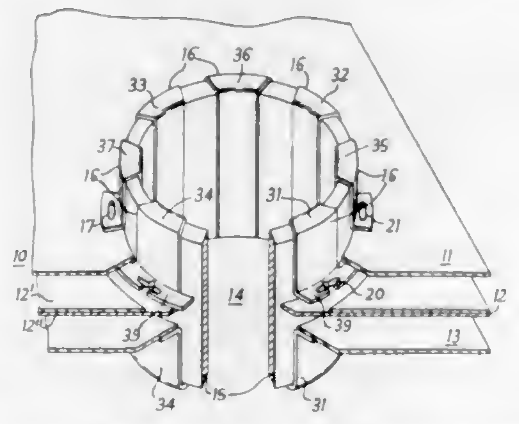
Hans Spiro, Boblingen, Germany, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation of application Ser. No. 496,410, Oct. 15, 1965. This application May 8, 1968, Ser. No. 727,748
Claims priority, application Germany, Oct. 21, 1964, J 26,730
Int. Cl. H03c *3/08, 3/00, 3/12*
U.S. Cl. 332—18 **2 Claims**



An asynchronous frequency shift modulator having a combination of a capacitor and a switchable inductor resonant circuit in which a constant current and voltage are maintained when shifting its resonant frequency. Current flowing through the active inductor pre-energizes the unconnected inductor in proper phase amplitude.

3,451,013
LOW LEAKAGE INDUCTANCE TRANSFORMER FOR CONDUCTIVE PARALLEL PLATE BALANCED TRANSMISSION LINES

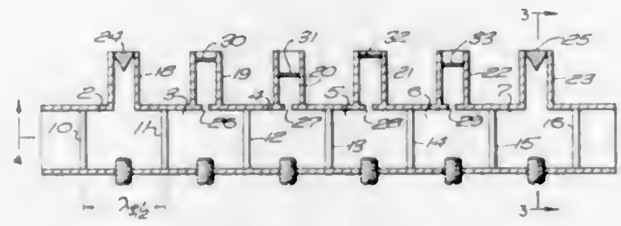
Lewis Philip Learney, Crawley Down, and Ernest William Rogers, Horley, England, assignors to Communications Patents Limited, London, England
Filed Apr. 3, 1967, Ser. No. 627,740
Claims priority, application Great Britain, Aug. 25, 1966, 38,112/66
Int. Cl. H03h *7/38*
U.S. Cl. 333—25 **12 Claims**



The invention is a wide frequency band transformer, e.g. 100–30,000 kc./s., for conductive plate type balanced transmission lines, having low leakage inductance. The transformer has a toroidal core positioned in aligned holes in the three transmission line plates. It has windings comprising two sets of straps, angularly spaced apart around the core axis, extending axially around the core, all straps having one end connected to the middle plate of the transmission line and alternate straps having their opposite end connected to different ones of the outer plates. It has multiple turn windings passing axially around the core and through holes in all the plates.

3,451,014
WAVEGUIDE FILTER HAVING BRANCH MEANS TO ABSORB OR ATTENUATE FREQUENCIES ABOVE PASS-BAND

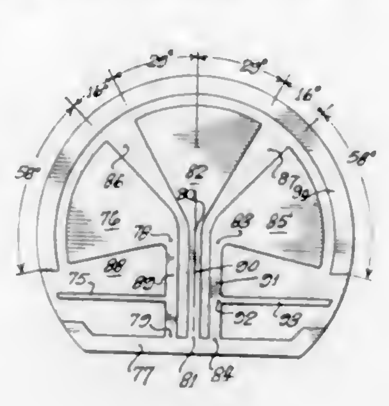
Robert E. Brosnahan, Framingham, and Edward J. Curley, Bedford, Mass., assignors to Microwave Development Laboratories, Inc., Needham Heights, Mass., a corporation of Massachusetts
Filed Dec. 23, 1964, Ser. No. 420,680
Int. Cl. H03j *3/26*
U.S. Cl. 333—73 **1 Claim**

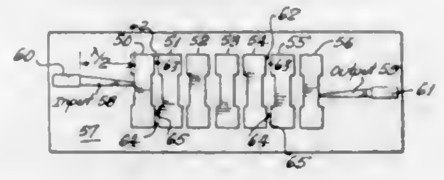


A band pass waveguide filter is constructed of directly coupled half wavelength resonant cavities. Branching from those cavities are waveguides which attenuate only the frequencies above the filter's pass band. The cutoff frequency of the branch waveguides is above the frequencies in the filter's pass band and the branches are terminated to absorb the wave energy propagating in the branches. The coupling between a branch waveguide and its resonant cavity can be frequency selective to suppress particularly troublesome stop band frequencies. Alternatively, the branch can be terminated in a short circuit which tunes the branch to resonate at the undesired frequencies.

3,451,015
MICROWAVE STRIPLINE FILTER

Paul D. Heath, Riverside, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,892
Int. Cl. H03h *5/04*
U.S. Cl. 333—73 **3 Claims**

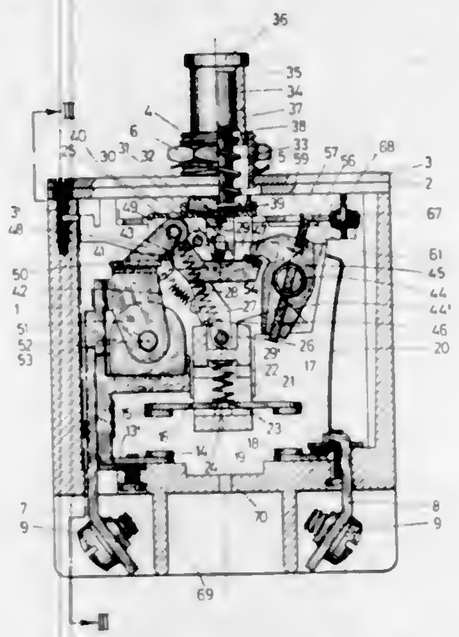




A compact microwave stripline filter with metal strips placed side by side for inductive or capacitive coupling with their longitudinal axes parallel relative to each other and transversely of the direction of signal propagation, and configured to substantially eliminate the nullifying effects of stray, opposing capacitive or inductive fields.

3,451,016
PUSHBUTTON-ACTUATED OVERLOAD CIRCUIT BREAKER

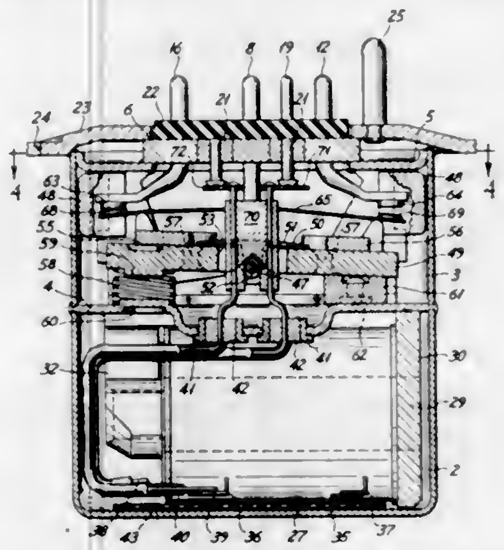
Jakob Ellenberger, Altdorf, Germany, assignor to Ellenberger & Poensgen GmbH, Altdorf, near Nuremberg, Germany, a firm of Germany
Filed Nov. 7, 1967, Ser. No. 681,255
Claims priority, application Germany, Nov. 10, 1966, E 32,818
Int. Cl. H01h *73/56*
U.S. Cl. 335—23 **10 Claims**



A pushbutton-actuated overload circuit breaker with a thermal release, an electromagnetic release, and a trip-free release, and also with a manual release by pulling the pushbutton outwardly, wherein the thermal release and the electromagnetic release occur independently of each other and without interfering with each other by means of a toggle joint and an easily rotatable half-shaft. If this overload circuit breaker forms a polyphase circuit breaker, each circuit thereof contains a separate bimetal strip and also a separate magnet coil one of which is reversed in polarity relative to the other coils to increase the power of this magnet.

3,451,017
COMPACT SEALED ELECTRICAL RELAY

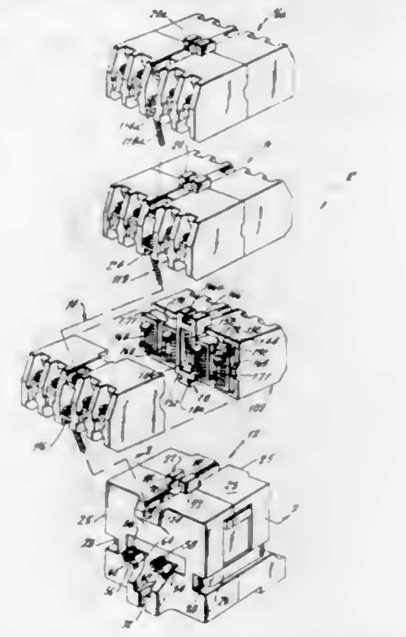
James L. Becknell, West Allis, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 667,987
Int. Cl. H01h *67/06*
U.S. Cl. 335—124 **11 Claims**



A compact electromagnetic hermetically sealed double throw relay having a rocking armature, a sealed electromagnet compartment, a separately sealed contaminant free contact compartment and coil leads passing through the armature to coil terminals.

3,451,018
CONTACTOR ELECTROMAGNET

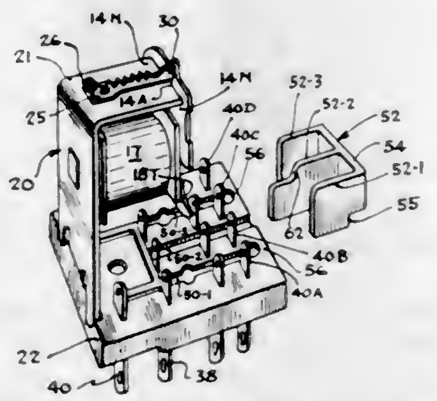
Bernard Di Marco, Lincoln Park, Mich., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,394
Int. Cl. H01h *67/02, 1/48, 1/50*
U.S. Cl. 335—131 **8 Claims**



An electromagnetic contactor is provided with a plurality of poles constructed so that for the fully open magnet position as the number of poles is increased the net force acting in opposition to closing of the magnet decreases. Recognizing this feature, the electromagnet characteristic is made such that for the condition where a maximum number of pole units is to be operated, the force generated by magnetic flux at minimum closing voltage is less than the force required to overcome the spring forces opposing magnet closing during the portion of the closing stroke from the critical position, where the contact pressure springs come into play, to a point between the critical position and the fully closed position of the magnet. The difference between the opposing force and the force attributable to magnetic flux in the region between the critical position and the aforesaid point is overcome by the kinetic energy developed as the magnet moves from its fully open position to the critical position.

3,451,019
ARC PREVENTING MEANS FOR A SWITCHING RELAY

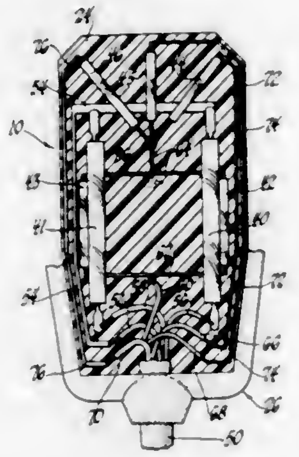
William F. Auer, Des Plaines, and James J. Bonovitz and Robert L. Valleau, Morton Groves, Ill., assignors to Comar Electric Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 696,302
Int. Cl. H01h *9/32*
U.S. Cl. 335—201 **3 Claims**



Arcing between adjacent contacts of a switching relay is avoided by an insert which presents a flange of insulating material between the contacts. The insert is a separate member, and the base of the relay is configured to easily accept the insert as one of the last assembly pieces.

3,451,020
SWITCH ASSEMBLY FOR USE IN OXYGEN ENVIRONMENT

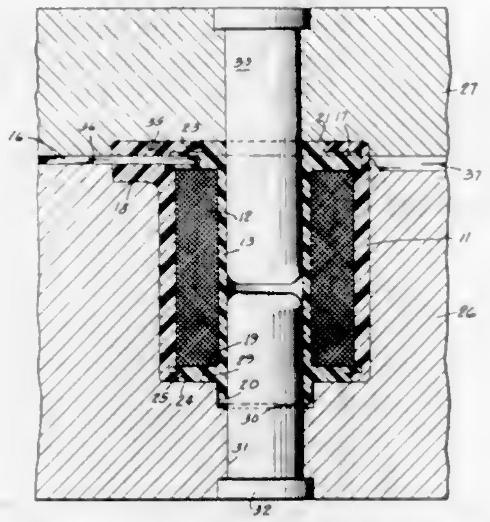
William T. Downs, Detroit, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,099
Int. Cl. H01h *9/02, 1/66*
U.S. Cl. 335—206 **16 Claims**



A switch assembly including a board with a plurality of reed switches and a printed circuit associated therewith disposed on a first side of the board. A potting material is disposed on the first side of the board for surrounding the switches, the printed circuit and electrical leads extending from the printed circuit. A plurality of bar magnets are disposed on the second side of the board where one of the magnets is rotatable to actuate one of three radially arranged switches on the opposite side of the board. There are two other bar magnets which are movable into position by push buttons for actuating other reed switches.

3,451,021
SELF-SEALING BOBBIN FOR ENCAPSULATED SOLENOID COILS

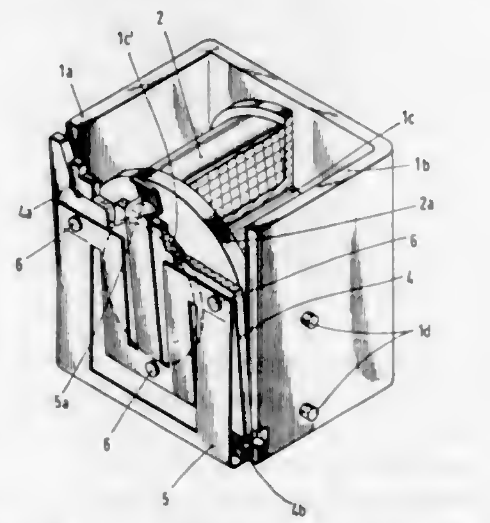
Arden Daniel Atherton, Oak Park, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Sept. 13, 1966, Ser. No. 579,033
Int. Cl. H01f *7/08, 5/02, 3/00*
U.S. Cl. 335—260 **6 Claims**



Encapsulated solenoid coil having a non-magnetic hollow core made from a plastic material and having flanges at opposite ends of the core. A coil is wound on the core between the flanges and insulating terminals connected to the coil and molded in the flanges are electrically connected with the core. The flanges have reduced diameter bosses extending axially outwardly of opposite ends thereof, having undercut lip portions extending inwardly of the outer margins of the bosses. A plastic encapsulating material is molded to the flanges and bosses and moves the undercut lip portions into sealing engagement with the ends of the mold and seals the encapsulating material from passing along the outer faces of the bosses.

3,451,022
ELECTRO-MAGNETIC SYSTEM CONSTRUCTED AS AN INDEPENDENT PREFABRICATED UNIT CAPABLE OF MOUNTING WITHOUT ADJUSTMENT

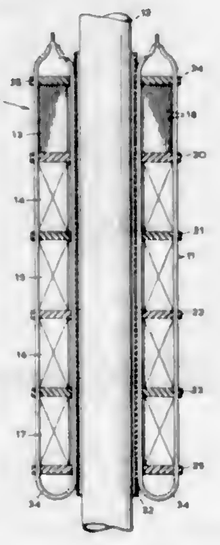
Herbert Krautwald, Wolfgang Hübner, Werner Bosch, and Georg Aigner, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed May 29, 1967, Ser. No. 641,811
Claims priority, application Germany, June 3, 1966, S 104,132
Int. Cl. H01f *7/08*
U.S. Cl. 335—281 **8 Claims**



A three-legged E-shaped magnetic system. The outer legs of the E form a U-shaped yoke which is constructed from a single piece of flat material. An energizing coil is located on the central, cylindrically shaped leg. An armature located adjacent the free ends of the legs is retained in operative position by a leaf spring secured to the outer yoke legs. A slide member connected to the armature actuates an associated contact arrangement.

3,451,023
TOROIDAL WINDING STRUCTURES

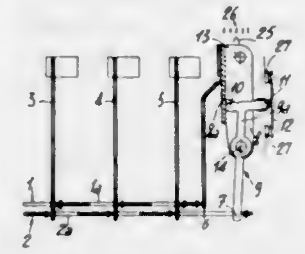
Norman Aveyard and David George Bull, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Dec. 21, 1966, Ser. No. 603,475
Claims priority, application Great Britain, Dec. 21, 1965, 54,107/65
Int. Cl. H01f *27/28*
U.S. Cl. 336—180 **2 Claims**



U-shaped plural toroidal windings are placed about a cylindrical plural part core. The plural part core is separated by extending insulating spacers which have holes in an outer portion through which the outer arms of the windings are placed. The inner portion of the spacers form shoulders with the inner portions of the windings and an insulating tube adjacent these shoulders. A secondary winding is placed within the insulating tube.

3,451,024
THREE-PHASE DIFFERENTIAL ELECTRO-THERMAL RELAY

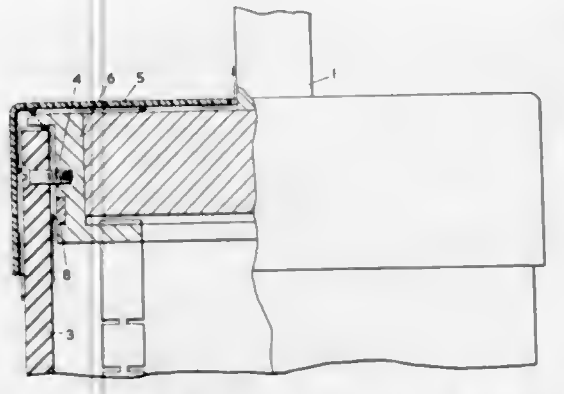
Francesco Fantini, Viale Glustiniano 5, Milan, Italy
Filed Aug. 10, 1967, Ser. No. 659,624
Int. Cl. H01h *61/06, 71/16*
U.S. Cl. 337—46 **3 Claims**



A three phase differential electro-thermal relay for peak current protection adapted to intervene in advance should a phase be lacking in the circuit. Two moving, parallel bridges are constructed with offset slots and three bimetallic elements inserted in these slots. The two moving bridges operate a control lever when the bimetals are not in phase with each other.

3,451,025
CARTRIDGE TYPE ELECTRIC FUSE

Eric Jacks, John Feenan, and Wilfred Clarke, Liverpool, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Dec. 7, 1966, Ser. No. 599,836
Claims priority, application Great Britain, Dec. 7, 1965, 51,795/65
Int. Cl. H01h *85/14, 85/02*
U.S. Cl. 337—249 **4 Claims**

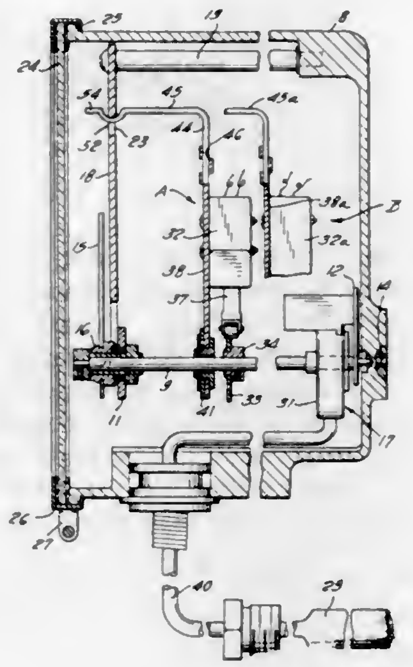


A fuse link having a sealed housing enclosing a number of fusible elements, and valve means for exhausting to atmosphere any gases which are developed within the housing and which exert a pressure exceeding a predetermined value.

3,451,026
REMOTE INDICATING THERMOMETER CIRCUIT CONTROL DEVICE

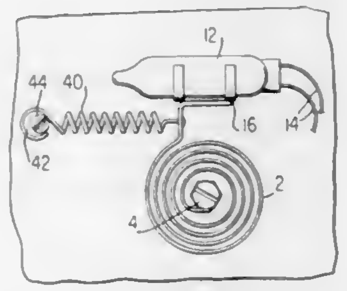
Louis J. Siri and Philip W. Embury, Jr., Fairport, N.Y., assignors to Qualitrol Corporation, Fairport, N.Y., a corporation of New York
Filed July 3, 1967, Ser. No. 650,933
Int. Cl. H01h *37/42*
U.S. Cl. 337—322 **9 Claims**

An electrical circuit control device which indicates temperature changes of a control medium, and is selectively settable for actuation of a control circuit when the control medium attains a particular degree of temperature. It includes a control shaft adapted to be rotatively turned in response to temperature changes of the medium. A cam carried by the shaft is cooperable with a switch arm to operate a switch in the circuit of a regulatory or signal instrument when the shaft has been turned a specific angular distance. A mounting plate carrying the switch is angularly adjustable to selectively re-set the point of cooperation of the cam with the switch arm. A detent finger fixed to the mounting plate is manually movable to effect the adjustment. It is arranged to engage in a selected notch to securely lock the mounting plate in its adjusted position and to visibly indicate the temperature reading at which the cam will cooperate with the switch arm. A plurality of such cams may be carried by the shaft, each cooperable independently of the others with a separate switch mounted upon a separate adjustable mounting plate, all in a compact arrangement and casing.



3,451,027
METHOD AND APPARATUS FOR REGULATING TEMPERATURE

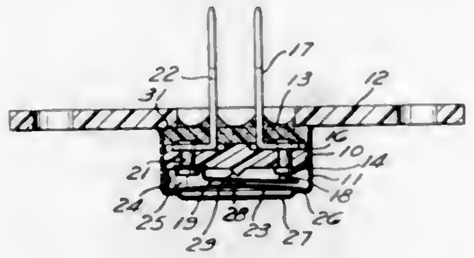
Philip D. Porter, 16141 Appoline, Detroit, Mich. 48235
Continuation-in-part of application Ser. No. 463,458, May 25, 1965. This application Oct. 7, 1966, Ser. No. 595,284
Int. Cl. H01h *37/74*
U.S. Cl. 337—342 **9 Claims**



A thermostatic control device presettable at a desired temperature for controlling the operation of heating and cooling apparatuses to maintain the temperature of a space at the preselected level and including a bimetallic switch element exposed in heat transfer relationship with the medium in the space and biasing means for closely adjusting the temperature differential of the bimetallic switch element.

3,451,028
SNAP DISC THERMOSTAT

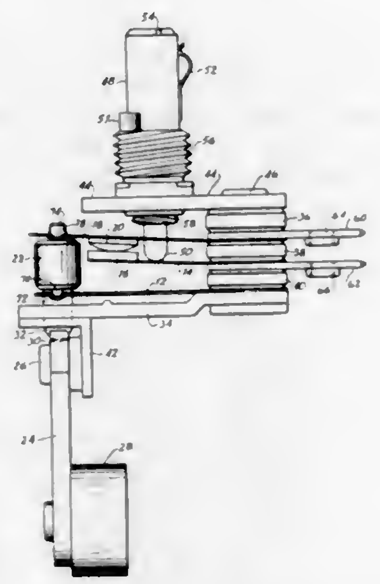
Donald J. Schmitt, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, a corporation of Ohio
Filed Oct. 27, 1967, Ser. No. 678,586
Int. Cl. H01h *37/74*
U.S. Cl. 337—343 6 Claims



A snap disc operated thermostat in which the switch body and disc case are free of surfaces which would limit the final assembled position. Variations in the sizes of the component parts are compensated for by partially assembling the device until the switch first closes. This provides a reference point which compensates for component part size variations. The body and case are then moved to a final position of assembly through a predetermined distance arranged to insure proper snap operation of the switch in both opening and closing. Such predetermined distance is selected to compensate for existing ambient temperature during assembly and for the amount of creep between one position of stability and the adjacent position of instability.

3,451,029
THERMOSTAT AND TIP SWITCH ASSEMBLY

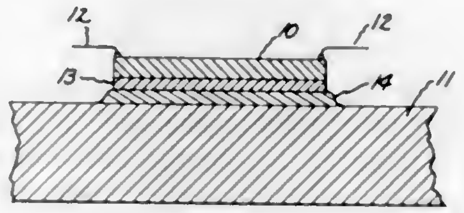
Robert N. Levinn and Joseph K. Moyer, Catskill, and Melvin J. Rose, South Cairo, N.Y., assignors to American Thermostat Corporation, South Cairo, N.Y., a corporation of New York
Filed Oct. 23, 1967, Ser. No. 677,403
Int. Cl. H01h *37/12, 37/52*
U.S. Cl. 337—349 12 Claims



The thermostat and tip switch assembly comprises a bimetallic strip, a contact strip having a contact, and a spring strip with a contact for engaging the first contact. These strips are disposed collaterally, with the ends of the bimetallic strip and the spring strip projecting beyond the end of the contact strip. An insulation push rod is disposed between the projecting ends, so that the bimetallic strip controls the opening or closing of the contacts in response to temperature change. The switch is used in an appliance, typically a space heater, and if the appliance falls over from its normal position, a pendulum swings to a different position, which opens the contacts as a safety feature. In the present improvement the pendulum has a cam which is pivoted at a point approximately in alignment with the push rod, and the latter has a cam follower pin which projects through the bimetallic strip to the cam, so that the pendulum works directly on the same push rod that is operated by the metallic strip, but its operation is independent of the action of the bimetallic strip. This arrangement is compact in structure as well as effective in operation.

3,451,030
SOLDER-BONDED SEMICONDUCTOR STRAIN GAUGES

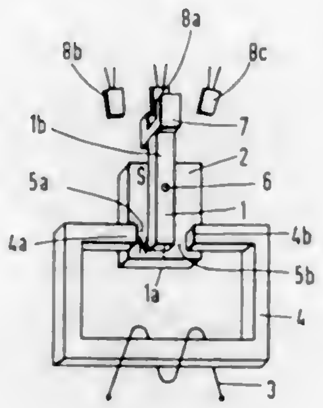
Marvin Garfinkel, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1966, Ser. No. 562,155
Int. Cl. H01c *15/04, 17/00;* **G01l** *1/22*
U.S. Cl. 338—2 10 Claims



Apparatus for measuring strain in a member of material having a yield point at least equal to that of the gauge comprises a strain responsive semiconductor element, a thin solderable film in bonded contact with the element, and a layer of solder joining the element to the member. Fabrication of the apparatus includes depositing a layer of solderable material onto the surface of the semiconductor and firing the semiconductor in a reducing atmosphere at a temperature below the alloying temperature of the semiconductor in order to secure a tenacious bond to the semiconductor.

3,451,031
RELAY SWITCHING ARRANGEMENT WITH MAGNETICALLY CONTROLLABLE SEMICONDUCTOR

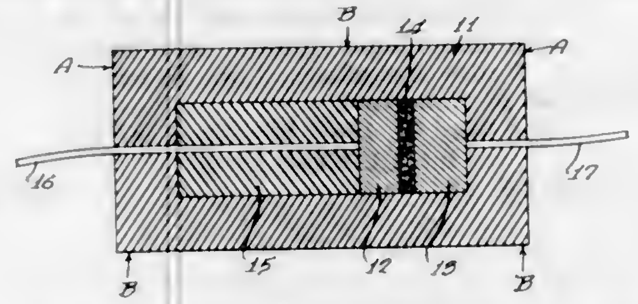
Christian Darr, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Dec. 29, 1966, Ser. No. 605,723
Int. Cl. H01c *7/16*
U.S. Cl. 338—32 4 Claims



Switching arrangement for relays, etc., utilizing a magnetically controllable semi-conductor and cooperable armature carrying permanent magnet means for effecting control of said semi-conductor in dependence upon the position of the armature with respect thereto.

3,451,032
ELECTROMECHANICAL TRANSDUCER MATERIAL

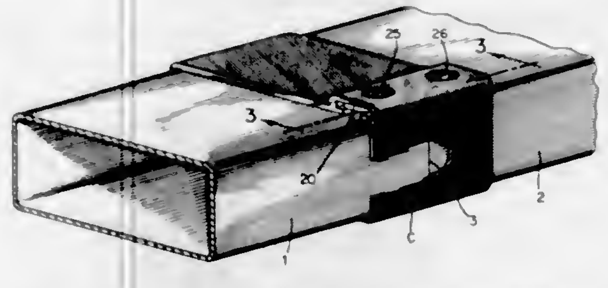
Gerhard W. Tempel, Waterloo, Iowa, assignor to Omsteel Industries, Inc., a corporation of Nebraska
Filed July 15, 1966, Ser. No. 565,479
Int. Cl. H01c *13/00;* **H01b** *1/06*
U.S. Cl. 338—114 17 Claims



A transducer material which can be used between opposing electrodes for pressure-sensitive electrode mechanical applications. The material includes a solid body, e.g., a membrane, of pressure-sensitive, semi-conductor material, having opposed separate faces for contact with the electrodes and including a continuous phase, i.e., of plastic, glass or natural gum, defining a solid non-conductive matrix and permanently and uniformly dispersed colloidal electrically conductive particles, e.g., colloidal graphite, spaced in homogeneous non-coagulated suspension within and throughout the material of said matrix. The transducer material is thermally stable and retains the semiconductor effect of the conductive particles and can be compressed for changing its electrical properties. It can be enclosed in a force transmitting casing. The transducer can have a straight line resistance changer per unit of applied force and preferably has a resistance of at least 5,000 ohms with the output:input ratio predetermined by the amount of conductive material based on matrix material.

3,451,033
COUPLING FOR UNDERFLOOR DUCTS

Charles T. Flachbarth, Parkersburg, W. Va., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 17, 1967, Ser. No. 661,278
Int. Cl. H01r *3/06;* **H05k** *5/02;* **H02g** *15/08*
U.S. Cl. 339—14 2 Claims

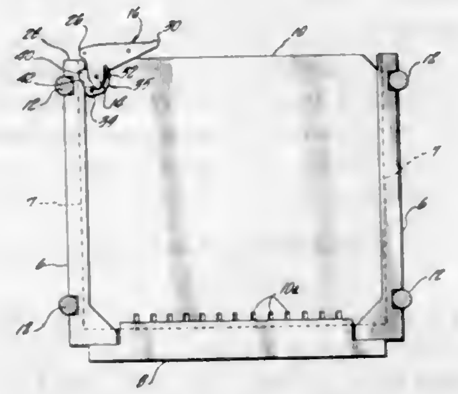


Coupling made of plastic for joining the ends of two underfloor ducts and having means providing a grounding connection between the ducts.

3,451,034
PRINTED CIRCUIT BOARD EJECTION AND LOCKING MECHANISM

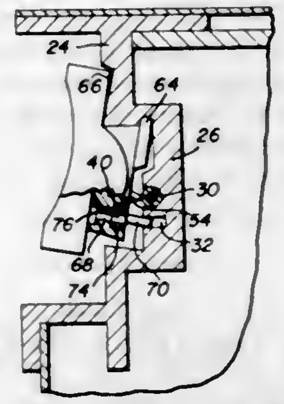
Stanley E. Beale, Duarte, Calif., assignor to Scanbe Manufacturing Corporation, Monterey Park, Calif., a corporation of California
Filed Dec. 19, 1966, Ser. No. 602,658
Int. Cl. H05k *1/00;* **H01r** *13/62, 13/54*
U.S. Cl. 339—17 6 Claims

An ejector for use with a printed circuit board mounted with printed circuit board guides into an electrical connector. The ejector and the mounting apparatus for the printed circuit board are defined to lock the board to the mounting apparatus when positioned in the electrical connector. The ejector is mounted to an edge of the circuit board to allow it to be cammed by means of the mounting apparatus to eject the board from the electrical connector.



3,451,035
RAIL MOUNTING BRACKET FOR VEHICLE LAMPS

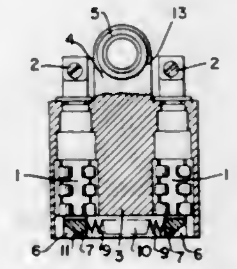
George D. Baldwin, Jamestown, N.Y., assignor to Truck-Lite Co., Inc., a corporation of New York
Continuation-in-part of application Ser. No. 342,695, Feb. 5, 1964. This application June 8, 1966, Ser. No. 556,200
Int. Cl. H01r *9/00, 11/20;* **B60q** *1/32*
U.S. Cl. 339—21 8 Claims



A lamp holder is mounted within the channel-shaped rail of a vehicle frame by insertion at any desired location and pivotal displacement into abutment with the web mounting surface of the rail. Pivotal displacement to a locked position is guided and causes piercing of a power supply cable by a connector prong. Ground is also established in the locked position between another connector and a groove in the mounting surface.

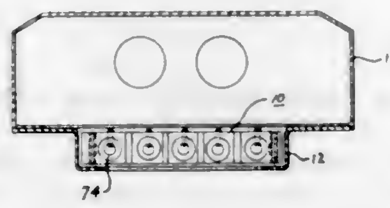
3,451,036
ELECTRICAL PLUG

Karl-Friedrich Schmitt, Neckarsulm, and Walter Boch, Eberbach, Bad Neckartal, Germany, assignors to Ulrich Tuchel, Heilbronn, Germany
Filed Jan. 16, 1967, Ser. No. 609,542
Claims priority, application Germany, Feb. 23, 1966, T 30,515
Int. Cl. H01r *13/44, 13/50*
U.S. Cl. 339—42 10 Claims



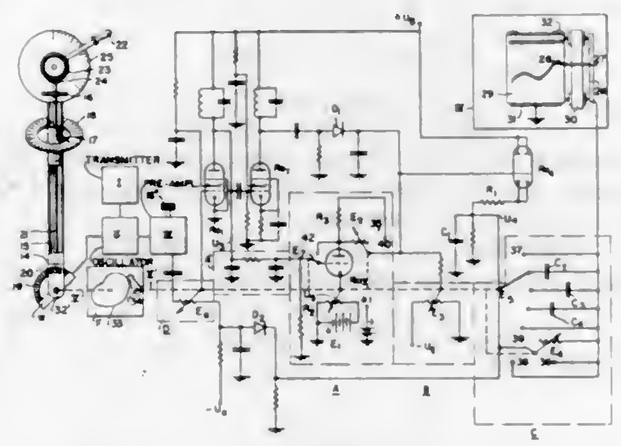
An electrical plug made from a hollow housing, a body member within the housing, and two half-shell members attached to one end of the housing. The body member has a projection extending from one end thereof between the half-shell members with a transverse alignment bore in the projection. Each half-shell member has a corresponding alignment bore, and the three parts are secured together by a bolt passing through the three alignment bores. The half-shell members are aligned with respect to the housing by means of beads on the interior surface of the half-shells which engage a recess in the exterior surface of the housing.

3,451,037
ELECTRICAL TERMINAL BLOCK
Jack W. Herrli, Elkhart, Ind. 46514
Filed Oct. 2, 1967, Ser. No. 672,111
Int. Cl. H01r *33/72, 13/60, 7/12*
U.S. Cl. 339—192 **9 Claims**



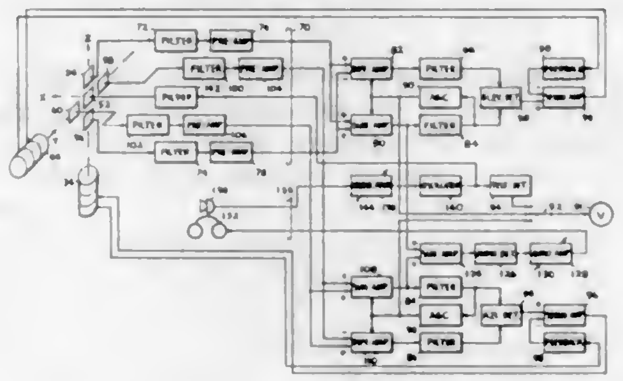
An electrical terminal block having a plurality of metal tubular members extending therethrough with recesses in the opposite ends thereof for receiving wires forming a connection therewith. The tubular members are provided with set screws for securing the wires in place in the recesses and holes are provided through the side of the block intersecting the tubular members for receiving the prongs of a plug or fixture for making an electrical connection with the tubular members. The terminal block nests in a portion of a mounting plate. The plate is secured to a ceiling-mounted outlet box.

3,451,038
ECHO SOUNDING APPARATUS WITH ADJUSTABLE SOUNDING DIRECTION
Gustav Maass, Eutin, Germany, assignor to Electroacustic Gesellschaft mit beschrankter Haftung, Kiel, Germany, a corporation of Germany
Filed July 27, 1965, Ser. No. 475,067
Claims priority, application Germany, July 28, 1964, E 27,497
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 **15 Claims**



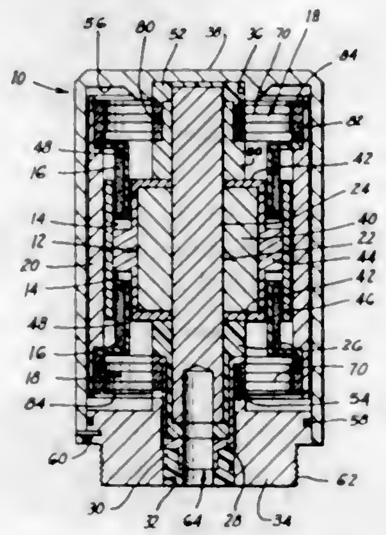
Underwater echo sounding apparatus includes a sonic-electric transducer. An amplifier system connected to the transducer receives echo voltages therefrom. The amplifier system comprises a control for varying the shape of the amplifying characteristic of the amplifier system. The amplifying characteristic is the output voltage versus the input voltage of the amplifier system. An indicator is connected to the amplifier system and is controlled thereby. A beam inclination control device changes the inclination angle of the sonic beam issuing from the transducer and the control is coupled to the inclination control device for adapting the amplifying characteristic to changes in sounding conditions caused by changes in beam inclination.

3,451,039
UNDERWATER ELECTROSONIC COMMUNICATION SYSTEMS AND APPARATUS
Sidney Epstein and David Epstein, Brooklyn, N.Y., assignors to Vadys Associates, Ltd., Brooklyn, N.Y., a corporation of New York
Filed May 16, 1967, Ser. No. 638,797
Int. Cl. H04b *13/00*
U.S. Cl. 340—5 **4 Claims**



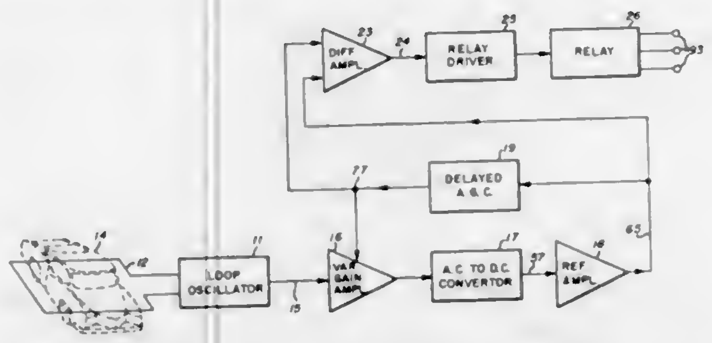
Underwater communication system employing a pair of discrete one way communication channels with automatic maintenance of mutual station alignment being effected by continuous complemental receiver tracking of the transmitted carriers which are directionally slaved to companion receivers. Also included is the utilization of monopulse location techniques with a pair of time shared and/or continuous wave directional beacons with superposition of voice intelligence to be transmitted on continuously transmitted positioning intelligence in a dual and interacting closed loop feedback controlled system.

3,451,040
SPRING SUSPENSION FOR A LOW-FREQUENCY GEOPHONE
Walter P. Johnson III, Houston, Tex., assignor to Mark Products, Inc., Houston, Tex., a corporation of Texas
Filed Mar. 21, 1967, Ser. No. 624,842
Int. Cl. G01v *1/16*
U.S. Cl. 340—17 **14 Claims**



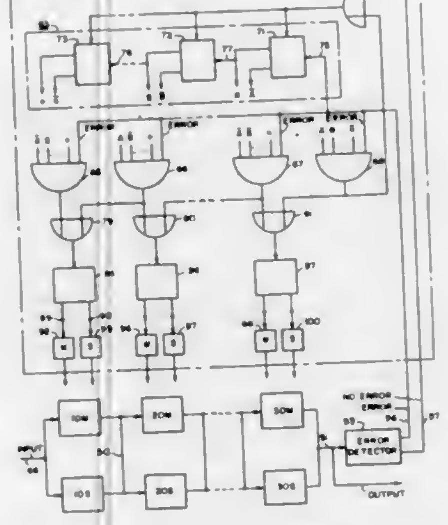
A moving coil, electromagnetic-type seismometer in which a pair of balanced coils are concentrically suspended in annular air-gaps of a permanent magnetic field by means of a spring suspension system that permits the coils a freedom of movement only coaxial with the axis of the air-gaps, the spring suspension system being formed of a plurality of spaced spring-spiders attached to each end of the coil assembly.

3,451,041
VEHICLE PRESENCE DETECTOR SYSTEM
Gilbert Marosi, Sunnyvale, and Donn W. Soderquist, San Jose, Calif., assignors to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,676
Int. Cl. G08g *1/01*
U.S. Cl. 340—38 **10 Claims**



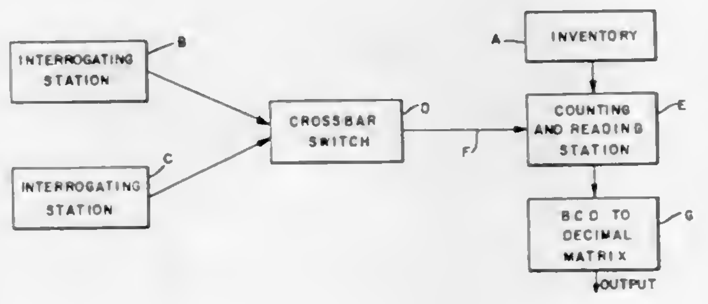
This invention relates to a system for detecting the presence of vehicles which may move along traffic lanes of highways or along railroad tracks, or the like; and, more particularly, this invention relates to such a system utilizing an inductive loop which is imbedded in the paving beneath the traffic lane or positioned beneath the rails of a railroad track such that the metallic mass of a vehicle passing thereover will vary the Q-factor value of the inductive loop, which variation is sensed to provide an output signal and/or a switching operation of an output relay.

3,451,042
REDUNDANT SIGNAL TRANSMISSION SYSTEM
Paul A. Jensen, Baltimore, and William C. Mann, Laurel, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1964, Ser. No. 403,809
Int. Cl. H04q *1/00;* **H04l** *25/02*
U.S. Cl. 340—147 **10 Claims**



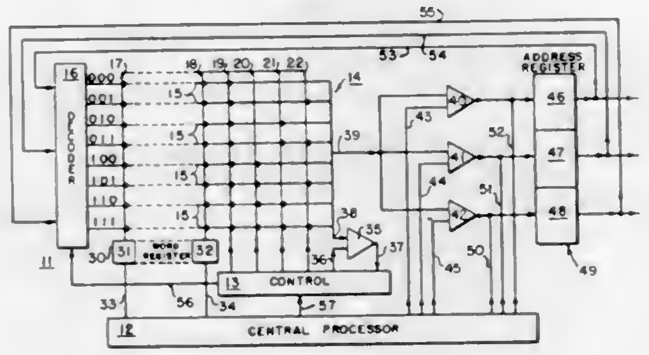
A system including a plurality of main subsystems cooperating to provide an output signal. Each of the main subsystems has an identical standby which can replace the main subsystem in case of a failure. A single error detector at the output provides an error signal should the output signal deviate from normal. A switching circuit is responsive to any error signal provided to individually replace each main subsystem with its corresponding standby subsystem until the faulty subsystem has been replaced.

3,451,043
COMPONENTS AND SYSTEM FOR USE WITH INVENTORY INTERROGATING CONTROL AND READOUT METHOD AND APPARATUS
Stephen R. Krause, 6703 Townbrook Road, Baltimore, Md. 21207
Continuation-in-part of applications Ser. No. 186,227, Apr. 9, 1962, and Ser. No. 516,815, Nov. 4, 1965. This application Feb. 21, 1966, Ser. No. 528,740
Int. Cl. H04q *3/42*
U.S. Cl. 340—152 **18 Claims**



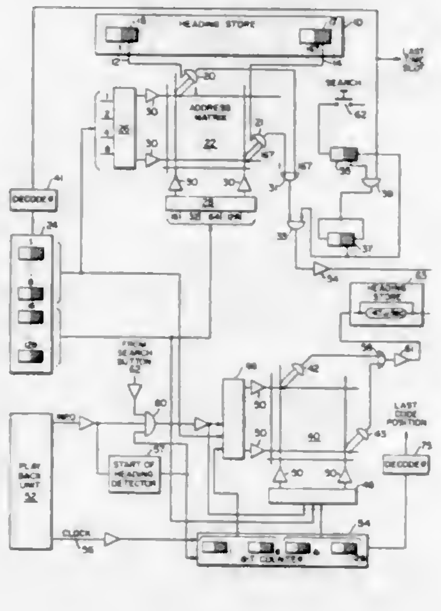
The invention is particularly concerned with reading tag means usually attached to inventory items for collecting coded information with respect to predetermined characteristics of the inventory units. It comprises means for receiving and positioning the tag means with the movable carriage adapted to be moved relative to the tag means. Means are included for reading the code on the tag means and to relay the predetermined characteristics and numerical quantities of the inventory in digital readout form.

3,451,044
CODING DEVICE
Anthony V. Campi, West Long Branch, Robert E. Chapman, Eatontown, and Bruce H. Gray, New Shrewsbury, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Aug. 10, 1966, Ser. No. 571,961
Int. Cl. G11b *13/00;* **G06f** *1/00, 7/00*
U.S. Cl. 340—172.5 **7 Claims**



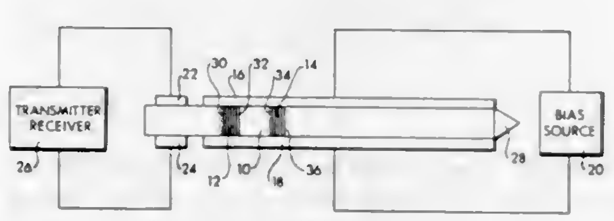
An automatic data processor having a plurality of output flag bit cells connected to a coding device which includes a plurality of magnetic storage cells capable of transferring information from one cell to another. The cells are coupled to conductive straps which perform the transferring operation in the form of a binary matrix. The cells are also coupled to a register via a plurality of AND gates which are selectively enabled. As information is transferred from the flag bit cells through the magnetic storage cells the address of the flag bit locations is generated in the register.

3,451,045
DATA SEARCHING AND SORTING APPARATUS
William F. Bartlett, Rochester, and Thaddeus F. Bryzinski, West Webster, N.Y., assignors to Stromberg Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,968
Int. Cl. G11b *13/04;* **G06f** *7/06*
U.S. Cl. 340—172.5 5 Claims



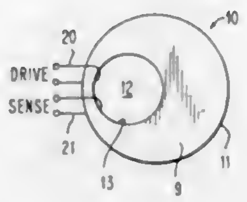
An information retrieval system for locating serially recorded information on the basis of digital address signals. Signals representing the known parts of the desired address are inserted into a dynamic store having a time capacity less than the duration of a single digit of the address in the serially recorded medium. The dynamic store is operated with a repetitive time frame equal to its time capacity and divided into time slots equal in number to the total number of digits in any of the serially recorded addresses. Signals from the serially recorded addresses are fed through a scanning matrix to a coincidence circuit for comparison with the signals in the dynamic store. The scanning matrix is operated on a coincidence basis to transmit signals only during coincidence between respective time slots in the dynamic store and the corresponding digits in the serial medium.

3,451,046
ELECTRO-ELASTIC MEMORY
Edmund U. Cobler, Brookline, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 19, 1965, Ser. No. 480,936
Int. Cl. G11b *5/12;* **H03k** *7/30*
U.S. Cl. 340—173 5 Claims



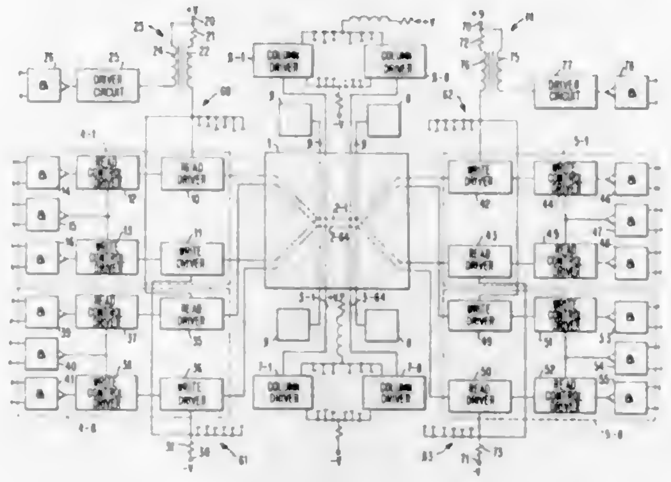
The change in an electric constant of a ferroelectric material with polarization is utilized to provide a memory element. Data is recorded in the memory by the coincidence of a sonic signal and an electric field to polarize a region in the ferroelectric material. Data is read by applying a single sonic input signal to the ferroelectric material and detecting a reflected signal when the sonic signal crosses a boundary denoted by a change of the polarization state of the ferroelectric material.

3,451,047
ECCENTRIC MAGNETIC CORE
Otto A. Gutwin, Crugers, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 30, 1963, Ser. No. 305,647
Int. Cl. G11b *5/02*
U.S. Cl. 340—174 10 Claims



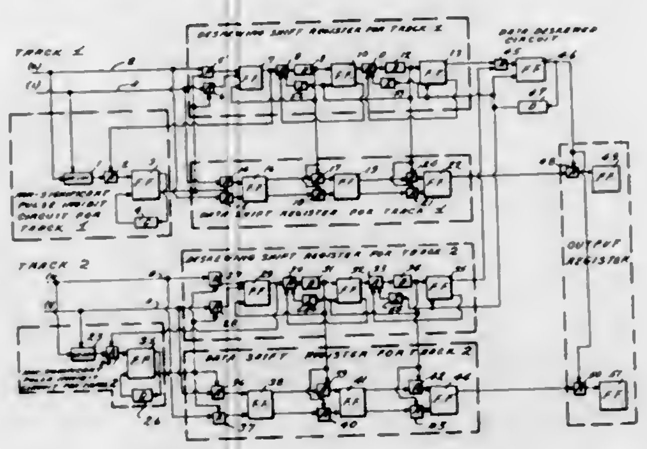
The magnetic memory core is formed of ordinary square loop magnetic material. The core is provided with an input winding for switching the core between its storage states and an output, or sense winding, for producing outputs when the core is interrogated. The core itself includes only a single aperture and this aperture is offset from the center of the core so that the minimum wall thickness at one side of the aperture is at least 10% less than the maximum wall thickness on the other side of the aperture. This type of core with the aperture eccentrically arranged, as described above, can be switched between its binary storage states at a faster rate than cores which are symmetrical and have the same annular thickness throughout.

3,451,048
DRIVE SYSTEM FOR A MAGNETIC CORE ARRAY
Gerald K. Strehl, Pontiac, Mich., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 5, 1965, Ser. No. 493,112
Int. Cl. G11b *21/02*
U.S. Cl. 340—174 7 Claims



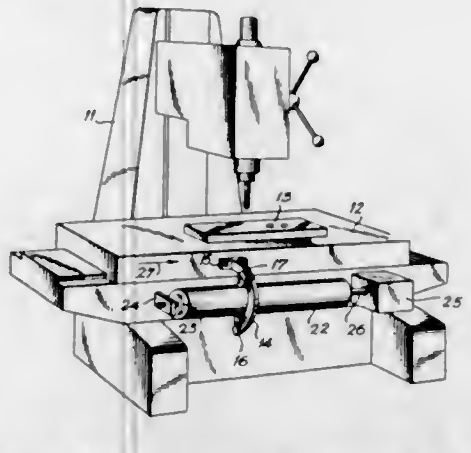
In a direct drive core storage system, secondary windings of read and write pulse transformers are connected between the drive lines and their conventional direct current power supply terminals. Square wave voltage pulses produced in the secondary windings are superimposed upon the power supply to produce rapid drive current rise times and reduced noise problems. Floating, nonsaturating transistor switches with base overdrive during turn-on coact with the power supply-transformer to provide optimum speed and reliability.

3,451,049
SKEW CORRECTION ARRANGEMENT FOR PARALLEL TRACK READOUT DEVICES
Norman G. Horning, Minneapolis, Minn., assignor to Control Data Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 19, 1966, Ser. No. 521,690
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 5 Claims



An arrangement for compensating for skew in data read-out from a multi-track recording medium. Data from each track is stepped through a multi-stage register system associated with that track at a pace independent of the stepping in the other register systems. When data has arrived at the last stage of all the registers, a coincidence circuit connected to these last stages is enabled to effect a parallel read-out of data from each system.

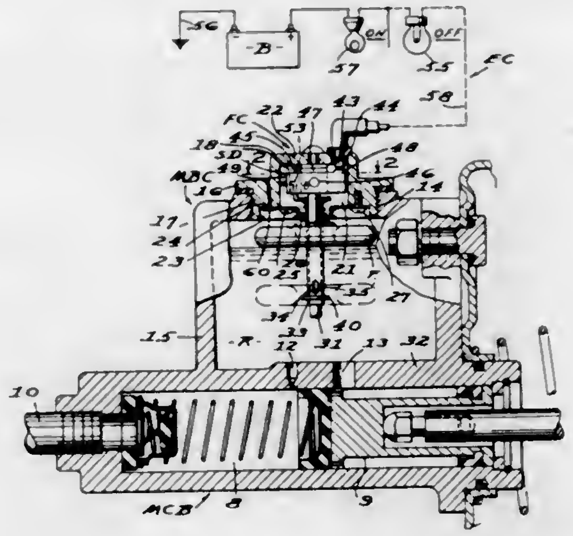
3,451,050
MEMORY SYSTEM FOR MACHINE CONTROL
Walter Heissmeier and Wolfgang Wagnerberger, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Oct. 28, 1966, Ser. No. 590,422
Claims priority, application Germany, Oct. 29, 1965, S 100,261
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 8 Claims



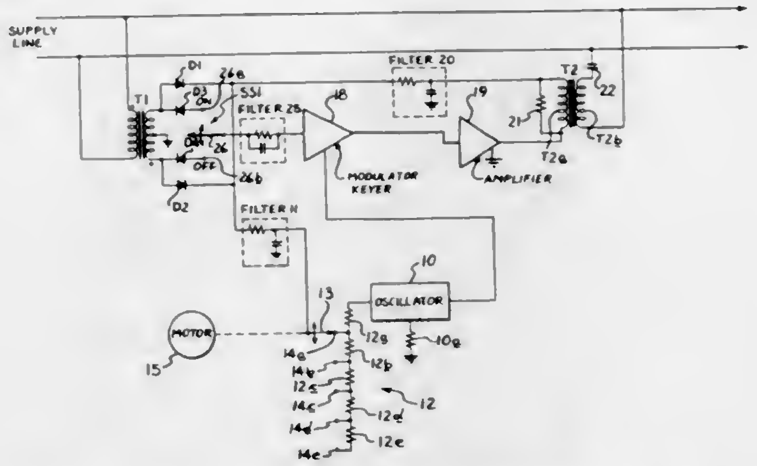
A device for producing a plurality of identical items consisting of a magnetic memory upon which both the location and the operation performed to the first workpiece is recorded. Subsequent workpieces are operated upon in accordance with the data previously recorded.

3,451,051
FLUID-LEVEL INDICATOR FOR MASTER BRAKE CYLINDERS
Glenn T. Randol, P.O. Box 275, Mountain Lake Park, Md. 21550
Filed Oct. 20, 1965, Ser. No. 498,329
Int. Cl. G08b *21/00*
U.S. Cl. 340—244 11 Claims

An apparatus for signalling the level of fluid in the supply reservoir of a master brake cylinder, which includes a fluid and spring controlled float for automatically controlling a switch in an electric circuit to energize and de-energize a signal device (warning light) in accordance with the level of fluid in said reservoir.



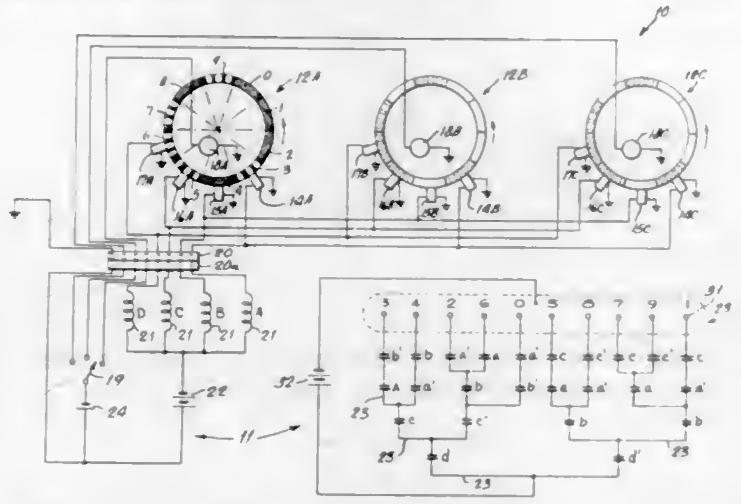
3,451,052
REMOTE CONTROL SYSTEM INCLUDING CIRCUITRY FOR SUPERIMPOSING CONTROL SIGNALS ON SELECTED HALF CYCLES OF A SUPPLY LINE CARRIER WAVE
Wilmer C. Anderson, Greenwich, and John H. Firestone, Stamford, Conn., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,131
Int. Cl. H04m *11/04;* **G05b** *19/00*
U.S. Cl. 340—310 6 Claims



A remote control system associated with an A-C supply line wherein control signals are selectively superimposed on respective opposite polarity half cycles of an A-C power line voltage wave which functions as a carrier wave. The control signals are produced by a magnetic oscillator powered by the A-C supply line voltage carrier for producing an alternating output having a frequency dependent upon the amplitude of the input voltage applied thereto. Different amplitude input voltages are applied to the oscillator to produce alternating outputs having different frequencies. Amplitude-modulated alternating signals produced in response to the oscillator outputs are superimposed on the A-C supply line carrier at selected times determined by selector switches. The control signals are utilized to actuate a plurality of separate remotely located receiver means each of which includes a tuned circuit having a resonant frequency corresponding to a pre-selected one of the different oscillator output frequencies so as to respond to a preselected one of the control signals to control different desired operations.

3,451,053
REMOTE POSITION SENSING AND MEASURING DEVICE

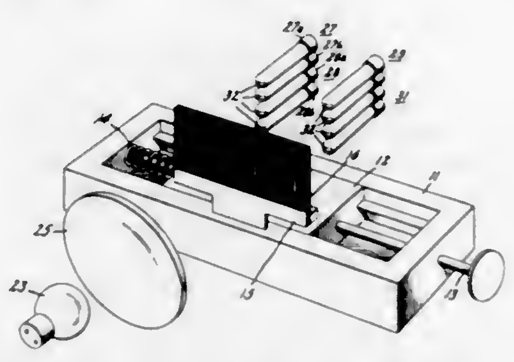
Constantine P. Xenis, Douglaston, and Philip A. Phillippidis, Astoria, N.Y., assignors to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York
Filed Jan. 11, 1965, Ser. No. 424,605
Int. Cl. H04l *3/00;* **H03k** *13/02*
U.S. Cl. 340—347 **7 Claims**



Binary encoder, having code arranged in single circumferential plane, affixed to each dial-shaft of a cyclometric type electric consumption meter for remote reading of the latter via a semi-automatic chain-relay type "read-out" device which is plug-connected to the encoder output. Encoder actuation is either by photocells, magnets, or reed-type switches. The encoder employs for novel "Geneva-spin" binary codes; particular disposition of five energizing areas on meter dial-shaft encoder with respect to four consecutively adjacent sensing stations; and for particulars of relay switch arrangement in read-out device.

3,451,054
LIGHT OPTIC DIGITAL TRANSDUCER USING DISPLACED RONCHI RULINGS

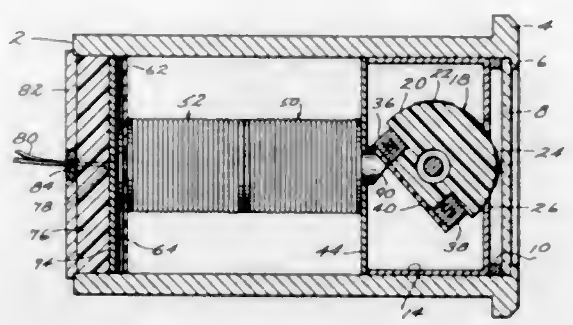
Daniel Johnson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 184,231, Apr. 2, 1962, now Patent No. 3,214,751. This application Mar. 18, 1965, Ser. No. 440,906
Int. Cl. G01d *5/36*
U.S. Cl. 340—347 **5 Claims**



A transducer employing light optic techniques develops a digital output signal in response to a phenomenon being measured. The digital transducer utilizes at least one set of relatively movable juxtaposed overlying rulings, one of the rulings being continuous ruling lines and the remaining ruling lines having two parts phase displaced 180° from each other. The total length of the ruling lines in two parts is equal to the continuous ruling lines length. A light source projects light through each set of rulings and an electro-optical means views the two separate parts of each pair of rulings to provide a digital electrical signal indicative of the phenomena being measured.

3,451,055
ELECTROMAGNETIC INDICATOR HAVING CONTROL MAGNETS AS STOP MEMBERS

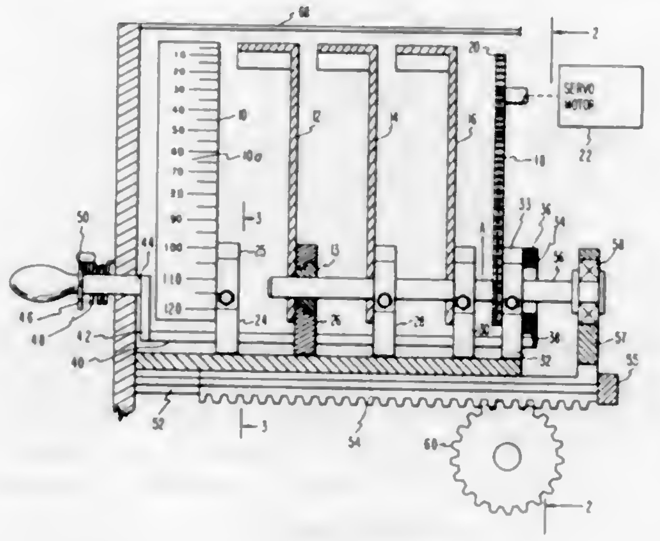
George E. Pihl, Abington, Mass., assignor to Miniature Electronic Components Corp., a corporation of Massachusetts
Filed June 15, 1966, Ser. No. 557,719
Int. Cl. H01h *47/12;* **G08b** *5/24*
U.S. Cl. 340—373 **12 Claims**



A two position indicating device including a rotatable member including a pair of permanent magnets which can rotate between two limit positions determined by the core pieces of a stationary electromagnetic structure. A layer of a fluorocarbon material separates the permanent magnets from the core pieces to provide a working gap. The rotatable member carries two indicia, a different one of the indicia being visible in each of the two limit positions.

3,451,056
MOVABLE INDICATOR DISPLAY UNIT

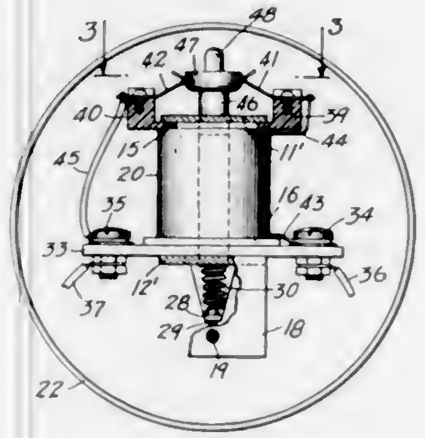
Ferd R. Anderholm, Rochester, and Francis A. Goplen, Zumbrota, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 6, 1967, Ser. No. 607,795
Int. Cl. G08b *5/30*
U.S. Cl. 340—378 **10 Claims**



Both current and recorded past readings of a variable are displayed by a plurality of indicators which are rotatable about a common axis. In the first embodiment described, a square drive shaft engaging pivotable indicating sectors through a square opening provided at the pivot centers thereof is rotated by a servo motor in accordance with the variable to be displayed. A timing motor drives the shaft axially whereby the indicators are sequentially disengaged from the servo. Disengaged indicators thus display a record of past readings while those still engaged display the current reading. In the second embodiment, rotatable drum indicators are driven by separate drive pinions which in turn are engaged by the square shaft.

3,451,057
BELL, YOKE AND COIL ASSEMBLY FOR RECIPROCATING SIGNAL DEVICES

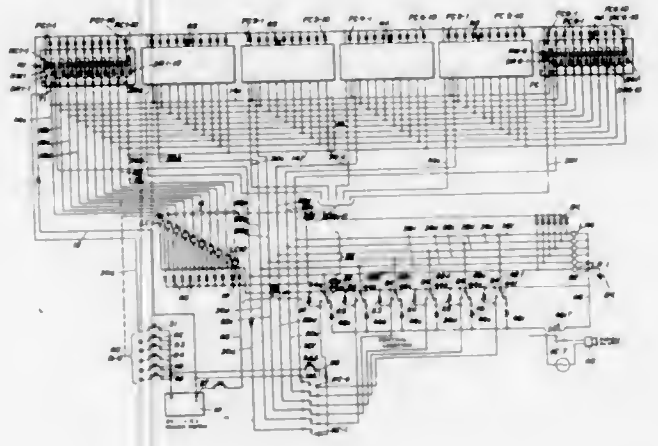
Walter Zober, 23 Wardell Ave., Rumson, N.J. 07760; and John N. Ricci, 22 De Forrest Ave.; and Domenick C. Pingitore, 129 Monmouth St., both of Red Bank, N.J. 07701
Filed May 8, 1967, Ser. No. 636,901
Int. Cl. G08b *3/00;* **G10k** *1/062*
U.S. Cl. 340—396 **10 Claims**



A reciprocating signal mechanism employing a yoke-type frame for support of a coil, bell and components of an assemblage is disclosed. The yoke comprises two interfitting sheet metal parts coupled together through the medium of a mounting plate. The striker end of the plunger of the coil supports a circuit maker and breaker.

3,451,058
CONSTANT SURVEILLANCE ALARM SYSTEM

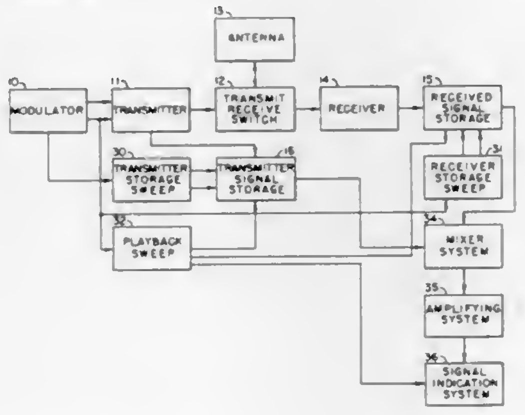
Paul A. Schumann, Richmond, Va., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 16, 1965, Ser. No. 464,405
Int. Cl. G08b *19/00;* **H04q** *3/00*
U.S. Cl. 340—412 **23 Claims**



A constant surveillance alarm system including a central monitoring station connected with a plurality of remote field points through a limited number of conductors wherein each field point includes alarm contact means and relay contact means and the field points are arranged to form a plurality of groups, each group having a relay for operating the relay contacts of the field points associated therewith whereby the field point at which an alarm condition exists may be determined by energizing the relay associated with the group containing the field point sensing the alarm condition which group may be determined by visual means.

3,451,059
ECHO RANGING SYSTEM OF VARIABLE SENSITIVITY AND VARIABLE RANGE RESOLUTION

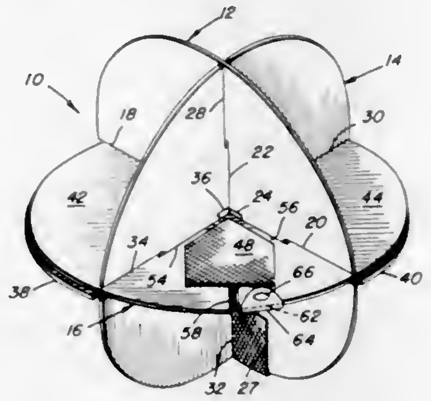
Robert M. Page, Camp Springs, Md.
(6672 Shay Lane, Paradise, Calif. 95969)
Filed June 8, 1950, Ser. No. 166,952
Int. Cl. G01s *9/06, 7/28*
U.S. Cl. 343—13 **9 Claims**



1. A pulse echo object locator system comprising, means periodically transmitting pulses of carrier frequency energy having a time spacing substantially equal to the duration of the pulses, the carrier frequency of each pulse varying continuously from a low frequency value at one end of the pulse to a high frequency value at the other end of the pulse over the duration of the pulse, a receiver for receiving energy reflections of said pulses, a storage means for recording the carrier frequency characteristics of the transmitted and received pulses, means simultaneously reproducing similar portions of the stored transmitted and received pulses backwards, and means mixing the reproduced signals to obtain a useful beat frequency signal.

3,451,060
CORNER REFLECTOR

William R. Edwards, California, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 30, 1965, Ser. No. 468,677
Int. Cl. H01q *15/18*
U.S. Cl. 343—18 **4 Claims**



1. A foldable radar reflector comprising
first, second and third discs hingedly secured together along their diameters, each of said discs having

radar reflective surfaces, said reflector having an extended position wherein said discs are set mutually perpendicular to one another so as to define eight corner reflectors having coincident inner apices and a folded position wherein said discs are superimposed in substantially parallel relationship; and

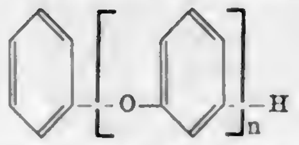
wherein said third disc comprises four 135° C. sectors pivotally secured together in pairs along a common radius so as to define two 270° sectors, said 270° sectors normally being disposed in a superimposed substantially parallel relationship to one another; and

spring means comprising torsion bar means for automatically opening said reflector into its extended position when unrestrained, said torsion bar means being secured to and disposed along the diameter of said third disc.

3,451,061
FUNCTIONAL FLUID COMPOSITIONS

Edward S. Blake and William C. Hammann, Dayton, Ohio, assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,685
Int. Cl. C07c *41/04, 43/20;* **C10m** *1/20*
U.S. Cl. 260—613 **7 Claims**

1. A meta-linked, unsubstituted poly(m-oxyphenylene) benzene defined by the structural formula

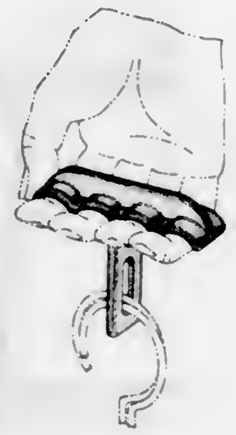


wherein *n* is an integer of at least 3 and mixtures of the aforesaid poly(m-oxyphenylene)benzenes.

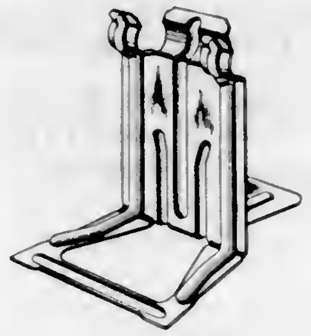
DESIGNS

JUNE 17, 1969

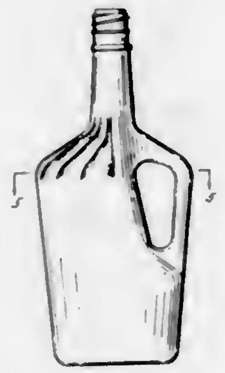
214,417
CARRIER HANDLE FOR GARMENT HANGERS
Charles C. Cleland, Austin, Tex., assignor to Herald Corporation, Austin, Tex., a corporation of Texas
Filed Sept. 3, 1968, Ser. No. 13,361
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—154



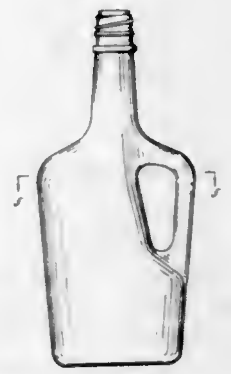
214,418
CONCRETE REINFORCING BAR SUPPORT
Zane P. Laurini, Dallas, Tex., assignor to Frank Holister Co., Inc., Dallas, Tex., a corporation of California
Filed Aug. 6, 1968, Ser. No. 13,039
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—235



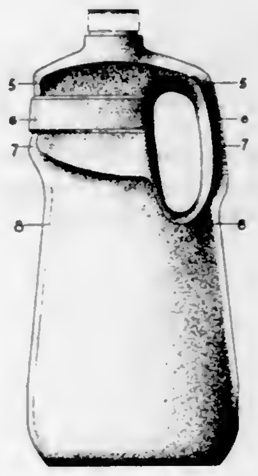
214,419
JUG
John R. Osborn, New York, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 7, 1967, Ser. No. 8,515
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—39



214,420
JUG
John R. Osborn, New York, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 7, 1967, Ser. No. 8,517
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—39

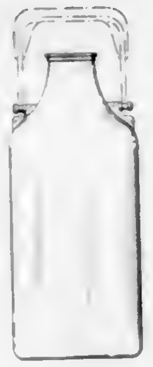


214,421
JUG
John Brady Campbell, Paramus, and Willard R. Horne, Northvale, N.J., assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 27, 1968, Ser. No. 12,519
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—42



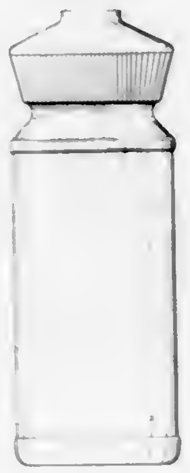
214,422
BOTTLE

Dan Lewis, Jr., and William H. Palmer, Champaign, and Norris Wayne Walkup, Atwood, Ill., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 18, 1967, Ser. No. 8,619
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—46



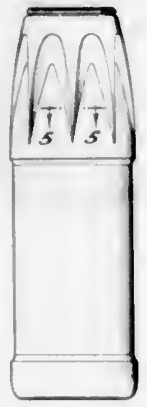
214,423
BOTTLE

James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed July 12, 1967, Ser. No. 7,771
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—92



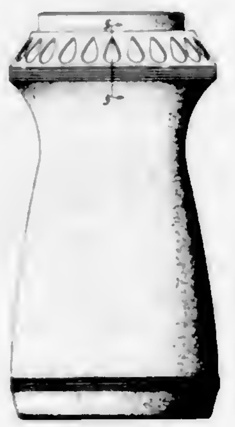
214,424
JAR

Gerald W. Neese, Compton, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Sept. 5, 1967, Ser. No. 8,499
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—92



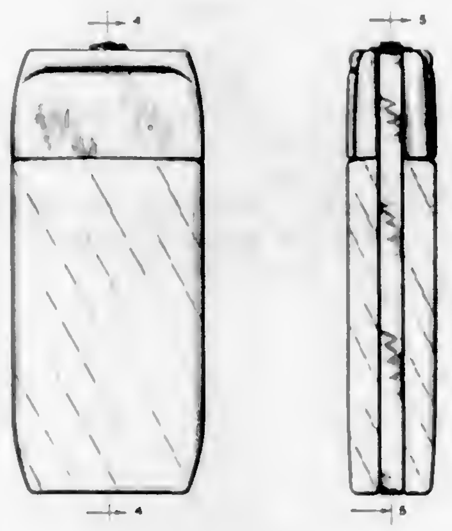
214,425
BOTTLE OR SIMILAR ARTICLE

Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 7, 1968, Ser. No. 11,815
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—100



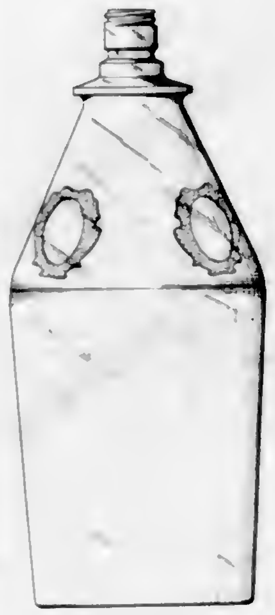
214,426
COMBINED BOTTLE AND TOP COVER

John R. Osborn, New York, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Jan. 8, 1968, Ser. No. 10,081
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—118



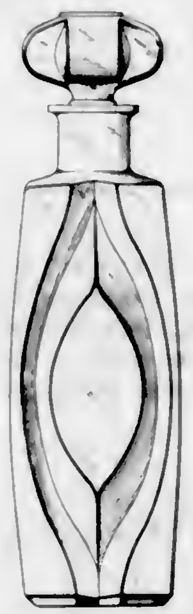
214,427
DECANTER

Ronald A. Kassin, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 18, 1967, Ser. No. 8,317
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—119



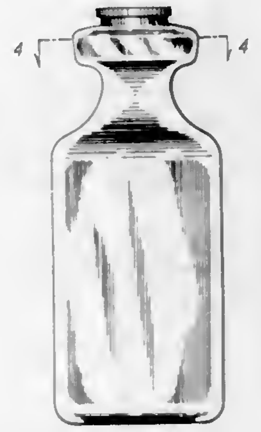
214,428
COMBINED DECANTER AND CLOSURE THEREFOR

Walter T. Heintze, New Canaan, Conn., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 8,673
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—145



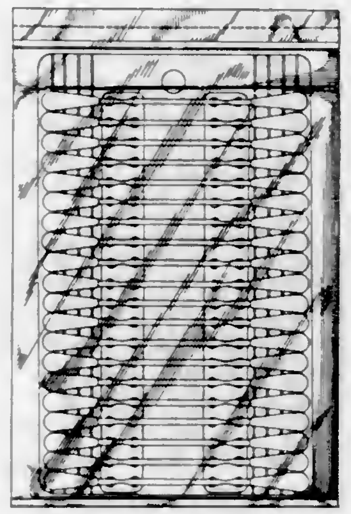
214,429
BOTTLE

Roy C. Josephsen, Hillsdale, Gerhard F. Wellmann, Mountain Lakes, and Frank W. Stevens, Rutherford, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Apr. 30, 1968, Ser. No. 11,716
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—155

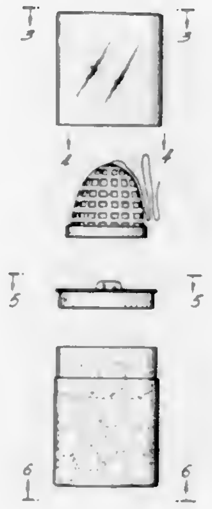


214,430
PACKAGE OF COTTON SWABS OR THE LIKE

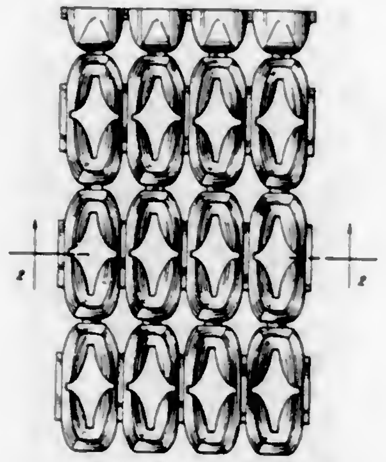
Werner Kistler, 8737 Gommiswald, St. Gall, Switzerland
Filed Oct. 12, 1966, Ser. No. 4,257
Claims priority, application Switzerland May 10, 1966
Term of patent 14 years
Int. Cl. D9—*06*
U.S. Cl. D9—187



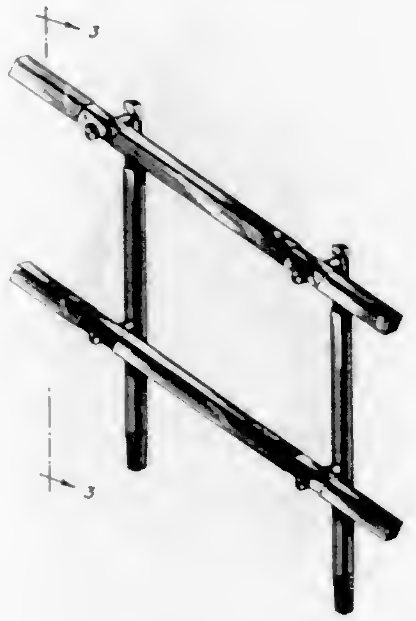
214,431
FISH FEEDER PACKAGE
Allan H. Willinger, 56 Gail Drive,
New Rochelle, N.Y. 10805
Filed July 27, 1967, Ser. No. 8,017
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—193



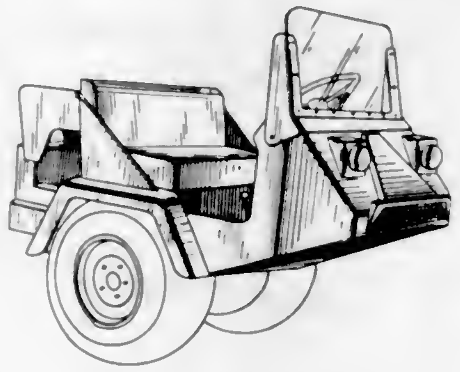
214,432
GRILLEWORK
Robert T. Bogan, Jr., 3620 High St. N.E.,
Albuquerque, N. Mex. 87107
Filed July 26, 1968, Ser. No. 12,918
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D13—1



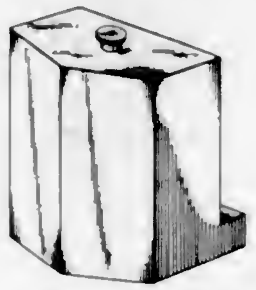
214,433
ORNAMENTAL RAILING
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Original design application Mar. 31, 1967, Ser. No. 6,462, now Patent No. 210,936, dated May 7, 1968. Divided and this application Feb. 7, 1968, Ser. No. 11,036
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—7



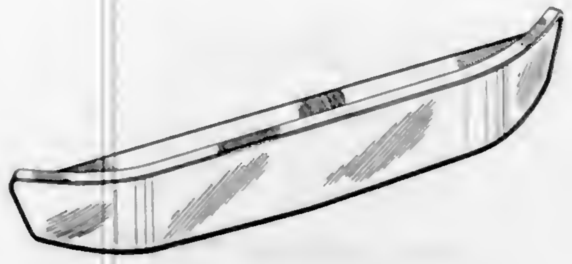
214,434
TWO-WHEELED TRACTOR
William L. Figura, Bruce, Wis., assignor to Bruce Manufacturing, Inc., Bruce, Wis., a corporation of Wisconsin
Filed July 11, 1968, Ser. No. 12,703
Term of patent 14 years
Int. Cl. D12—*09*
U.S. Cl. D14—3



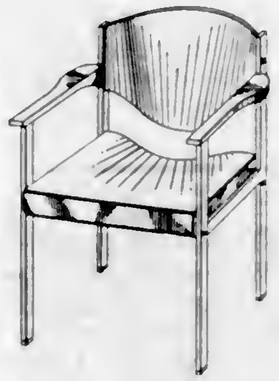
214,435
AUXILIARY TRACTOR FUEL TANK
Gary E. Naeve, Bradgate, Iowa 50220
Filed Sept. 4, 1968, Ser. No. 13,395
Term of patent 7 years
Int. Cl. D12—*14*
U.S. Cl. D14—3



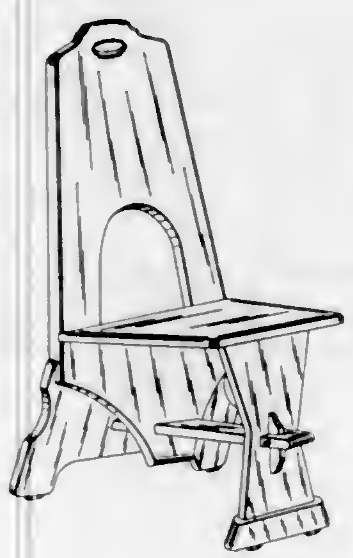
214,436
REAR VIEW MIRROR
Noel M. Torres, 2826 Larkin Place,
San Diego, Calif. 92123
Filed July 3, 1968, Ser. No. 12,609
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



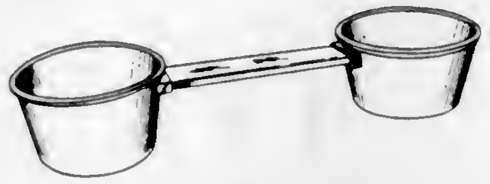
214,437
EASY CHAIR
Walter Muller, Feldbach, and Franz Hero and Karl Odermatt, Uerikon, Switzerland, assignors to Firma Lubke K.G., Rheda, Westphalia, Germany, a corporation of Germany
Filed Aug. 4, 1967, Ser. No. 8,131
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



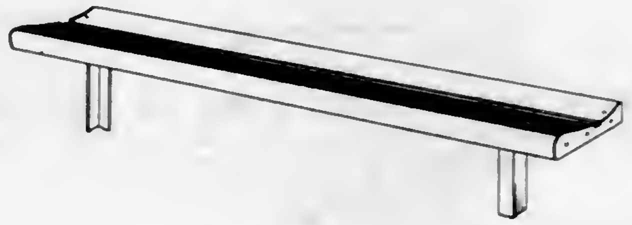
214,438
CHAIR OR SIMILAR ARTICLE
Alexander S. Barghout, 739 Boylston St.,
Milton, Mass. 02116
Filed Mar. 18, 1968, Ser. No. 11,002
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



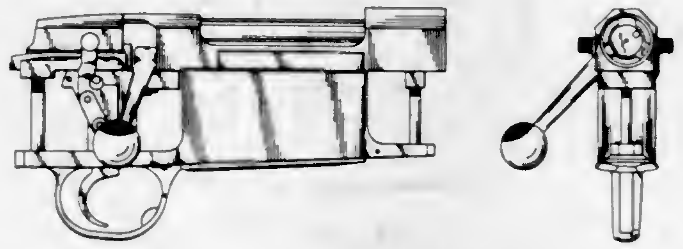
214,439
COMBINATION PARK BENCH AND PLANTER
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 4, 1968, Ser. No. 10,845
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



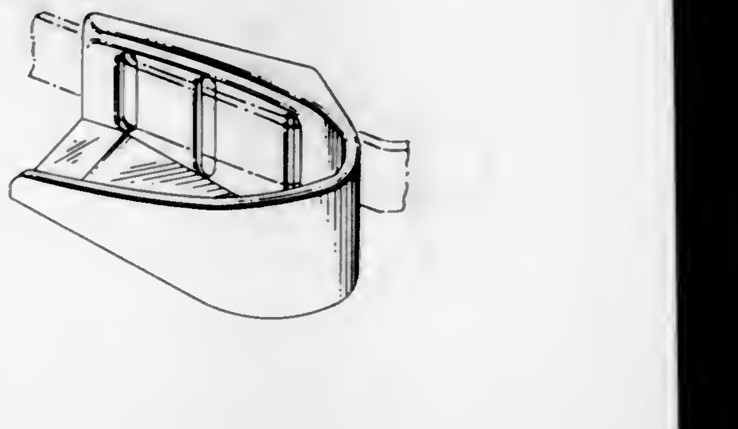
214,440
STADIUM BENCH
John P. Henebry, Kenilworth, Ill., and Earl E. Stineback, Plainwell, Mich., assignors to North American Aluminum Corporation, Kalamazoo, Mich., a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 10,955
Term of patent 14 years
Int. Cl. D6—*01;* D25—*99*
U.S. Cl. D15—11



214,441
BOLT ACTION FOR A RIFLE
Jerry D. Haskins, Enid, Okla., assignor to Champlin-Haskins Incorporated, Enid, Okla., a corporation of Oklahoma
Filed May 13, 1968, Ser. No. 11,895
Term of patent 14 years
Int. Cl. D22—*01*
U.S. Cl. D22—7



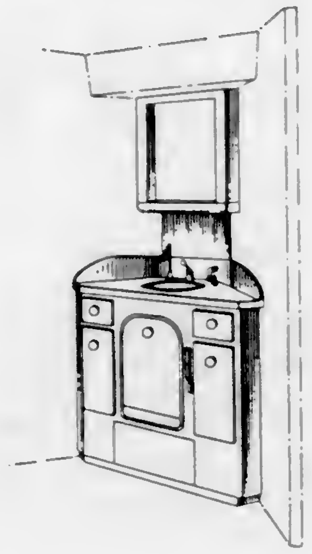
214,442
RIFLE BUTT HOLDER
Charles M. Marg, 135 Henley Road,
Overbrook Hills, Pa. 19151
Filed Feb. 12, 1968, Ser. No. 10,552
Term of patent 14 years
Int. Cl. D22—*02*
U.S. Cl. D22—13



214,443

COMBINED CORNER CABINET AND LAVATORY

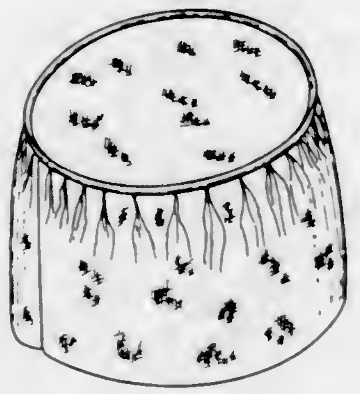
George A. Colonna, 7313 Shisler St., Philadelphia, Pa. 19111
Filed Mar. 29, 1968, Ser. No. 11,195
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—59



214,444

COVER FOR A TOILET BOWL OR THE LIKE

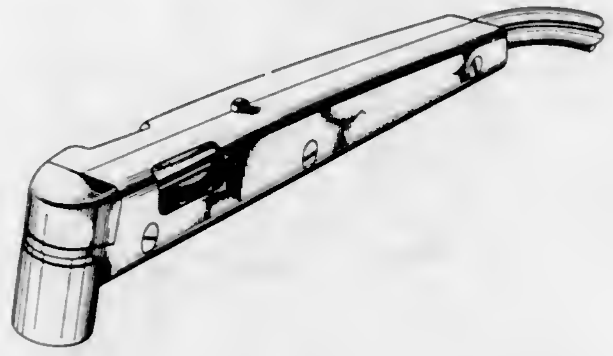
Mary Weinman, 6141 Broadway, Bronx, N.Y. 10471
Filed Sept. 6, 1967, Ser. No. 8,685
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—71



214,445

PLASMA WELDING TORCH

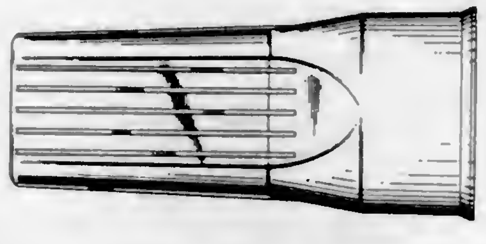
William J. Dahlman, Sylmar, and Lee F. Budds, Canoga Park, Calif., assignors to North American Rockwell Corporation
Filed July 3, 1968, Ser. No. 12,625
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D26—1

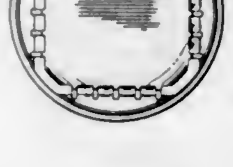


214,446

ELECTRICAL CONNECTOR

Johannes A. E. Oprins, Sycamore, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 11,331
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—1

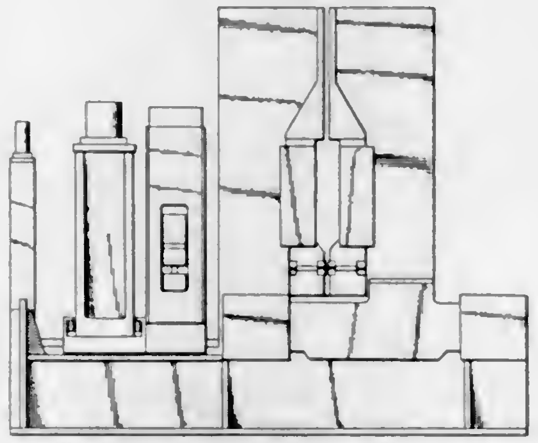




214,447

FLASH WELDER

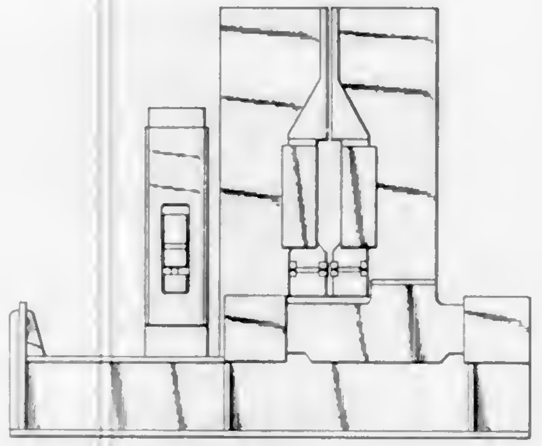
Arthur L. Williams, Warren, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio
Filed May 21, 1968, Ser. No. 12,026
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D26—1



214,448

FLASH WELDER

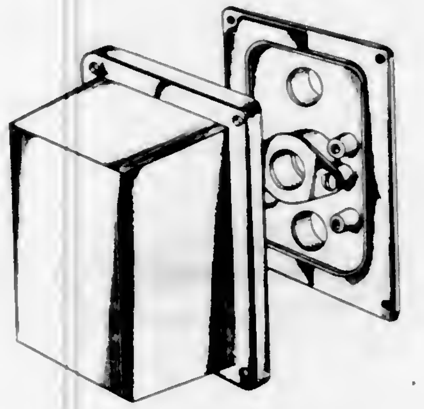
Arthur L. Williams, Warren, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio
Filed May 21, 1968, Ser. No. 12,032
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D42—7



214,449

ELECTRICAL JUNCTION BOX

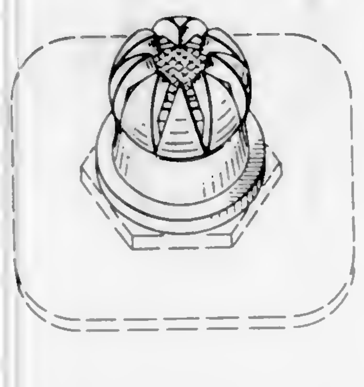
Nat Greene, Los Angeles, Calif., assignor to American Concrete Products Co., Los Angeles, Calif., a corporation of California
Filed Mar. 4, 1968, Ser. No. 10,830
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—5



214,450

COMBINED SWITCH AND INDICATOR HOOD THEREFOR

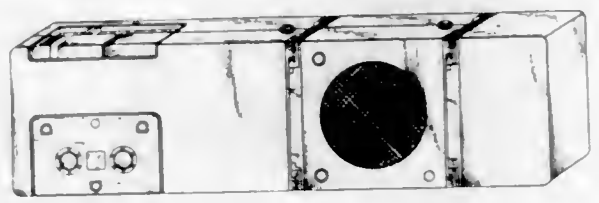
David E. Clarke, Attleboro, and Robert W. Peterson, North Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 18, 1967, Ser. No. 8,627
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—13

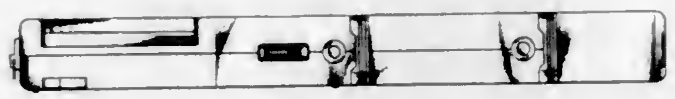


214,451

MINIATURE TAPE RECORDER

Masaaki Sato, Hachioji, and Sadao Shigetomi, Sagamihara, Japan, assignors to Olympus Optical Company Limited, Tokyo, Japan
Filed Dec. 22, 1967, Ser. No. 9,881
Claims priority, application Japan June 26, 1967
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14

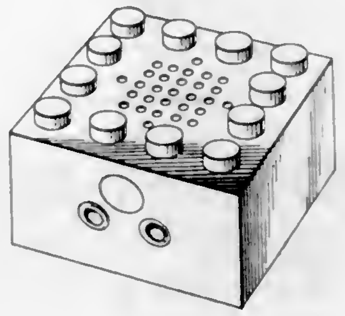


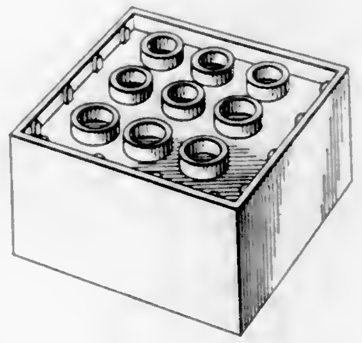


214,452

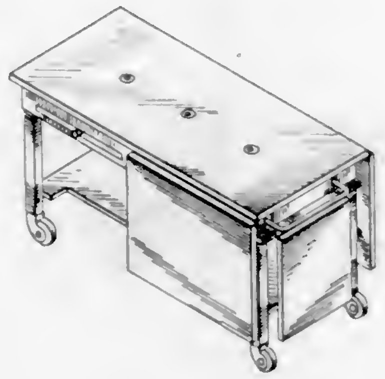
MICROPHONE HOUSING

Godtfred Kirk Christiansen, Billund, Denmark
Filed Aug. 8, 1968, Ser. No. 13,062
Claims priority, application Denmark Feb. 13, 1968
Term of patent 3½ years
Int. Cl. D14—*01*
U.S. Cl. D26—14

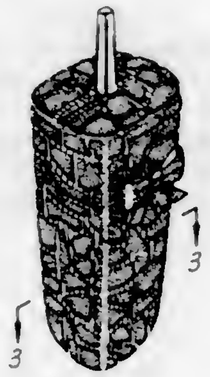




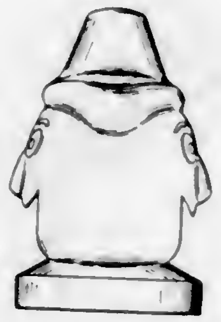
214,453
STUDENT LABORATORY DESK
Theodore G. Anker, West Englewood, N.J., assignor to S. Blickman Inc., Weehawken, New Jersey
Continuation-in-part of design application Ser. No. 4,334, Oct. 19, 1966. This application June 3, 1968, Ser. No. 12,177
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



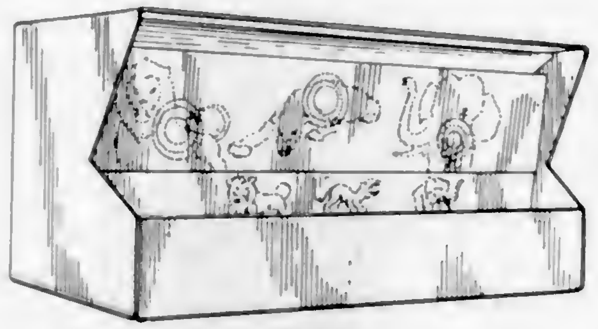
214,454
CONTAINER FOR A BRUSH
Archie E. Warnberg, P.O. Box 12647, Oklahoma City, Okla. 73112
Continuation-in-part of design application Ser. No. 8,687, Sept. 22, 1967. This application Mar. 6, 1968, Ser. No. 11,220
Term of patent 14 years
Int. Cl. D4—*99*; D9—*99*
U.S. Cl. D33—17



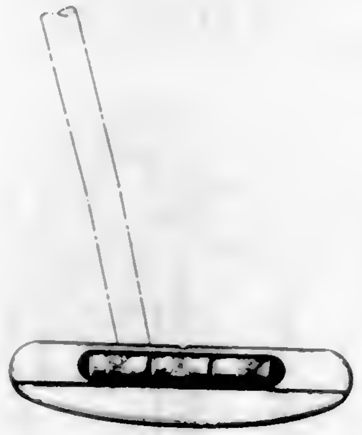
214,455
SCARECROW-SHAPED HEAD FOR RECREATIONAL EQUIPMENT
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 4, 1968, Ser. No. 10,833
Term of patent 14 years
Int. Cl. D21—*03, 04, 99*
U.S. Cl. D34—4



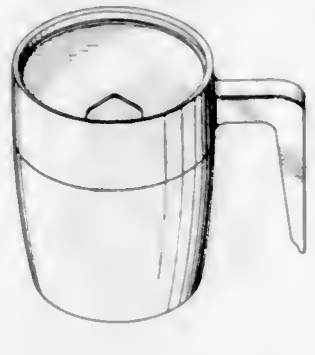
214,456
CABINET FOR A MOVING TARGET DISPLAY
Burton Linne, 564 W. Van Buren St., Chicago, Ill. 60607
Filed Oct. 25, 1967, Ser. No. 9,163
Term of patent 7 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



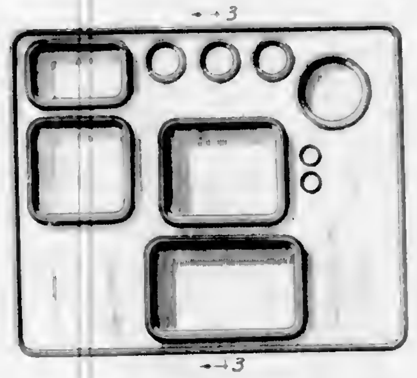
214,457
GOLF PUTTER HEAD
Alan J. Klitzner, 64 Peacedale Road, Cumberland, R.I. 02864
Filed Feb. 28, 1968, Ser. No. 10,762
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



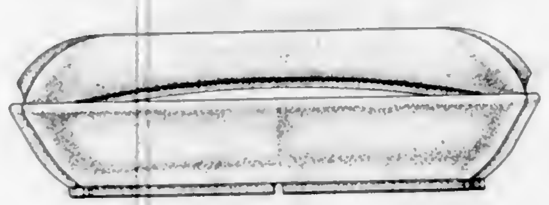
214,458
COMBINED DRINKING CUP AND INSULATING HOLDER THEREFOR
Eugene J. Riley, 613 N. West St., Anaheim, Calif. 92801
Filed Mar. 22, 1968, Ser. No. 11,099
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—9



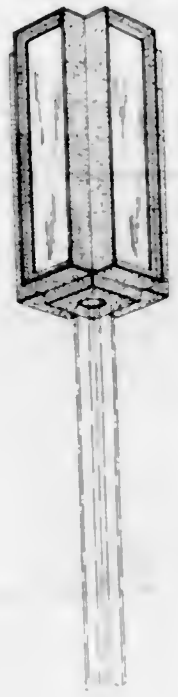
214,459
COMBINED COMPARTMENTED TRAY AND FOOD SERVING INSERTS THEREOF
Willis A. Stageberg, St. Louis Park, Minn., assignor, by mesne assignments, to Plastics, Inc., St. Paul, Minn., a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 11,515
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—10



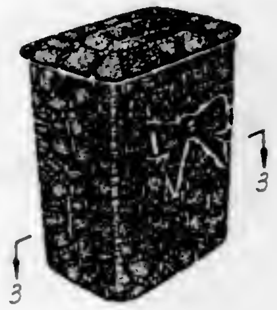
214,460
COVERED CASSEROLE
Willis A. Stageberg, Hopkins, Minn., assignor, by mesne assignments, to Plastics, Inc., St. Paul, Minn., a corporation of Delaware
Filed Apr. 2, 1968, Ser. No. 11,261
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



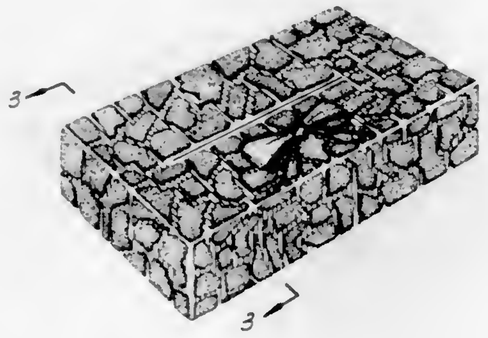
214,461
LANTERN
Reed P. Gardner, 1803 Bayview Ave., Belmont, Calif. 94002
Filed July 19, 1968, Ser. No. 12,828
Term of patent 14 years
Int. Cl. D26—*03, 04*
U.S. Cl. D48—31



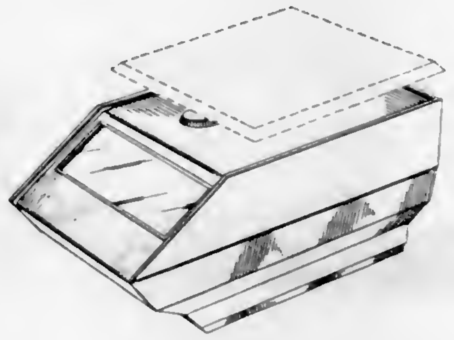
214,462
COVER FOR A CLOTHES HAMPER
Archie E. Warnberg, P.O. Box 12647, Oklahoma City, Okla. 73112
Continuation-in-part of design application Ser. No. 8,700, Sept. 22, 1967. This application Mar. 6, 1968, Ser. No. 11,219
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—8.2



214,463
FACIAL TISSUE BOX COVER
Archie E. Warnberg, P.O. Box 12647, Oklahoma City, Okla. 73112
Continuation-in-part of design application Ser. No. 8,632, Sept. 18, 1967. This application Feb. 29, 1968, Ser. No. 11,038
Term of patent 14 years
Int. Cl. D6—*01*; D9—*04*
U.S. Cl. D52—2



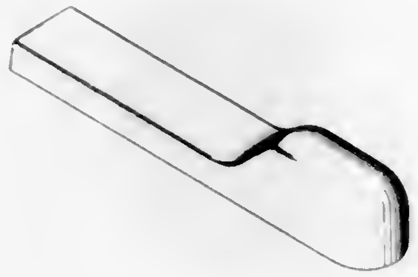
214,464
SCALE
William Macowski, Montclair, N.J., assignor to Ketcham & McDougal, Inc., Roseland, N.J., a corporation of New Jersey
Filed June 4, 1968, Ser. No. 12,198
Term of patent 14 years
Int. Cl. D10—*08*
U.S. Cl. D52—10



214,465
ATTACHMENT PEDAL FOR ELECTRIC, SPINET-TYPE ORGANS

Joseph E. Maley, 4215 N. Pershing Ave.,
Stockton, Calif. 95207
Filed Mar. 7, 1968, Ser. No. 10,888
Term of patent 14 years
Int. Cl. D17—*01*

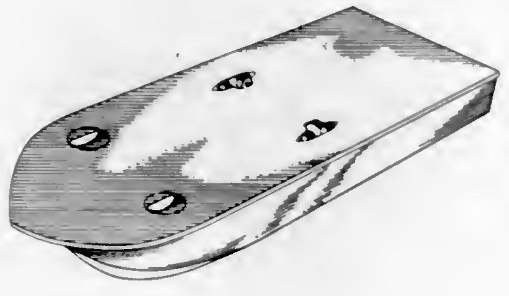
U.S. Cl. D56—2



214,466
BOAT

Robert H. Robertson, 2640 Heatherwood,
Dallas, Tex. 75228
Filed Aug. 11, 1966, Ser. No. 3,432
Term of patent 14 years
Int. Cl. D12—*06*

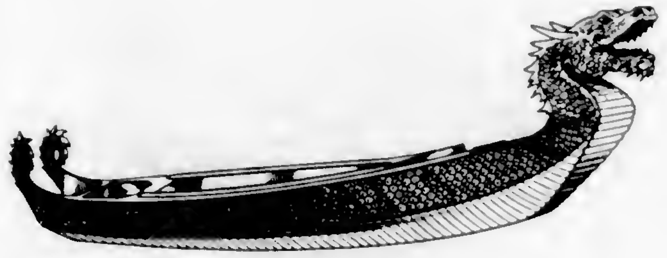
U.S. Cl. D71—1



214,467
DRAGON BOAT

Shun-Shing Chia, 838 Grant Ave. #7,
San Francisco, Calif. 94108
Filed Apr. 5, 1968, Ser. No. 11,336
Term of patent 14 years
Int. Cl. D12—*06*

U.S. Cl. D71—1

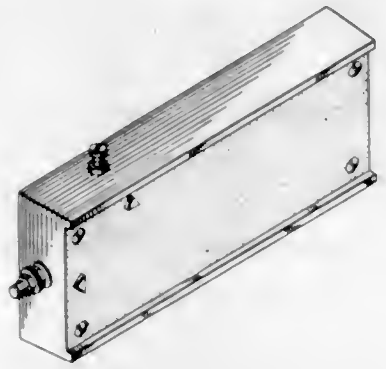


214,468
AUTOMOBILE ANTI-TAMPERING AUDIBLE ALARM

Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York

Filed Feb. 9, 1968, Ser. No. 10,516
Term of patent 14 years
Int. Cl. D29—*99*

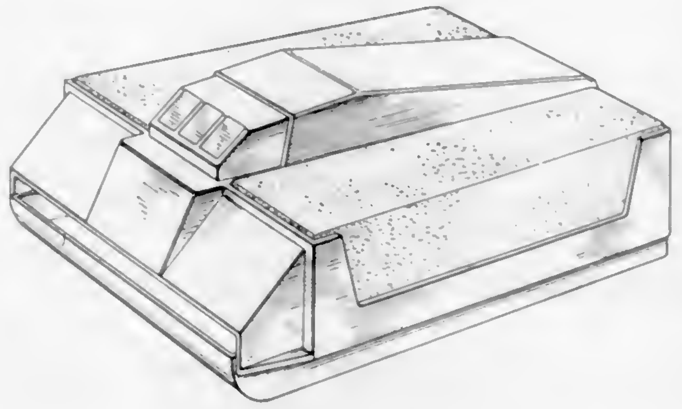
U.S. Cl. D72—1



214,469
NOTE PAPER DISPENSER

Donald A. Hillis, 27 Kingslake Road,
Willowdale, Ontario, Canada
Filed Oct. 23, 1967, Ser. No. 9,104
Term of patent 14 years
Int. Cl. D19—*02*

U.S. Cl. D74—1

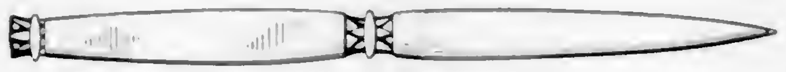


214,470
LETTER OPENER OR THE LIKE

Clayton A. Laughlin, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois

Filed Apr. 25, 1967, Ser. No. 6,832
Term of patent 14 years
Int. Cl. D19—*02*

U.S. Cl. D74—10

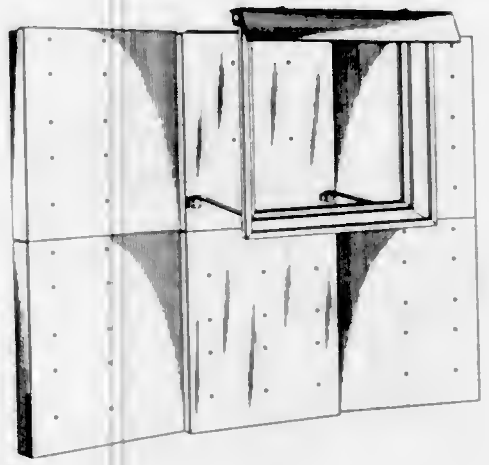


214,471
DISPLAY PANEL FOR FOODS OR THE LIKE

Benjamin B. Lavin and Paul B. Dixson, Canton, Ohio, and Robert G. Hammond, New York, N.Y., assignors to Sugardale Foods, Inc., Canton, Ohio, a corporation of Ohio

Filed May 6, 1968, Ser. No. 11,787
Term of patent 14 years
Int. Cl. D20—*02;* D6—*01*

U.S. Cl. D80—1

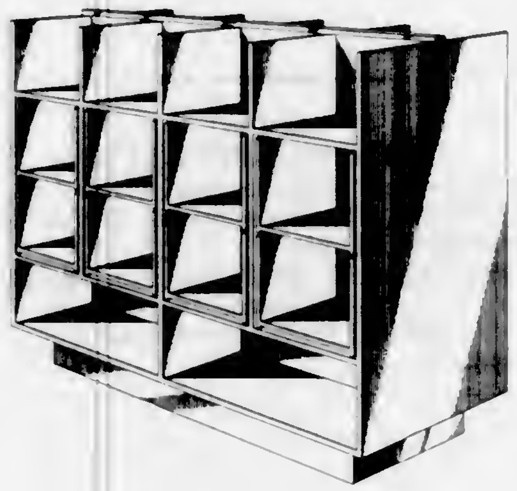


214,472
DISPLAY STAND FOR PANTS AND THE LIKE

Richard B. Friedman, Shaker Heights, Ohio, assignor to Freely, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 23, 1968, Ser. No. 10,272
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D80—9

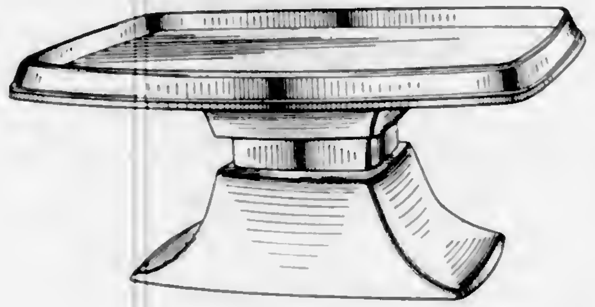


214,473
CONVERTIBLE DISPLAY STAND

John A. Plessinger, Montgomery County, Ohio, assignor to Fiberglass of Ohio, Inc., Dayton, Ohio, a corporation of Ohio

Filed Sept. 18, 1967, Ser. No. 8,641
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D80—9

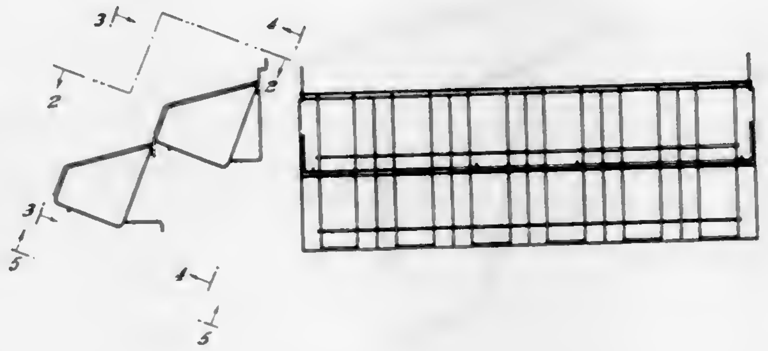


214,474
DISPLAY RACK

Arthur Goldstein, 11 Winchcombe Way, Scarsdale, N.Y. 10308, and Theodore Sobel, 66 Glenview Road, South Orange, N.J. 07079

Filed June 10, 1968, Ser. No. 12,279
Term of patent 7 years
Int. Cl. D6—*01*

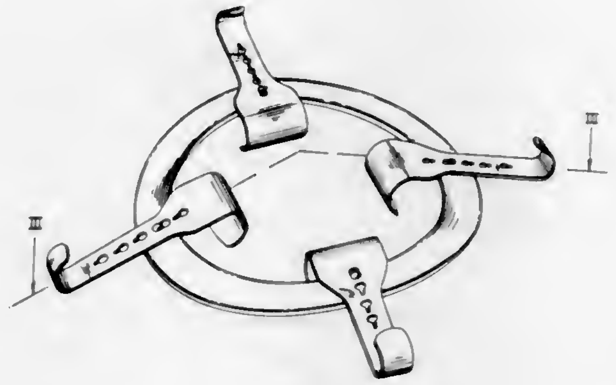
U.S. Cl. D80—10



214,475
SURGICAL RETRACTOR UNIT

Georg Förster, 4 Stresemannstrasse,
68 Mannheim, Germany
Filed Mar. 25, 1968, Ser. No. 11,114
Claims priority, application Germany Dec. 27, 1967
Term of patent 14 years
Int. Cl. D24—*03*

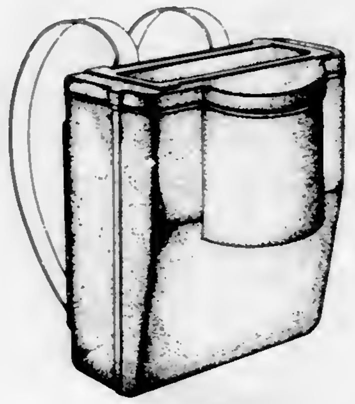
U.S. Cl. D83—12



214,476
RIGID BACKPACK

Guy F. Maxwell, Los Angeles, Calif.
(5010 Greer Ave., Charter Oak, Calif. 91722)
Filed July 31, 1968, Ser. No. 12,980
Term of patent 14 years
Int. Cl. D3—*99*

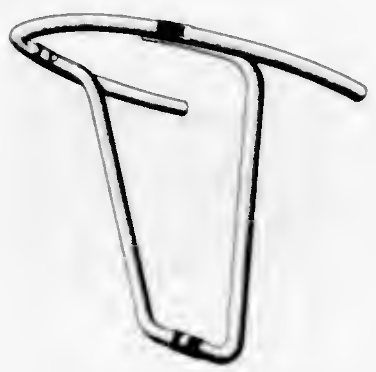
U.S. Cl. D87—5



214,477
BICYCLE HANDLEBAR

Carlton P. Pawsat and Robert Francis Humlong, Maysville, Ky., assignors to Wald Manufacturing Company, Incorporated, Maysville, Ky., a corporation of Kentucky
Filed Aug. 1, 1968, Ser. No. 12,987
Term of patent 14 years
Int. Cl. D12—*11*

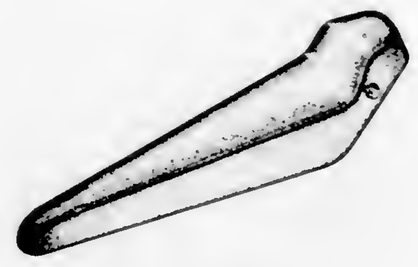
U.S. Cl. D90—11



214,478
SADDLE FOR A BICYCLE

Katsuhiko Kitaguchi, Osaka, Japan, assignor to Taihei Saddle Mfg. Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Feb. 21, 1968, Ser. No. 10,659
Claims priority, application Japan Sept. 5, 1967
Term of patent 14 years
Int. Cl. D12—*11, 14*

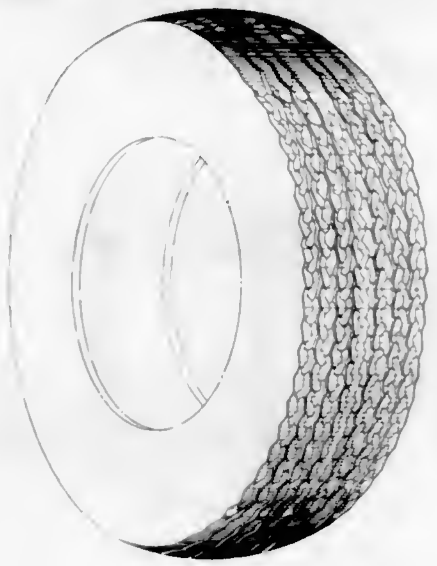
U.S. Cl. D90—16



214,479
TIRE

Zoltan Mike, New Haven, Conn., assignor to The Armstrong Rubber Company, West Haven, Conn., a corporation of Connecticut
Filed June 26, 1968, Ser. No. 12,511
Term of patent 14 years
Int. Cl. D12—*14*

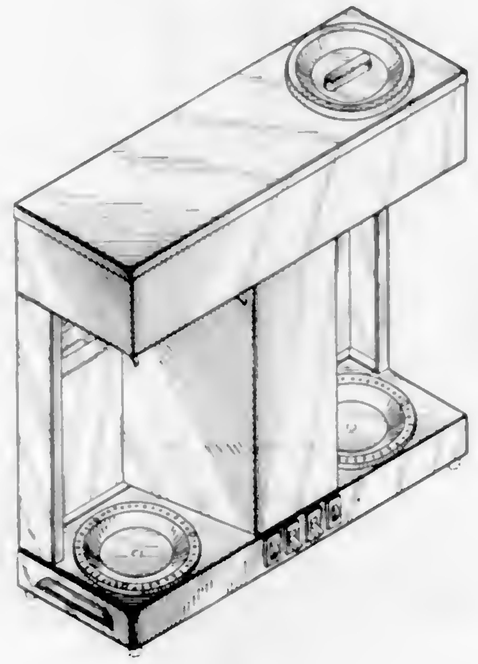
U.S. Cl. D90—20



214,480
POUR IN TYPE BEVERAGE MAKER

John C. Martin, Springfield, Ill., assignor to Bunn-O-Matic Corporation, Springfield, Ill., a corporation of Delaware
Filed July 26, 1968, Ser. No. 12,906
Term of patent 14 years
Int. Cl. D15—*12*

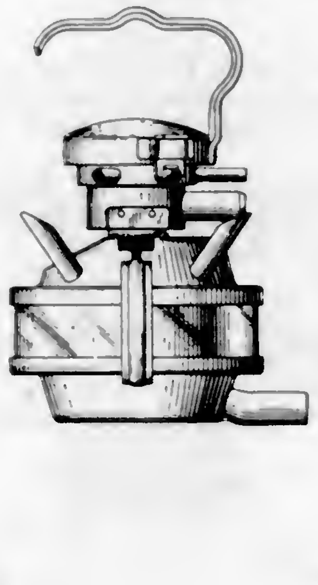
U.S. Cl. D94—3



214,481
MILKING APPARATUS

Robert J. Shulick, St. Charles, and Harold V. Swanson, Downers Grove, Ill., assignors to Babson Bros. Co., a corporation of Illinois
Filed June 20, 1968, Ser. No. 12,444
Term of patent 14 years
Int. Cl. D15—*03;* D30—*99*

U.S. Cl. D98—1



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17TH DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Carroll, James W., and H. V. Smith, to Pennsalt Chemicals Corp. Aluminum cleaning compositions. Re. 26,609, 6–17–69, Cl. 252—137.

Hopkins, William C. N. Change-speed mechanism. Re. 26,608, 6–17–69, Cl. 180—33.

Pennsalt Chemicals Corp.: *See*—
Carroll, James W., and Smith. Re. 26,609.

Smith, Harold V.: *See*—
Carroll, James W., and Smith. Re. 26,609.

Spaulding, Carl P., to Giannini Controls Corp. Digital coding and translating system. Re. 26,607, 6–17–69. Cl. 340—347.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,896, 6–17–69, Cl. 41.

Reedley Nursery, Inc.: *See*—
Anderson, Frederic W. 2,896.

LIST OF DESIGN PATENTEES

Allied Chemical Corp.: *See*—
Josephsen, Roy C., Wellmann, and Stevens. 214,429.

American Concrete Products Co.: *See*—
Greene, Nat. 214,449.

Anker, Theodore G., to S. Blickman Inc. Student laboratory desk. 214,453, 6–17–69, Cl. D33—7.

Armstrong Rubber Co., The: *See*—
Mike, Zoltan. 214,479.

Babson Bros. Co.: *See*—
Shulick, Robert J., and Swanson. 214,481.

Barghout, Alexander S. Chair or similar article. 214,438, 6–17–69, Cl. D15—1.

Blickman, S., Inc.: *See*—
Anker, Theodore G. 214,453.

Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Ornamental railing. 214,433, 6–17–69, Cl. D13—7.

Blumcraft of Pittsburgh: *See*—
Blum, Louis, and Horgan. 214,433.

Bogan, Robert T., Jr. Grillework. 214,432, 6–17–69, Cl. D13—1.

Bruce Mfg., Inc.: *See*—
Figura, William L. 214,434.

Budda, Lee F.: *See*—
Dahlman, William J., and Budda. 214,445.

Bunn-O-Matic Corp.: *See*—
Martin, John C. 214,480.

Campbell, John B., and W. R. Horne, to The Procter & Gamble Co. Jug. 214,421, 6–17–69, Cl. D9—42.

Champlin-Haskins Inc.: *See*—
Haskins, Jerry D. 214,441.

Chila, Shun-Shing. Dragon boat. 214,467, 6–17–69, Cl. D71—1.

Christiansen, Godtfred K. Microphone housing. 214,452, 6–17–69, Cl. D26—14.

Clarke, David E., and R. W. Peterson, to Texas Instruments Inc. Combined switch and indicator hood therefor. 214,450, 6–17–69, Cl. D26—13.

Cleland, Charles C., to Herald Corp. Carrier handle for garment hangers. 214,417, 6–17–69, Cl. D8—154.

Colonna, George A. Combined corner cabinet and lavatory. 214,443, 6–17–69, Cl. D23—59.

Dahlman, William J., and L. F. Budds, to North American Rockwell Corp. Plasma welding torch. 214,445, 6–17–69, Cl. D26—1.

Dixson, Paul B.: *See*—
Lavin, Benjamin B., Dixson, and Hammond. 214,471.

Fedtro, Inc.: *See*—
Kahn, Robert D. 214,468.

Fiberglass of Ohio, Inc.: *See*—
Plessinger, John A. 214,473.

Figura, William L., to Bruce Mfg., Inc. Two-wheeled tractor. 214,434, 6–17–69, Cl. D214—3.

Firma Lubke K.G.: *See*—
Muller, Walter, Hero, and Odermatt. 214 437.

Forster, Georg. Surgical retractor unit. 214,475, 6–17–69, Cl. D83—12.

Freely, Inc.: *See*—
Friedman, Richard B. 214,472.

Friedman, Richard B., to Freely. Inc. Display stand for pants and the like. 214,472, 6–17–69, Cl. D80—9.

Game-Time, Inc.: *See*—
Wormser, Robert S. 214,439.
Wormser, Robert S. 214,455.

Gardner, Reed P. Lantern. 214,461. 6–17–69, Cl. D48—31.

Goldstein, Arthur, and T. Sobel. Display rack. 214,474, 6–17–69, Cl. D80—10.

Greene, Nat, to American Concrete Products Co. Electrical junction box. 214,449, 6–17–69, Cl. D26—5.

Hammond, Robert G.: *See*—
Lavin, Benjamin B., Dixson, and Hammond. 214,471.

Haskins, Jerry D., to Champlin-Haskins Inc. Bolt action for a rifle. 214,441, 6–17–69, Cl. D22—7.

Heintze, Walter T., to Schenley Industries, Inc. Combined decanter and closure therefor. 214,428, 6–17–69, Cl. D9—145.

Henebry, John P., and E. E. Stineback, to North American Aluminum Corp. Stadium bench. 214,440, 6–17–69, Cl. D15—11.

Herald Corp.: *See*—
Cleland, Charles C. 214,417.

Hero, Franz: *See*—
Muller, Walter, Hero, and Odermatt. 214,437.

Hillis, Donald A. Note paper dispenser. 214,469, 6–17–69, Cl. D74—1.

Hollister, Frank, Co., Inc.: *See*—
Laurini, Zane P. 214,418.

Horgan, William J., Jr.: *See*—
Blum, Louis, and Horgan. 214,433.

Horne, Willard R.: *See*—
Campbell, John B., and Horne. 214,421.

Humlong, Robert F.: *See*—
Pawsat, Carlton P., and Humlong. 214,477.

Ideal Industries, Inc.: *See*—
Oprins, Johannes A. E. 214,446.

Josephsen, Roy C., G. F. Wellmann, and F. W. Stevens, to Allied Chemical Corp. Bottle. 214,429, 6–17–69, Cl. D9—155.

Kahn, Robert D., to Fedtro, Inc. Automobile anti-tampering audible alarm. 214,468, 6–17–69, Cl. D72—1.

Ketcham & McDougal, Inc.: *See*—
Macowski, William. 214,464.

Kassin, Ronald A., to Schenley Industries, Inc. Decanter. 214,427, 6–17–69. Cl. D9—119.

Kistler, Werner. Package of cotton swabs or the like. 214,430, 6–17–69, Cl. D9—187.

Kitaguchi, Katsuhiko, to Taihei Saddle Mfg. Co., Ltd. Saddle for a bicycle. 214,478, 6–17–69, Cl. D90—16.

Klitzner, Alan J. Golf putter head. 214,457, 6–17–69, Cl. D34—5.

Laughlin, Clayton A., to Arthur Salm Inc. Letter opener or the like. 214,470, 6–17–69. Cl. D74—10.

Laurini, Zane P., to Frank Hollister Co., Inc. Concrete reinforcing bar support. 214,418, 6–17–69, Cl. D81—235.

Lavin, Benjamin B., P. B. Dixson. and R. G. Hammond, to Sugardale Foods, Inc. Display panel for foods or the like. 214,471, 6–17–69, Cl. D80—1.

Lewis, Dan, Jr., W. H. Palmer, and N. W. Walkup, to National Distillers and Chemical Corp. Bottle. 214,422, 6–17–69, Cl. D9—46.

Linn, James L., Jr., to Owens-Illinois, Inc. Bottle. 214,423. 6–17–69, Cl. D9—92.

Linne, Burton. Cabinet for a moving target display. 214,456, 6–17–69, Cl. D34—5.

Macowski. William, to Ketcham & McDougal, Inc. Scale. 214,464, 6–17–69, Cl. D52—10.

Maley, Joseph E. Attachment pedal for electric, spinet-type organs. 214,465, 6–17–69, Cl. D56—2.

Marg, Charles M. Rifle butt holder. 214,442, 6–17–69, Cl. D22—13.

Martin, John C., to Bunn-O-Matic Corp. Pour in type beverage maker. 214,480, 6–17–69, Cl. D94—3.

Maxwell, Guy F. Rigid back pack. 214,476, 6–17–69, Cl. D87—5.

Mike, Zoltan, to The Armstrong Rubber Co. Tire. 214,479, 6–17–69, Cl. D90—20.

McKay Machine Co., The: *See*—
Williams, Arthur L. 214,447.
Williams, Arthur L. 214 448.

Muller, Walter, F. Hero, and K. Odermatt, to Firma Lubke K.G. Easy chair. 214,437, 6–17–69, Cl. D15—1.

Naeve, Gary E. Auxiliary tractor fuel tank. 214,435, 6–17–69, Cl. D14—3.
Neese, Gerald W., to Purex Corp., Ltd. Jar. 214,424, 6–17–69, Cl. D9—92.
National Distillers and Chemical Corp.: *See*—
  Osborn, John R. 214,419.
  Osborn, John R. 214,420.
  Lewis, Dan, Jr., Palmer, and Walkup. 214,422.
  Osborn, John R. 214,426.
North American Aluminum Corp.: *See*—
  Henebry, John P., and Stineback. 214,440.
North American Rockwell Corp.: *See*—
  Dahlman, William J., and Budds. 214,445.
Odermatt, Karl: *See*—
  Muller, Walter, Hero, and Odermatt. 214,437.
Olympus Optical Co. Ltd.: *See*—
  Sato, Masaaki, and Shigetomi. 214,451.
Oprins, Johannes A. E., to Ideal Industries, Inc. Electrical connector. 214,446, 6–17–69, Cl. D26—1.
Osborn, John R., to National Distillers and Chemical Corp. Jug. 214,419, 6–17–69, Cl. D9—39.
Osborn, John R., to National Distillers and Chemical Corp. Jug. 214,420, 6–17–69, Cl. D9—39.
Osborn, John R., to National Distillers and Chemical Corp. Combined bottle and top cover. 214,426, 6–17–69, Cl. D9—118.
Owens-Illinois, Inc.: *See*—
  Linn, James L., Jr. 214,423.
Palmer, William H.: *See*—
  Lewis, Dan, Jr., Palmer, and Walkup. 214,422.
Pawsat, Carlton P., and R. F. Humlong, to Wald Mfg. Co., Inc. Bicycle handlebar. 214,477, 6–17–69, Cl. D90—11.
Peterson, Robert W.: *See*—
  Clarke, David E., and Peterson. 214,450.
Plastics, Inc.: *See*—
  Stageberg, Willis A. 214,459.
  Stageberg, Willis A. 214,460.
Plessinger, John A., to Fiberglass of Ohio, Inc. Convertible display stand. 214,473, 6–17–69, Cl. D80—9.
Procter & Gamble Co., The: *See*—
  Campbell, John B., and Horne. 214,421.
  Vanderhyde, Harold J. 214,425.
Purex Corp., Ltd.: *See*—
  Neese, Gerald W. 214,424.
Riley, Eugene J. Combined drinking cup and insulating holder therefor. 214,458, 6–17–69, Cl. D44—9.
Robertson, Robert H. Boat. 214,466, 6–17–69, Cl. D71—1.
Salm, Arthur, Inc.: *See*—
  Laughlin, Clayton A. 214,470.
Sato, Masaaki, and S. Shigetomi, to Olympus Optical Co. Ltd. Miniature tape recorder. 214,451, 6–17–69, Cl. D26—14.
Schenley Industries, Inc.: *See*—
  Kassin, Ronald A. 214,427.
  Heintze, Walter T. 214,428.
Shigetomi, Sadao: *See*—
  Sato, Masaaki, and Shigetomi. 214,451.
Shulick, Robert J., and H. V. Swanson, to Babson Bros. Co. Milking apparatus. 214,481, 6–17–69, Cl. D98—1.
Sobel, Theodore: *See*—
  Goldstein, Arthur, and Sobel. 214,474.
Stageberg, Willis A., to Plastics, Inc. Combined compartmented tray and food serving inserts thereof. 214,459, 6–17–69, Cl. D44—10.
Stageberg, Willis A., to Plastics, Inc. Covered casserole. 214,460, 6–17–69, Cl. D44—15.
Stevens, Frank W.: *See*—
  Josephsen, Roy C., Wellmann and Stevens. 214,429.
Stineback, Earl E.: *See*—
  Henebry, John P., and Stineback. 214,440.
Swanson, Harold V.: *See*—
  Shulick, Robert J., and Swanson. 214,481.
Sugardale Foods, Inc.: *See*—
  Lavin, Benjamin B., Dixson, and Hammond. 214,471.
Taihei Saddle Mfg. Co., Ltd.: *See*—
  Kitaguchi, Katsuhiko. 214,478.
Texas Instruments Inc.: *See*—
  Clarke, David E., and Peterson. 214,450.
Torres, Noel M. Rear view mirror. 314,436, 6–17–69, Cl. D14—6.
Vanderhyde, Harold J., to The Procter & Gamble Co. Bottle or similar article. 214,425, 6–17–69, Cl. D9—100.
Wald Mfg. Co., Inc.: *See*—
  Pawsat, Carlton P., and Humlong. 214,477.
Walkup, Norris W.: *See*—
  Lewis, Dan, Jr., Palmer, and Walkup. 214,422.
Warnberg, Archie E. Facial tissue box cover. 214,463, 6–17–69, Cl. D52—2.
Warnberg, Archie E. Cover for a clothes hamper. 214,462, 6–17–69, Cl. D49—8.2.
Warnberg, Archie E. Container for a brush. 214,454, 6–17–69, Cl. D33—17.
Weinman, Mary. Cover for a toilet bowl or the like. 214,444, 6–17–69, Cl. D23—71.
Wellmann, Gerhard F.: *See*—
  Josephsen, Roy C., Wellmann, and Stevens. 214,429.
Williams, Arthur L., to The McKay Machine Co. Flash welder. 214,447, 6–17–69, Cl. D26—1.
Williams, Arthur L., to The McKay Machine Co. Flash welder. 214,448, 6–17–69, Cl. D26—1.
Willinger, Allan H. Fish feeder package. 214,431, 6–17–69, Cl. D9—193.
Wormser, Robert S., to Game-Time, Inc. Combination park bench and planter. 214,439, 6–17–69, Cl. D15—11.
Wormser, Robert S., to Game-Time, Inc. Scarecrow-shaped head for recreational equipment. 214,455, 6–17–69, Cl. D34—4.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17TH DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A/S Ringdal Patenter: *See*—
  Ringdal, Lars, 3,450,395.
AB Bonnierforetagen: *See*—
  Carlen, Bo Robert, Jr., 3,450,275.
Abbott, Earl: *See*—
  Lickliter, Robert P., Abbott, Earl, and Reeves, John F. 3,450,037.
Abbott Laboratories: *See*—
  Swett, Leo Ralph, Stein, Robert George, and Kimura, Eugene Tatsuru, 3,450,694.
  Tadanier, John Soloman, 3,450,725.
Aboul-Saad, Halim G.: *See*—
  Hyldon, Roy G., Fink, Doris E., and Aboul-Saad, Halim G. 3,450,692.
Abramson, Harvey J., to American Technical Machinery Corporation. Automatic heat sealing device. 3,449,887, 06-17-69, Cl. 053-076.
Abramyan, Evgeny Aramovich, Vasserman, Sakko Borisovich, Gaponov, Vasily Alexandrovich, and Krainov, Gennady Sergeevich. Charged particle pulse accelerator incorporating a Tesla coil. 3,450,996, 06-17-69, Cl. 328-233.
ACF Industries, Incorporated: *See*—
  Kasprzycki, Joseph T., and Holden, Roy J., 3,450,066.
Acme Appliance Manufacturing Company: *See*—
  Kellems, Kenneth K., 3,450,426.
Adams, Lowell K., and Davis, Albert D. Trolley spacing device. 3,450,060, 06-17-69, Cl. 104-250.
Adkins, John S., to Force Limited. Adjustable-torque electromagnetic clutch. 3,450,238, 06-17-69, Cl. 192-021.5
Adler, Franklin P., to Pullman Incorporated. Loading arrangement for covered hopper cars. 3,450,278, 06-17-69, Cl. 214-083.2
A.G. fur industrielle Elektronik Agie: *See*—
  Ullmann, Werner, and Hermann, Ferdy, 3,450,456.
Agri-Tek, Inc.: *See*—
  Gatzke, Harold E., Ariens, Mando S., and Doty, Vernon G., 3,450,074.
Aguet, Emile, to Sulzer Brothers Limited. Gas-steam turbine plant. 3,449,908, 06-17-69, Cl. 060-039.3
Ahlbrecht, Arthur H., to Minnesota Mining and Manufacturing Company. Perfluoroalkyl sulfonamides and carboxamides. 3,450,755, 06-17-69, Cl. 260-556.
Ahnert, Heinz, to International Standard Electric Corporation. Counting device. 3,450,954, 06-17-69, Cl. 317-140.
Ahy, Jahangir M. Signal recording and/or playback apparatus. 3,450,362, 06-17-69, Cl. 242-055.16
Aiello, Lawrence J.: *See*—
  Aiello, Samuel, Jr., 3,450,872.
Aiello, Samuel, Jr., 1/2 to Aiello, Lawrence J. Illuminated hairpiece. 3,450,872, 06-17-69, Cl. 240-059.
Aigner, Georg: *See*—
  Krautwald, Herbert, Hubner, Wolfgang, Bosch, Werner, and Aigner, Georg 3,451,022.
Air Products and Chemicals, Inc.: *See*—
  McEvoy, James E., 3,450,645.
Air Reduction Company, Incorporated: *See*—
  Hanks, Charles W., and Harker, Howard R., 3,450,824.
  Kiernan, Joseph F., 3,450,926.
  Smith, Hugh R., Jr., 3,450,336.
Aisaka, Noboru: *See*—
  Kawakami, Tatsuya, and Aisaka, Noboru 3,449,931.
Aisin Seiki Company Limited: *See*—
  Kuno, Syozo, 3,450,241.
Ajinomoto Co., Inc.: *See*—
  Suzuki, Katsumi, and Kumashiro, Izumi, 3,450,693.
Aktiebolaget Separator: *See*—
  Filstrup, Poul, 3,450,537.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
  Eugster, Eduard, and Spickenreuther, Dieter, 3,449,826.
  Horvat, Ivan, 3,450,979.
  Zumsteg, Viktor, 3,450,915.
Aktiengesellschaft Conrad Zschokke: *See*—
  Massa, Cesar, 3,450,233.
Alco Controls Corporation: *See*—
  Tilney, Ralph B., and Chapman, George H., 3,450,158.
Aldrich, Merrill B., and Wilder, Robert H. Automatic tube cleaner and catalyst injector. 3,450,104, 06-17-69, Cl. 122-391.
Alert Stamping and Mfg., Co., Inc.: *See*—
  Blanch, Charles H., and Olzak, Henry F., 3,450,369.
Alleavitch, Jack, to Du Pont de Nemours, E. I., and Company. Process for preparing delustered polypivalolactone. 3,450,664, 06-17-69, Cl. 260-037.
Allen, Russell B. Auto wash system. 3,450,266, 06-17-69, Cl. 210-167.
Allied Chemical Corporation: *See*—
  Dear, Robert E. A., and Gilbert, Everett E., 3,450,773.
  Farah, Basil S., and Gilbert, Everett E., 3,450,822.
Allied Pacific Manufacturing Company: *See*—
  Tregubenko, Nicolas, 3,449,813.
Allis-Chalmers Manufacturing Company: *See*—
  Fergason, Rector C., 3,449,976.
Alnor Instrument Company: *See*—
  Donath, Edwin W., 3,450,343.
Altwicker, Elmar R., to Universal Oil Products Company. Preparation of hydroxy substituted diarylamines. 3,450,764, 06-17-69, Cl. 260-571.
Alvarez, Francisco S., to Syntex Corporation. Preparation of bisnorcholanic acid derivatives. 3,450,722, 06-17-69, Cl. 260-397.1
Amelio, Armand F.: *See*—
  Shohet, Herbert N., Amelio, Armand F., House, Richard L., and Kowalonek, John M. 3,449,891.
American Binder Company, The: *See*—
  Sutton, Charles O., 3,450,307.
American Cyanamid Company: *See*—
  Megna, Ignazio Salvatore, and Petropoulos, John Christos, 3,450,711.
American Enka Corporation: *See*—
  Kalbfleisch, Hendrik J., 3,449,794.
  Van Bergeijk, Jan, 3,450,679.
American Flange & Manufacturing Co., Inc.: *See*—
  Kavalus, Leonard S., and Lenarcik, Henryk, 3,449,987.
American Manufacturing Company of Texas: *See*—
  Woodle, Billy Ted, 3,449,936.
American Optical Corporation: *See*—
  Anthon, Erik W., 3,450,051.
American Potash & Chemical Corporation: *See*—
  Schumacher, Joseph C., Rado, Theodore A., and Fairchild, James L., 3,450,497.
American Standard, Inc.: *See*—
  Wilham, Larry F., 3,449,774.
American Technical Machinery Corporation: *See*—
  Abramson, Harvey J., 3,449,887.
American Thermostat Corporation: *See*—
  Levinn, Robert N., Moyer, Joseph K., and Rose, Melvin J., 3,451,029.
American Velcro, Inc.: *See*—
  Mates, Jack K., 3,450,405.
Amero, John J., to Norton Company. Method of making impregnated sintered bauxite grains and the produce thereof. 3,450,515, 06-17-69, Cl. 051-307.
Amidon, Alan B., and Brynko, Carl, to Xerox Corporation. Photographic imaging by means of the surface tension created by photochromic materials. 3,450,530, 06-17-69, Cl. 096-027.
Amidon, Alan B., and Brynko, Carl, to Xerox Corporation. Adhesive imaging on photochromic layers. 3,450,531, 06-17-69, Cl. 096-027.
Amidon, Alan B., and Brynko, Carl, to Xerox Corporation. Formation of light scattering images in photochromic layers. 3,450,533, 06-17-69, Cl. 096-027.
AMP Incorporated: *See*—
  Brown, Malcolm Neal, Hargest, Thomas Sewell, III, and Stoltz, Herbert Collier, 3,449,952.
Ampex Corporation: *See*—
  MacLeod, Donald B., and Macklin, Arnold, 3,450,832.
  Tobey, Richard, 3,450,973.
Anaconda Electronics Company: *See*—
  Luksch, James A., Dolan, Lawrence C., Brooks, Robert A., and Zimmerman, Arie, 3,450,987.
  Rheinfelder, William A., 3,451,003.
Anagnost, Christ W.: *See*—
  Padgett, Edward D., Hendrickson, Arthur H., and Anagnost, Christ W. 3,450,895.
Anastasescu, Efrem: *See*—
  Patron, Teodor, Niculescu, Ion Alexandru, and Anastasescu, Efrem 3,450,203.
Anderholm, Ferd R., to Miniature Electronic Components Corporation International Business Machines Corporation. Movable indicator display unit. 3,451,056, 06-17-69, Cl. 340-378.
Anders, Walter G., to Diebold Incorporated. Modular TV monitor housing and stand. 3,450,454, 06-17-69, Cl. 312-223.
Andersen, Keith M. Method of and means for filling pneumatic tires with comminuted elastic material. 3,450,170, 06-17-69, Cl. 141-005.
Anderson, Chester Sig. Emergency hemostatic patch bandage. 3,450,136, 06-17-69, Cl. 128-325.
Anderson, Ralph F., to Goodrich, B. F., Company, The. Chlorine cell with flexible elastomeric cover. 3,450,621, 06-17-69, Cl. 204-219.
Anderson, Wilmer C., and Firestone John H., to General Time Corporation. Remote control system including circuitry for superimpos-

ing control signals on selected half cycles of a supply line carrier wave. 3,451,052, 06-17-69, Cl. 340-310.
Andresen, John H., Jr., to Intercontinental Dynamics Corporation. Aircraft cabin pressurization system having controlled rate of pressure change. 3,450,020, 06-17-69, Cl. 098-001.5
Annand, Robert R., Redmore, Derek, and Rushton, Brian M., to Petrolite Corporation. Heterocyclic polymers. 3,450,646, 06-17-69, Cl. 260-002.
Anthon, Erik W., to American Optical Corporation, mesne. Rotary pump. 3,450,051, 06-17-69, Cl. 103-005.
Apex Bearings Company, The: *See—*
  Weichsel, Richard H., 3,450,448.
Applied Power Industries, Inc.: *See—*
  Halwas, Larry E., and Behrens, Robert L., 3,450,054.
  Stein, Gary, 3,450,058.
A.P.V. Company Limited, The: *See—*
  Wright, Felix William, 3,450,200.
Araki, Mataichi: *See—*
  Yokogawa, Mutsuo, Asaka, Shigefumi, and Araki, Mataichi 3,450,584.
Ariens, Mando S.: *See—*
  Gatzke, Harold E., Ariens, Mando S., and Doty, Vernon G. 3,450,074.
Arino, Hirofumi: *See—*
  Kramer, Henry H., and Arino, Hirofumi 3,450,597.
Arledge, Arthur E., Jr., to Carrier Corporation. Air-conditioning apparatus. 3,450,342, 06-17-69, Cl. 236-001.
Armstead, George B., Jr., to Merrow Machine Company, The. Looper carrier for sewing machine. 3,450,078, 06-17-69, Cl. 112-162.
Arntsen, Arnt P., and Boomgaard, Dirk J., to Westinghouse Electric Corporation. Double tuned frequency selective circuit providing a constant bandwidth. 3,450,994, 06-17-69, Cl. 325-383.
Aro of Buffalo, Incorporated: *See—*
  Harwood, Van Ness, Jr., 3,450,127.
Art Metal-Knoll Corporation: *See—*
  Stephens, William I., 3,450,435.
Asaka, Shigefumi: *See—*
  Yokogawa, Mutsuo, Asaka, Shigefumi, and Araki, Mataichi 3,450,584.
Ashbrook, Clifford Logan. Pressure vessel. 3,450,039, 06-17-69, Cl. 100-269.
Ashland Oil & Refining Company: *See—*
  McKillip, William J., 3,450,673.
  Rippie, Charles W., 3,450,628.
Ashworth, Roger W., and Mercer, Alec V., to Shell Oil Company. Flame retardant polyurethanes from phosphonitrilic esters and their preparation. 3,450,675, 06-17-69, Cl. 260-077.5
Associated Electrical Industries Limited: *See—*
  Knapon, Arthur George, and Raine, Thomas, 3,450,573.
Astley, Edward Thomas, to Crosfield Electronics Limited. Optical scanners. 3,450,014, 06-17-69, Cl. 095-004.5
Ateliers Bariquand & Marre, Societe Anonyme: *See—*
  Guffon, Rene M. P., 3,450,464.
Atherton, Arden Daniel, to Dole Valve Company, The. Self sealing bobbin for encapsulated solenoid coils. 3,451,021, 06-17-69, Cl. 335-260.
Atwood Vacuum Machine Company: *See—*
  Leonhardt, Robert F., 3,450,425.
Auer, William F., Bonovitz, James J., and Valleau, Robert L., to Comar Electric Company. Arc preventing means for a switching relay. 3,451,019, 06-17-69, Cl. 335-201.
Aufderhaar, Ernst: *See—*
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  Young, Paul E., and Gunyou, Lyman J., 3,450,138.
Avery, Carl Frederick, and Brewer, Robert J., to Medical Supply Company. Swabbing unit. 3,450,129, 06-17-69, Cl. 128-002.
Aveyard, Norman, and Bull, David George, to English Electric Company Limited, The. Toroidal winding structures. 3,451,023, 06-17-69, Cl. 336-180.
Avrea, William H. Timed dispenser of liquid and solid food for animals. 3,450,101, 06-17-69, Cl. 119-051.11
Babayan, Vigen K., and Barsky, George, to Drew Chemical Corporation. Synthetic therapeutic fat. 3,450,819, 06-17-69, Cl. 424-307.
Bachle, Carl F., to Continental Aviation and Engineering Corporation. Variable compression ratio piston including surge accumulation means. 3,450,112, 06-17-69, Cl. 123-078.
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  Wilhelm, Hans, Bille, Heinz, Hann, Ernst Wilhelm, and Dachs, Karl, 3,450,561.
Badran, Adnan M., to United Fruit Company. Controlled atmosphere storage of green bananas. 3,450,542, 06-17-69, Cl. 099-154.
Badran, Adnan M., Woodruff, Richard E., and Wilson, Lorenzo George, to United Fruit Company. Method of packaging perishable plant foods to prolong storage life. 3,450,543, 06-17-69, Cl. 099-171.
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Baker, Lionel Richard, to British Scientific Instrument Research Association. Radiation sensitive apparatus for measuring linear dimensions. 3,450,889, 06-17-69, Cl. 250-219.
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Balleis, Peter. Toy spinning top. 3,449,858, 06-17-69, Cl. 046-065.
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Banks, William B., to Automation Products, Inc. Apparatus for measuring physical properties of materials. 3,449,940, 06-17-69, Cl. 073-032.
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Barry, Frank W., to United Aircraft Corporation. Mach number internal contraction control. 3,450,142, 06-17-69, Cl. 137-015.2
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Barton, Richard E. Dual drive mechanism. 3,450,208, 06-17-69, Cl. 170-135.27
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  Grimshaw, James F., 3,449,959.
  Meltzer, Robert J., 3,450,477.
  Mohrman, Richard C., 3,449,945.
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Beaupre, Jean L. House anchorage. 3,449,874, 06-17-69, Cl. 052-149.
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Bechtold, Arthur W., and Rizzo, Vincent J., to Chemway Corporation. Ophthalmic compostions containing alginic acid salts of pilocarpine atropine and physostigimine. 3,450,814, 06-17-69, Cl. 424-180.
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Beckman, Ronald H., to Herman Miller, Inc. Space divider. 3,449,877, 06-17-69, Cl. 052-238.
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Bidard, Rene, to Cie Electro-Mecanique. Process and apparatus for transforming calorific energy into electrical energy along a thermodynamic cycle comprising at least one magnetohydrodynamic. 3,450,904, 06-17-69, Cl. 310-011.
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Billet, James M., Orinik, Michael T., and Thompson, James O., to International Business Machines Corporation. Pressure sensitive record material. 3,450,553, 06-17-69, Cl. 117-036.2
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Biro, Alexander J., to Season-All Industries, Inc. Window structure. 3,449,862, 06-17-69, Cl. 049-406.
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Blanch, Charles H., and Olzak, Henry F., to Alert Stamping and Mfg., Co., Inc. Reel construction having pawl optionally mounted. 3,450,369, 06-17-69, Cl. 242-107.7
Blank, George F., to Hexcel Corporation. Explosively welded honeycomb method. 3,449,819, 06-17-69, Cl. 029-470.9
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Blomecke, Werner, Freystein, Wolfgang, and Gasper, Herbert, to Gusstahlwerk Wittmann AG. Drag shoe for railroad cars. 3,450,061, 06-17-69, Cl. 104-259.

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Blum, Bernard, and Schwartzenberg, John W., to Leeds & Northrup Company. Estimated tap temperature calculator for basic oxygen furnace. 3,450,867, 06-17-69, Cl. 235-151.3
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Brown, Alan E., to Wright, E. J., Central Limited. Support standard. 3,450,270, 06-17-69, Cl. 211-176.
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Brown, Clinton E., to Hydronautics, Inc. Ambient temperature vapor compression desalination system. 3,450,601, 06-17-69, Cl. 202-174.
Brown, Dwight C. Bowling game kit. 3,450,406, 06-17-69, Cl. 273-042.
Brown, Edward A., to Eastman Kodak Company. Randomly entangled textile product. 3,449,903, 06-17-69, Cl. 057-140.
Brown, James, to Power Jets(Research & Development)Limited. Pressure exchangers. 3,450,334, 06-17-69, Cl. 230-069.
Brown, Malcolm Neal, Hargest, Thomas Sewell, III, and Stoltz, Herbert Collier, to AMP Incorporated. Drop-count attachment. 3,449,952, 06-17-69, Cl. 073-194.
Brown, Martin J., to Western Electric Company, Incorporated. Device for measuring the instantaneous product of two electrical quantities. 3,450,993, 06-17-69, Cl. 324-121.
Brown, Marvin L., and Pedersen, Carl O., to Case, J. I., Company. High-pressure hydraulic swivel coupling. 3,450,422, 06-17-69, Cl. 285-131.
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Brown, Wilbur P., Jr., to Hughes Aircraft Company. Iterated electro-optic prism deflector arrangement. 3,450,460, 06-17-69, Cl. 350-150.
Brown, William H., to United Aircraft Corporation. Variable flow turbofan engine. 3,449,914, 06-17-69, Cl. 060-225.
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Brucker, Horst. Device for heating keys for defrosting frozen locks. 3,450,859, 06-17-69, Cl. 219-201.
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Bueler, Richard C., to Wagner Electric Corporation. Control valve. 3,450,154, 06-17-69, Cl. 137-492.5
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Burgess, James. Fruit picking device. 3,449,896, 06-17-69, Cl. 056-339.
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Call, Daniel D., to Bell & Howell Company. Gyroscope drive support mechanism. 3,449,963, 06-17-69, Cl. 074-005.7
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Camacho, Salvador L., to United States of America, National Aeronautics and Space Administration. Protective circuit of the spark gap type. 3,450,946, 06-17-69, Cl. 317-016.
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Carstensen, Jens Thuroe, Newmark, Harold Leon, and Vance, John James, to Hoffmann-La Roche Inc. Stable compositions containing eicosatetrayn-(5,8, 11,14)-oic-(1) acid and derivatives thereof. 3,450,821, 06-17-69, Cl. 424-318.
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Chang, Leroy L., and Esaki, Leo, to International Business Machines Corporation. Insulated-gate field effect transistor with nonplanar gate electrode structure for optimizing transconductance. 3,450,960, 06-17-69, Cl. 317-235.
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  Korwin, Paul, 3,450,504.
  Korwin, Paul, 3,450,507.
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  Lindstrom, Eddie G., and Mehmedbasich, Enver, 3,450,715.
  Olson, Robert James, Ellis, George L., and Huval, Malcolm, 3,450,632.
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Colnot, Raymond Marcel Emile, to E.P.M. International. Method for handling elongated members. 3,450,280, 06-17-69, Cl. 214-152.
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  Maria, Alain, Patigny, Pierre, and Perie, Daniel, 3,450,639.
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  Zelik, Hynek J., and Cowman, George W. 3,450,917.
Cox, Eugene B., to General Electric Company. Electrical elements with impregnated dielectric and insulators. 3,450,968, 06-17-69, Cl. 317-258.
Craft, David J., to British Telecommunications Research Limited. Fluid flow measuring equipment. 3,449,953, 06-17-69, Cl. 073-204.
Cragoe, Edward J., Jr., to Merck & Co., Inc.[4-[2-(Alkoxymethyl)alkanoyl]phenoxy]acetic. 3,450,750, 06-17-69, Cl. 260-521.
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Craig, Richard L.: *See—*
  Mayerle, Evan A., and Craig, Richard L. 3,450,734.
Craig, Richard L., to Nalco Chemical Company. Purification of ethers. 3,450,608, 06-17-69, Cl. 204-059.
Craighead, Philip B., and Naffa, Faisal A., to Brooks & Perkins, Inc. Field hangar or shelter. 3,449,872, 06-17-69, Cl. 052-066.
Cramer, Ulrich, Jung, Manfred, and Weinmann, Karl, to Fiala, Martin, KG. Device for the hitching of a loading platform. 3,450,417, 06-17-69, Cl. 280-425.
Creed & Company Limited: *See—*
  Turner, Frederick James Leslie, Soper, Arthur John Compton, and Morel, Harold Louis, 3,450,321.
Creighton, John H., Frinkmeyer, Francis M., and Hanser, Paul E., to Deere & Company. Scraper implement. 3,450,213, 06-17-69, Cl. 172-785.
Crist, Elmer E., to Beloit Corporation. Rotary steam joint and condensate scavenger therefor. 3,449,839, 06-17-69, Cl. 034-124.
Crompton & Knowles Corporation: *See—*
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Cronstedt, Val, to Continental Aviation & Engineering Corporation. Variable compression ratio piston assembly. 3,450,111, 06-17-69, Cl. 123-078.
Crosfield Electronics Limited: *See—*
  Astley, Edward Thomas, 3,450,014.
Cross, James M., Campbell, Clyde D., and Metzger, Sidney H., to Mobay Chemical Company. Preparation of cycloaliphatic diamines free of o- diamines. 3,450,759, 06-17-69, Cl. 260-563.
Crucible Steel Corporation: *See—*
  Thompson, Vernon R., 3,450,528.
Cucka, John Michael. Antenna mounting unit. 3,450,378, 06-17-69, Cl. 248-043.
Cuculic, Gail E., Tatom, Lynn D., and Murphree, Elwyn L., to Centex Poultry Company. Poultry catch curtain. 3,450,100, 06-17-69, Cl. 119-022.
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  Kreusch, Edward G., and Morrison, Edwin A.; 3,450,265.
Cummings, Timothy E., to Bethlehem Steel Corporation. Desilting equipment. 3,449,915, 06-17-69, Cl. 061-002.
Cundy, Edwin Kenneth, to English Clays Lovering Pochin & Company Limited. Processing of clay. 3,450,257, 06-17-69, Cl. 209-005.
Cunningham, Thomas W., to Baldwin, D. H., Company. Celeste system for a locked-octave electronic organ. 3,450,825, 06-17-69, Cl. 084-001.24
Cureton, Francis M., and McManus, Jackson L., to Electro-Matic Corporation. Variable count and slubbing apparatus and method. 3,449,899, 06-17-69, Cl. 057-038.3
Curl, Gerald A., to Coastal Dynamics Corporation. Miniature light structure. 3,450,870, 06-17-69, Cl. 240-008.16
Curley, Edward J.: *See—*
  Brosnahan, Robert E., and Curley, Edward J. 3,451,014.
Current, James H., to Camco, Incorporated. Multi-latch dual production well packer. 3,450,205, 06-17-69, Cl. 166-189.
Cushing, Philip S., and Stone, Harris E. Method of making cap for paper core. 3,449,817, 06-17-69, Cl. 029-416.
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Cywinski, Norbert F., to El Paso Products Company. Process for producing pure hexamethylenediamine. 3,450,767, 06-17-69, Cl. 260-585.
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  Wilhelm, Hans, Bille, Heinz, Hann, Ernst Wilhelm, and Dachs, Karl 3,450,561.
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  Lebig, Herbert, 3,450,118.
  Thoma, Frank, 3,450,120.
  Wilfert, Karl, 3,449,881.
Dale, Brian, to Sylvania Electric Products, Inc. Four-layer semiconductor switching devices in integrated circuitry. 3,450,959, 06-17-69, Cl. 317-235.
Dale, John R., Menzel, Harry R., McCandless, Joseph M., and Goss, Garnet, to United States of America, Army. Apparatus for wave analysis. 3,449,950, 06-17-69, Cl. 073-170.
Damato, Daniel A., Lazar, Sheldon, and Zittler, Richard B. Precut sheet material moulding assemblies, to be secured to room walls, along the floor or door or window frames. 3,449,873, 06-17-69, Cl. 052-127.
Dambrine, Francis, and Giorgi, Jean Claude, to Societe Fives Lille Cail. Filter element. 3,450,263, 06-17-69, Cl. 210-108.
Dancsik, Joseph J. Profiling machine. 3,449,967, 06-17-69, Cl. 074-056.
Daniels, Dennis. Punch press. 3,449,991, 06-17-69, Cl. 083-071.
Darby, Robert Albert, to Du Pont de Nemours, E. I., and Company. Fluorocarbon polyethers. 3,450,684, 06-17-69, Cl. 260-087.5
Dare, James A., to United States of America, Navy. Underwater delay fuze. 3,450,049, 06-17-69, Cl. 102-080.
Darr, Christian, to Siemens Aktiengesellschaft. Relay switching arrangement with magnetically controllable semi-conductor. 3,451,031, 06-17-69, Cl. 338-032.
Darrow, George Richard, to Reynolds Metals Company. Multi-colored aluminum anodizing process. 3,450,606, 06-17-69, Cl. 204-018.
Dauber, Harry, to United States of America, Army. Direction finding apparatus. 3,450,479, 06-17-69, Cl. 356-141.
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Davies, Alwyn G., to M & T Chemicals, Inc. Unsymmetrical isocyanurate production. 3,450,701, 06-17-69, Cl. 260-248.
Davis, Albert D.: *See—*
  Adams, Lowell K., and Davis, Albert D. 3,450,060.
Davis, Albert W., to Poly-Matic Fountain, Inc. Automatic poultry drinker. 3,450,103, 06-17-69, Cl. 119-080.
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  Green, David J., Tasker, Raymond B., and Davis, Donovan C. 3,450,990.
Davis, Walter M., to Monsanto Company. Process for continuous liquid-solid contacting. 3,450,526, 06-17-69, Cl. 075-103.
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  Butterworth, Lyle J., 3,449,779.
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  Freldlander, Abraham L., Matthews, Robert E., and Garrett, Wayne C., 3,449,894.
Dayton, Cleveland A. Measuring and dispensing device having a plurality of rotary trap chambers. 3,450,310, 06-17-69, Cl. 222-221.

- DCA Food Industries Inc.: *See—*
  - Fowler, Roscoe T., and Kaufman, Harold B., Jr., 3,450,070.
- Dear, Robert E. A., and Gilbert, Everett E., to Allied Chemical Corporation. Anesthetically active fluorinated methyl ethers. 3,450,773, 06-17-69, Cl. 260-614.
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- de Christopher, Eugene, to Blackstone Corporation. Modular block with mating channel structure. 3,449,857, 06-17-69, Cl. 046-025.
- Deere & Company: *See—*
  - Creighton, John H., Frinkmeyer, Francis M., and Hanser, Paul E., 3,450,213.
- De Fazio, Benjamin S., Silvia, John, Jr., and Zemme, Caesar J., to United States of America, Navy. Clothing closure. 3,449,764, 06-17-69, Cl. 002-096.
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  - Lessler, Lew W., 3,450,471.
- De Krauze, Richard Gregory. Kitchen sink plug. 3,449,775, 06-17-69, Cl. 004-287.
- de Lange, Robert Gerardus, Verbraak, Cornelis Antonius, and Zijderveld, Jacobus Antonius, to Nederlandse Organistie voor Toegepast Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer. Self-projectable element for a space vehicle. 3,450,372, 06-17-69, Cl. 244-001.
- De Ligt, John, to West Virginia Pulp and Paper Company. Method and apparatus for covering rolls. 3,449,811, 06-17-69, Cl. 029-148.4
- Demarest, Henry M., Jr., to PPG Industries, Inc. Load-bearing member for curved ceramic segments subjected to high compressive loads. 3,450,082, 06-17-69, Cl. 114-016.
- De Marinis, Joseph V., and Scott, Benton B., to Sylvania Electric Products, Inc. Automatic gain control circuit. 3,450,834, 06-17-69, Cl. 178-007.3
- Demerciere, Jean. Commutators of rotary electric machines. 3,450,914, 06-17-69, Cl. 310-236.
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- Dennison Manufacturing Company: *See—*
  - Sloan, Donald D., and Polley, Robert W., 3,450,474.
- Dentin Manufacturing Company: *See—*
  - Fossier, Ralph L., and Kruissink, John W., 3,450,593.
- Dentist's Supply Company of New York, The: *See—*
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- De Soto, Inc.: *See—*
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  - Sekmakas, Kazys, and Gaske, Joseph E., 3,450,791.
  - Sekmakas, Kazys, 3,450,792.
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- DeVilbiss Company, The: *See—*
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- Diamond, Clyde. Archery bow with arrow-actuated signalling means. 3,450,122, 06-17-69, Cl. 124-024.
- Diamond International Corporation: *See—*
  - Foote, James E., 3,450,326.
  - Williams, Glenn V., Jr., 3,450,098.
- Dibbern, Uwe, to U.S. Philips Corporation, mesne. Spark gap device having insulators in the form of plasters. 3,450,929, 06-17-69, Cl. 313-325.
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- Dick, Richard W., to Weltronic Company. Sequencing circuit. 3,450,901, 06-17-69, Cl. 307-252.
- Dickinson, Wesley Edward, to International Business Machines Corporation. Frequency analyzer for detection of energy. 3,450,989, 06-17-69, Cl. 324-077.
- Diebold Incorporated: *See—*
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- Diehl, Elmer Paul, and Riley, John E., to General Electric Company. High-low limit cirucit for D-C amplifier. 3,450,999, 06-17-69, Cl. 330-009.
- Diem, Oskar. Totally evacuating forage wagon. 3,450,284, 06-17-69, Cl. 214-514.
- Dietrich, Henri, to Geigy Chemical Corporation. N'-substituted N-arylsulfonyl urea. 3,450,721, 06-17-69, Cl. 260-397.7
- Dillon, Thomas J.: *See—*
  - Bocckino, Harry G., Dillon, Thomas J., and Fisher, John F. Villiers 3,450,804.
- Di Marco, Bernard, to I-T-E Imperial Corporation, mesne. Contactor electromagnet. 3,451,018, 06-17-69, Cl. 335-131.
- Di Millo, Luigi. Dispenser for products contained in collapsible tubes. 3,450,309, 06-17-69, Cl. 222-103.
- Dimmig, Clarence F., to Columbia-Summerill Corporation, mesne. High pressure fuel line heads and the like. 3,449,937, 06-17-69, Cl. 072-318.
- Di Pasquale, Gene, and Reisz, Peter. Electromechanical copyholder and presenting device. 3,449,849, 06-17-69, Cl. 040-343.
- Di Settembrini, Antoine. Device for filling containers of semi-rigid or soft material such as plastic bottles. 3,450,172, 06-17-69, Cl. 141-059.
- Dixon, John S., and Smith, Joseph W., to Combustion Engineering, Inc. Apparatus for preparation of hemispherical head segments. 3,450,397, 06-17-69, Cl. 266-023.
- Dixon, William Murray, to Formica International Limited. Colour printing. 3,450,044, 06-17-69, Cl. 101-170.
- Dmitriev, Ivan Sergeevich: *See—*
  - Rusanovich, Nikolai Grigorievich, Dmitriev, Ivan Sergeevich, Korobov, Yakov Vasilievich, Volfenzon, Shmul Ovshievich, Kostin, Boris Jurievich, Zaichik, Evegeny Bentsionovich, and Emelyanov, Vasily Semenovich 3,450,376.
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- Dolan, Lawrence C.: *See—*
  - Luksch, James A., Dolan, Lawrence C., Brooks, Robert A., and Zimmerman, Arie 3,450,987.
- Dole Valve Company, The: *See—*
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  - Fox, William L., 3,449,919.
- Dolinsky, Michael, Sr. Submerging injector for molten material. 3,450,191, 06-17-69, Cl. 164-312.
- Dombro, Robert A., to Universal Oil Products Company. Process for producing organic sulfides from the reaction of mercaptans with alcohols. 3,450,771, 06-17-69, Cl. 260-609.
- Donath, Edwin W., to Alnor Instrument Company. Temperature responsive controller system. 3,450,343, 06-17-69, Cl. 236-046.
- Doran, Raymond C.: *See—*
  - Ferree, Herbert E., and Doran, Raymond C. 3,450,962.
- Dorris, Maurice Thomas. Magnetically synchronized vibrator apparatus. 3,449,969, 06-17-69, Cl. 074-061.
- Dorstewitz, Virgil D., to Tru Point Products, Inc. Pencil lead holder with fixed length feed. 3,450,482, 06-17-69, Cl. 401-067.
- Dotson, Ronald L., and Lowry, Benjamin S., Jr., to Dow Chemical Company, The. Amalgamation process. 3,450,607, 06-17-69, Cl. 204-034.
- Doty, Vernon G.: *See—*
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- Douglass, Harry H., to United States of America, Navy, mesne. Transistor push-pull output circuit. 3,451,000, 06-17-69, Cl. 330-015.
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- Dow Chemical Company, The: *See—*
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  - Dotson, Ronald L., and Lowry, Benjamin S., Jr., 3,450,607.
  - Tolkmith, Henry, and Senkbeil, Herman O., 3,450,713.
  - Wagner, Eugene, 3,450,714.
  - Walles, Wilhelm E., 3,450,674.
- Downs, William T., to Lear Siegler, Inc., mesne. Switch assembly for use in oxygen environment. 3,451,020, 06-17-69, Cl. 335-206.
- Doyle, James H., 1/2 to Ballentine, Earle W. Artificial sense organ. 3,449,768, 06-17-69, Cl. 003-001.
- Dozier, Herma Wiedle. Undergarment. 3,449,762, 06-17-69, Cl. 002-073.
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  - Kraeling, John B., 3,450,243.
- Draney, Jane Carolee: *See—*
  - Draney, John Joseph, Jr. 3,450,817.
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- Dratz, Richard A., and Nelson, Ralph A., to Thilmany Pulp and Paper Company. Polyolefin coating composition. 3,450,557, 06-17-69, Cl. 117-076.
- Draving, Walter J., and Nerz, Joseph E., to Micro-Miniature Parts Corporation. Multi-feed wire package. 3,450,359, 06-17-69, Cl. 242-054.
- Dressler, Russell G. Evaporation retardants based on blends of alcohols containing odd and even numbers of carbon atoms and method of use. 3,450,488, 06-17-69, Cl. 021-060.5
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  - Babayan, Vigen K., and Barsky, George, 3,450,819.
- Drew, Howard F., to Procter & Gamble Company, The. Detergent containing hydroxy alkyl amine oxide. 3,450,637, 06-17-69, Cl. 252-137.
- Drexler, John J.: *See—*
  - Hallene, Alan M., Holuba, Henry J., and Drexler, John J. 3,450,232.
- du Bellay, Marc Griffon, and Doutillon, Gabriel, to Ugine Kuhlmann. Process for the production of chlorites of alkali and alkaline-earth metals. 3,450,493, 06-17-69, Cl. 023-085.
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- Dumas, Raymond E., Williams, Harry L., Jr., and Wood, Donald B., to United States of America, Army. Primary cell. 3,450,569, 06-17-69, Cl. 136-100.
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- Dunlap, Robert B., Peterson, Evald O., and Von Schoppe, Bertram A., to Compo Industries, Inc. Automatic roughing machine. 3,449,933, 06-17-69, Cl. 069-006.5

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- Dunne, Brian B., to Gulf General Atomic Incorporated, mesne. Shock wave optically pumped laser. 3,451,008, 06-17-69, Cl. 331-094.5
- Dupage Metal Products Company: *See—*
  - Jorgensen, Leif G., 3,450,589.
- Du Pont de Nemours, E. I., and Company: *See—*
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  - Ballard, Kermit H., and Hoffman, Lewis C., 3,450,545.
  - Balthis, Joseph H., Jr., 3,450,491.
  - Barker, Arthur Frederick, 3,450,316.
  - Darby, Robert Albert, 3,450,684.
  - Hoeschele, Guenther Kurt, 3,450,562.
  - Klanberg, Frank K., 3,450,733.
  - La Lancette, Eugene A., 3,450,720.
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  - Linton, Howard Richard, 3,450,550.
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  - Selman, Stanley, 3,450,716.
  - Shin, Hyunkook, 3,449,809.
  - Smoot, Charles Richard, 3,450,552.
  - Yates, Paul C., 3,450,499.
  - Youker, Mortimer Alexander, 3,450,649.
  - Zedalis, Robert John, 3,450,045.
- Dvorak, Alfred, to Northern Electric Company Limited. Voltage regulator circuit utilizing a four- layer diode to convert high voltages to low voltages. 3,450,982, 06-17-69, Cl. 323-081.
- Dyke, Herbert Gordon. Expansible carrying case with band latch. 3,450,237, 06-17-69, Cl. 190-044.
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  - Moore, John R., and Dyle, Daniel J. 3,450,229.
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  - McConnell, Richard L., and Coover, Harry W., Jr., 3,450,677.
  - Tholstrup, Clarence E., 3,450,671.
- Eaton Yale & Towne, Inc.: *See—*
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  - Griesenbrock, Karl-Heinz, 3,450,224.
  - Jaeschke, Ralph L., and Smith, Aubrey H., 3,450,910.
  - La Vallee, Theodore R., 3,450,912.
  - Smith, Aubrey H., 3,450,911.
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- Eckert, George E. Copyholder for electric typewriter. 3,449,850, 06-17-69, Cl. 040-356.
- Eckert, Konrad, to Bosch, Robert, G.m.b.H. Electromagnetically actuated fuel injection valve for internal combustion engines. 3,450,353, 06-17-69, Cl. 239-585.
- Eckl, James J., to Square D Company. Transistor switching circuit. 3,450,903, 06-17-69, Cl. 307-261.
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- Edwards, Lawrence J., to Mine Safety Appliances Company. Hydrogen generating composition. 3,450,638, 06-17-69, Cl. 252-188.
- Edwards, Richard A., to Wilkerson Corporation. Drain valve. 3,450,146, 06-17-69, Cl. 137-203.
- Edwards, William R., to United States of America, Navy. Corner reflector. 3,451,060, 06-17-69, Cl. 343-018.
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- EG & G, Inc.: *See—*
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- Eggen, Alfred C. W.: *See—*
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- Eichorn, Robert N., to International Business Machines Corporation. Continuous card form. 3,450,419, 06-17-69, Cl. 281-005.
- Eisenman, George, to Corning Glass Works, mesne. Method for measuring sodium ion. 3,450,604, 06-17-69, Cl. 204-001.
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  - Steinmetz, Walter E., 3,450,765.
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- Eldridge, Clare Wallace, Jones, James Dorroh, and Trunk, Junior George, to Celanese Corporation. Twist retention yarn guide and method of uptwisting yarn. 3,449,900, 06-17-69, Cl. 057-059.
- Eldridge, Lewis E.: *See—*
  - Wright, Vernon D., and Eldridge, Lewis E. 3,450,315.
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- Electro-Matic Corporation: *See—*
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- Electroacustic Gesellschaft mit Beschrankter Haftung: *See—*
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- Eliel, Leon T. Portable hoist for luggage and the like. 3,450,386, 06-17-69, Cl. 254-139.1
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- Ellis, Frederick E., to Automotive Products Company Limited. Fluid pressure motors for producing straight- line motion. 3,450,005, 06-17-69, Cl. 091-189.
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- Ellis, Graham John: *See—*
  - Pollack, James Richard Allan, Pool, Alan Aldred, and Ellis, Graham John 3,450,600.
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  - Siri, Louis J., and Embury, Philip W., Jr. 3,451,026.
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  - Eldred, Roger J., and Mao, Tzu J., 3,450,615.
  - Eldred, Roger J., 3,450,616.
  - Hawkins, Cyril M., 3,449,926.
  - Hulten, Richard E., 3,449,980.
  - McHattie, Robert Howard, and Greening, Peter Douglas, 3,450,117.
  - Prance, Stanley R., and Merica, Franklin E., 3,450,465.
  - Stevens, Derek Norman, 3,449,966.
  - Stimpson, Flave F., 3,449,978.
  - Stump, Gerald R., 3,450,388.
  - Witzel, Thomas A., 3,449,827.
  - Wortman, Donald E., Norton, Barry W., and Scheibe, Elias W., 3,450,228.
  - Ziegler, Eugene R., 3,449,785.
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  - Jensen, Elmer W., 3,449,870.
- Gerard, Victor, and Palomo, Georges, to Commissariat a l'Energie Atomique. Drive mechanism for effecting a vertical rectilineal movement. 3,449,968, 06-17-69, Cl. 074-057.
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  - Buck, James G., Winkless, Robert A., and Gerber, Howard L. 3,450,856.
- Gerbracht, Fred. Boat hull construction with outrigger pontoon assembly. 3,450,084, 06-17-69, Cl. 114-066.5
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  - Bosso, Joseph F., and Gerek, Gene 3,450,303.
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- Gibson, Kevin Julian: *See*—
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  - Temple, Robert, Temple, Ernest E., and Giebel, Joseph L. 3,449,993.
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  - Farah, Basil S., and Gilbert, Everett E. 3,450,822.
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- Goodkind, John M., and Prothero, William A. Force measuring instrument. 3,449,956, 06-17-69, Cl. 073-382.
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  - Kehl, William L., and Rennard, Raymond J., Jr., 3,450,787.
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- Grangaard, Orrin H., Jr., to Honeywell Inc. Variable gain amplifiers. 3,451,006, 06-17-69, Cl. 330-069.
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  - Lyman, Hugh M., Jr., 3,450,451.
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  - Guggisberg, Ernst, 3,450,400.
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- Griffin, Brian Philip, to Imperial Chemical Industries Limited. Production of thermoplastic polymeric materials. 3,450,796, 06-17-69, Cl. 260-885.
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  - Lorenzi, Donald E., Groble, Kenneth K., and Retsky, Michael W. 3,450,985.
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- Gross, Jerome A., to Clayton Corporation. Dispensing valve having rubber-like dispensing head. 3,450,314, 06-17-69, Cl. 222-402.24
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- Gugolz, Henry J., to Urb Products Corporation. Glue applying apparatus. 3,450,093, 06-17-69, Cl. 118-007.
- Guier, William. Anchor having pivotable flukes. 3,450,088, 06-17-69, Cl. 114-208.
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- Guin, Joel B. Lever operated flow control device with dashpot. 3,450,381, 06-17-69, Cl. 251-050.
- Guinness, Arthur, Sons & Company (Dublin) Limited: *See*—
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- Gulf General Atomic Incorporated: *See*—
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- Gullaksen, Gilbert V., to Wrightway Engineering Co. Selective aerating device. 3,450,350, 06-17-69, Cl. 239-428.5
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  - Young, Paul E., and Gunyou, Lyman J. 3,450,138.
- Gusstahlwerk Wittmann AG: *See*—
  - Blomecke, Werner, Freystein, Wolfgang, and Gasper, Herbert, 3,450,061.
- Gutwin, Otto A., to International Business Machines Corporation. Eccentric magnetic core. 3,451,047, 06-17-69, Cl. 340-174.
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- Haggerty, Walter F. Retroreflective device. 3,450,459, 06-17-69, Cl. 350-103.
- Hall, Kenneth F. Pole mounted fishhook holder and guard. 3,449,851, 06-17-69, Cl. 043-025.2
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- Hallerbach, Dieter, to Richardson-Merrell Inc. Dispensing container. 3,450,252, 06-17-69, Cl. 206-042.
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- Hanes, Glenn M., to Canadian General Electric Company, Limited. Transposition for bus bars. 3,450,826, 06-17-69, Cl. 174-034.
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- Hanley, James A., to General Foods Corporation. Curling bar for roll-through labelers. 3,450,588, 06-17-69, Cl. 156-453.
- Hann, Ernst Wilhelm: *See*—
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- Hargest, Thomas Sewell, III: *See*—
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- Harwell, James M., Jr., to Gray Tool Company. Ball connector. 3,450,421, 06-17-69, Cl. 285-024.
- Harwood, Van Ness, Jr., to Aro of Buffalo, Incorporated. Chemical packheater for diver's suit. 3,450,127, 06-17-69, Cl. 126-204.
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- Hass, Robert H.: *See—*
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- Hasselbach, Wolfgang, to Braun Aktiengesellschaft. Adjustable drive mechanism for phonographs. 3,449,975, 06-17-69, Cl. 074-193.
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- Hawkins, Willard S., to Sonoco Products Company. Textile carrier. 3,450,370, 06-17-69, Cl. 242-118.32
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- Hayssen Manufacturing Company: *See—*
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- Heath, Paul D., to General Dynamics Corporation. Microwave stripline filter. 3,451,015, 06-17-69, Cl. 333-073.
- Heathcote, Thomas J., and Stark, Michael, to Westinghouse Electric Corporation. Canned motor pump. 3,450,056, 06-17-69, Cl. 103-087.
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- Heimbach, Paul: *See—*
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- Heissmeier, Walter, and Wagnerberger, Wolfgang, to Siemens Aktiengesellschaft. Memory system for machine control. 3,451,050, 06-17-69, Cl. 340-174.1
- Heitmann, Albert: *See—*
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- Heller, Karl-Heinz: *See—*
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- Henn, William, to RCA Corporation. Stepping switch employing chain of logic gates having means for locking a gate in a given state. 3,450,897, 06-17-69, Cl. 307-223.
- Hennessy, Leo E., to Industrial Electronic Rubber Company. Laminated product and process for preparing same. 3,450,594, 06-17-69, Cl. 161-184.
- Hennig, Fritz: *See—*
  - Bester, Werner, Butzke, Fritz, Hennig, Fritz, Voelcker, Sven, Reier, Richard, and Rekewitz, Rudolf 3,450,836.
- Henry-Baudot, Jacques, to Societe d'Electromique et d'Automatisme. Multiple member windings for electrical rotating machines. 3,450,919, 06-17-69, Cl. 310-268.
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- Hercules Incorporated: *See—*
  - Lin, Kuang Farn, 3,450,652.
  - McCurdy, Gordon W., 3,450,389.
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  - Vandenberg, Edwin J., 3,450,774.
- Hergeth K.G. Maschinenfabrik und Apparatebau: *See—*
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- Herlinger, Heinz: *See—*
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- Herman Miller, Inc.: *See—*
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- Hermann, Ferdy: *See—*
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- Hern, Geoffrey Benjamin. Building bricks or blocks and structures utilising the same. 3,449,878, 06-17-69, Cl. 052-293.
- Herrli, Jack W. Electrical terminal block. 3,451,037, 06-17-69, Cl. 339-192.
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  - Reimann, Hubertus, and Hesse, Christian 3,450,015.
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  - Beard, Ralph L., and Hester, James F. 3,449,765.
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  - Grove, Wayne M., 3,450,902.
  - Kern, Robert H., and Holloway, Joseph H., 3,450,876.
  - Rando, Joseph F., 3,450,476.
- Hewson, John E. Valve manifold. 3,450,157, 06-17-69, Cl. 137-595.
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  - Blank, George F., 3,449,819.
- Heying, Theodore L., and Papetti, Stelvio, to Olin Mathieson Chemical Corporation. Bis(diorgano-alkoxysilyl) neocarboranes. 3,450,739, 06-17-69, Cl. 260-448.8
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  - Takahashi, Albert T., 3,449,996.
  - Wing, George S., 3,449,998.
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- Hille, Lawrence S.: *See—*
  - Solberg, Conrad J., Hille, Lawrence S., Schoenherr, Henry W., and Solstad, Russell V. 3,449,828.
- Himy, Albert: *See—*
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  - Payne, Jackie E., and Hinson, Larry D. 3,450,769.
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  - Taniguchi, Kenji, and Oya, Yuichiro, 3,450,896.
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- Hobrough, Gilbert L., to Itek Corporation. Automatic focusing system for a flying spot scanner. 3,450,833, 06-17-69, Cl. 178-007.2
- Hobson, H. M., Limited: *See—*
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- Hoerner-Waldorf Corporation: *See—*
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- Hoesch Aktiengesellschaft: *See—*
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  - Resch, Werner, and Fliege, Oskar, 3,450,399.
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  - Metlesics, Werner, and Sternbach, Leo Henryk, 3,450,696.
  - Osbond, John Mervyn, and Fothergill, Graham Alwyn, 3,450,704.
  - Sternbach, Leo Henryk, and Stempel, Arthur, 3,450,695.
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- Hofmann, Ludwig. Tensioning and securing device for load securing straps. 3,449,798, 06-17-69, Cl. 024-071.
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- Holloway, Don C., to Hough Manufacturing Corporation. Acoustical operable panel arrangement with removable panel covers. 3,450,185, 06-17-69, Cl. 160-199.
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- Holmes, John F., to Avco Corporation. Method and apparatus for measuring the flow velocity of an electrolytic fluid by electrolysis. 3,450,984, 06-17-69, Cl. 324-030.
- Holoch, Klaus E., Katchman, Arthur, and Shufelt, Rainey A., to General Electric Company. Stabilized polyphenylene ether composition. 3,450,670, 06-17-69, Cl. 260-045.9
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  - Gelfand, Samuel, 3,450,768.
  - Hellund, Emil J., 3,450,617.
  - Mellan, Herbert J., and Kay, Daniel J., 3,450,657.
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  - Siemund, Guenter, Hansen, Hans, and Flittner, Peter, 3,450,578.
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- Hopkins, Leslie Arthur, and Harris, Benjamin Lewis, to National Research Development Corporation. Pressure resisting seal. 3,450,450, 06-17-69, Cl. 312-001.
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- Horning, Norman G., to Control Data Corporation. Skew correction arrangement for parallel track readout devices. 3,451,049, 06-17-69, Cl. 340-174.1
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- Hsieh, Henry L., and Busler, William R., to Phillips Petroleum Company. Organomagnesium-zirconium beta-diketones as catalysts for alkene oxide polymerization. 3,450,683, 06-17-69, Cl. 260-088.3
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- Hugel, Helmut, and Manuel, Tom, to Christensen Diamond Products Company. Core orienting apparatus and method. 3,450,216, 06-17-69, Cl. 175-044.
- Hughes Aircraft Company: *See—*
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  - Brown, Wilbur P., Jr., 3,450,460.
  - Maiman, Theodore H., 3,451,010.
  - Waltz, Albert Richard, 3,450,259.
- Hulten, Richard E., to General Motors Corporation. Transmission shift control. 3,449,980, 06-17-69, Cl. 074-473.
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- Hunstiger, Francis, to Harris-Intertype Corporation. Electrophotographic apparatus. 3,450,473, 06-17-69, Cl. 355-004.
- Hunt, Robert G., to Irwin, Lawrence F. Irwin, Sally J. Trust, d/b/a/ Marco Products Company. Grip handle chuck. 3,449,782, 06-17-69, Cl. 015-104.3
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- Hurlburt, Joseph C., to Sperry Rand Corporation. Mechanical cutterbar lift. 3,449,893, 06-17-69, Cl. 056-025.
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- Hutchinson, Desmond Ernest, and Wilkinson, Harry, to English Electric Company Limited, The. Rotary actuators. 3,449,982, 06-17-69, Cl. 074-626.
- Huttenlocher, Dietrich F., to General Electric Company. Hermetic refrigerant motor compressor unit. 3,450,338, 06-17-69, Cl. 230-206.
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- Hyldon, Roy G., Fink, Doris E., and Aboul-Saad, Halim G., to Keever Company, The. Oxidation of starch. 3,450,692, 06-17-9, Cl. 260-233.3
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- I & R Morley Limited: *See—*
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- Inglis, Jack S., to Kelek Company, The, mesne. Fuse failure detector. 3,450,949, 06-17-69, Cl. 317-046.
- Inklaar, Petrus A., to Vasco Industries Corporation. Methods for preparing solid salts of amino acids. 3,450,752, 06-17-69, Cl. 260-534.
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  - Bandat, Kurt, and Rothauser, Ernst, 3,450,838.
  - Billet, James M., Orinik, Michael T., and Thompson, James O., 3,450,553.

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  - Carstensen, John P., 3,450,651.
  - Davis, Walter M., 3,450,526.
  - Hartnett, Robert L., 3,450,780.
  - Mortimer, George A., 3,450,686.
  - Olin, John F., and Hamm, Philip C., 3,450,521.
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  - Tierney, Paul A., 3,450,662.
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  - Loffelholz, Marco, Pasetti, Adolfo, and Sianesi, Dario, 3,450,611.
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- Peras, Lucien, to Regie Nationale des Usines Renault. Methods and devices for generating a curve. 3,450,865, 06-17-69, Cl. 235-061.7
- Perie, Daniel: *See—*
  - Maria, Alain, Patigny, Pierre, and Perie, Daniel 3,450,639.
- Perkin-Elmer Corporation, The: *See—*
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- Perkins, Beauregard, Jr., to United States of America, Army. Centering mechanism. 3,449,943, 06-17-69, Cl. 073-071.
- Perl, Richard L., to Tappan Company, The. Door latch mechanism. 3,450,851, 06-17-69, Cl. 200-061.68
- Perlman, Stuart S., and Silver, Robert S., to RCA Corporation. Ferroelectric insulated gate field effect device. 3,450,966, 06-17-69, Cl. 317-235.
- Pertics, Emil E. Catching and guide means in a berry harvester. 3,449,895, 06-17-69, Cl. 056-330.
- Petersen, Burdette A., to Weber, H. G., and Company, Inc. Low viscosity bottom paste applicator for bag machines. 3,450,099, 06-17-69, Cl. 118-212.
- Petersen, Harro, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. 2-Oxo-or thio-4-alkoxy or alkoxyalkoxy-alkyl- hexahydropyrimidines. 3,450,702, 06-17-69, Cl. 260-251.
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- Peterson, Evald O.: *See—*
  - Dunlap, Robert B., Peterson, Evald O., and Von Schoppe, Bertram A. 3,449,933.
- Peterson, Roy L. Press. 3,450,031, 06-17-69, Cl. 100-093.
- Peterson, William B. Auxiliary wheel assembly. 3,450,013, 06-17-69, Cl. 094-050.
- Petkus, John J., to Standard Oil Company (Indiana). Acid-resistant cement products. 3,450,548, 06-17-69, Cl. 106-084.
- Petrie, Harold Lishman: *See—*
  - Salter, Roy, Petrie, Harold Lishman, and Williamson, Ian 3,450,595.
- Petrolite Corporation: *See—*
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  - Megna, Ignazio Salvatore, and Petropoulos, John Christos 3,450,711.
- Pezdirtz, George F., and Bell, Vernon L., Jr., to United States of America, National Aeronautics and Space Administration. Dosimeter for high levels of absorbed radiation. 3,450,878, 06-17-69, Cl. 250-083.
- Pezza, Lazzaro, to Swabettes, Inc. Swab making machine. 3,449,796, 06-17-69, Cl. 019-145.3
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- Phelan-Faust Paint Manufacturing Company: *See—*
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- Phillips, David Meredith, to Imperial Chemical Industries Limited. Polyamide yarn packages with tapered end- portions and their production. 3,450,371, 06-17-69, Cl. 242-159.
- Phillips, Davis M., to McGraw-Edison Company. Cable termination having stress relief means. 3,450,827, 06-17-69, Cl. 174-073.
- Phillips, Joseph C. Dual grip spectacles holder. 3,450,467, 06-17-69, Cl. 351-157.
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  - Chesser, John F., 3,450,805.
  - Favre, John A., 3,450,423.
  - Furrow, Clarence L., 3,450,749.
  - Hinton, Robert A., 3,450,183.
  - Hsieh, Henry L., and Busler, William R., 3,450,683.
  - Merryfield, Gorge E., and Cabbage, John T., 3,450,783.
  - Molitor, Edwin A., Jr., 3,449,889.
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  - Simpson, Billy D., 3,450,790.
  - Smith, Dexter E., Broerman, Arthur B., and Keeler, Robert M., 3,450,800.
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- Phillips, William Neal, to Leco, Inc. High-lift side dump mechanism. 3,450,436, 06-17-69, Cl. 298-011.
- Phin, James R.: *See—*
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- Pierce, Kenneth L., and James, Robert W., to Cook Paint & Varnish Company. Single package oleoresinous varnish 'C' enamel and process of making same. 3,450,656, 06-17-69, Cl. 260-022.
- Pietrucci, Andre, to Service d'Exploitation Industrielle des Tabacs et des Allumettes. Device for separating the parenchyma from the woody portions of plant leaves and, in particular, tobacco leaves. 3,450,139, 06-17-69, Cl. 131-146.
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  - Turner, Horace G., and Wood, Robert S., 3,450,052.
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- Porter, Philip D. Method and apparatus for regulating temperature. 3,451,027, 06-17-69, Cl. 337-342.
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- Potrzuski, Stanley G. Field specimen microscope. 3,450,458, 06-17-69, Cl. 350-086.
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  - Carlin, William W., 3,450,609.
  - Demarest, Henry M., Jr., 3,450,082.
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  - Richardson, Ronald E., 3,450,517.
- Pradon, Jacques. Multidirectional truck. 3,450,062, 06-17-69, Cl. 105-177.
- Prance, Stanley R., and Merica, Franklin E., to General Motors Corporation. Mirror with a partially reflecting thin metal alloy coating on a plastic base. 3,450,465, 06-17-69, Cl. 350-278.
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- Rabinow, Jacob, 10% to Libman, Max L. Safety needle device for sewing machine. 3,450,081, 06-17-69, Cl. 112-221.
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- Rampe, John F. Vibratory finishing machine. 3,449,869, 06-17-69, Cl. 051-163.
- Ramsey, Kenneth C., and Morris, Walter. Electrolytic plating tank. 3,450,625, 06-17-69, Cl. 204-237.
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- Raschke, Herbert A., to Bullard, E. D., Company. Rotation responsive switch. 3,450,850, 06-17-69, Cl. 200-061.39
- Rausch, Maurice K., to Sinclair Research, Inc. Automatic transmission fluid of reduced suscepti- bility oxidative degradation. 3,450,636, 06-17-69, Cl. 252-075.
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- Rawcliffe, Gordon H., and Fong, William, to National Research Development Corporation. Pole-changing synchronous rotary electric machines. 3,450,971, 06-17-69, Cl. 318-173.
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  - Perlman, Stuart S., and Silver, Robert S., 3,450,966.
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- Read, Phillip J., to Northern Electric Company Limited. Method of coating refractory wares with magnesia. 3,450,574, 06-17-69, Cl. 148-006.3
- Reader, Trevor D., to Conrac Corporation. Fluidic nondestructive memory. 3,450,340, 06-17-69, Cl. 235-201.
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  - Prost-Dame, Claude, Ventre, Pierre, and Bouthors, Pierre, 3,449,864.
- Reid, Joyce Pruitt. Toilet brush holder. 3,450,452, 06-17-69, Cl. 312-206.
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- Reimann, Hubertus, and Hesse, Christian, to Veb Pentacon Dresden Kamera- und Kinowerke. Apparatus for electronic exposure control. 3,450,015, 06-17-69, Cl. 095-010.
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- Richter, Donald H., Streimer, Irving, and Turner, David P. W., to North American Rockwell Corporation. Six degree of freedom apparatus. 3,449,843, 06-17-69, Cl. 035-012.
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- Rippie, Charles W., to Ashland Oil & Refining Company. Process for treating mineral oils containing mercaptans. 3,450,628, 06-17-69, Cl. 208-189.
- Riscky, Alexander J. Method of repairing heat cracks on ferrous metal engines. 3,450,575, 06-17-69, Cl. 148-006.14
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Design Patents

6 :	214,424	9 :	214,479	25 :	214,450	35 :	214,432	36 :	214,474	40 :	214,463
	214,436	17 :	214,422	26 :	214,439	36 :	214,419	39 :	214,423	42 :	214,433
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	214,449		214,446	27 :	214,459		214,425		214,448		214,443
	214,458		214,456		214,460		214,426		214,472	44 :	214,457
	214,461		214,480		214,470		214,427		214,473	48 :	214,417
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	214,467	19 :	214,435		214,429		214,444		214,454		214,466
	214,476	21 :	214,477		214,453		214,468		214,462	55 :	214,434
9 :	214,428	25 :	214,438		214,464		214,471				

Plant Patents

6 :	2,896										

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 17, 1969 Volume 863 Number 3

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 382,018 (MARINE STUDIOS), Marine Studios, Incorporated, Magazines and house organs; **Reg. No. 382,019** (MARINELAND), same, **filed** Apr. 9, 1969, D.C., M.D. Fla. (Jacksonville), Doc. 69–239–C–J, *Marine Studios, Inc.* v. *Marineland Acres, Inc. et al.*

Reg. No. 382,019. (See Reg. No. 382,018.)

Reg. No. 568,635. (See Reg. No. 606,748.)

Reg. No. 590,251. (See Reg. No. 606,748.)

Reg. No. 605,082 (DEMCO AND DESIGN), Drilling Equipment Manufacturing Company, Tong dies, circulating type rod oilers, float seat pullers, rods and liners for pumps, gland bushings and junk rings for slush pumps, greenhead bits, mud hopper, rotating mud mixing gun, pump brace and spacers; **Reg. No. 863,791** (DEMCO), Demco, Incorporated, Oil field and air conditioning apparatus and the like—namely, drill-pipe float valves and pullers, safety relief valves, gate valves; butterfly valves and accessories—namely, gear operators and automatic actuators; throttling and globe valves; hydraulic choke nipples; hydraulic hose connections; standpipe clamps; pump studs; and hexagon and hammer lug nuts (Class 13); tong dies; mud hoppers; mud mixing guns; pump braces and spacers; gland bushings and junk rings for slushpumps; and centrifugal separators (Class 23); casing and blowout preventer testers (Class 26); **Reg. No. 863,792** (DEMCO AND DESIGN), same, Oil field and air conditioning apparatus and the like—namely, drill-pipe float valves and pullers, safety relief valves, gate valves; butterfly valves and accessories—namely, gear operators and automatic actuators; throttling and globe valves; hydraulic choke nipples; hydraulic hose connections; standpipe clamps; pump studs; and hexagon and hammer lug nuts (Class 13); centrifugal separators (Class 23); casing and blowout preventer testers (Class 26), **filed** Feb. 12, 1969, D.C., E.D. Mo. (St. Louis), Doc. 69C–50(2), *Demco, Incorporated* v. *Development Engineering & Mfg. Co. et al.* Consented to by the parties, plaintiff is the owner of trademark "Demco" and registrations therefor, Nos. 605,082, 863,791 and 863,792; plaintiff's trademark rights infrinegd upon, granting plaintiff an injunction against defendants, Mar. 24, 1969.

Reg. No. 606,748 (LITTLE LEAGUE), Little League Baseball, Inc., Magazines; **Reg. No. 568,635** (LITTLE LEAGUE BASEBALL AND DESIGN), same, Promoting and devolping sportsmanship, team play, and athletic ability through the medium of organized juvenile baseball teams; **Reg. No. 590,251**, same, Young boys' T-shirts and sweatshirts, **filed** Nov. 22, 1967, D.C., S.D.N.Y., Doc. 67–C–4613, *Little League Baseball, Incorporated* v. *All American Brush Mfg. Corp.* Final judgment, defendant perpetually enjoined, Jan. 29, 1968.

Reg. No. 620,240 (FINA AND DESIGN), Canadian Petrofina Limited, Gasoline; **Reg. No. 664,285**, same, American

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	11,860
Date of oldest new application	February 28, 1968
Date of oldest amended application (filing date)	March 4, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	11-18-68	5-10-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	8-22-68	3- 4-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11-18-68	9-22-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	2-28-68	8-25-66
Renewals (All Classes)	3-14-69	--------
Sec. 12(c) Publications (All Classes)	4-2 -69	--------

Applications filed during the month of April 1969—2,768

Registrations Issued	456—No. 871,081 to No. 871,536
Renewals Issued	150

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Petrofina, Incorporated, Liquid petroleum products including lubricating oils and greases; **Reg. No. 673,746** (FINA), same, Gasoline; **Reg. No. 674,437** (FINA AND DESIGN), same, **filed** Apr. 9, 1969, D.C., S.D. Calif. (San Diego), Doc. 69–102–S, *American Petrofina, Inc. et al.* v. *Petro-Fina, Inc. et al.*

Reg. No. 628,293 (AMERICAN HERITAGE AND DESIGN), American Heritage Publishing Co., Inc., Periodical; **Reg. No. 668,984** (AMERICAN HERITAGE), same, Grooved phonograph records; **Reg. No. 682,929**, same, Books and periodicals; **Reg. No. 696,460**, same, Films; **Reg. No. 712,163** (AMERICAN HERITAGE JUNIOR LIBRARY AND DESIGN), same, Books and periodical publications; **Reg. No. 713,185** (AMERICAN HERITAGE), same, Tape recordings; **Reg. No. 806,328**, same, Board games and card toys, **filed** Aug. 13, 1968, D.C., S.D.N.Y., Doc. 68–C–3260, *American Heritage Publishing Co., Inc.* v. *World Art Group, Inc. et ano.* Final judgment, defendants permanently enjoined, Apr. 1, 1969.

Reg. No. 664,285. (See Reg. No. 620,240.)

Reg. No. 668,984. (See Reg. No. 628,293.)

Reg. No. 673,746. (See Reg. No. 620,240.)

Reg. No. 674,437. (See Reg. No. 620,240.)

Reg. No. 682,929. (See Reg. No. 628,293.)

Reg. No. 696,460. (See Reg. No. 628,293.)

Reg. No. 712,163. (See Reg. No. 628,293.)

Reg. No. 713,185. (See Reg. No. 628,293.)

Reg. No. 759,940 (PAVABID), Marion Laboratories, Inc., Vascular relaxant and antispasmodic, **filed** Sept. 26, 1968, D.C., E.D. Mich. (Detroit), Doc. 31765, *Marion Laboratories, Inc.* v. *Lakeshore Drugs.* Final judgment consent decree, permanent injunction, Mar. 24, 1969.

Reg. No. 806,328. (See Reg. No. 628,293.)

Reg. No. 827,319 (SIZZLER STEAK HOUSE), Sizzlers, Inc., Restaurant services, **filed** Feb. 20, 1969, D.C., S.D. Tex. (Houston), Doc. CA 69–H–177, *Sizzler Family Steak Houses* v. *Sizzler Steak Houses International Corp., Wm. F. Nuss, Jr. and B. L. Helm.*

Reg. No. 863,791. (See Reg. No. 605,082.)

Reg. No. 863,792. (See Reg. No. 605,082.)

MARKS PUBLISHED FOR OPPOSITION

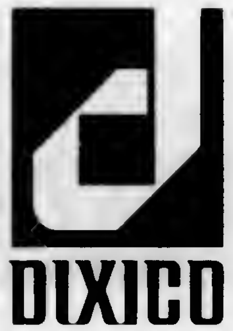
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 275,006. Dixie Wax Paper Company, Dallas, Tex. Filed June 29, 1967.



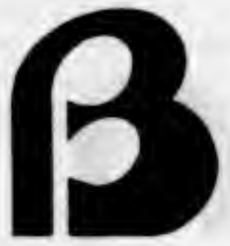
Class 2—Receptacles

For Form and Fill Type Fabricated Bags Made of Printed or Unprinted Waxed Paper and Laminates of Combinations of Cellophane, Polypropylene, Glassine, Paper, Foil and Plastic Film (Int. Cl. 16).
First use Mar. 16, 1967.

Class 37—Paper and Stationery

For Continuous Webs of Printed or Unprinted Waxed Paper, and Laminates of Combinations of Cellophane, Polypropylene, Glassine, Paper, Foil and Plastic Film Used for Making Form and Fill Type Packages (Int. Cl. 16).
First use Feb. 8, 1967.

SN 285,083. D. H. Baldwin Company, Cincinnati, Ohio. Filed Nov. 17, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers (Int. Cl. 9).
First use Sept. 29, 1965.

Class 36—Musical Instruments and Supplies

For Pianos, Organs, Harpsichords, Banjos, Guitars, Trumpets, Cornets, Trombones, and Sousaphones (Int. Cl. 15).
First use Dec. 12, 1966.

Class 38—Prints and Publications

For Books, Pamphlets, Brochures, and Newsletters Relating to the Field of Musical Instruments (Int. Cl. 16).
First use Jan. 23, 1967.

SN 286,417. De Jur-Amsco Corporation, Long Island City, N.Y. Filed Dec. 7, 1967.

DE J

Class 21—Electrical Apparatus, Machines, and Supplies

For Microphones, Microphone Holders, and Earphones (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters and Parts Therefor (Int. Cl. 7).

Class 36—Musical Instruments and Supplies

For Dictating Machines, Tape Magazines, Erase Magnets, Telephone Adapters for Dictating Machines, and Carrying Cases for Dictating Machines (Int. Cl. 9).

First use July 17, 1964.

SN 286,524. Hallowell Shoe Company, Augusta, Maine. Filed Dec. 8, 1967.

AMERICAN CHAMPION

Owner of Reg. No. 711,161.

Class 22—Games, Toys, and Sporting Goods

For General Line of Athletic Footwear and Sports Footwear, Excluding Tennis and Basketball Shoes (Int. Cl. 25).
First use at least as early as Sept. 1, 1967.

Class 39—Clothing

For Dress Footwear and Casual Footwear (Int. Cl. 25).
First use at least as early as Feb. 9, 1959.

SN 289,701. La Boutique de Sheila, S.A.R.L., Paris, France. Filed Jan. 26, 1968.

La Boutique
de Sheila

Owner of French Reg. No. 520,159, dated Mar. 4, 1964; Natl. Inst. No. 221,136.

Class 22—Games, Toys, and Sporting Goods

For Dolls' Clothes (Int. Cl. 28).

Class 39—Clothing

For Sleepwear, Pants, Aprons, Hats, and Overcoats; Children's Clothes—Namely, Dresses, Coats, Skirts, Blouses, Raincoats, Sweaters, and Slacks; Suede and Leather Clothes—Namely, Lumber Jackets, Dresses, Skirts, Two-Piece Dresses in Leather and Suede; Sportswear—Namely, Sweat-Suit Slacks, Anoraks, Slacks, Jackets and Slacks of All Kinds, Long Jackets, Sport Suits, Track Suits, Sweaters, Scarfs, Bathing Suits, Beach Robes, and Pullovers (Int. Cl. 25).

SN 290,254. M. E. Canfield Company, Los Angeles, Calif. Filed Feb. 5, 1968.

MEC
Co

Class 19—Vehicles

For Industrial Material Handling Hand Trucks, and Special Fabricated Material Handling Hand Trucks (Int. Cl. 12).
First use Feb. 1, 1951.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Power and Hand Lift Trucks, Gravity Conveyors and Belt and Roller Conveyors, and Specially Fabricated Gravity Conveyors and Belt and Roller Power Conveyors (Int. Cls. 7 and 12).
First use Feb. 1, 1951.

Class 32—Furniture and Upholstery

For Pallet Storage Racks (Int. Cl. 20).
First use Feb. 4, 1957.

SN 290,567. American Stock Exchange, New York, N.Y. Filed Feb. 8, 1968.

AMERICAN STOCK EXCHANGE

Applicant makes no claim of an exclusive right to use the words "Stock Exchange" except as a part of its mark as a whole.

Class 38—Prints and Publications

For Periodicals—Namely, Magazines, News Reports and Pamphlets Issued on a Regular as Well as Irregular Basis, and Printed Studies in Pamphlet Form, Issued Irregularly, Relating to Securities and the Marketing of Securities (Int. Cl. 16).

Class 100—Miscellaneous

For Conducting Programs for the Testing and Approving of Securities Specialists, Analysts and Registered Representatives (Int. Cl. 42).

Class 102—Insurance and Financial

For Securities Exchange Services—Namely, Providing a Market for Securities, Providing Information About Securities and Corporations Issuing Securities, Compiling and Disseminating Price Level and Volume Indices (Int. Cl. 36).

First use at least as early as Jan. 5, 1953.

SN 291,300. Universal Oil Products Company, Des Plaines, Ill. Filed Feb. 19, 1968.

ERLEN

Class 6—Chemicals and Chemical Compositions

For Chemical Compositions for Use in Water Treating—Namely, Corrosion Inhibitors, Algaecides, Algaecide Briquettes, and Emulsifiers (Int. Cls. 2 and 5).
First use Sept. 17, 1959.

Class 18—Medicines and Pharmaceutical Preparations

For Enema Soap (Int. Cl. 3).
First use Nov. 18, 1959.

Class 52—Detergents and Soaps

For Descaling Preparations and Solvent Cleaners (Int. Cl. 1).
First use Sept. 17, 1959.

SN 300,865. Soul Brands, Inc., Memphis, Tenn. Filed June 20, 1968.

SOUL BRANDS

The drawing is lined for the colors red and blue. The word "Brands" is disclaimed apart from the mark as shown.

Class 18—Medicines and Pharmaceutical Preparations

For Aspirin (Int. Cl. 5).
First use June 10, 1968.

Class 39—Clothing

For Men's Undershirts, Blue Jeans, Work Shirts, and Work Trousers (Int. Cl. 25).
First use June 12, 1968.

SN 309,324. Multiplex Company, St. Louis, Mo. Filed Oct. 10, 1968.

MULTIPLEX

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Dispensing Faucets for Beverage Dispensers, and Parts Thereof (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Carbonators and Non-Refrigerated and/or Heated Beverage Dispensers, and Parts Thereof (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Refrigerated Beverage Dispensers, and Parts Thereof (Int. Cl. 11).

First use June 27, 1968.

SN 312,368. Lifetime Career Schools, Incorporated, Los Angeles, Calif. Filed Nov. 18, 1968.

AMORI

Class 14—Metals and Metal Castings and Forgings

For Decorative Gold Leaf (Int. Cl. 2).

Class 29—Brooms, Brushes, and Dusters

For Art Brushes (Int. Cl. 16).

First use Aug. 26, 1966.

SN 313,534. Flo-Paint, Inc., Long Island City, N.Y. Filed Dec. 4, 1968.

BoatLIFE

The word "Boat" is disclaimed apart from the mark as shown.

Class 12—Construction Materials

For Polysulfide Sealants; Butyl Sealants; Vinyl-Acrylic Sealers; and Epoxy Penetrating Sealants (Int. Cl. 17).
First use on or before Dec. 22, 1966.

Class 16—Protective and Decorative Coatings

For Clear and Pigmented Plastic Boat Finishes; Clear and Pigmented Plastic Boat Finishes in the Nature of Varnishes; Moisture Cure Polyurethane Varnishes; Anti-Fouling Marine Bottom Paints; Ketone Solvents; Silicone Metal Preservatives; Rubber Waterproof Coatings; Sealers for Natural Wood Surfaces; Pigmented Sealers for Wood Surfaces; Pigmented Stains for Wood Surfaces; and Chlorinated Rubber Primers (Int. Cl. 2).
First use Nov. 21, 1949.

SN 317,675. ESB Incorporated, Philadelphia, Pa. Filed Jan. 28, 1969.

EXIDE

Owner of Reg. Nos. 36,186, 816,070, and others.

Class 5—Adhesives

For Filling and Bonding Plastic Material (Int. Cl. 1).
First use Dec. 29, 1967.

Class 12—Construction Materials

For Concrete Filler for Repairing Pitted Surfaces, Penetrant for Sealing and Restoring Dry Rotted Wood (Int. Cl. 19).
First use July 12, 1968.

Class 16—Protective and Decorative Coatings

For Epoxy Waterproof Sealant Coating Composition (Int. Cl. 2).
First use Aug. 4, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 277,380. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 2, 1967.

THERM-A-FELT

For Non-Woven Fabric of Glass Fibers for General Use in the Industrial Arts (Int. Cl. 24).
First use May 8, 1967.

SN 289,553. Ziegler Chemical & Mineral Corporation, Great Neck, N.Y. Filed Jan. 24, 1968.

EMAREX

For Uintaite Natural Asphalt (Int. Cl. 19).
First use June 17, 1967.

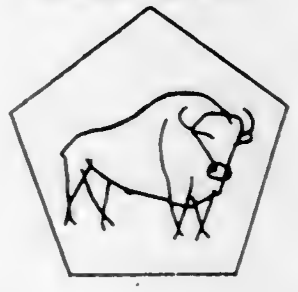
SN 295,477. USM Corporation, Boston, Mass., by change of name from United Shoe Machinery Corporation, Boston, Mass. Filed Apr. 11, 1968.

PLANTEX

For Shoe Insole Material in Sheet Form (Int. Cl. 18).
First use Mar. 13, 1968.

SN 303,892. Centrala Handlu Zagranicznego "Paged," d.b.a. Paged, Warsaw, Poland. Filed 7-30-68.

ALPEX



Priority claimed under Sec. 44(d) on Polish application filed May 27, 1968; Reg. No. 47,629, dated Oct. 15, 1968.
For Chipboard, Fibreboard, and Flaxboard (Int. Cl. 16).
First use in 1955; in commerce in 1961.

SN 306,071. Pluess-Staufer (North American) Inc., New York, N.Y. Filed Aug. 27, 1968.

MILLICARB

For Calcium Carbonate Filler (Int. Cl. 1).
First use September 1962.

SN 307,722. Amicon Corporation, Lexington, Mass. Filed Sept. 19, 1968.

IOPLEX

For Water Absorptive, Ionically Crosslinked Polyelectrolyte Complex Resins Useful in Preparing Electrically Conductive Gels (Int. Cl. 1).
First use Aug. 31, 1964.

SN 308,700. John's, Inc., Apopka, Fla. Filed 10-2-68.

LASTING LANDSCAPE

For Outdoor and Indoor Plants, Trees, Landscaping Materials, Grasses, Mulches, and Rocks (Int. Cl. 31).
First use Apr. 25, 1968.

SN 309,172. Hercules Incorporated, Wilmington, Del. Filed Oct. 8, 1968.

TERPALYN

For Terpene Resin (Int. Cl. 2).
First use Apr. 2, 1968.

SN 310,501. Southwestern Graphite Company, Burnet, Tex. Filed Oct. 24, 1968.

SOUTHWESTERN

For Graphite (Int. Cl. 1).
First use on or about Mar. 31, 1942.

SN 310,559. Glassform Incorporated, Compton, Calif. Filed Oct. 25, 1968.

GLASSFORM

For Fiberglass Reinforced Plastic Material in Sheets and Other Forms for Various Uses in the Industrial Arts (Int. Cl. 17).
First use Aug. 15, 1968.

SN 311,043. Lowe's, Inc., Cassopolis, Mich. Filed Oct. 31, 1968.

TIDY CAT

For Sanitary Cat Box Filler (Int. Cl. 31).
First use Apr. 1, 1953.

SN 312,225. Collagen Corp., New York, N.Y. Filed Nov. 14, 1968.

COLLAGEN

For Continuous Rolled Leather-Based Material for Footwear, Upholstery, Handbags, and Other Products (Int. Cl. 18).
First use June 21, 1968.

SN 312,226. Collagen Corp., New York, N.Y. Filed Nov. 14, 1968.

COLLACO

For Continuous Rolled Leather-Based Material for Footwear, Upholstery, Handbags, and Other Products (Int. Cl. 18).
First use July 22, 1968.

SN 312,227. Collagen Corp., New York, N.Y. Filed Nov. 14, 1968.

COLAGENE

For Continuous Rolled Leather-Based Material for Footwear, Upholstery, Handbags, and Other Products (Int. Cl. 18).
First use June 21, 1968.

SN 313,697. The B. F. Goodrich Company, Akron, Ohio. Filed Dec. 5, 1968.

EPCAR

For Synthetic Rubber-Like Polymers (Int. Cl. 1).
First use Nov. 20, 1968.

SN 316,935. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Jan. 21, 1969.

OREL

Owner of Reg. No. 622,916.
For Resinous Plastic Materials in the Form of Filaments, for General Use in the Industrial Arts (Int. Cl. 23).
First use Dec. 5, 1968.

SN 319,681. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Feb. 20, 1969.

THALCO

Owner of Reg. No. 845,074.
For Woven Rovings, Polyester Resins, and Epoxy Resins (Int. Cls. 1, 17, and 22).
First use on or about Aug. 21, 1946.

Class 2 — Receptacles

SN 278,329. Whitman Publishing Company, Racine, Wis. Filed Aug. 15, 1967.

WHITMAN

Owner of Reg. Nos. 697,472, 721,356, and others.
For Boxes and Containers for Playing Cards, Flash Cards, Greeting Cards, Valentines, Crayons, Coloring Pencils, Coloring Books, Paints, Paint Books, Gift-Wrappings, Games, Toys, Educational Activity Apparatus, and Paste and Glue (Int. Cl. 16).
First use as early as 1950.

SN 289,552. Zayre Corp., Natick, Mass. Filed Jan. 24, 1968.
For Folding Box (Int. Cl. 16).

ENVO-TAINER

First use May 1967.

SN 300,426. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Filed June 14, 1968.

HEFTICORE

For Paperboard Tubes or Cores (Int. Cl. 16).
First use March 1967.

SN 313,707. Koro Corporation, Hudson, Mass. Filed Dec. 5, 1968.

KOROWARE

For Plastic Tableware—Namely, Dishes, Cups, Trays, Bowls, and Utensils (Int. Cl. 21).
First use June 1968.

SN 314,708. Girard, Bruce, Garabedian and Associates Ltd., Montreal, Quebec, Canada. Filed Dec. 17, 1968.

TUKILIK

Owner of Canadian Reg. No. 158,826, dated Oct. 18, 1968.
For Salt Shakers and Pepper Shakers (Int. Cl. 21).
First use Oct. 27, 1967; in commerce Nov. 1, 1968.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 293,745. Sirco Products Co., Inc., Mount Vernon, N.Y. Filed Mar. 20, 1968.

CLUTCHABLES

For Wallets, Billfolds, Handbags, Purses and Key Cases (Int. Cl. 18).
First use Feb. 23, 1968.

SN 311,245. Eastman Kodak Company, Rochester, N.Y. Filed Nov. 4, 1968.

MEMORY BANK

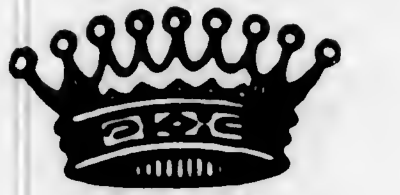
For Wallets, Pocket Secretaries, and Clutch Purses (Int. Cl. 18).
First use Aug. 8, 1968.

SN 311,467. Countess Mara, Inc., New York, N.Y. Filed Nov. 6, 1968.

Countess Mara

Owner of Reg. Nos. 370,030, 597,237, and others.
For Wallets, Billfolds, Pocketbooks, Portfolios, Brief Cases, Handbags, Travel Bags, and Luggage (Int. Cl. 18).
First use Jan. 1, 1956.

SN 311,469. Countess Mara, Inc., New York, N.Y. Filed Nov. 6, 1968.



Owner of Reg. Nos. 380,728, 639,447, and others.
For Wallets, Billfolds, Pocketbooks, Portfolios, Brief Cases, Handbags, Travel Bags, and Luggage (Int. Cl. 18).
First use Jan. 1, 1956.

SN 313,282. Evans-Aristocrat Industries, Inc., Elizabeth, N.J. Filed Nov. 29, 1968.

ARISTOCRAT

Owner of Reg. Nos. 335,030, 427,504, and 513,858.
For Ladies' Handbags, Wallets, Pocketbooks, and Billfolds (Int. Cl. 18).
First use August 1932.

Class 4 — Abrasives and Polishing Materials

SN 294,737. J. F. Jelenko & Co., Inc., New Rochelle, N.Y. Filed Apr. 2, 1968.

JELENKO
BBC

Owner of Reg. Nos. 151,150 and 277,064.
For Polishing Compound in Bar Form, for Application to Polishing Wheels or Brushes (Int. Cl. 3).
First use Mar. 6, 1968.

SN 311,380. S. S. Kresge Company, Detroit, Mich. Filed Nov. 5, 1968.

SSK

For Furniture Polish (Int. Cl. 3).
First use on or about Aug. 23, 1968.

SN 319,412. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 18, 1969.

PROBE

Owner of Reg. No. 856,199.
For Floor Polish (Int. Cl. 3).
First use Feb. 3, 1969.

Class 5 — Adhesives

SN 304,578. Bixby Box Toe Company, Inc., Haverhill, Mass. Filed Aug. 7, 1968.

BIX·PRINT

For Industrial Adhesives Useful, for Example, in Manufacturing Shoes (Int. Cl. 1).
First use July 1967.

Class 6 — Chemicals and Chemical Compositions

SN 289,431. Sterwin Chemicals, Inc., New York, N.Y. Filed Jan. 23, 1968.

BISGUADINE

For Antimicrobial Agent Having Antibacterial, Antifungal, and Antiviral Activity for Application in Toiletry, Cosmetic, Household, Agricultural, and Industrial Products (Int. Cl. 5).
First use Nov. 8, 1967.

SN 307,314. Coulter Diagnostics, Inc., Miami Springs, Fla. Filed Sept. 13, 1968.

ZAP-ISOTON

Owner of Reg. Nos. 828,977, 845,055, and 845,057.
For Lysing Agent for White Blood Cell Counts for Laboratory Use (Int. Cl. 1).
First use Aug. 16, 1968.

SN 307,556. Ciba Limited, Basel, Switzerland. Filed Sept. 17, 1968.

ELOCRON

Owner of Swiss Reg. No. 223,919, dated Mar. 7, 1967.
For Chemical Preparations for Killing Weeds and Destroying Vermin, Preparations for Combating Plant Pests (Int. Cl. 5).

SN 307,557. Ciba Limited, Basel, Switzerland. Filed Sept. 17, 1968.

FENICRON

Owner of Swiss Reg. No. 223,920, dated Mar. 7, 1967.
For Chemical Preparations for Killing Weeds and Destroying Vermin, Preparations for Combating Plant Pests (Int. Cl. 5).

SN 307,567. Eugen Durrwachter and Eberhard Bosch (joint owners), d.b.a. Dr. Eugen Durrwachter Doduco, Pforzheim, Germany. Filed Sept. 17, 1968.

EXAMET

Owner of German Reg. No. 843,913, dated Sept. 10, 1966.
For Chemical Products for Galvanotechnic Purposes (Int. Cl. 1).

SN 307,643. Guardian Chemical Corporation, Long Island City, N.Y. Filed Sept. 18, 1968.

NADOL

For Deodorizer for Hospital Use (Int. Cl. 5).
First use May 20, 1968.

SN 307,651. Kalo Inoculant Company, Kansas City, Mo. Filed Sept. 18, 1968.

MOLYNOCULANT

For Inoculating Bacteria for Legume Seeds (Int. Cl. 1).
First use Apr. 6, 1959.

SN 307,652. Kalo Inoculant Company, Kansas City, Mo. Filed Sept. 18, 1968.

MOLY-B

For Treatment Compound for Agricultural Seeds (Int. Cl. 1).
First use Mar. 6, 1964.

SN 307,731. Dexter Chemical Corporation, Bronx, N.Y. Filed Sept. 19, 1968.

AMPITOL PE-30

Owner of Reg. No. 825,562.
For Softener and Finishing Agent for Use in the Textile, Pulp and Paper Industries (Int. Cl. 1).
First use July 1956.

SN 307,818. Allied Research Products, Inc., Baltimore, Md. Filed Sept. 20, 1968.

ISOCHELLE

For Electroplating Addition Agent (Int. Cl. 1).
First use Mar. 11, 1968.

SN 307,882. U.F. Chemical Corporation, Woodside, N.Y. Filed Sept. 20, 1968.

CAPILLARDIAMIN

For Synthetic Foam for Oil Absorption and Filtration Purposes (Int. Cl. 1).
First use Sept. 16, 1968.

SN 308,080. Aerostyle Limited, London, England. Filed Sept. 24, 1968.

Intergran

For Powders for Use in the Printing Industry for Preventing Set-Off (Int. Cl. 1).
First use before 1955; in commerce Jan. 1, 1956.

SN 308,092. Chemco Photoproducts Company, Inc., Glen Cove, N.Y. Filed Sept. 24, 1968.

POWERFLO

For Photographic Chemicals—Namely, Photographic Developer, Developer Replenisher and Wetting Agent for Use With Such Developer (Int. Cl. 1).
First use Aug. 16, 1968.

SN 308,234. Donald J. Simendinger, d.b.a. Berdon Industries, Columbus, Ohio. Filed Sept. 25, 1968.

IMA-GRAPH

For Chemical Solution Commonly Known as a Toner To Be Used on Electrostatic Reproduction Machinery (Int. Cl. 1).
First use Sept. 17, 1968.

SN 308,279. S. F. Durst & Company, Inc., Philadelphia, Pa. Filed Sept. 27, 1968.

TEED

For Insect Repellent (Int. Cl. 5).
First use Aug. 9, 1968.

SN 308,332. Union Camp Corporation, New York, N.Y. Filed Sept. 26, 1968.

UNITENE

For Dipentine (Int. Cl. 1).
First use Sept. 2, 1966.

SN 319,682. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Feb. 20, 1969.

THALCO

Owner of Reg. No. 845,074.
For Curing Catalysts and Promoters, Acetone and Styrene, and Pigment Dispersions (Int. Cls. 1 and 2).
First use on or about Aug. 21, 1946.

Class 7 — Cordage

SN 290,719. The Chest, Los Angeles, Calif. Filed Feb. 9, 1968.

HOT TAPE

The word "Tape" is disclaimed apart from the mark as a whole.
For Gift Wrapping Tape (Int. Cl. 16).
First use July 23, 1967.

SN 302,846. Lion Ribbon Company, Inc., New York, N.Y. Filed July 16, 1968.

CORDUROYAL

For Ribbons for Floral Arrangements, and Decorative Wrapping (Int. Cl. 26).
First use in or before March 1968.

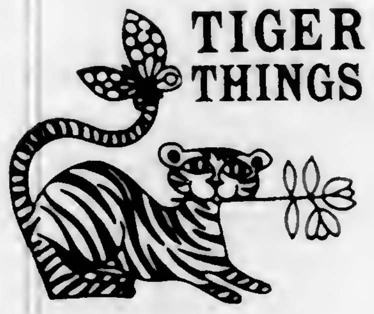
SN 316,009. Global Strapping Company, Dalton, Ga. Filed Jan. 7, 1969.

WELD
LOC

Owner of Reg. No. 841,076.
For Non-Metallic Poolypropylene Strapping (Int. Cl. 22).
First use July 1, 1966.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 275,319. Tiger Fabrics, Inc., New York, N.Y. Filed July 3, 1967.



Owner of Reg. No. 830,429.
For Ash Trays, Cigarette Holders, and Cigarette Lighters (Int. Cl. 34).
First use Aug. 9, 1966.

SN 304,428. Max Morris Schulte, d.b.a. Schulte's Pipe Shop, Maplewood, N.J. Filed July 2, 1968.

SCHULTE'S

For Pipes (Int. Cl. 34).
First use Aug. 6, 1933.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 308,944. Avco Corporation, Richmond, Ind. Filed Oct. 7, 1968.

AVCO

Owner of Reg. Nos. 437,363, 833,101, and others.
For Fuzes and Controls Therefor, Missiles, Missile Launchers, Projectiles and Components Therefor, Projectile Cases, Flares, Explosive Mines, Explosion Initiating Timers, and Bombs (Int. Cl. 13).
First use December 1966.

Class 10 — Fertilizers

SN 300,754. Terra Chemicals International, Inc., Sioux City, Iowa. Filed June 18, 1968.

TERRA

For Chemical Fertilizer (Int. Cl. 1).
First use on or about Mar. 28, 1967.

Class 11 — Inks and Inking Materials

SN 285,031. Magruder Color Company, Inc., Newark, N.J. Filed Nov. 16, 1967.

UNI-TONE

For Inks and Inking Materials in the Nature of Flushed Colors for Inks as Well as for a Vehicle Used To Improve the Quality of Inks Already Manufactured (Int. Cls. 1 and 2).
First use on or about Aug. 8, 1967.

SN 312,349. Sun Chemical Corporation, New York, N.Y. Filed Nov. 15, 1968.

HYDROMATTE

For Printing Inks (Int. Cl. 2).
First use Aug. 28, 1968.

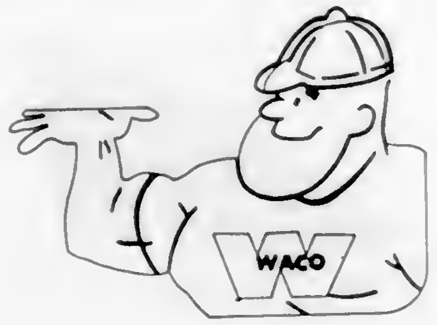
SN 312,351. Sun Chemical Corporation, New York, N.Y. Filed Nov. 15, 1968.

ACETATEX

For Printing Inks (Int. Cl. 2).
First use Aug. 28, 1968.

Class 12 — Construction Materials

SN 299,643. Bliss & Laughlin Industries, Inc., Oak Brook, Ill. Filed June 4, 1968.



Owner of Reg. No. 621,594.
For Shores (Int. Cl. 19).
First use Apr. 15, 1968.

SN 306,597. Tri-Point Industries, Inc., Commack, N.Y. Filed Sept. 4, 1968.

TRI-SEAL

For Thread Sealant for Threaded Joints (Int. Cl. 17).
First use Aug. 19, 1968.

SN 308,115. Lotel, Incorporated, Baton Rouge, La. Filed Sept. 24, 1968.

MESH-UPS

For Flexible Supports for Wire Mesh (Int. Cl. 19).
First use as early as Aug. 21, 1968.

SN 308,409. Textone, Inc., Los Angeles, Calif. Filed Sept. 27, 1968.

TEXWOOD

For Prefinished Plastic and Wood Panel (Int. Cl. 19).
First use Aug. 8, 1968.

SN 313,506. Johns-Manville Corporation, New York, N.Y. Filed Dec. 3, 1968.

MARIMET

Owner of Reg. No. 344,203.
For Inorganic Fibrous Rigid Insulation, Especially Adapted for Conveying Molten Metals (Int. Cl. 17).
First use at least on or about Oct. 11, 1968.

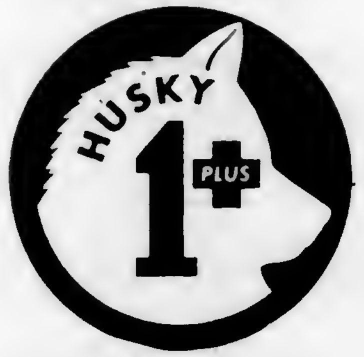
SN 314,176. Baldwin-Ehret-Hill, Incorporated, Trenton, N.J. Filed Dec. 11, 1968.

ELEVAIR

For Acoustical Ceiling Installation (Int. Cl. 19).
First use Oct. 14, 1968.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 311,884. Husky Corporation, St. Louis, Mo. Filed Nov. 12, 1968.



Owner of Reg. No. 673,380.
For Liquid Dispensing Nozzles, Guards Therefor, and Parts Thereof (Int. Cl. 11).
First use on or about Oct. 15, 1968.

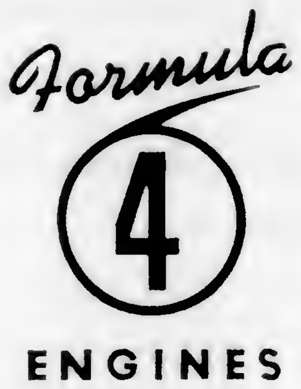
SN 314,795. Innovation Industries, Incorporated, Silver Spring, Md. Filed Dec. 18, 1968.

FRAME-UP

For Picture Frame Hangers (Int. Cl. 6).
First use Aug. 15, 1968.

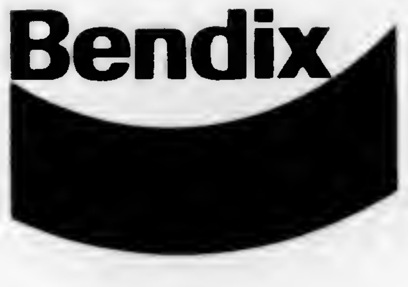
Class 15 — Oils and Greases

SN 283,729. M. B. Sutcliffe Co., Philadelphia, Pa. Filed Oct. 30, 1967.



No claim is made to the word "Formula" or "Engines" apart from the mark.
For Additive for Gasoline and Diesel Fuel (Int. Cl. 1).
First use on or about May 17, 1967.

SN 303,497. The Bendix Corporation, Detroit, Mich. Filed July 24, 1968.



Owner of Reg. No. 525,126.
For Lubricating and Anti-Corrosive Oils and Greases (Int. Cl. 4).
First use Dec. 19, 1967.

Class 16 — Protective and Decorative Coatings

SN 276,756. Master Bronze Powder Company, Inc., Chicago Heights, Ill. Filed July 25, 1967.

THE BEAUTIFUL WAY TO STOP RUST

For Paints, Lacquers, and Varnishes (Int. Cl. 2).
First use December 1961.

SN 288,394. Welco Alloys Corporation, Royal Oak, Mich. Filed Jan. 8, 1968.

**COLD
GALV**

For Anti-Corrosion Primer for Metal (Int. Cl. 2).
First use Aug. 21, 1967.

SN 290,470. Churchill Chemical Company, Galesburg, Ill. Filed Feb. 7, 1968.

RAWHIDE

For Polyurethane Sealing and Finishing Coatings for Floors (Int. Cl. 2).
First use on or about Oct. 25, 1967.

SN 300,378. Sonneborn Building Products, Inc., Des Plaines, Ill. Filed June 13, 1968.

AGGREBRITE

For Liquid Masonry Sealer in the Nature of a Paint (Int. Cl. 2).
First use on or about Apr. 5, 1968.

SN 315,108. W. J. Ruscoe Company, Akron, Ohio. Filed Dec. 23, 1968.

PLASTITOY

For Paints Used for Decorating Plastic and/or Rubber Articles (Int. Cl. 2).
First use Feb. 27, 1957.

Class 17 — Tobacco Products

SN 314,870. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Dec. 19, 1968.

JADE

For Cigars (Int. Cl. 34).
First use Oct. 7, 1968.

SN 314,871. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Dec. 19, 1968.

DAME

For Cigars (Int. Cl. 34).
First use July 17, 1968.

SN 317,925. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Jan. 30, 1969.

EMBRA

For Cigarettes (Int. Cl. 34).
First use Jan. 23, 1969.

SN 317,926. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Jan. 30, 1969.

OPTION

For Cigarettes (Int. Cl. 34).
First use Jan. 24, 1969.

Class 18 — Medicines and Pharmaceutical Preparations

SN 276,143. Lafayette Pharmacal, Inc., Lafayette, Ind. Filed July 17, 1967.

ULTRAGEL

For Water Soluble Contact Medium (To Be Applied to the Patient's Skin), for Use With Ultrasonic Equipment for Making Medical Examinations (Int. Cl. 5).
First use June 6, 1967.

SN 284,592. Bristol-Myers Company, New York, N.Y. Filed Nov. 13, 1967.

REGAIN

For Analgesic Tablets (Int. Cl. 5).
First use Oct. 4, 1967.

SN 284,934. Miles Laboratories, Inc., Elkhart, Ind. Filed Nov. 15, 1967.

FOCUS-NIGHT

Owner of Reg. No. 795,903.
For Headache Preparation (Int. Cl. 5).
First use Sept. 26, 1967.

SN 286,108. Dooner Laboratories Inc., Haverhill, Mass. Filed Dec. 4, 1967.

DULARIN

For Analgesic Preparation for Relief of Pain Such as Simple Headache, Neuralgia, Earache, Toothache, Cold Discomforts, and Muscular Aches and Pains (Int. Cl. 5).
First use Oct. 12, 1967.

SN 297,648. Block Drug Company, Inc., Jersey City, N.J. Filed May 8, 1968.

TREATMENT 20

Applicant disclaims the word "Treatment" apart from the mark as a whole, reserving, however, all common law rights thereto.
For Medicinal Preparation for the Treatment of Acne (Int. Cl. 5).
First use on or about May 1, 1968.

SN 303,505. Bristol-Myers Company, New York, N.Y. Filed July 24, 1968.

ROLITETRIN

For Antibiotic (Int. Cl. 5).
First use Jan. 17, 1968.

SN 306,318. Abbott Laboratories, North Chicago, Ill. Filed Aug. 30, 1968.

LIFE-IRON

For Injectable Iron Preparation for Animal Use (Int. Cl. 5).
First use July 22, 1968.

SN 306,465. Dermik Laboratories, Inc., Syosset, N.Y. Filed Sept. 3, 1968.

JERI-BATH

Owner of Reg. No. 676,903.
For Medical Preparation for Dermatological Use for the Treatment of Dry Skin, Eczema, and Senile Pruritus (Int. Cl. 5).
First use Dec. 21, 1961.

SN 306,565. Hoffman-La Roche Inc., Nutley, N.J. Filed Sept. 4, 1968.

LIMBITROL

For Psychotherapeutic Preparation (Int. Cl. 5).
First use Aug. 23, 1968.

SN 308,685. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Oct. 2, 1968.

BRACE

Owner of Reg. Nos. 357,523 and 442,752.
For Antibactrial Mouthwash and Gargle (Int. Cl. 5).
First use at least as early as Nov. 2, 1967.

SN 309,930. Chesebrough-Pond's Inc., New York, N.Y. Filed Oct. 18, 1968.

PERTUSSIN COLD-SHAKER

Owner of Reg. No. 271,212.
For Cough Syrup (Int. Cl. 5).
First use Sept. 30, 1968.

SN 312,950. Carter-Wallace, Inc., New York, N.Y. Filed Nov. 25, 1968.

DREAMERIN

For Medicated Preparation, an Aid To Relieve Pain and To Achieve Sleep (Int. Cl. 5).
First use Oct. 25, 1968.

SN 315,718. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Jan. 3, 1969.

ANGINOX

Owner of Reg. No. 661,583.
For Cardiovascular Preparation (Int. Cl. 5).
First use Aug. 29, 1968.

SN 315,781. Osto Pharmaceutical Company, Elizabeth, N.J. Filed Jan. 3, 1969.

OSTOGESIC

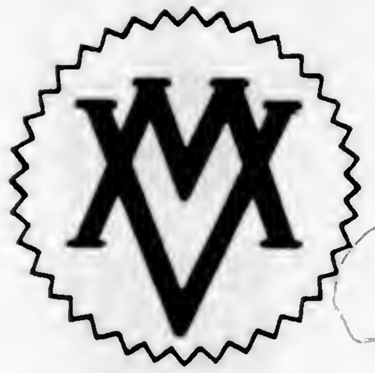
For Headache and Pain Tablets (Int. Cl. 5).
First use Dec. 12, 1968.

SN 315,784. Osto Pharmaceutical Company, Elizabeth, N.J. Filed Jan. 3, 1969.

OSTOTRAN

For Tranquilizer (Int. Cl. 5).
First use Dec. 12, 1968.

SN 315,977. Vitaminerals, Inc., Glandale, Calif. Filed Jan. 7, 1969.



Owner of Reg. Nos. 357,104 and 510,846.
For Analgesic Balm, Anesthetic Ointment, Astringent Preparation, Benzocaine, Bile Salts, Bone Meal for Use as a Source of Calcium and Phosphorus, Calcium Preparations, Chlorophyll, Colloidal Sulphur, Digestive Enzymes, Extract of Ox Bile, Garlic Extracts, Iodine Preparations, Iron Preparations, Iron Sulphate Preparations, Kelp Extracts, Laxatives, Liver Preparations, Mineral Concentrate Preparations, Mineral Ointments, Multiple Vitamin Preparations, Pancreatin, Papain, Phosphorus Preparations, Vitamins A, B-Complex, C, D, E, and F, Antitussive-Expectorant, Citrus Bioflavonoids, Counter Irritant, Digestive Preparations, Glutomic Acid Hydrochloride, High Protein Preparation, Nasal Spray, Poly-Mineral Suspensions, Topical Analgesic and Topical Anesthetic (Int. Cl. 5).
First use Aug. 1, 1933.

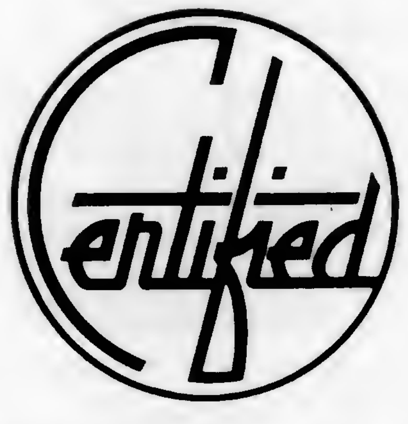
SN 318,320. Miles Laboratories, Inc., Elkhart, Ind. Filed Feb. 4, 1969.

CARBO-CORT

For Dermatological Preparations (Int. Cl. 5).
First use on or before June 30, 1959.

Class 19—Vehicles

SN 245,448. Butler Manufacturing Company, Kansas City, Mo., assignee of Stainless & Steel Products, Co., St. Paul, Minn. Filed May 12, 1966.



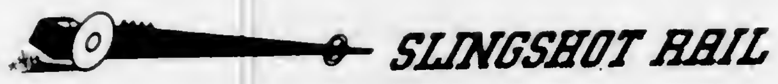
For Tank Truck Bodies and Tank Truck Trailers (Int. Cl. 12).
First use in about 1935.

SN 305,285. Sumitomo Metal Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Aug. 16, 1968.

SUMITOMO

For Parts and Accessories for Railway Freight and Passenger Cars—Namely, Railway Trucks, Wheels, Axles, and Wheel-Axle Units (Int. Cl. 12).
First use Sept. 30, 1907; in commerce Sept. 30, 1965.

SN 310,897. The Huffman Manufacturing Company, Miamisburg, Ohio. Filed Oct. 30, 1968.



For Bicycles, and Parts Therefor (Int. Cl. 12).
First use Sept. 12, 1968.

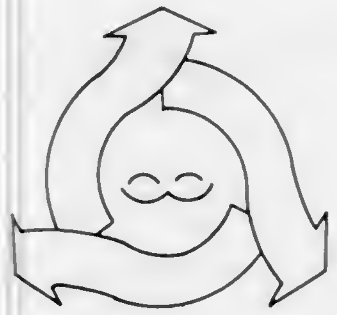
SN 312,795. Motor Wheel Corporation, Lansing, Mich. Filed Nov. 21, 1968.

Perma/Ring

For Decorative Device To Be Affixed to Automobile Rims (Int. Cl. 12).
First use Sept. 5, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 245,518. Sanders Associates, Inc., Nashua, N.H. Filed May 12, 1966.



Owner of Reg. Nos. 770,747, 786,739, and 786,806.
For Electrical Apparatus and Supplies—Namely, Signal Phase Comparison Units Which Produce an Output Signal Proportional to the Phase Difference; Demodulators; Transducers for Generating Signals in Response to Mechanical Vibrations; Inertial Switches; Inverters; Magnetron Tuners; Power Supplies; Capacitors; Inductors; Connectors; Printed Circuits; Flexible Printed Circuits; Solid State Circuits; Servo Amplifiers; Integrated Circuits; Harmonic Generators; Microwave Components—Namely, Tuners, Frequency Multipliers and Sources, Equalizers, Oscillators, Radio Frequency Transmitter Assemblies, Solid State Switches, Solid State Switch Control Circuits and Drivers, Signal Detector Units, Signal Attenuators, Signal Filter Units, Hybrid Couplers, Hybrid Rings, Hybrid Junctions, Modulators, Mixer Units, Power Dividers, Circulators, Directional Couplers, Antennas, Antenna Arrays, Strip Transmission Lines, Slotted Lines, and Modules—Namely, Impedance Transformers, Terminations, Mounts for Semiconductors or Components, Stripline to Coaxial Transitions, and Straight Line Sections (Int. Cl. 9).
First use Nov. 26, 1963.

SN 285,820. Crestworth Limited, Poole, Dorset, England. Filed Nov. 29, 1967.

PHANTOM

Priority claimed under Sec. 44(d) on British Reg. No. 914,611, dated Sept. 19, 1967.
For Electric Lamps (Int. Cl. 11).

SN 287,140. Roland L. Buchanan, d.b.a. Raco Manufacturing Company, Berkeley, Calif. Filed Dec. 18, 1967.

RACO

For Radio Remote Control Apparatus—Namely, Radio Transmitters, and Radio Receivers Having Control Relays (Int. Cl. 9).
First use June 7, 1967.

SN 288,339. Phenix Supply Company, Atlanta, Ga. Filed Jan. 8, 1968.

BALLARD

For Dry Cell Electrical Direct Current Batteries (Int. Cl. 9).
First use Feb. 3, 1958.

SN 288,539. Red Diamond Battery Mfg. Co., Peoria, Ill. Filed Jan. 10, 1968.

ENGINE MATE

For Storage Batteries (Int. Cl. 9).
First use Dec. 22, 1967.

SN 290,276. General Electric Company, Plainville, Conn. Filed Feb. 5, 1968.

LIMIT-BREAK

For Electric Circuit Breaker (Int. Cl. 9).
First use Aug. 31, 1965.

SN 296,452. Dynamics Corporation of America, New York, N.Y. Filed Apr. 24, 1968.

MINILITH

For Piezoelectric Crystal Filters (Int. Cl. 9).
First use Apr. 11, 1968.

SN 300,024. Textron, Inc., Providence, R.I. Filed June 7, 1968.

NIGHTSUN

For Searchlights (Int. Cl. 11).
First use Apr. 11, 1968.

SN 309,731. Allen Electric and Equipment Company, Cleveland, Ohio. Filed Oct. 16, 1968.

MINI-SKIRT

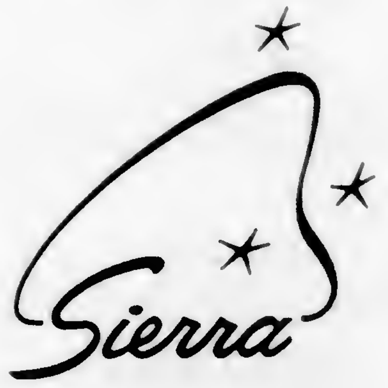
For Antennas (Int. Cl. 9).
First use Sept. 9, 1968.

SN 309,859. General Battery and Ceramic Corp., Reading, Pa. Filed Oct. 17, 1968.

SEA MARK

For Marine Batteries (Int. Cl. 9).
First use Sept. 19, 1968.

SN 309,995. Sierra Electric, Inc., Gardena, Calif. Filed Oct. 18, 1968.



Owner of Reg. Nos. 514,811, 600,973, and others.
For Electrical Apparatus—Namely, Connecting Devices, Flush Switches, Surface Switches, Dimmer Switches, Quiet Switches, Mercury Switches, Flush and Wall Plates, Weatherproof Plates, Lampholders, Receptacles, Convenience Outlets, Sockets, Plugs, Taps, Cord Switches, Connectors, and Circuit Breakers (Int. Cl. 9).
First use February 1967; as early as Mar. 15, 1946 in another form.

SN 310,053. Avnet, Inc., Pawtucket, R.I. Filed Oct. 21, 1968.

DURA-COLOR

For Coaxial Antennae Cable (Int. Cl. 9).
First use on or about Sept. 1, 1968.

SN 310,157. Walco Electric Company, Providence, R.I. Filed Oct. 21, 1968.

REACTOL

For Variable Speed Reactor Drive (Int. Cl. 9).
First use on or about Oct. 14, 1968.

SN 310,592. Scientific Components, Inc., Linden, N.J. Filed Oct. 25, 1968.

VIDIODE

For Solid State Damper Diode (Int. Cl. 9).
First use Sept. 9, 1968.

SN 310,699. Scientific Components, Inc., Linden, N.J. Filed Oct. 28, 1968.

KINODE

For Solid State Rectifier (Int. Cl. 9).
First use Sept. 9, 1968.

SN 310,793. Lighting Products Inc., Highland Park, Ill. Filed Oct. 29, 1968.

TRIMWOOD

For Lighting Fixtures (Int. Cl. 11).
First use Oct. 1, 1968.

SN 311,372. Industrial Electric Reels, Inc., Omaha, Nebr. Filed Nov. 5, 1968.

PORT-O-REEL

Owner of Reg. No. 582,278.
For Automatic Take-Up Reels for Electrical Cords and Cables (Int. Cl. 9).
First use at least as early as Dec. 26, 1961.

SN 311,375. International Telephone and Telegraph Corporation, New York, N.Y. Filed Nov. 5, 1968.

SDN

For Electrical Wire and Cable (Int. Cl. 9).
First use Jan. 11, 1967.

Class 22 — Games, Toys, and Sporting Goods

SN 287,566. Mazzucchelli Celluloide S.p.A., Varese, Italy. Filed Dec. 26, 1967.

maxel

Owner of Italian Reg. No. 204,490, dated Jan. 13, 1967.
For Snow Skis and Relative Accessories Such as Ski Poles (Int. Cl. 28).

SN 294,405. PCR Patent Development Corporation, Princeton, N.J. Filed Mar. 28, 1968.

PCR-BARTSCH

For Golf Balls (Int. Cl. 28).
First use Aug. 12, 1966.

SN 298,089. Mattel, Inc., Hawthorne, Calif. Filed May 14, 1968.

A FOUNDATION TOY FOR THE EARLY LEARNING YEARS

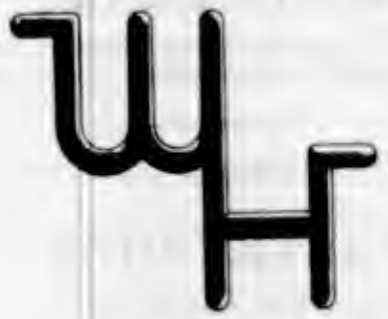
For Sight and Sound Toy for Teaching the Sound and Meaning of Verbal Expressions and Pictures on Cards Inserted Into the Toy, the Sound Being Reproduced in a Plurality of Selected Languages To Teach What Is Shown on the Cards (Int. Cl. 28).
First use Mar. 6, 1967.

SN 303,821. Pioneer Products, Inc., Ocala, Fla. Filed July 29, 1968.

CREST

For Balloons (Int. Cl. 28).
First use July 19, 1968.

SN 303,947. Wonder Products Company, Collierville, Tenn. Filed July 30, 1968.



For Toy Spring Horses (Int. Cl. 28).
First use Apr. 20, 1959.

SN 307,141. Sportsman's Den, Inc., d.b.a. Kendon Mfg. Co., Ooltewah, Tenn. Filed Sept. 11, 1968.

LUCKY DAY

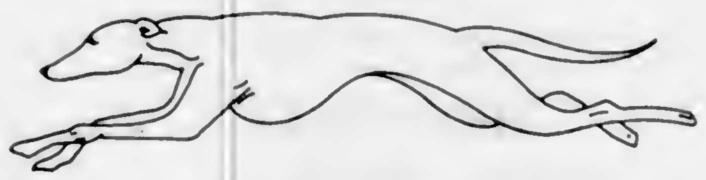
For Fishing Lures (Int. Cl. 28).
First use 1951.

SN 308,971. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

BABY SWEET-TALK

No claim of exclusive right is made to "Baby" for the goods recited. Owner of Reg. Nos. 850,531, 857,426, and others.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 7, 1968.

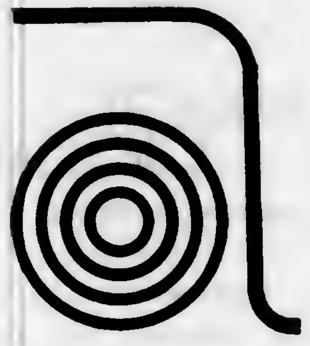
SN 311,135. The Greyhound Corporation, Chicago, Ill. Filed Nov. 1, 1968.



Owner of Reg. Nos. 541,197, 839,755, and others.
For Toy Busses (Int. Cl. 28).
First use in or about 1949.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 267,908. Automatic Feed Company, Napoleon, Ohio. Filed Mar. 30, 1967.



For Machinery for Handling Metal Strip Stock—Namely, Coil Reels, Uncoilers, Straighteners, Washers, Flex Rolls, Feeders, Coil Carts, Stackers, and Coil Storage Ramps (Int. Cl. 7).
First use Feb. 27, 1967.

SN 277,744. Westinghouse Air Brake Company, Chicago, Ill. Filed Aug. 7, 1967.

MANCHA

Owner of Reg. No. 524,331.
For Mine Locomotives and Parts Therefor (Int. Cl. 12).
First use April 1917.

SN 289,543. Torlo International Ltd., Vancouver, British Columbia, Canada. Filed Jan. 24, 1968.

TORLO

Owner of Canadian Reg. No. 147,194, dated Sept. 16, 1966.
For Attachment for Electric Hand Drills for Holding Paint Brushes and Rollers While Rotating for the Purpose of Cleaning Same (Int. Cl. 7).

SN 295,294. American Shear Knife Company, Homestead, Pa. Filed Apr. 10, 1968.

ASKOMET SHUR-LOCK

For Rod Mill Rolls (Int. Cl. 7).
First use Jan. 17, 1968.

SN 295,608. The Black and Decker Manufacturing Company, Towson, Md. Filed Apr. 15, 1968.

EXPECT THE BEST FROM BLACK & DECKER

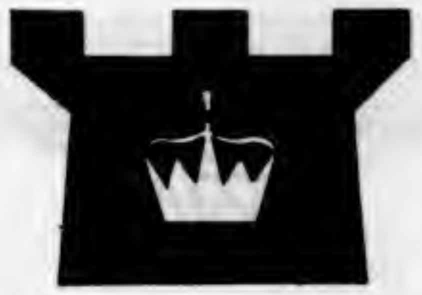
Owner of Reg. Nos. 517,319, 747,219, and others.
For Power Driven Tools—Namely, Drills, Variable-Speed Drills, and Accessories for Grinding, Sanding, Buffing and Wire Brushing; Drill Bits, Chucks and Keys; Rotary Saws; Jig Saws; Belt Sanders; Dual-Action Finishing Sanders; Tool Carrying Cases Containing Drills, Variable Speed Drills and Accessories for Grinding, Sanding, Buffing and Wire Brushing, Drill Bits, Chucks and Keys, Rotary Saws, Jig Saws, and Dual Action Finishing Sanders; Lawn Mowers; Lawn Trimmers and Edgers; and Shrub and Hedge Trimmers (Int. Cl. 7).
First use June 30, 1965.

SN 299,685. The Lowell Corporation, Worcester, Mass. Filed June 4, 1968.

LOWELL

Owner of Reg. Nos. 700,919 and 811,655.
For Wrenches (Int. Cl. 8).
First use around 1870.

SN 300,622. Royal Zenith Corporation, New Hyde Park, N.Y. Filed June 17, 1968.



For Printing and Duplicating Equipment—Namely, Offset Printing Machines, Offset Duplicators, and High Speed Paper Cutters (Int. Cl. 7).
First use June 1958.

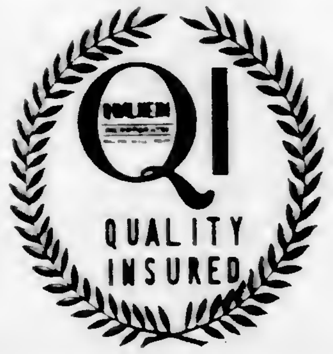
SN 301,078. Koehring Company, Milwaukee, Wis. Filed June 21, 1968.

MKT

For Tractor Drawn Pile Drivers and Hammers, Pile Extractors, Pile Hammer Leads, Pile Hammer Supports, Demolition Hammers, Casing Drivers, Ingot Mold Strippers, and Parts Thereof (Int. Cl. 7).

First use no later than Feb. 23, 1965.

SN 301,447. Qualheim, Inc., Racine, Wis. Filed June 26, 1968.



The words "Qualheim, Incorporated, Racine, Wisconsin," and "Quality Insured," are disclaimed.

For Food Processing Equipment—Namely, Vegetable Cutters, Slicers, Graters, Shredders and Dicers; and Disposal Equipment—namely, Can, Bottle, Carton, and Hypodermic Syringe Crushers (Int. Cls. 7 and 8).

First use June 6, 1968.

SN 303,494. Atlas Supply Company, Springfield, N.J. Filed July 24, 1968.

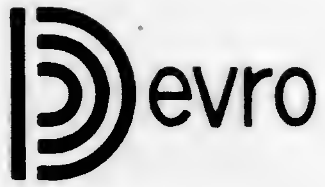
ATLAS

Owner of Reg. Nos. 119,910, 679,167, and others.

For Spark Plug Cleaner (Int. Cl. 7).

First use June 11, 1968.

SN 305,458. Johnson & Johnson, New Brunswick, N.J. Filed Aug. 19, 1968.

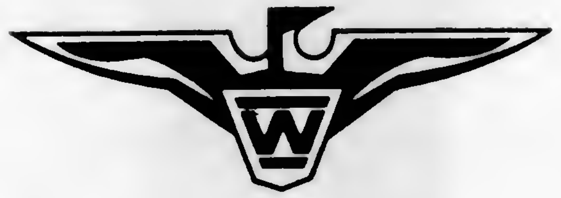


Owner of Reg. Nos. 697,465, 828,513, and 836,363.

For Sausage Packing Machine (Int. Cl. 7).

First use Dec. 10, 1967.

SN 308,551. Walker Manufacturing Company, Racine, Wis. Filed Sept. 30, 1968.



Owner of Reg. No. 849,753.

For Exhaust Systems and Parts Thereof, Such as Mufflers for Internal Combustion Engines (Int. Cl. 12).

First use on or about June 21, 1968.

SN 309,247. The Fellows Gear Shaper Company, Springfield, Vt. Filed Oct. 9, 1968.

FINI-SHEAR

For Gear Cutting and Finishing Machines (Int. Cl. 7).

First use on or about June 25, 1965.

SN 309,827. Automatic Products Co., St. Paul, Minn. Filed Oct. 17, 1968.

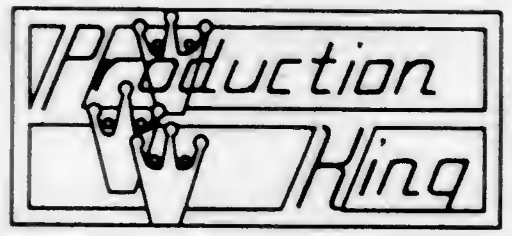
PASTRYSHOP

Owner of Reg. Nos. 533,424 and 832,878.

For Vending Machines for Pastry Foods (Int. Cl. 9).

First use at least as early as December 1966.

SN 310,220. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed Oct. 22, 1968.



For Printing Presses, Paper Handling Apparatus for Printing Presses, and Offset Printing Plates (Int. Cl. 7).

First use June 5, 1968.

SN 310,551. The Dow Chemical Company, Midland, Mich. Filed Oct. 25, 1968.

DOWETCH

Owner of Reg. Nos. 655,403, 658,973, and 711,685.

For Etching Machines Used in Photoengraving (Int. Cl. 7).

First use Nov. 11, 1967.

SN 310,668. International Salt Company, Clarks Summit, Pa. Filed Oct. 28, 1968.

BRINOPAK

Owner of Reg. Nos. 677,654 and 702,531.

For Evaporated Salt Dissolving Machinery (Int. Cl. 7).

First use on or about Aug. 1, 1968.

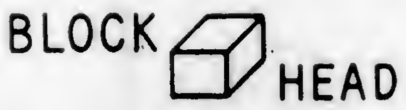
SN 310,676. Leesona Corporation, Warwick, R.I. Filed Oct. 28, 1968.

FLEX STRICTOR

For Extrusion Dies (Int. Cl. 7).

First use on or about Mar. 5, 1965.

SN 310,800. Professional Instruments Company, Minneapolis, Minn. Filed Oct. 29, 1968.



For Machine Tool Spindles (Int. Cl. 7).

First use July 11, 1968.

SN 311,248. Ferguson Industries, Inc., Dallas, Tex. Filed Nov. 4, 1968.

POLYACTOR

For Fertilizer Plants (Int. Cl. 7).

First use at least as early as March 1967.

SN 311,488. H-C Industries, Inc., Crawfordsville, Ind. Filed Nov. 6, 1968.

ULTRA-MARK

For Machines for Applying Identification Coding to Labels, Containers, Container Closures, or Directly on Products Themselves (Int. Cl. 7).

First use Sept. 19, 1968.

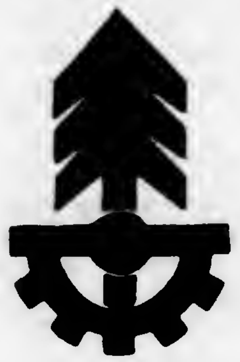
SN 311,685. Logging Development Corporation, Montreal, Quebec, Canada. Filed Nov. 8, 1968.

ARBOMATIK

Owner of Canadian Reg. No. 155,283, dated Jan. 26, 1968.

For Machinery for Logging and Other Purposes—Namely, Machinery for Collecting and Transporting Felled Trees From the Forest; Machinery for Removing Limbs and Bark From Such Trees and Cutting Them Into Pulpwood Lengths; a Telescopic Boom for Handling Trees and Poles; a Device for Removing the Limbs From Felled Trees; a Shearing Device for Cross-Cutting Trees While Moving Longitudinally; a Remotely Controlled Bunk for Securing the Butts or Tops of Trees or Poles to a Moving Vehicle (Int. Cl. 7).

SN 311,686. Logging Development Corporation, Montreal, Quebec, Canada. Filed Nov. 8, 1968.



Owner of Canadian Reg. No. 155,282, dated Jan. 26, 1968.

For Machinery for Logging and Other Purposes—Namely, Machinery for Collecting and Transporting Felled Trees From the Forest; Machinery for Removing Limbs and Bark From Such Trees and Cutting Them Into Pulpwood Lengths; a Telescopic Boom for Handling Trees and Poles; a Device for Removing the Limbs From Felled Trees; a Shearing Device for Cross-Cutting Trees While Moving Longitudinally; a Remotely Controlled Bunk for Securing the Butts or Tops of Trees or Poles to a Moving Vehicle (Int. Cl. 7).

SN 312,894. Kvernelands Fabrikk A/S, Kvernaland, Norway. Filed Nov. 22, 1968.

AGRATOR

For Tractor Ploughs, Disc Harrows, Spring Tooth Harrows, Hay Sweeps, Buckrakes (Chisel Ploughs), Scrapers and Planers, Grubbers, Seed Drills, and Spare Parts (Int. Cl. 7).

First use 1961; in commerce 1966.

SN 313,504. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Dec. 3, 1968.

ENCANTO

For Stainless Steel Knives, Forks and Spoons (Int. Cl. 8).

First use Nov. 1, 1968.

SN 313,978. Kenneth B. Shartzer, Janesville, Wis. Filed Dec. 9, 1968.

OCTOPULLER

For Pulling Machines Used in the Production of Extruded Tubes, Rods, or the Like (Int. Cl. 7).

First use June 15, 1968.

SN 314,432. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968.

STARBORNE

For Flatware Made of Non-Precious Material (Int. Cl. 8).

First use Nov. 6, 1968.

SN 314,434. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968.

PACIFIC

Owner of Reg. No. 439,621.

For Flatware Made of Non-Precious Material (Int. Cl. 8).

First use in 1959.

SN 314,435. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968.

DEL MAR

Owner of Reg. No. 368,789.

For Flatware Made of Non-Precious Material (Int. Cl. 8).

First use Sept. 15, 1964.

SN 314,436. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968.

DUCHESS

Owner of Reg. No. 501,346.

For Flatware Made of Non-Precious Material (Int. Cl. 8).

First use in 1955.

SN 316,375. Eversharp, Inc., Milford, Conn. Filed Jan. 13, 1969.

BARE NOTHING

For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).

First use Dec. 12, 1968.

SN 318,276. Syracuse Supply Company, Syracuse, N.Y. Filed Feb. 4, 1969.

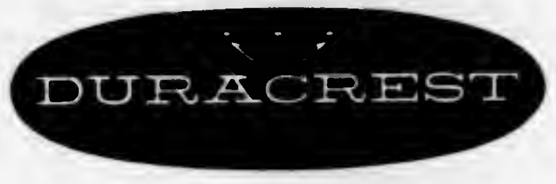
MODULE-VEYOR

For Assembly Line Conveyor and Parts Therefor (Int. Cl. 7).

First use on or before Oct. 21, 1968.

Class 24 — Laundry Appliances and Machines

SN 309,065. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 7, 1968.



Owner of Reg. Nos. 811,624, 849,492, and others.

For Ironing Boards, Ironing Board Pads and Covers, Ironing Tables, Ironing Table Pads and Covers, Aluminum Outdoor Clothes Dryers, Washing Machines, Electric and Gas Clothes Dryers, and Ironing Accessories, Such as Clothes Sorters and Valets (Int. Cls. 6, 7, and 21).

First use February 1961, on ironing boards.

Class 25 — Locks and Safes

SN 303,311. Jackes-Evans Manufacturing Company, St. Louis, Mo. Filed July 22, 1968.

CONTROLLED-ACCESS

For Locks and Handles for Lockers (Int. Cl. 6).
First use Jan. 31, 1968.

Class 26 — Measuring and Scientific Appliances

SN 258,133. Litton Business Systems, Inc., Orange, N.J., by change of name from Monroe International, Inc., Orange, N.J. Filed Nov. 7, 1966.

QUIKOMP

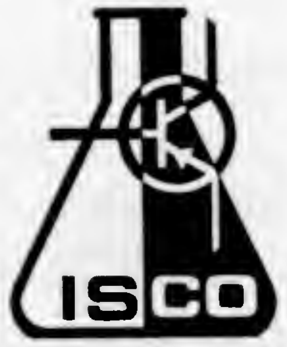
For Record Bearing Mediums for Mathematical Programs—Namely, Computer Tapes, Computer Cards, and Computer Sheets (Int. Cls. 9 and 16).
First use on or about Apr. 7, 1965.

SN 266,013. Digital Equipment Corporation, Maynard, Mass. Filed Mar. 6, 1967.

digital

Applicant disclaims the word "Digital" apart from its use in the mark shown.
For Electronic Equipment and Accessories, Including Digital Data Processing Systems, Modules and Peripheral Equipment Used in Connection Therewith (Int. Cl. 9).
First use Jan. 29, 1962.

SN 289,682. Instrumentation Specialties Company, Lincoln, Nebr. Filed Jan. 26, 1968.



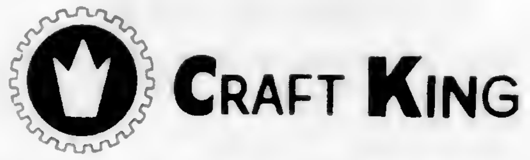
For Measuring Instruments—Namely, Fraction Collectors, Gradient Pump, Electrophoresis Equipment Comprising a Fraction Collector, Electrophoresis Power Supply, Monitor Controller and Recorder for Density Gradient Electrophoresis, Precision Metering Pump, Flow Monitors, Density Gradient Fractionators Dialyzer, Chart Recorder, Microapplicators, Plant Growth Chambers, Spectroradiometers, and Parts Therefor (Int. Cl. 9).
First use Sept. 28, 1967.

SN 296,212. Sundstrand Corporation, Rockford, Ill. Filed Apr. 22, 1968.

OMNICONTROL

For Electronic and/or Computer Controls for Controlling the Operation of One or More Machine Tools (Int. Cl. 9).
First use Mar. 19, 1968.

SN 300,012. Spartans Industries, Inc., New York, N.Y. Filed June 7, 1968.



For Graduated Rules and Measuring Tapes (Int. Cl. 9).
First use Sept. 1, 1964.

SN 307,117. Max Company Limited, Taito-ku, Tokyo, Japan. Filed Sept. 11, 1968.

plan-master

For Drafting Equipment—Namely, Drawing Boards; Drawing Instruments, Namely, Dividers, Pen and Pencil Compasses, Ruling Pens, Bow Pens and Bow Pencils, Beam Compasses; Ruled Scales of Various Types; Rules of Sundry Types; Pantographs; Drafting Machines and Parts Therefor; Drafting Room Equipment, Namely, Drawing Stands, Easels, Tables and Desks, Fixed and Portable; and Draftsman's Stools (Int. Cl. 16).
First use Mar. 9, 1960; in commerce Apr. 12, 1968.

SN 309,589. Kishizuka Kikai Kogyo Kabushiki Kaisha, d.b.a. Kishizuka Drafting Instruments Mfg. Co., Ltd., Daito-ku, Tokyo, Japan. Filed Oct. 14, 1968.

KDI

For Bow Pencil, Divider, Spring Blade Ruling Pen, Compass Pen, Pencil and Divider With Lengthening Bar, Bow Pen, Drop Bow Pen and Pencil, Ruling Pen, Joint Ruling Pen, and Contour Pen (Int. Cl. 16).
First use Oct. 25, 1967; in commerce Oct. 25, 1967.

SN 312,991. The Fibre-Metal Products Company, Chester, Pa. Filed Nov. 25, 1968.

QUICK-LOK

Owner of Reg. No. 652,871.
For Welding Helmet Attachments for Attaching a Welding Helmet to a Safety Cap (Int. Cl. 9).
First use July 3, 1956.

SN 313,165. Engler Instrument Company, Jersey City, N.J. Filed Nov. 27, 1968.

REVO-COUNT

For Revolution Counters (Int. Cl. 9).
First use Nov. 18, 1968.

SN 313,349. Specialized Business Services, Inc., Rochester, N.Y. Filed Nov. 29, 1968.

LIBRAPHONE

For Audio Response Attachment to a Prepackaged Microfilm Library, Marketed as a Unit With a Reader-Printer System (Int. Cl. 9).
First use Oct. 17, 1968.

SN 313,511. Kuhl Egg Equipment Corp., Flemington, N.J. Filed Dec. 3, 1968.

BENHIL

For Egg Candlers and Egg Graders (Int. Cl. 9).
First Use Nov. 25, 1966.

SN 314,709. Gray Company, Inc., Minneapolis, Minn. Filed Dec. 17, 1968.

HYDRA-CAT

For Air Powered Equipment for Proportioning, Mixing and Applying Plural Component Material (Int. Cl. 9).
First use June 1960.

SN 314,891. Kienzle Apparate GmbH, Villingen, Black Forest, Germany. Filed Dec. 19, 1968.

ARGOMATIC

For Taximeters (Int. Cl. 9).
First use Jan. 31, 1964; in commerce Mar. 31, 1967.

SN 315,064. Eugene Dietzgen Co., Chicago, Ill. Filed Dec. 23, 1968.

SWORD

For Copying Machines (Int. Cl. 16).
First use on or about Nov. 8, 1965.

SN 319,537. Flow Technology, Inc., Tempe, Ariz. Filed Feb. 19, 1969.

BALLISTRAK

For Flowmeter Calibrating and Proving Instruments (Int. Cl. 9).
First use Dec. 21, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 303,323. Lenox Jewelry Products Corp., New York, N.Y. Filed July 22, 1968.

SNAP-O-MAT

Owner of Reg. No. 676,005.
For Bracelets and Wrist Watch Bands (Int. Cl. 14).
First use May 1, 1958.

SN 319,525. Veribest Jewelry Co., Inc., New York, N.Y. Filed Mar. 13, 1969.

VT

For Gold Jewelry (Int. Cl. 14).
First use 1951.

Class 29 — Brooms, Brushes, and Dusters

SN 309,535. American Associated Companies, Inc., Atlanta, Ga. Filed Oct. 14, 1968.

JAY BEE

For Mop Yarn Heads (Int. Cl. 21).
First use Sept. 20, 1963.

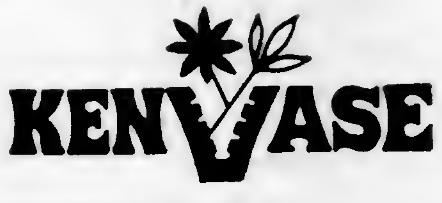
Class 30 — Crockery, Earthenware, and Porcelain

SN 292,505. Shenango Ceramics, Inc., New Castle, Pa. Filed Mar. 5, 1968.

JET SET

For China Dinnerware (Int. Cl. 21).
First use Nov. 7, 1966.

SN 314,397. Kenneth L. McKinnon, San Rafael, Calif. Filed Dec. 13, 1968.



For Earthenware Vases (Int. Cl. 21).
First use as early as Dec. 30, 1967.

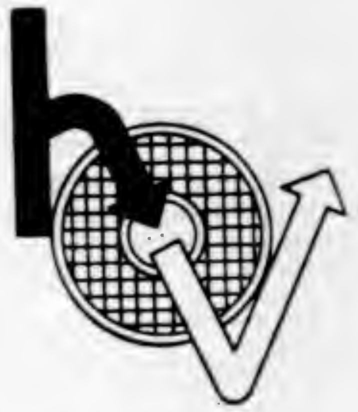
Class 31 — Filters and Refrigerators

SN 286,930. Har-Van Corporation, Chicago, Ill. Filed Dec. 14, 1967.

SELF-O-CLEAN

For Filtration Units for Removing Impurities From Dry Cleaning Fluids (Int. Cl. 11).
First use Nov. 17, 1967.

SN 286,931. Har-Van Corporation, Chicago, Ill. Filed Dec. 14, 1967.



For Filtration Units for Removing Impurities From Dry Cleaning Fluids (Int. Cl. 11).
First use Nov. 17, 1967.

SN 289,051. Western Auto Supply Company, Kansas City, Mo. Filed Jan. 17, 1968.

Wizard Citation

Owner of Reg. Nos. 419,533, 840,882, 847,588, and others.
For Electric Refrigerators and Freezers (Int. Cl. 11).
First use on or about Nov. 20, 1964; in or about May 1937 as to the mark "Wizard."

SN 293,185. The Virtis Company, Inc., Gardiner, N.Y. Filed Mar. 13, 1968.

FLUO-WAR

For Heat Insulated Containers for Refrigeration Application (Int. Cl. 21).
First use Dec. 30, 1958.

SN 294,632. Liquid Carbonic Corporation, Chicago, Ill. Filed Apr. 1, 1968.

ICELANDER

For Machines for Making, Storing and Dispensing Ice Cubes (Int. Cl. 11).
First use Mar. 19, 1968.

SN 304,853. Ametek, Inc., East Moline, Ill. Filed Aug. 12, 1968.

FILT-R-BELT

For Industrial Filters for Separating Solids From Liquids (Int. Cl. 11).
First use Mar. 5, 1968.

SN 314,282. Vistron Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

TWIST-O

For Receptacles, Specifically, Ice Cube Trays (Int. Cl. 21).
First use prior to July 1, 1968.

Class 32 — Furniture and Upholstery

SN 275,883. Truman Boyles, Inc., Alexandria, Va. Filed July 12, 1967.

MEDI-I-FOAM

For Mattresses and Box Springs (Int. Cl. 20).
First use August 1956.

SN 288,135. Sprague & Carleton, Inc., Houston, Tex. Filed Jan. 4, 1968.

MAPLE-SHIELD

For Protective Finish Sold as a Component of Applicant's Furniture—Namely, Living Room, Dining Room, and Bedroom Furniture (Int. Cl. 20).
First use Oct. 30, 1967.

SN 296,988. Samsonite Corporation, Denver, Colo. Filed Apr. 30, 1968.

CELEBRITY

For Folding Furniture—Namely, Tables and Chairs (Int. Cl. 20).
First use Feb. 6, 1968.

SN 304,424. Zimmer Manufacturing Company, Warsaw, Ind. Filed Aug. 5, 1968.

ULTRA-CARE

For Hospital Bed Mattresses (Int. Cl. 20).
First use Feb. 10, 1968.

SN 304,750. American Optical Corporation, Southbridge, Mass. Filed Aug. 9, 1968.

PRESIDENTIAL

For Professional Office Furniture (Int. Cl. 20).
First use June 25, 1968.

Class 33 — Glassware

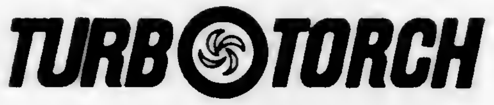
SN 281,991. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed Oct. 6, 1967.

VigilPane

The word "Pane" is disclaimed apart from the mark shown.
For Laminated Safety Glass (Int. Cl. 19).
First use Aug. 21, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 295,694. Wingaersheek Turbine Company, Inc., Lynn, Mass. Filed Apr. 15, 1968.



For Plumbing Torches (Int. Cl. 11).
First use Nov. 3, 1967.

SN 296,261. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Oil Burners (Int. Cl. 11).
First use Oct. 19, 1967.

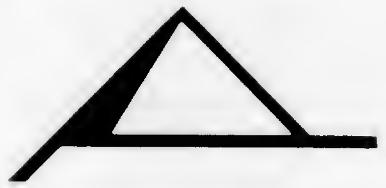
SN 311,490. Hunting World, Incorporated, New York, N.Y. Filed Nov. 6, 1968.

KALAHARI

For Barbecue Grills (Int. Cl. 11).
First use Nov. 15, 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 308,033. Pyramid Incorporated, Newton, Iowa. Filed Sept. 23, 1968.



For Plastic Pulley Belts (Int. Cl. 7).
First use at least as early as Dec. 6, 1967.

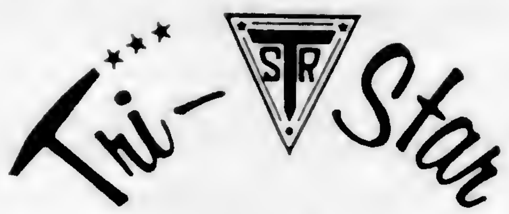
Class 36 — Musical Instruments and Supplies

SN 293,402. St. Louis Music Supply Co. Inc., St. Louis, Mo. Filed Mar. 15, 1968.

PORTA CELLO

The word "Cello" is disclaimed apart from the mark as a whole.
For Cellos (Int. Cl. 15).
First use Feb. 7, 1968.

SN 304,264. Tri-Star Record Company, York Haven, Pa. Filed Aug. 2, 1968.



For Phonograph Records (Int. Cl. 9).
First use July 26, 1967.

Class 37— Paper and Stationery

SN 283,789. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed Oct. 31, 1967.

EBERHARD FABER-BOARD

Owner of Reg. Nos. 129,700, 857,517, and others.
For Marking Pens (Int. Cl. 16).
First use Oct. 27, 1967.

SN 293,052. Rohm and Haas Company, Philadelphia, Pa. Filed Mar. 12, 1968.

TUFFAK

Owner of Reg. No. 715,610.
For Paper Sheet or Tape Forming Protective Coating for Front Surface of Pressure Sensitive Plastic Film or Sheets (Int. Cl. 16).
First use on or about Jan. 10, 1968.

SN 293,148. Max Katz Bag Co., Inc., Indianapolis, Ind. Filed Mar. 13, 1968.

KRAFLENE

Owner of Reg. Nos. 678,204, 739,863, and 794,315.
For Wrappings Made of Multiple Laminations of Materials Such as Paper and Foils (Int. Cl. 16).
First use Dec. 5, 1967.

SN 295,061. Sperry Rand Corporation, New York, N.Y. Filed Apr. 5, 1968.

VARIACOLOR

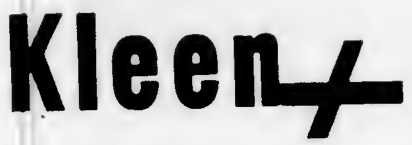
For File Folders (Int. Cl. 16).
First use May 1964.

SN 296,184. National Blank Book Company, Inc., Holyoke, Mass. Filed Apr. 22, 1968.

DA-TA-DAY

For Diaries and Daily Record Keeping Forms for Loose Leaf Binders (Int. Cl. 16).
First use April 1960.

SN 296,833. Kimberly-Clark Corporation, Neenah, Wis. Filed Apr. 29, 1968.



For Toilet Paper, Facial Tissue, and Paper Towels (Int. Cl. 16).
First use Apr. 17, 1968.

SN 299,797. T. G. & Y. Stores Company, Oklahoma City, Okla. Filed June 5, 1968.

GOLDEN T

Owner of Reg. No. 849,417.
For Stationery and Paper Supplies—Namely, Blank Notebooks, Envelopes, Letter Folders, Writing Tablets, Wrapping Paper, Erasers, Mechanical Pencils and Leads, Ballpoint Pens and Refills, Time Books, Index Cards, Index Tabs, Typewriter Paper, and Facial Tissues (Int. Cl. 16).
First use June 26, 1967, on blank notebooks.

SN 300,910. Daniels Manufacturing Company, Rhinelander, Wis. Filed June 20, 1968.

DAN-BAR

Owner of Reg. Nos. 247,345, 733,432, and others.
For Coating Containing a Polyvinylidene Chloride Polymeric Material and Forming a Component Part of Flexible Wrapping Film (Int. Cl. 16).
First use May 14, 1968.

SN 305,662. Carl G. Matson, d.b.a. Research and Development, Kewanee, Ill. Filed Aug. 21, 1968.

FOLD-FILER

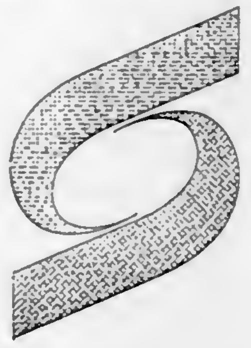
For Partially Printed Memo Sheets (Int. Cl. 16).
First use Nov. 23, 1967.

SN 306,280. Standard Packaging Corporation, Stamford, Conn. Filed Aug. 29, 1968.

FLEX-PEEL

For Plastic Film for Packaging (Int. Cl. 16).
First use at least as early as June 20, 1968.

SN 316,346. Scott Paper Company, Delaware County, Pa. Filed Jan. 10, 1969.



The drawing is lined for the colors gold and orange, but no claim is made for color.
For Paper Towels and Paper Napkins (Int. Cl. 16).
First use Feb. 10, 1967.

SN 317,041. Hasbro Industries, Inc., Pawtucket, R.I. Filed Jan. 21, 1969.

DELCO

For Pencils (Int. Cl. 16).
First use in or about 1936.

SN 317,047. Hasbro Industries, Inc., Pawtucket, R.I. Filed Jan. 21, 1969.

PRESS ROOM

For Pencils (Int. Cl. 16).
First use in or about 1935.

Class 38 — Prints and Publications

SN 277,423. Army Times Publishing Company, Washington, D.C. Filed Aug. 3, 1967.

AIR FORCE TIMES

For Newspaper Publication (Int. Cl. 16).
First use Sept. 27, 1947.

SN 293,794. Alfred M. Best Company, Inc., Morristown, N.J. Filed Mar. 21, 1968.

AM BEST

Owner of Reg. No. 769,203.
For Trade Magazines and Directories (Int. Cl. 16).
First use Mar. 8, 1968.

SN 293,924. Guinness Publishing Limited, Toronto, Ontario, Canada. Filed Mar. 22, 1968.

GP GUINNESS

For Books (Int. Cl. 16).
First use Feb. 7, 1968; in commerce Feb. 7, 1968.

SN 296,338. The Miller Publishing Company, Minneapolis, Minn. Filed Apr. 23, 1968.

Agribusiness Report

For Weekly Newsletter (Int. Cl. 16).
First use Feb. 19, 1968.

SN 309,895. Putman Publishing Company, Chicago, Ill. Filed Oct. 17, 1968.

CHEMICAL PROCESSING

The drawing is lined for red, but color is not an essential feature of the mark. Owner of Reg. Nos. 647,859 and 778,783.
For Magazine (Int. Cl. 16).
First use Aug. 23, 1968.

SN 311,710. White Mitchell, d.b.a. Matthew Industries, Chicago, Ill. Filed Nov. 8, 1968.

PUT-ONS

For Adhesive Backed Decorative Designs To Be Applied to Clothing, Books, Walls, Cars, and the Like (Int. Cl. 16).
First use Oct. 28, 1967.

SN 311,967. Wright of Thomasville, Inc., Thomasville, N.C. Filed Nov. 12, 1968.

GRIPWRIGHT

For Printed Pressure Sensitive Labels (Int. Cl. 16).
First use June 1966.

SN 317,339. Grant Publishing Corporation, Chicago, Ill. Filed Jan. 23, 1969.

GALAXY

For Greeting and Christmas Cards (Int. Cl. 16).
First use June 20, 1968.

SN 317,471. Sherrill-Gibbes Corporation, New York, N.Y. Filed Jan. 24, 1969.

THE COLLEGE GAME

For Programs for Sporting Events (Int. Cl. 16).
First use Sept. 14, 1968.

SN 319,247. Pointer System, Inc., Winona, Minn. Filed Feb. 17, 1969.

MIX'N MATCH

For Music Instruction Books (Int. Cl. 16).
First use Dec. 20, 1968.

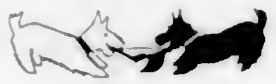
SN 319,546. Looart Press, Inc., Colorado Springs, Colo. Filed Feb. 19, 1969.

MASTERS GALLERY

For Christmas Cards (Int. Cl. 16).
First use Sept. 15, 1968.

Class 39 — Clothing

SN 275,565. T:mi Sidoste, om Lauri Molsa ja Kumpp, Tampere, Finland. Filed July 7, 1967.



SIDOSTE

Owner of U.S. Reg. No. 828,244.
For Stockings (Int. Cl. 25).
First use June 1, 1954; in commerce June 1, 1965.

SN 280,032. Evans, Inc., Chicago, Ill. Filed Sept. 11, 1967.

MINERVA

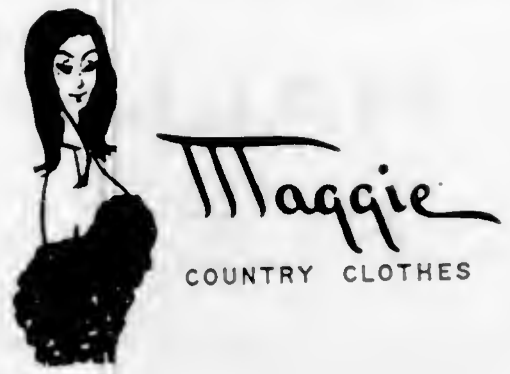
For Women's and Misses' Coats, Jackets, Capes, and Stoles, Which Are Made of Fur, Fur-Fabric, or Are Fur-Trimmed (Int. Cl. 25).
First use Sept. 4, 1964.

SN 282,525. Angelica Corporation, St. Louis, Mo., by change of name from Angelica Uniform Company, St. Louis, Mo. Filed Oct. 16, 1967.

THROW A WEAR

For Uniforms, Including Dresses, Aprons, Bandettes, Blouses, Pinafores, Smocks, Women's Blazers, Tunics, Women's Jackets, Skirts, Slacks, Laboratory Coats, Hospital Coats, Hospital Smocks, Men's Jackets, Cummerbunds, Bow-Ties, Men's Service Coats, Men's Blazers, Men's Shirts, Men's Work Suits, Shoe Covers, Surgical Drapes, Gloves, Patients' Gowns, Scrub Suits, and Operating Gowns, Made of Disposable Throw-Away Material (Int. Cl. 25).
First use Sept. 22, 1967.

SN 288,833. Maggie, Inc., Miami, Fla. Filed Jan. 15, 1968.



The representation of the portrait on the drawing is fanciful. The word "Clothes" is disclaimed apart from the mark as shown.
For Sportswear—Namely, Dresses, Skirts, Blouses, Pants, Shorts, Swim Suits, and Beachwear (Int. Cl. 25).
First use July 10, 1958.

SN 292,437. Uniroyal, Inc., New York, N.Y. Filed Mar. 4, 1968.

CAVALIER

For Over the Foot Boots (Int. Cl. 25).
First use at least as early as Jan. 1, 1962.

SN 293,107. Capel Coat Corp., New York, N.Y. Filed Mar. 13, 1968.

CAPELLIN PROCESS

No claim is made to the word "Process" apart from the mark as shown.
For Specially Processed Fabrics Made Up Into Finished Garments—Namely, Coats and Dresses (Int. Cl. 25).
First use Feb. 8, 1968.

SN 293,788. Apparel Corporation of America, Knoxville, Tenn. Filed Mar. 21, 1968.

WIN BILT

Owner of Reg. Nos. 539,034 and 541,116.
For Men's, Women's, Girls', and Boys' Rainwear; Men's and Boys' Sport Coats and Blazers; Men's Sport Coats and Men's Suits (Int. Cl. 25).
First use Aug. 8, 1966.

SN 294,543. Thermorama, Inc., St. Paul, Minn. Filed Mar. 29, 1968.

Sno-Goose

For Insulated Ski Jackets, Sports Suits, and Snowmobile Suits (Int. Cl. 25).
First use Feb. 20, 1968.

SN 294,652. Pancaldi & B., Bologna, Italy. Filed Apr. 1, 1968.

PANCALDI & B

Owner of Italian Reg. No. 136,675, dated May 29, 1958.
For Ready Made Clothing for Men and Women—Namely, Shirts, Pants, Pajamas, Housecoats, Petticoats, Dressing Gowns, Vests, Ties, and Handkerchiefs (Int. Cl. 25).

SN 296,603. Worksafe, Inc., New York, N.Y. Filed Apr. 25, 1968.

CHEM-SAFE

For Special Purpose Industrial Apparel and Work Clothes Which Are Resistant to Corrosive Materials (Int. Cl. 25).
First use Mar. 22, 1968.

SN 300,077. Jacob Finkelstein & Sons Inc., Woonsocket, R.I. Filed June 10, 1968.

DEERFOOT

For Men's and Boys' Jackets (Int. Cl. 25).
First use May 10, 1968.

SN 304,372. Montebob Manufacturing Co., Inc., Portland, Oreg. Filed Aug. 5, 1968.

PENNANT FASHIONS

Applicant disclaims the word "Fashions" apart from the mark as shown.
For Custom Tailored Identification Wearing Apparel Sold Directly to Schools, Clubs and Other Organizations for Identifying Such Organizations by Their Color, Insignia or the Like—Namely, Skirts, Kilts, Dresses, Sweaters, Vests, Blazers, Jackets, Blouses, and Caps (Int. Cl. 25).
First use at least as early as July 1962.

SN 306,215. Norene Barnes, d.b.a. Marco Sari, Waukegan, Ill. Filed Aug. 29, 1968.

MARCO SARI

Applicant disclaims rights in the word "Sari" apart from the mark as shown.
For Saris (Int. Cl. 25).
First use at least as early as June 4, 1968.

SN 307,658. Marlene Industries Corp., New York, N.Y. Filed Sept. 18, 1968.

KAYE FARMER

"Kaye Farmer" is a fictitious name and does not relate to a known living individal.
For Skirts, Dresses, Blouses, Slips, Negligees, and Housecoats (Int. Cl. 25).
First use July 17, 1968.

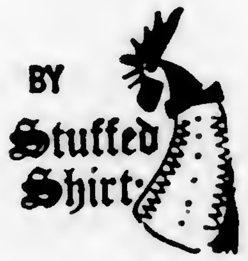
SN 309,832. Block-Southland Sportswear, Inc., Wilmington, N.C. Filed Oct. 17, 1968.

mr. Cris

The mark is fanciful and is not the name of any known living individual.
For Men's, Women's, Boys', Girls', and Children's Outer Shirts, Pajamas, Undershirts, Undershorts, Jackets, Slacks, Night Shirts, Sport Shirts, Dress Shirts, Sweaters, Knit Shirts, and Bathrobes (Int. Cl. 25).
First use Apr. 7, 1966.

SN 311,513. Philip Rothenberg & Co., Inc., New York, N.Y. Filed Nov. 6, 1968.

UNISEX



The word "Shirt" is disclaimed apart from the mark as shown. Owner of Reg. No. 796,437.

For Ladies' and Men's Shirts and Sportswear—Namely, Shirts, Jackets, Vests, Skirts, Shorts, Slacks, and Dresses (Int. Cl. 25).

First use Aug. 29, 1968.

SN 313,718. Palais Royal of Houston, Inc., Houston, Tex. Filed Dec. 5, 1968.

LAWRENCE RICARDO

The name "Lawrence Ricardo" is fictitious, and not the name of any particular living individual.

For Men's Dress Shirts and Men's Ties (Int. Cl. 25).

First use Oct. 3, 1968.

SN 313,837. Puritan Fashions Corporation, New York, N.Y. Filed Dec. 6, 1968.

BARNSVILLE

Owner of Reg. Nos. 744,527 and 754,230.

For Women's, Misses', and Junior Misses' Wearing Apparel—Namely, Dresses, Dress and Play Blouses, Shirts, Jackets, Coats, Slacks, Slack Suits, Shorts, Walk Shorts, Robes, Pajamas, and Bathing Suits (Int. Cl. 25).

First use April 1968; Nov. 1, 1961, in a different form.

SN 313,889. Aztec Industries, Inc., Santa Fe, N. Mex. Filed Dec. 9, 1968.

SOFTAT

For Protective Helmets (Int. Cl. 9).

First use Oct. 1, 1968.

SN 313,913. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Dec. 9, 1968.

DARO-GLO

Owner of Reg. Nos. 398,282 and 813,481.

For Men's and Young Men's Suits (Int. Cl. 25).

First use in or about January 1962.

SN 314,362. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Dec. 12, 1968.

HALL
FLEX

Owner of Reg. Nos. 758,149, 781,039, and others.

For Men's Slacks (Int. Cl. 25).

First use on or about Sept. 9, 1968.

SN 315,157. The Kandahar Sportswear Co., Inc., Allentown, Pa. Filed Dec. 24, 1968.

LINKS AND LATER

For Knit Shirts and Sweaters (Int. Cl. 25).

First use Aug. 22, 1968.

SN 317,037. Hanes Corporation, Winston-Salem, N.C. Filed Jan. 21, 1969.

COMFORT-BLEND

For Knitted and Woven Textile Fabrics Sold in the Form of Men's and Boys' T-Shirts and Briefs, Athletic Shirts, and Shorts (Int. Cl. 25).

First use Oct. 18, 1968.

SN 317,206. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Jan. 22, 1969.

SPAR

For Men's Shirts (Int. Cl. 25).

First use June 1953.

SN 318,708. Genesco Inc., Nashville, Tenn. Filed Feb. 10, 1969.

WEAR IN THE WORLD

For Suits, Coats, and Trousers for Men and Boys (Int. Cl. 25).

First use Dec. 9, 1968.

SN 318,711. Genesco Inc., Nashville, Tenn. Filed Feb. 10, 1969.

INSTANT DRESSING

For Dresses, Slacks, Shorts and Blouses with Built-In Foundation Garments (Int. Cl. 25).

First use Jan. 17, 1969.

SN 318,712. Genesco Inc., Nashville, Tenn. Filed Feb. 10, 1969.

CHARTA

For Men's and Boys' Coats, Suits, and Trousers (Int. Cl. 25).

First use Dec. 17, 1968.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 285,547. Heartsafe, Hart, Tex. Filed Nov. 24, 1967.

HEARTSAFE

For Belt Buckles and Belt Loops Containing a Pill Dispensing Device (Int. Cl. 26).

First use Oct. 1, 1958.

SN 293,273. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 14, 1968.

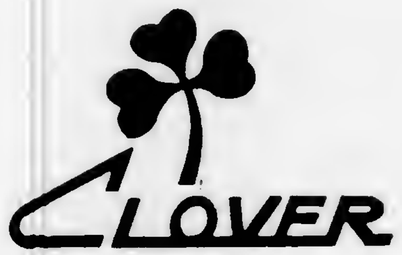
CAT LASHES

The word "Lashes" is disclaimed apart from the mark as shown.

For False Eyelashes (Int. Cl. 26).

First use on or about Feb. 26, 1968.

SN 298,502. Clover Manufacturing Co., Ltd., Higashinari-ku, Osaka, Japan. Filed May 20, 1968.



For Crochet Hooks, Knitting Needles, Pins, Hand Sewing Needles, Embroidery Frames, Thimbles, and Pin Cushions (Int. Cl. 26).

First use January 1948; in commerce May 1961.

SN 307,612. Heavenly Creations, Inc., Norfolk, Va. Filed Sept. 18, 1968.

CURLY GIRLY

For Wigs (Int. Cl. 26).

First use Feb. 1, 1968.

Class 41 — Canes, Parasols, and Umbrellas

SN 314,738. Telesco Brophey Limited, Montreal, Quebec, Canada. Filed Dec. 17, 1968.

Knirps

The drawing is lined for the color red. Owner of Reg. Nos. 684,485 and 783,588.

For Umbrellas (Int. Cl. 18).

First use Nov. 25, 1968; in commerce Nov. 25, 1968.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 273,615. Dwoskin, Incorporated, Atlanta, Ga. Filed June 12, 1967.

DWOSKIN

For Wall Coverings Consisting of Wall Fabrics, Said Wall Fabrics Including Cotton, Rayon, Acetate, Linen, Polyester, Fiberglass, Modacrilic, and Jute (Int. Cl. 24).

First use on or about Feb. 1, 1940.

SN 313,555. Brentford Nylons Limited, Brentford, Middlesex, England. Filed Dec. 4, 1968.

WONDERLON

Owner of British Reg. No. 901,654, dated Nov. 15, 1966.

For Nylon Bedsheets and Pillow Cases (Int. Cl. 24).

SN 316,077. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed Jan. 8, 1969.

WINDOW WONDERLAND

The word "Window" is disclaimed apart from the mark as shown.

For Draperies, Bedspreads, and Curtains of Fabric (Int. Cl. 24).

First use at least as early as 1950.

SN 316,229. Mohasco Industries, Inc., Amsterdam, N.Y. Filed Jan. 9, 1969.

ALLAROUND

For Carpets (Int. Cl. 27).

First use Dec. 27, 1967.

Class 43 — Thread and Yarn

SN 292,714. Robertson Carpet Corp., New York, N.Y. Filed Mar. 7, 1968.

TELRON

For Natural and Synthetic Yarns (Int. Cl. 23).

First use Oct. 23, 1967.

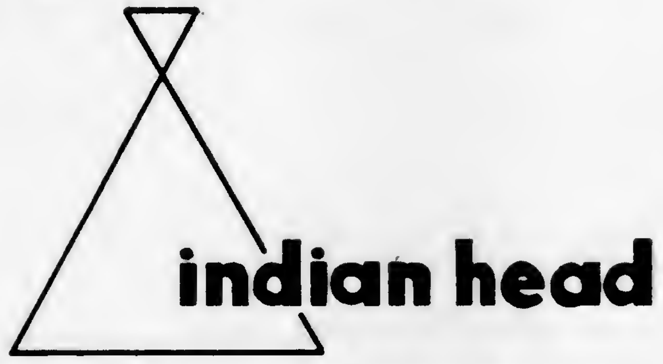
SN 313,947. Lion Brand Yarn Company, New York, N.Y. Filed Dec. 9, 1968.

FINELON

For Yarns and Threads (Int. Cl. 23).

First use Jan. 2, 1967.

SN 315,483. Indian Head Inc., New York, N.Y. Filed Dec. 31, 1968.



Owner of Reg. Nos. 105,539, 769,633, and others.

For Dyed and Natural Yarns (Int. Cl. 23).

First use Nov. 13, 1968.

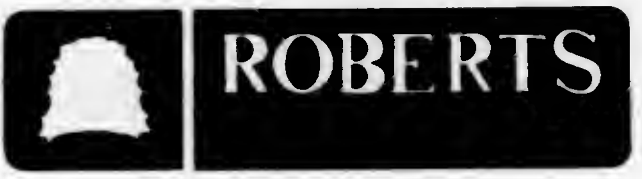
SN 315,960. Standard-Coosa-Thatcher Company, Chattanooga, Tenn. Filed Jan. 6, 1969.

SPUNCOSE

For Industrial Sewing Thread (Int. Cl. 23).
First use Dec. 27, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

SN 291,639. Clive E. Roberts, d.b.a. Roberts Orthodontic Laboratory, La Canada, Calif. Filed Feb. 21, 1968.



For Orthodontic Appliances—Namely, Retainers, Split Plates, Splints, Plastic Chin Caps, Habit Reminders, Lingual Arches, Nance Holding Arches, Rapid Expansion Plates, Coffin Springs, Lip Bumpers, Positioners, Crozats, Diagnostic Set Ups, and Activators (Int. Cl. 10).
First use Jan. 1, 1967.

SN 292,499. Rapid Injection Systems Corp., Flushing, N.Y. Filed Mar. 5, 1968.

PAINT 'N' POUR

For Separating Medium Applicable To Remove Plaster Dental Impressions From Molds (Int. Cl. 5).
First use on or about Jan. 18, 1968.

SN 302,601. The H. C. Cook Company, Ansonia, Conn. Filed July 12, 1968.

GEM

Owner of Reg. Nos. 62,067 and 612,446.
For Eyebrow Tweezers, Nail Files, and Emery Boards (Int. Cl. 8).
First use on or before Jan. 1, 1957.

SN 305,421. Eagle Druggists Supply Co., Inc., New York, N.Y. Filed Aug. 19, 1968.

FITSRITE

Owner of Reg. Nos. 542,886 and 558,191.
For Nose Clips, Pacifiers, Teethers and Teething Rings (Int. Cl. 10).
First use March 1960.

SN 310,711. The Texal Company, Inc., Minneapolis, Minn. Filed Oct. 28, 1968.

DUO-L-A-S-T-I-C

For Surgical Bindings and Splints and Surgical Dressings (Int. Cls. 5 and 10).
First use Aug. 6, 1968.

SN 315,610. Gene E. Trowbridge, d.b.a. Trowbridge Enterprises, Cheyenne, Wyo. Filed Jan. 2, 1969.

LIFE LOCKER

Applicant disclaims the word "Locker" apart from the mark as shown.
For First Aid Kit (Int. Cl. 5).
First use Dec. 13, 1968.

SN 316,435. George H. Hepburn, Jr., Orlando, Fla. Filed Jan. 13, 1969.

MICRONEB

For Vaporizers for Medical Uses (Int. Cl. 10).
First use Sept. 30, 1968.

SN 317,667. Lidocaine Dental Mfg. Co., Inc., Brooklyn, N.Y. Filed Jan. 21, 1969.

ANEST-EEZE

For Sterile Disposable Dental Needles (Int. Cl. 10).
First use Sept. 1, 1968.

SN 318,139. Ruthal Industries, Ltd., Hauppauge, N.Y. Filed Feb. 3, 1969.

RCM

For Dental Filling Material (Int. Cl. 5).
First use on or about Dec. 10, 1968.

SN 318,612. Parke, Davis & Company, Detroit, Mich. Filed Feb. 7, 1969.

FORTIFOR

For Gauze for Medical and Surgical Purposes (Int. Cl. 5).
First use on or before Mar. 1, 1928.

SN 319,306. The B. F. Goodrich Company, Akron, Ohio. Filed Feb. 17, 1969.

EUDERMIC

For Surgeons' Gloves (Int. Cl. 10).
First use Sept. 26, 1956.

Class 45 — Soft Drinks and Carbonated Waters

SN 290,714. Bristol-Myers Company, New York, N.Y. Filed Feb. 9, 1968.

MR. FIZZ

For Powdered Mixture to Which Water Is Added Forming a Carbonated Soft Beverage (Int. Cl. 32).
First use Dec. 14, 1967.

SN 299,319. Gilbert F. Baumeister, d.b.a. Kewaunee Orange Crush Bottling Co. and Kewaunee Bottling Works, Kewaunee, Wis. Filed May 29, 1968.

MARQUETTE CLUB

For Soft Drinks and Mineral Waters (Int. Cl. 32).
First use 1927.

SN 300,957. National Nugrape Company, Atlanta, Ga. Filed June 20, 1968.

PI-NELLA

For Non-Alcoholic, Non-Cereal, Maltless Beverage Sold as a Soft Drink, and Sirup, Extract, and Concentrate for Making the Same (Int. Cl. 32).
First use Oct. 2, 1927.

SN 315,180. Edlo Enterprises, Inc., San Francisco, Calif. Filed Dec. 26, 1968.

**IRISH
ORANGE**

No claim is made to the word "Orange" apart from the mark as shown.
For Soft Drinks (Int. Cl. 32.
First use Dec. 12, 1968.

Class 46 — Foods and Ingredients of Foods

SN 146,026. Cook Chocolate Company, Chicago, Ill. Filed June 4, 1962.

WHEEL

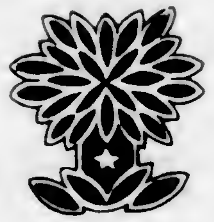
For Chocolate Candy (Int. Cl. 30).
First use in or about September 1953.

SN 250,741. Dad's Root Beer Company, Chicago, Ill. Filed July 21, 1966.

DAD'S

Owner of Reg. Nos. 364,823, 659,585, and 726,573.
For Ice Cream and the Followin; Root Beer Flavored Items: Milk, Candy, Flavored Syrups for Topping of Ice Cream and Puddings, Table Syrups, and Frozen Non-Milk Confections on a Stick in Bulk and in Bar Form (Int. Cls. 29 and 30).
First use Dec. 8, 1959, on ice cream.

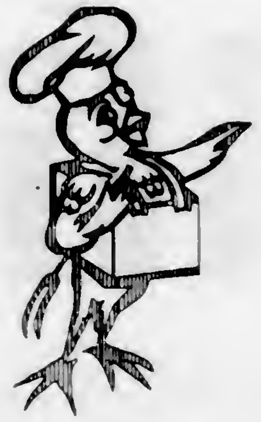
SN 264,975. Savyon Holding SA, Lausanne, Vaud, Switzerland. Filed Feb. 17, 1967.



**GOLDEN
TREE**

Priority claimed under Sec. 44(d) on Swiss Reg. No. 221,311, dated Sept. 22, 1966.
For Food Beverage Containing Cocoa or Chocolate and a Powder Used as a Base for Making Food Flavoring Syrups, Ice Cream, Pastry and Candy (Int. Cl. 30).

SN 273,931. Bud H. Adams, Wichita, Kans. Filed June 15, 1967.



The drawing is lined for the color red, but no claim is made to color.
For Dry Flour Mix (Int. Cl. 30).
First use Nov. 12, 1965.

SN 282,916. North Pacific Canners & Packers, Inc., Portland, Oreg. Filed Oct. 19, 1967.

COBETTES

Owner of Reg. No. 836,368.
For Frozen Corn on the Cob (Int. Cl. 29).
First use July 31, 1967.

SN 285,108. Biloxi Canning & Packing Co., Inc., Biloxi, Miss. Filed Nov. 17, 1967.

BILOXI

For Canned Oysters and Shrimp (Int. Cl. 29).
First use 1881.

SN 286,683. International Salt Company, Clarks Summit, Pa. Filed Dec. 11, 1967.

TX-10

For Salt for Food Purposes (Int. Cl. 30).
First use on or about Apr. 26, 1955.

SN 287,770. Tenderbest Corporation, Cleveland, Ohio. Filed Dec. 28, 1967.

TENDERBEST

Owner of Reg. Nos. 787,344, 787,345, and 791,969.
For Fresh, Frozen and Smoked Meats, Fresh and Frozen Dressed Poultry, Fresh, Frozen and Canned Fish and Canned Meats (Int. Cl. 29).
First use Oct. 25, 1962.

SN 288,898. Valley View Packing Co., Inc., San Jose, Calif. Filed Jan. 15, 1968.

Mity-Sweet

Owner of Reg. No. 639,149.
For Dried Fruits (Int. Cl. 29).
First use Apr. 13, 1955.

SN 291,632. Pet Incorporated, St. Louis, Mo. Filed Feb. 21, 1968.

LIGHT 'N FANCY

For Candy (Int. Cl. 30).
First use Nov. 13, 1967.

SN 292,425. Scott Young & Company Limited, Glasgow, Scotland. Filed Mar. 4, 1968.

**SUPER SIX
CHOCK-A-BLOCK**

Applicant makes no claim to an exclusive right to the term "Super Six" apart from the mark as shown. Owner of British Reg. No. B894,318, dated May 9, 1966.
For Non-Medicated Chocolate and Non-Medicated Chocolate Confectionery, All in Block Form (Int. Cl. 30).

SN 292,642. Usen Products Company, Woburn, Mass. Filed Mar. 6, 1968.

FANCY FIXIN'S

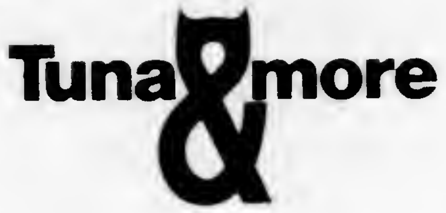
For Cat Food (Int. Cl. 31).
First use Feb. 26, 1968.

SN 292,825. Sweetheart Plastics, Inc., Wilmington, Mass. Filed Mar. 8, 1968.

PZAZZ!

For Italian Ice Confection (Int. Cl. 30).
First use Feb. 2, 1968.

SN 293,607. Usen Products Company, Woburn, Mass. Filed Mar. 18, 1968.



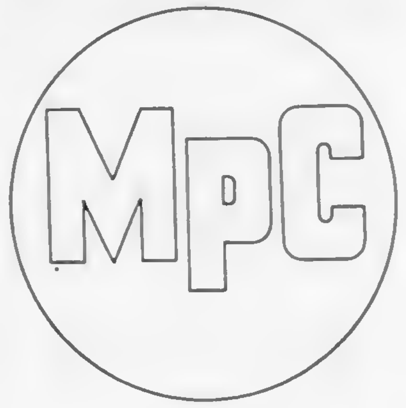
All wording in the mark is disclaimed separate and apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use Feb. 26, 1968.

SN 294,061. Walter M. Lowney Company Limited, Sherbrooke, Quebec, Canada. Filed Mar. 25, 1968.

EAT-MORE

Owner of Canadian Reg. No. 142/32,201, dated Oct. 17, 1922.
For Candy (Int. Cl. 30).

SN 294,567. Alpine Geophysical Associates, Inc., Norwood, N.J. Filed Apr. 1, 1968.



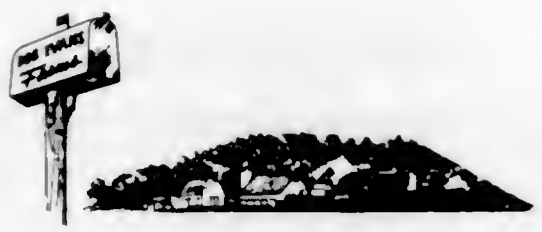
For Fish Protein Concentrate for Use as an Animal Feed (Int. Cl. 31).
First use March 1968.

SN 297,381. Carnation Company, Los Angeles, Calif. Filed May 6, 1968.

CONTADINA

The mark presented is the Italian word for "peasant woman" or "country dance." Owner of Reg. Nos. 124,957 and 855,195.
For Pizza Mix—Namely Pizza Flour Mix, Pizza Sauce, Grated Cheese, and Dry Yeast (Int. Cl. 30).
First use January 1963.

SN 300,179. Bob Evans Farms, Inc., Columbus, Ohio, assignee of Bob Evans Farms, Michigan, Inc., Hillsdale, Mich. Filed June 11, 1968.



"Bob Evans" identifies "Robert L. Evans" whose consent is of record. Owner of Reg. Nos. 846,356 and 846,357.
For Pork Sausage and Smoked Pork Sausage (Int. Cl. 29).
First use Sept. 15, 1964.

SN 300,372. Romano and Son, Inc., Miami, Fla. Filed June 13, 1968.

ROMISO

For Canned Pimientos, Tomatoes, Artichokes, Pineapple, Apricots, and Peaches (Int. Cl. 29).
First use Dec. 1, 1966.

SN 301,055. Feed Flavors Incorporated, Chicago, Ill. Filed June 21, 1968.

LIQUI-LASS

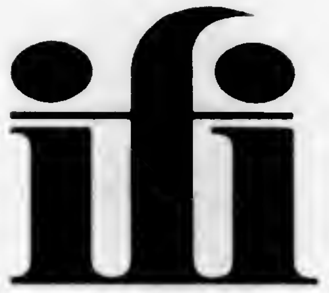
For Surface Active Agent Composition for Use With Molasses Intended for Animal Feed (Int. Cl. 31).
First use Nov. 13, 1964.

SN 301,974. Sunland Biscuit Company, Inc., Yauco, Puerto Rico. Filed July 3, 1968.

RICA

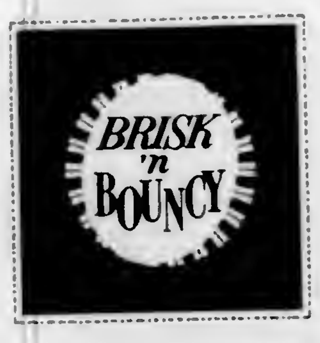
The Spanish word "Rica" may be translated as "rich."
For Crackers (Int. Cl. 30).
First use 1962.

SN 302,235. Institutional Foods, Inc., Tulsa, Okla. Filed July 8, 1968.



For Canned and Frozen Fruits and Vegetables; Canned and Frozen Fruit Juices and Canned and Frozen Vegetable Juices; Canned and Frozen Fish; Shortening, Both Animal and Vegetable; Tomato Ketchup, Tomato Paste, Tomato Puree; Relishes and Salad Dressing; Wheat Flour; Spaghetti and Noodles; and Cooking Oil (Int. Cls. 29, 30 and 32).
First use May 20, 1965.

SN 303,146. Daitch Crystal Dairies, Inc., New York, N.Y. Filed July 19, 1968.



The drawing is lined for the color red, but no claim is made to color. Applicant disclaims the background matter shown in the drawing, apart from the mark shown therein.
For 99% Fat-Free Fluid Skimmed Milk and Other Low-Fat Dairy Products—Namely, Ice Milk and Low-Fat Creamed Cottage Cheese (Int. Cl. 29).
First use May 7, 1968.

SN 304,490. The Nestle Company, Inc., White Plains, N.Y. Filed Aug. 6, 1968.

CROSSE & BLACKWELL

Owner of Reg. Nos. 301,073, 782,954, and others.
For Tea, and Precooked Pasta With Sauce (Int. Cl. 30).
First use Feb. 6, 1968.

SN 305,397. Carnation Company, Los Angeles, Calif. Filed Aug. 19, 1968.

COME 'N' GET IT!

For Dog Food (Int. Cl. 31).
First use July 26, 1968.

SN 306,402. The P. J. Ritter Company, Bridgeton, N.J. Filed Aug. 30, 1968.

VEG-CREST

Owner of Reg. No. 539,268.
For Vegetable Juice (Int. Cl. 32).
First use August 1954.

SN 310,982. Safeway Stores, Incorporated, Oakland, Calif. Filed Oct. 31, 1968.

PIEDMONT PATTY

Applicant disclaims the word "Patty" apart from the mark as shown. Owner of Reg. No. 252,009.
For Margarine (Int. Cl. 29).
First use Sept. 30, 1963.

SN 311,021. Duffy-Mott Company, Inc., New York, N.Y. Filed Oct. 31, 1968.

BLOODY MERMAID

For Mixture of Tomato Juice and Clam Juice (Int. Cl. 32).
First use Oct. 4, 1968.

SN 311,229. Benson's, Inc., Athens, Ga. Filed Nov. 4, 1968.

VILLAGE FAIR

For Fruit Cake (Int. Cl. 30).
First use on or about May 1, 1967.

SN 311,392. National Biscuit Company, New York, N.Y. Filed Nov. 5, 1968.

SHOVELS

For Deep Fried Corn Chip (Int. Cl. 30).
First use Oct. 17, 1968.

SN 311,409. A. H. Robins Company, Incorporated, Richmond, Va. Filed Nov. 5, 1968.

APPLAUSE

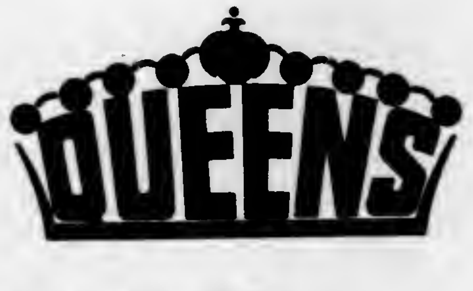
For Potato Chips (Int. Cl. 29).
First use Oct. 16, 1968.

SN 311,417. Talbot-Carlson, Inc., Audubon, Iowa. Filed Nov. 5, 1968.

HORSE ADE

For Liquid Conditioner for Horses (Int. Cl. 31).
First use Mar. 25, 1968.

SN 312,216. Ore-Ida Foods, Inc., Boise, Idaho. Filed Nov. 14, 1968.



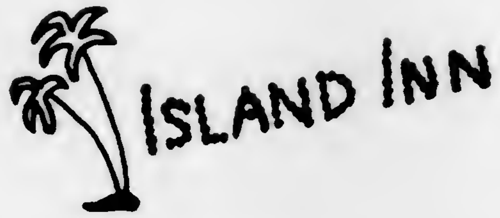
For Frozen Potatoes (Int. Cl. 29).
First use September 1965.

SN 312,577. Ensaladas de Frutas de Mexico, S.A., Linares, Nuevo Leon, Mexico. Filed Nov. 19, 1968.

DEL TROPIC

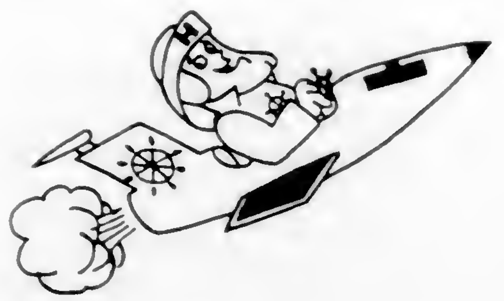
For Canned, Glassed and Barreled Foods—Namely, Mandarin Orange Sections, Mandarin Oranges and Pineapple Tidbits, Orange Sections, Grapefruit Sections, Citrus Salad, Fruit Salad, Pineapple Chunks, Pineapple Slices, Pineapple Juice, Pineapple Tidbits, Jalapeno and Serrano Peppers, and Citrus and Tropical Fruits (Int. Cls. 29 and 32).
First use Oct. 31, 1968; in commerce Oct. 31, 1968.

SN 313,069. United California Bank, Los Angeles, Calif. Filed Nov. 26, 1968.



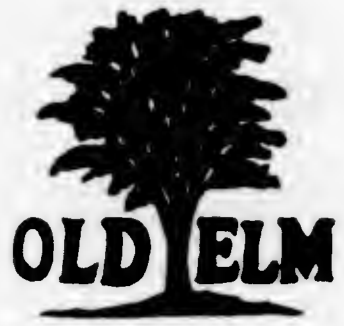
Owner of Reg. No. 747,691.
Non-Alcoholic Cocktail Mixes Consisting of Fruit Juice and Lesser Ingredients, and Frozen Fresh Lime Juice (Int. Cl. 32).
First use Jan. 17, 1962.

SN 313,101. Helms Bakeries, Los Angeles, Calif. Filed Nov. 26, 1968.



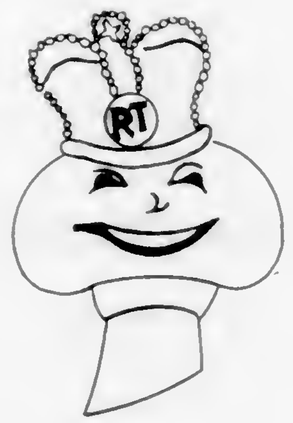
For Bakery Products—Namely, Bread, Buns and Cookies (Int. Cl. 30).
First use July 17, 1967.

SN 313,212. Reinders Brothers, Inc., Elm Grove, Wis. Filed Nov. 27, 1968.



For Feed for Domestic Animals, Birds and Fowl—Namely, Pigeon Feed, Poultry Feed, Wild Bird Feed, Caged Bird Feed, and Horse Feed (Int. Cl. 46).
First use June 1926.

SN 313,251. American Mushroom Corporation, Wilmington, Del. Filed Nov. 29, 1968.



For Canned Mushrooms (Int. Cl. 29).
First use September 1940.

SN 313,307. Keebler Company, Elmhurst, Ill. Filed Nov. 29, 1968.

GRAMMY'S

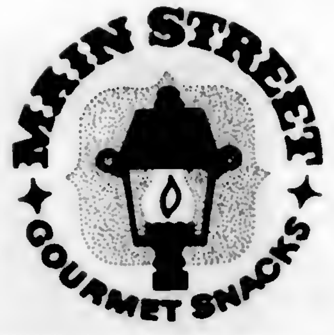
For Cookies (Int. Cl. 30).
First use July 29, 1968.

SN 313,355. Texize Chemicals, Inc., Greenville, S.C. Filed Nov. 29, 1968.

TERRIFIC

For Peanut Butter (Int. Cl. 29).
First use Nov. 13, 1968.

SN 313,381. Morton Foods, Inc., Dallas, Tex. Filed Dec. 2, 1968.



The word "Snacks" is disclaimed apart from the mark as shown.
For Corn Puffs (Int. Cl. 30).
First use on or prior to July 19, 1968.

SN 313,991. Sports Candies, Inc., Burlington, Wis. Filed Dec. 9, 1968.

T-BAR

For Candies (Int. Cl. 30).
First use Nov. 4, 1960.

SN 314,109. Peyton Plate Inc., Nashville, Tenn. Filed Dec. 10, 1968.

PEYTON PLATE

For Pimiento Cheese Sandwiches (Int. Cl. 29).
First use Nov. 26, 1968.

SN 314,458. Reese Finer Foods, Inc., Chicago, Ill. Filed Dec. 13, 1968.

TOMAHAWK

For Salad Dressing (Int. Cl. 29).
First use Sept. 13, 1966.

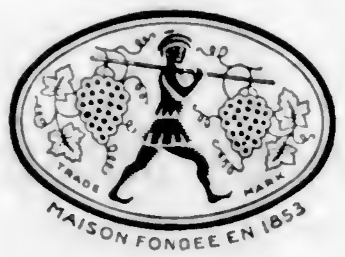
SN 318,883. The Procter & Gamble Company, Cincinnati, Ohio. Filed Feb. 11, 1969.

MAGIC GOLD

Owner of Reg. No. 728,069.
For Peanut Butter (Int. Cl. 29).
First use July 1, 1946.

Class 47 — Wines

SN 283,040. Societe Commerciale des Bourgognes de Marque F. Chauvenet ou par Abreviation "S.C.B.M.," d.b.a. F. Chauvenet, Nuits-St-Georges, Cote d'Or, France. Filed Oct. 20, 1967.



No registration rights are claimed for the representation of grapes or for the words "Trade Mark" and "Maison Fondee en 1853" apart from the mark as shown, but the applicant waives none of its common law rights in the mark or any feature thereof. The English translation of the words "Maison Fondee en 1853" is "house founded or established in 1853."
For Wines (Int. Cl. 33).
First use March 1967; in commerce June 1967.

SN 298,739. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. Filed May 21, 1968.

FIOR GINEPRO

"Fior Ginepro" may be translated from the Italian language as "juniper flower."
For Wines (Int. Cl. 33).
First use Apr. 24, 1968.

SN 298,741. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. Filed May 21, 1968.

NOCINO

The Italian word "Nocino" may be translated as "little walnut."
For Wines (Int. Cl. 33).
First use Apr. 24, 1968.

SN 305,926. Contopoulos Brothers, Ltd., New York, N.Y. Filed Aug. 26, 1968.

CONBROUGH'S

For Wines (Int. Cl. 33).
First use Apr. 10, 1967.

SN 312,637. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Nov. 20, 1968.

Sparkle Duck

For Wines (Int. Cl. 33).
First use Oct. 30, 1968.

Class 48 — Malt Beverages and Liquors

SN 283,223. Cerveceria India Inc., Mayaguez, Puerto Rico. Filed Oct. 24, 1967.

INDIA

For Beer and Non-Alcoholic Malt Cereal Beverages (Int. Cl. 32).
First use Sept. 20, 1938.

Class 50 — Merchandise Not Otherwise Classified

SN 285,110. Dan Brechner & Company, Inc., New York, N.Y. Filed Nov. 17, 1967.

DeeBeeCo

The Abbreviation "Co" is disclaimed apart from the mark as shown.
For Ceramic Statuettes and Animal Figurines (Int. Cl. 21).
First use early 1960.

SN 310,623. The Allen System, Inc., Glen Ellyn, Ill. Filed Oct. 28, 1968.

ALLEN

For Plastic Tape for Use in Underground Installations for Facilitating Location of Underground Pipe, Cables, Conduit and Other Underground Installations (Int. Cl. 17).
First use January 1966.

SN 314,351. Kwik-Kover Manufacturing Co., Lincolnwood, Ill. Filed Dec. 12, 1968.

KWIK-KAPPS

For Protective Cover for Dry Cleaned Garments (Int. Cl. 22).
First use Oct. 24, 1968.

Class 51 — Cosmetics and Toilet Preparations

SN 294,448. Avon Products, Inc., New York, N.Y. Filed Mar. 29, 1968.

SENTIMENTAL

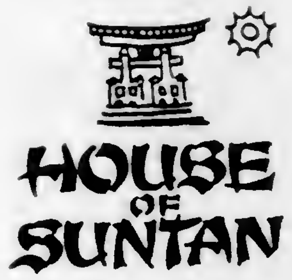
For Dusting Powder, Powder Sachet, Solid Perfume, Cream Sachet, and Cologne Mist (Int. Cl. 3).
First use Mar. 12, 1968.

SN 294,451. Avon Products, Inc., New York, N.Y. Filed Mar. 29, 1968.

SCENTIMENTS

For Perfumed Oil, Solid Perfume, Cream Sachet, Cologne Mist, Dusting Powder, Perfume, and Powder Sachet (Int. Cl. 3).
First use Mar. 12, 1968.

SN 303,870. Pan American Suntan Oil Corp., New York, N.Y. Filed July 30, 1968.



Applicant disclaims the word "Suntan" apart from the mark as shown.
For Suntan Oil (Int. Cl. 3).
First use May 16, 1968.

SN 305,528. John H. Breck, Inc., Wayne, N.J. Filed Aug. 20, 1968.

BRECK LUSTRE

Applicant disclaims the word "Lustre" apart from the mark as shown. Owner of Reg. Nos. 521,473, 847,717, and others.
For Hair Spray (Int. Cl. 3).
First use July 30, 1968.

SN 305,649. Joseph D. Farini, d.b.a. Julien Cosmetics, San Francisco, Calif. Filed Aug. 21, 1968.

LANETTA

For Softening and Cleansing Hand and Body Lotion (Int. Cl. 3).
First use Nov. 10, 1967.

SN 306,193. The Wella Corporation, Englewood, N.J. Filed Aug. 28, 1968.

FORMAT

For Cold Permanent Wave Lotions and Neutralizers (Int. Cl. 3).
First use Aug. 23, 1968.

SN 306,348. Consumer Products Inc., Los Angeles, Calif. Filed Aug. 30, 1968.

VIN ROUGE

The translation of the mark is "red wine."
For Perfumes and Toilet Water (Int. Cl. 3).
First use July 30, 1968.

SN 307,082. Bristol-Myers Company, New York, N.Y. Filed Sept. 11, 1968.

DARE

For Men's Cologne and a Hair Groom and Conditioner (Int. Cl. 3).
First use Aug. 9, 1968.

SN 308,439. Summit Laboratories, Inc., Indianapolis, Ind. Filed Sept. 30, 1968.

BODI-ENDURE

For Hair Conditioner (Int. Cl. 3).
First use Sept. 20, 1968.

SN 308,704. La Maur, Inc., d.b.a. The House of Style, Minneapolis, Minn. Filed Oct. 2, 1968.

RELAX

For Anti-Perspirant and Deodorant (Int. Cl. 5).
First use Sept. 18, 1968.

SN 309,330. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Oct. 10, 1968.

LIQUI-FRESHNER

For Skin Moisturizer (Int. Cl. 3).
First use Sept. 5, 1968.

SN 313,873. Parke, Davis & Company, Detroit, Mich. Filed Dec. 9, 1968.

AERODERM

For Hand and Massage Lotion (Int. Cl. 3).
First use on or before Nov. 22, 1968.

SN 313,885. Avon Products, Inc., New York, N.Y. Filed Dec. 9, 1968.

A MAN'S WORLD

Owner of Reg. No. 438,201.
For After Shave Lotion, Personal Deodorant, and Talcum Powder (Int. Cls. 3 and 5).
First use Oct. 25, 1945.

SN 316,132. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Co., Los Angeles, Calif. Filed Jan. 8, 1969.

RESPLENDA ESTRA-LO

Owner of Reg. Nos. 826,222 and 846,789.
For Facial and Hand Cream (Int. Cl. 3).
First use Sept. 9, 1968.

SN 316,133. Rexall Drug and Chemical Company, d.b.a. Vanda BC Co., Los Angeles, Calif. Filed Jan. 8, 1969.

VOOM-VOOM

For Cologne (Int. Cl. 3).
First use Dec. 3, 1968.

Class 52 — Detergents and Soaps

SN 276,327. Masury-Columbia Company, Melrose Park, Ill. Filed July 19, 1967.

ShaFoam

For Carpet and Upholstery Shampoo (Int. Cl. 3).
First use Apr. 26, 1967.

SN 280,469. Ralph Shrader, Inc., Detroit, Mich. Filed Sept. 15, 1967.

RSA AUTOCARE

Owner of Reg. No. 628,430.
For Chemical Cleaners and Agents for Use on Automotive Vehicles—Namely, Cleaner and Conditioner for Combustion Chambers, Manifold Heat Control Valve Cleaner and Lubricant and Automatic Choke Cleaner Gum and Sludge Remover, Cleaner for Sticking Valves, Cleaner for Automotive Parts, and Spray for Cleaning Engine Parts (Int. Cl. 3).
First use in 1956.

SN 300,001. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed June 7, 1968.

DRYFOS

For Granular Alkaline Cleaner Used in Water Solutions for Circulation Cleaning of Food Plant Systems, and Spray and Manual Cleaning of Tanks and Other Equipment Related to Food and Meat Processing (Int. Cl. 1).
First use Oct. 23, 1967.

SN 303,963. Colgate-Palmolive Company, New York, N.Y. Filed July 31, 1968.

AXION

Owner of Reg. No. 556,367.
For All-Purpose Detergent and Cleaner (Int. Cl. 3).
First use Nov. 20, 1967.

SN 305,846. Medi-Chem, Incorporated, Santa Monica, Calif. Filed Aug. 23, 1968.

STERI-CLAVE

For Cleaning and Sterilizing Solution for Sterilizers and Autoclaves (Int. Cl. 3).
First use July 1, 1968.

SN 306,235. Foremost-McKesson, Inc., d.b.a. Gentec Hospital Supply Company, New York, N.Y. Filed Aug. 29, 1968.

POW-R-TERGENT

For Detergent for Laboratory Glassware and Surgical Instruments (Int. Cl. 3).
First use at least as early as July 31, 1968.

SN 308,622. Imoco-Gateway Corporation, Chicago, Ill. Filed Oct. 1, 1968.

BIG POWER

For Industrial Degreaser-Detergent (Int. Cl. 1).
First use Sept. 25, 1968.

SN 312,304. Kem Manufacturing Corporaton, Tucker, Ga. Filed Nov. 15, 1968.

THERMAKEM

For Liquid Drain Solvent (Int. Cl. 3).
First use Aug. 21, 1967.

SN 312,560. Calgon Corporation, Pittsburgh, Pa. Filed Nov. 19, 1968.

APPROVE

For Bactericidal Hand Cleaner (Int. Cl. 3).
First use Oct. 25, 1968.

SN 317,177. American Home Products Corporation, New York, N.Y. Filed Jan. 22, 1969.

TOUGH STUFF

For Drain Opener (Int. Cl. 3).
First use Jan. 6, 1969.

SN 317,178. American Home Products Corporation, New York, N.Y. Filed Jan. 22, 1969.

TUFF STUFF

For Drain Opener (Int. Cl. 3).
First use Jan. 6, 1969.

SN 318,693. W. R. Grace & Co., New York, N.Y. Filed Mar. 3, 1969.

BLAST

For Detergent Preparation for Cleaning Floors, Walls, Metal, Ceramic, and Like Surfaces, and for Cleaning Machinery and Vehicles (Int. Cl. 3).
First use at least as early as April 1954.
Subj. to Intf. with SN 265,533, SN 298,061, and SN 318,153.

SN 319,534. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 19, 1969.

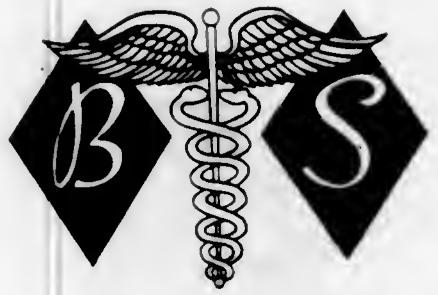
ARCTIC POWER

Owner of Reg. Nos. 107,777, 818,847, and others.
For All-Purpose Detergent and Cleaner (Int. Cl. 3).
First use Feb. 3, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 299,168. Bob Stansell's, Inc., Atlanta, Ga. Filed May 27, 1968.



Applicant disclaims the design of the caduceus apart from the mark as shown.
For Leasing Medical Equipment, to wit: Anesthesia Machines and Accessories, Infant Incubators, Oxygen Tents and Oxygen Therapy Equipment, Resuscitation Equipment, Medical Electronic Measuring Devices, and Suction Apparatus (Int. Cl. 42).
First use July 1, 1964.

SN 304,212. Dine-Out Foods, Inc., Gainesville, Fla. Filed Aug. 2, 1968.

CAPT'N LOUIE'S GALLEY

For Restaurant Services (Int. Cl. 42).
First use December 1963.

SN 304,903. Dixie Fried Chicken, Inc., d.b.a. Dixie Fried Chicken, Los Angeles, Calif. Filed Aug. 12, 1968.

DIXIE
Fried Chicken

For Restaurant Services (Int. Cl. 42).
First use Apr. 6, 1965.
Subj. to Intf. with SN 262,734.

SN 305,746. Medilease, Inc., Chicago, Ill. Filed Aug. 22, 1968.

"GET THE MOST OUT OF THE LEASED"

For Leasing of Medical Equipment (Int. Cl. 42).
First use November 1964.

SN 308,845. Gingiss Formalwear, Inc., Chicago, Ill. Filed Oct. 4, 1968.

gfi

For Rental of Men's Formalwear, Uniforms, and Accessories Therefor (Int. Cl. 35).
First use in or about January 1966.

SN 309,450. John E. Girresch, Manchester, Mo. Filed Oct. 11, 1968.

HORTICARE

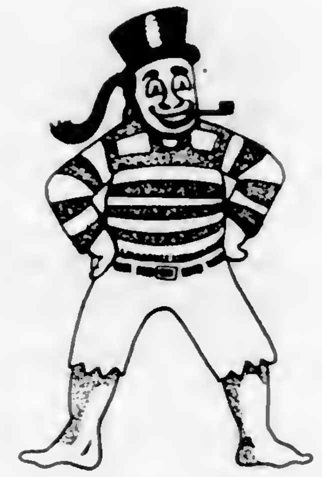
For Landscaping, Planting, Trimming, and Gardening Services (Int. Cl. 42).
First use on or about May 29, 1968.

SN 309,766. Jolly Jack's, Inc., San Antonio, Tex. Filed Oct. 16, 1968.

JOLLY JACK

For Drive-In Restaurant Services (Int. Cl. 42).
First use April 1966.

SN 309,767. Jolly Jack's, Inc., San Antonio, Tex. Filed Oct. 16, 1968.



For Drive-In Restaurant Services (Int. Cl. 42).
First use April 1966.

SN 314,161. Preventi-Med Consultants, Inc., North Hollywood, Calif. Filed Dec. 11, 1968.

PREVENTI-MED

For Medical Laboratory Diagnostic Testing Services (Int. Cl. 42).
First use on or before June 14, 1968.

SN 315,879. Victor J. Bergeron, d.b.a. Trader Vic's, San Francisco, Calif. Filed Jan. 6, 1969.

THE TRADERS

Owner of Reg. Nos. 653,760 and 673,989.
For Restaurant, Catering, and Banquet Services (Int. Cl. 42).
First use Mar. 15, 1956.

Class 101 — Advertising and Business

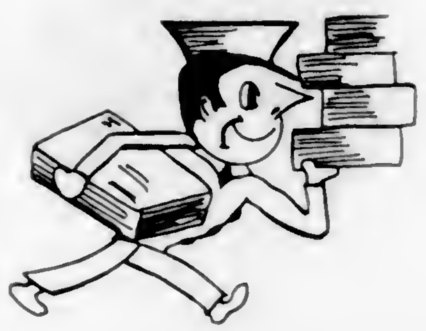
SN 255,223. National Gypsum Company, Buffalo, N.Y. Filed Sept. 27, 1966.

CRC

CERTIFIED REMODELING CONTRACTOR

The words "Certified Remodeling Contractor" are disclaimed apart from the mark as shown. The drawing is lined for the colors orange, red, and gold, but color is not claimed as a feature of the mark.
For Promoting the Services of Building Remodeling Contractors Through the Distribution of Advertising Aids (Int. Cl. 35).
First use Jan. 25, 1966.

SN 255,941. Daniel Liberman, d.b.a. Zip Printing, Los Angeles, Calif. Filed Oct. 6, 1966.



For Printing Services Such as Those Involved in Preparation of Printed Material, and Reproductions of Various Printed and Artistic Items (Int. Cl. 35).
First use August 1965.

SN 265,821. Glendinning Companies, Inc., Westport, Conn. Filed Mar. 2, 1967.

SPELL AMERICANA

Applicant disclaims the word "Spell" apart from the entire mark as shown. Owner of Reg. No. 841,592.
For Promoting the Sale of Goods and/or Services of Others Through Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use July 29, 1966.

SN 288,383. Systemedics, Inc., Princeton, N.J. Filed Jan. 8, 1968.

The representation of the caduceus is disclaimed apart from the composite mark as shown.
For Accounting and Data Processing Services to the Medical Profession (Int. Cl. 35).
First use June 1964.

SN 289,279. Computer Network Corporation, Washington, D.C. Filed Jan. 22, 1968.

COMNET

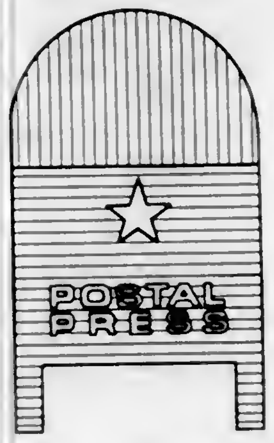
For Computer Time-Sharing and Programming Services (Int. Cl. 35).
First use October 1967.

SN 290,522. Postal Press, Los Angeles, Calif. Filed Feb. 7, 1968.

POSTAL INSTANT PRESS

Without prejudice to its common law rights, applicant disclaims the word "Press" apart from the mark as shown.
For Printing Services (Int. Cl. 35).
First use at least as early as Jan. 2, 1967.

SN 290,524. Postal Press, Los Angeles, Calif. Filed Feb. 7, 1968.



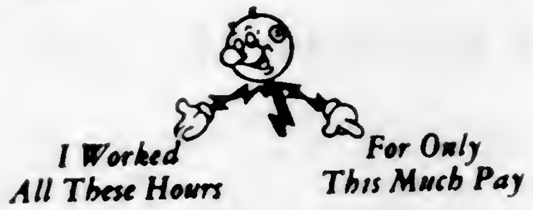
Without prejudice to its common law rights, applicant disclaims the word "Press" apart from the mark as shown. The drawing is lined for the colors red and blue, but no claim is made for color.
For Printing Services (Int. Cl. 35).
First use at least as early as January 1957.

SN 290,832. Harry and David, Medford, Oreg., assignee of Dial-A-Gift Inc., Newport Beach, Calif. Filed Feb. 12, 1968.

FAXCORE

For Credit Rating Services (Int. Cl. 35).
First use June 1, 1967.

SN 294,409. Reddy Kilowatt, Inc., New York, N.Y. Filed Mar. 28, 1968.



For Design and Formulation of Advertising and Public Relations Material To Be Used in Promoting the Sale of the Services of Investor-Owned Public Utilities (Int. Cl. 35).
First use Sept. 25, 1950.

SN 298,316. J. C. Best, Inc., Braintree, Mass. Filed May 16, 1968.

J. C. BEST

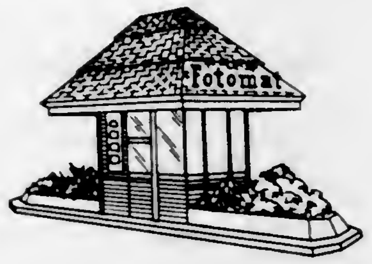
For Retail Carpet and Rug Store Services (Int. Cl. 35).
First use August 1963.

SN 300,221. ABC International Television, Inc., New York, N.Y. Filed June 12, 1968.

latino

Applicant disclaims the map of South and Central America and the Caribbean apart from the mark shown.
For Advertising Services—Namely, Arranging for the Placement of Programs and Commercials With Television and Radio Stations in Central and South America (Int. Cl. 35).
First use Jan. 11, 1968.

SN 300,523. Fotomat Corporation, La Jolla, Calif. Filed June 17, 1968.



The drawing is lined for the colors blue and yellow. Owner of Reg. No. 861,726.
For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).
First use as early as Nov. 21, 1966.

SN 302,798. Belk Stores Services, Inc., Charlotte, N.C. Filed July 9, 1968.

Belk

Owner of Reg. Nos. 530,033, 660,227, and others.
For Business Services Rendered a System of Independently Owned Department Stores—Namely, Auditing of Records, Purchasing Merchandise as Agent, Preparing Advertising Programs and Mats, Store Planning, and Consulting With and Planning Merchandise Techniques (Int. Cl. 35).
First use Mar. 6, 1968; Sept. 1, 1895, in a different form.

SN 306,702. Welcome Wagon International, Inc., Memphis, Tenn. Filed Sept. 5, 1968.

WELCOME WAGON

Owner of Reg. No. 829,933 and others.

For Services, in Behalf of Commercial Sponsors, To Promote Sale of Their Products or Services, Presenting Personal Greetings Accompanied Usually by Gifts to Persons Who Are Newcomers to a Community or a Neighborhood, or Who are Newly Engaged or Are New Mothers, or Who may Otherwise Qualify for Special Recognition (Int. Cl. 35).

First use July 1928.

SN 313,175. Bernard E. Koff, d.b.a. Market Measures, Livingston, N.J. Filed Nov. 27, 1968.

POST-SCRIPT

For Measuring the Effect of Direct Mail Advertising in the Pharmaceutical Industry (Int. Cl. 35).

First use Aug. 1, 1968.

SN 314,136. Consumer Advertising Systems, Inc., Clayton, Mo. Filed Dec. 11, 1968.

For Advertising and Promotion of the Goods of Others Through the Distribution of Samples and Literature of Various Manufacturers Enclosed in a Single Package (Int. Cl. 35).

First use Dec. 2, 1968.

Class 102 — Insurance and Financial

SN 276,424. First Federal Savings and Loan Association, Bremerton, Wash. Filed July 20, 1967.

RAINBOW OF SAVINGS

Applicant disclaims the word "Savings" apart from the mark as shown.

For Providing Savings Accounts for Particular Purposes (Int. Cl. 36).

First use on or about June 27, 1967.

SN 285,651. Continental Bank & Trust Co., Milwaukee, Wis. Filed Nov. 27, 1967.

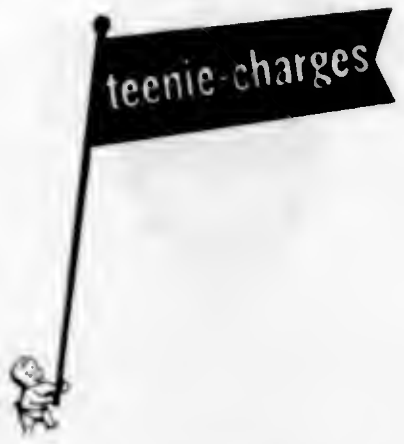
CB

The mark is comprised of the letters "CBT."

For Banking Services (Int. Cl. 36).

First use Oct. 15, 1967.

SN 302,924. Delaware Valley Consumer Discount Company, Philadelphia, Pa. Filed July 17, 1968.



For Lending Money to Consumers (Int. Cl. 36).

First use on or about Mar. 21, 1968.

SN 305,436. Founders Mutual Depositor Corporation, Denver, Colo. Filed Aug. 19, 1968.

MERIDIAN

For Operating a Mutual Fund (Int. Cl. 36).

First use Oct. 23, 1962.

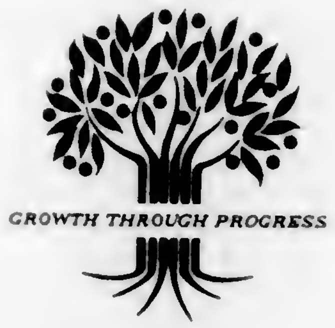
SN 305,437. Founders Mutual Depositor Corporation, Denver, Colo. Filed Aug. 19, 1968.

GRYPHON

For Operating a Mutual Fund (Int. Cl. 36).

First use Nov. 27, 1961.

SN 307,992. The First State Bank of Union, Union, N.J. Filed Sept. 23, 1968.



For Banking Services (Int. Cl. 36).

First use on or about Jan. 10, 1968.

SN 309,675. Georgia International Life Insurance Company, Atlanta, Ga. Filed Oct. 15, 1968.

ECONOMAX

For Life Insurance Services (Int. Cl. 36).

First use May 10, 1968.

SN 314,300. Transfinancial Corporation, San Francisco, Calif. Filed Dec. 12, 1968.

RAILEASE

For Financial Services—Namely, Financing of Railroad Equipment for Others (Int. Cl. 36).

First use Mar. 6, 1968.

Class 103 — Construction and Repair

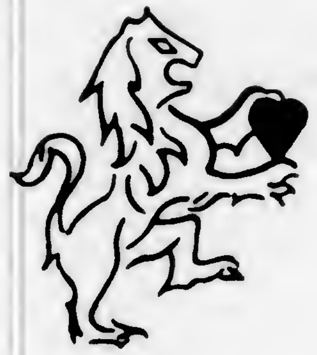
SN 293,647. Steamatic, Inc., Fort Worth, Tex. Filed Mar. 19, 1968.

STEAMATIC

For Carpet and Rug Cleaning Service (Int. Cl. 37).

First use at least April 1967.

SN 309,933. Leonhardt Company, Inc., Brookline, Mass. Filed Oct. 18, 1968.



For Balancing and Testing Air Conditioning Systems of Others (Int. Cl. 37).

First use January 1956.

SN 309,934. Leonhardt Company, Inc., Brookline, Mass. Filed Oct. 18, 1968.

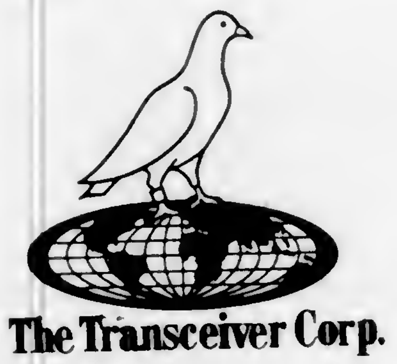
LEONHARDT

For Balancing and Testing Air Conditioning Systems of Others (Int. Cl. 37).

First use January 1956.

Class 104 — Communication

SN 297,617. The Tranceiver Corporation, Dallas, Tex. Filed May 7, 1968.


The Transceiver Corp.

For Transmitting and Receiving Documentary and Graphic Materials (Int. Cl. 38).

First use Feb. 15, 1968.

Class 105 — Transportation and Storage

SN 295,390. United States Leasing Corporation, San Francisco, Calif. Filed Apr. 10, 1968.

AIRLEASE

Owner of Reg. Nos. 826,243 and 826,244.

For Airplane Leasing Services (Int. Cl. 39).

First use Jan. 15, 1968.

SN 299,576. North American Van Lines, Inc. (Delaware corporation), Fort Wayne, Ind., assignee of North American Van Lines, Inc. (Indiana corporation), Fort Wayne, Ind. Filed June 3, 1968.

AE

For Transportation Services—Namely, Transportation of Household Goods, Personal Effects, New Furniture, Exhibits and Displays, Plant and Office Equipment; and Packing, Storing and Arranging Shipment of Goods Incidental to Such Transportation (Int. Cl. 39).

First use January 1966.

Class 106 — Material Treatment

SN 307,073. Sterling Alderfer Company, Akron, Ohio. Filed Sept. 11, 1968.

FOAM-HIDE

For Custom Molding of Flexible Urethane Foams Having an Integral Skin With Formulation, Foam Density and Skin Thickness Being Adapted and Designed to the Customers' Requirements (Int. Cl. 40).

First use Aug. 13, 1968.

SN 307,870. Societe Anonyme Ugine Kuhlmann, Paris, France. Filed Sept. 20, 1968.

CELKA

Owner of French Reg. No. 723,884, dated Mar. 13, 1967.

For Extruding Thermoplastic Materials of Others (Int. Cl. 40).

SN 314,411. W. M. Cline Company, Chattanooga, Tenn. Filed Dec. 13, 1968.

COLOR KING

Applicant disclaims the terminology "Color" apart from the mark as shown. Owner of Reg. No. 591,639.

For Developing, Printing and Enlarging Photographs (Int. Cl. 40).

First use May 1958.

Class 107 — Education and Entertainment

SN 313,062. Abner B. Green Associates, New York, N.Y. Filed Nov. 26, 1968.

TOTAL

For Training Industrial and Factory Workers to Perform Their Jobs More Efficiently (Int. Cl. 41).

First use Nov. 30, 1967.

COLLECTIVE MEMBERSHIP MARKS

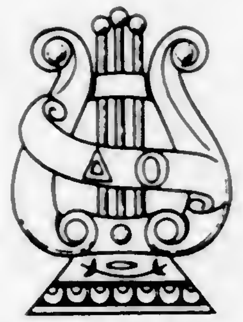
Class 200

SN 298,304. American Medical Technologists, Park Ridge, Ill. Filed May 16, 1968.

AMT

For Indicating Membership in Applicant.
First use January 1940.

SN 300,263. Delta Omicron International Music Fraternity, Detroit, Mich. Filed June 12, 1968.



Owner of Reg. No. 277,813.
For Indicating Membership in Applicant.
First use during 1909.

SN 314,129. American Simmental Association, Inc., Canton, Ohio. Filed Dec. 11, 1968.

AMERICAN SIMMENTAL ASSOCIATION

For Indicating Membership in Applicant.
First use Nov. 15, 1968.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

871,081. WHITTAKER. Whittaker Corporation. MULTIPLE CLASS (Classes 1, 2, 5, 9, 12, 13, 14, 19, 21, 23, 26, 31, 35, 100 101, 103, and 106). SN 278,149. Pub. 4–1–69. Filed 8–14–67.

871,082. ACCO SEED AND DESIGN. Anderson, Clayton & Co. SN 278,180. Pub. 4–1–69. Filed 8–14–67.

871,083. G CHAMPAGNE PAK AND DESIGN. Gregoire's Flowers, Inc. SN 281,701. Pub. 4–1–69. Filed 10–3–67.

871,084. MRS. Esco, Incorporated. SN 281,876. Pub. 2–18–69. Filed 10–5–67.

871,085. PEOPLE MOVERS. The Budd Company. MULTIPLE CLASS (Classes 1, 14, 19, and 37). SN 282,030. Pub. 4–1–69. Filed 10–9–67.

871,086. TUFFLOTE. Conwed Corporation. SN 285,912. Pub. 4–1–69. Filed 11–30–67.

871,087. KITTY KEEPER. Wagner Bros. Feed Corp. SN 291,457. Pub. 4–1–69. Filed 2–19–68.

871,088. WEST O' PECOS. Trainer Corporation. SN 295,262. Pub. 4–1–69. Filed 4–9–68.

871,089. MISTAFLEX. MR Plastics and Coatings, Inc. SN 299,140. Pub. 4–1–69. Filed 5–27–68.

871,090. MISTAFOAM. MR Plastics and Coatings, Inc. SN 299,141. Pub. 4–1–69. Filed 5–27–68.

871,091. MISTAPOX. MR Plastics and Coatings, Inc. SN 299,143. Pub. 4–1–69. Filed 5–27–68.

871,092. WETSHOT. Ulano Products Company, Inc. SN 303,118. Pub. 4–1–69. Filed 7–19–68.

871,093. BALAPRENE. H. A. Astlett & Company, Incorporated. SN 305,196. Pub. 4–1–69. Filed 8–15–68.

871,094. PLUM LINE. P. W. Plumly Lumber Corporation. SN 306,072. Pub. 4–1–69. Filed 8–27–68.

871,095. TREE (DESIGN). Henry Field Seed and Nursery Company. SN 308,204. Pub. 4–1–69. Filed 9–25–68.

Class 2 — Receptacles

871,081. (See Class 1 for this trademark.)

871,096. SOLCHROME. Societe Lorraine de Laminage Continu (Sollac). MULTIPLE CLASS (Classes 2 and 14). SN 292,511. Pub. 4–1–69. Filed 3–5–68.

Class 4 — Abrasives and Polishing Materials

871,097. SUNNEN AND DESIGN. Sunnen Products Company. MULTIPLE CLASS (Classes 4, 23, and 26). SN 271,307. Pub. 4–1–69. Filed 5–12–67.

871,098. PALICO. Paul Hicks Company. SN 279,192. Pub. 4–1–69. Filed 8–28–67.

Class 5 — Adhesives

871,081. (See Class 1 for this trademark.)

871,099. STOCKING STIK JOMA AND DESIGN. Joma, Inc. SN 264,670. Pub. 4–1–69. Filed 2–14–67.

871,100. STOCKING STIK JOMA AND DESIGN. Joma, Inc. SN 264,671. Pub. 4–1–69. Filed 2–14–67.

871,101. H–7. ICI America Inc. SN 291,071. Pub. 4–1–69. Filed 2–14–68.

871,102. DARATAK. W. R. Grace & Co. SN 300,930. Pub. 4–1–69. Filed 6–20–68.

871,103. FIGURE ON RUG (DESIGN). Wayne Adhesive and Container Co. SN 301,497. Pub. 1–21–69. Filed 6–27–68.

Class 6 — Chemicals and Chemical Compositions

871,104. CRYSTALS. Atlas Chemical Industries, Inc. SN 283,971. Pub. 4–1–69. Filed 11–2–67.

871,105. CHEM-GUARD. Charles C. Whitmer, d.b.a. The Interpool Products Company. SN 284,412. Pub. 4–1–69. Filed 11–8–67.

871,106. ESRATOL. Foseco International Limited. SN 288,504. Pub. 4–1–69. Filed 1–10–68.

871,107. DEFOAMIT. R. H. Miller Company. SN 288,529. Pub. 4–1–69. Filed 1–10–68.

871,108. CLEVE-TEK D–24. Cleveland Technical Center, Inc. SN 288,792. Pub. 4–1–69. Filed 1–15–68.

871,109. BASOSOFT. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, d.b.a. BASF. SN 292,042. Pub. 4–1–69. Filed 1–10–68.

871,110. BETZ. Betz Laboratories, Inc. SN 292,070. Pub. 4–1–69. Filed 2–28–68.

871,111. CL–77. Calgon Corporation. SN 293,226. Pub. 4–1–69. Filed 3–14–68.

871,112. STILWELL. Arthur A. Stilwell Co. SN 295,857. Pub. 4–1–69. Filed 4–17–68.

871,113. MC AND DESIGN. Metalphoto Corporation. MULTIPLE CLASS (Classes 6 and 26). SN 296,440. Pub. 4–1–69. Filed 4–24–68.

871,114. STAR-FLO. Philip A. Hunt Chemical Corporation. SN 301,844. Pub. 4–1–69. Filed 7–2–68.

871,115. WAYCOAT. Philip A. Hunt Chemical Corporation. SN 301,845. Pub. 4–1–69. Filed 7–2–68.

871,116. SELECT. Morton International, Inc. SN 302,685. Pub. 2–18–69. Filed 7–15–68.

871,117. SEPTONIC. A. H. T. Field & Co. Ltd. SN 303,754. Pub. 4–1–69. Filed 7–29–68.

871,118. MISCELLANEOUS DESIGN. Illinois Bronze Powder & Paint Co. SN 306,376. Pub. 4–1–69. Filed 8–30–68.

871,119. THE GREAT WHITE WAY. Standard International Corporation. SN 308,751. Pub. 4–1–69. Filed 10–3–68.

871,120. HYDROCON. Lithoplate, Inc. SN 312,260. Pub. 4–1–69. Filed 11–15–68.

871,121. VIRU-GARD. Holliston Laboratories, Inc. SN 313,236. Pub. 4–1–69. Filed 11–29–68.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

871,081. (See Class 1 for this trademark.)

871,122. SELLIER & BELLOT AND DESIGN. Blanicke Strojirny, Narodni Podnik. SN 256,625. Pub. 4–1–69. Filed 10–18–66.

871,123. AURORE. Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, S.N.E.C.M.A. SN 287,964. Pub. 4–1–69. Filed 1–2–68.

871,124. NIKKO. Kodensha Co., Ltd. SN 289,099. Pub. 4–1–69. Filed 1–18–68.

Class 10 — Fertilizers

871,125. TREE (DESIGN). Henry Field Seed and Nursery Company. SN 308,206. Pub. 4–1–69. Filed 9–25–68.

Class 12 — Construction Materials

871,081. (See Class 1 for this trademark.)

871,126. MISCELLANEOUS DESIGN. J. G. Braun Company. MULTIPLE CLASS (Classes 12, 13, and 14). SN 281,546. Pub. 4–1–69. Filed 10–2–67.

871,127. SYLVAPLY. MacMillan Bloedel Limited. SN

Class 14 — Metals and Metal Castings and Forgings

871,081. (See Class 1 for this trademark.)

871,085. (See Class 1 for this trademark.)

871,096. (See Class 2 for this trademark.)

871,126. (See Class 12 for this trademark.)

871,148. HI-TOP. Toyo Kohan Co., Ltd. SN 242,293. Pub. 3–21–67. Filed 3–30–66.

Class 15 — Oils and Greases

INDEX OF REGISTRANTS

Vanderbilt Tire & Rubber Corp., New York, N.Y., to The Kelley-Springfield Tire Co., Cumberland, Md. 510,800, ren. 6–17–69. Cl. 35.
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Class 10 – Fertilizers

871,125. TREE (DESIGN). Henry Field Seed and Nursery Company. SN 308,206. Pub. 4–1–69. Filed 9–25–68.

Class 12 – Construction Materials

871,081. (See Class 1 for this trademark.)

871,126. MISCELLANEOUS DESIGN. J. G. Braun Company. MULTIPLE CLASS (Classes 12, 13, and 14). SN 281,546. Pub. 4–1–69. Filed 10–2–67.

871,127. SYLVAPLY. MacMillan Bloedel Limited. SN 284,692. Pub. 4–1–69. Filed 11–13–67.

871,128. AP AND DESIGN. American Pipe and Construction Co. MULTIPLE CLASS (Classes 12 and 35). SN 296,630. Pub. 4–1–69. Filed 4–26–68.

871,129. GLASTIC. Thomas K. Chaffee Company. SN 302,391. Pub. 1–14–69. Filed 7–10–68.

871,130. PANWOOD. Polyplastex United, Inc. SN 302,961. Pub. 4–1–69. Filed 7–17–68.

871,131. ABSKYN. Polyplastex United, Inc. SN 302,963. Pub. 4–1–69. Filed 7–17–68.

Class 13 – Hardware and Plumbing and Steam-Fitting Supplies

871,081. (See Class 1 for this trademark.)

871,126. (See Class 12 for this trademark.)

871,132. ELKINGTON. British Silverware Limited. MULTIPLE CLASS (Classes 13 and 23). SN 264,015. Pub. 4–1–69. Filed 2–6–67.

871,133. SWISS-TECH. Swiss-Tech, Inc. SN 269,000. Pub. 4–1–69. Filed 4–12–67.

871,134. MIXET. Mixet Co. SN 275,384. Pub. 4–1–69. Filed 7–5–67.

871,135. MISCELLANEOUS DESIGN. Valve Corporation of America. SN 280,528. Pub. 4–1–69. Filed 9–18–67.

871,136. SMOOTH BACK. Rome Fastener Corporation. SN 280,637. Pub. 4–1–69. Filed 9–18–67.

871,137. SPARTA-GLAS. Spartan International Corp. SN 282,833. Pub. 4–1–69. Filed 10–18–67.

871,138. FLEXKLEEN. The Eimco Corporation. SN 286,653. Pub. 4–1–69. Filed 12–11–67.

871,139. TRI-RING. Illinois Tool Works Inc. SN 290,439. Pub. 1–28–69. Filed 1–11–68.

871,140. EXELLOY. Crane Co. SN 291,843. Pub. 4–1–69. Filed 2–26–68.

871,141. ARTSCO AND DESIGN. Stephen J. Thomas, d.b.a. Arm-Rest-Toilet Seat Company. SN 293,326. Pub. 4–1–69. Filed 3–14–68.

871,142. AT (DESIGN). American Tube & Controls Incorporated. SN 296,781. Pub. 4–1–69. Filed 4–29–68.

871,143. PLAST-A-VANE ETC. AND DESIGN. Valve Assemblers Corp. SN 298,767. Pub. 4–1–69. Filed 5–21–68.

871,144. ANCHOR FENCE. Anchor Post Products, Inc. SN 299,092. Pub. 4–1–69. Filed 5–27–68.

871,145. CATERPILLAR. Caterpillar Tractor Co. MULTIPLE CLASS (Classes 13 and 35). SN 299,525. Pub. 4–1–69. Filed 6–3–68.

871,146. CAT. Caterpillar Tractor Co. MULTIPLE CLASS (Classes 13 and 35). SN 299,526. Pub. 4–1–69. Filed 6–3–68.

871,147. VYLON. Continental Oil Company. SN 309,240. Pub. 4–1–69. Filed 10–9–68.

Class 14 – Metals and Metal Castings and Forgings

871,081. (See Class 1 for this trademark.)

871,085. (See Class 1 for this trademark.)

871,096. (See Class 2 for this trademark.)

871,126. (See Class 12 for this trademark.)

871,148. HI-TOP. Toyo Kohan Co., Ltd. SN 242,293. Pub. 3–21–67. Filed 3–30–66.

Class 15 – Oils and Greases

871,149. CUT-LINE AND DESIGN. Cutters Exchange, Inc. MULTIPLE CLASS (Classes 15, 23, and 24). SN 266,512. Pub. 4–1–69. Filed 3–13–67.

871,150. NUAERO AND DESIGN. Strouse, Inc. SN 286,042. Pub. 4–1–69. Filed 12–1–67.

871,151. TAP-IT. Percy Harms Corporation. SN 294,624. Pub. 4–1–69. Filed 4–1–68.

871,152. COOL FORM. Daubert Chemical Company. SN 299,326. Pub. 4–1–69. Filed 5–29–68.

871,153. FANCIFUL FIGURE OF A MAN. Martin Oil Service, Inc. SN 305,615. Pub. 4–1–69. Filed 8–21–68.

871,154. RING-FREE AND DESIGN. MacMillan Ring-Free Oil Co., Inc. SN 312,156. Pub. 4–1–69. Filed 11–14–68.

Class 16 – Protective and Decorative Coatings

871,155. ADVIS. Carlisle Chemical Works, Inc. SN 276,310. Pub. 4–1–69. Filed 7–19–67.

871,156. KMF. Kurfees Paint Co. SN 295,652. Pub. 4–1–69. Filed 4–16–68.

871,157. FIREHOLD "10." The Seagrave Corp., d.b.a. Cheeseman-Elliott Company and Four Square Paint Company. SN 299,066. Pub. 4–1–69. Filed 5–27–68.

871,158. STAMP-A-MASK. Thermark Corporation. SN 303,365. Pub. 4–1–69. Filed 7–22–68.

Class 17 – Tobacco Products

871,159. SUNDA. Petersen & Sorensen Cigar- og Tobaksfabriker A/S. SN 296,710. Pub. 4–1–69. Filed 4–26–68.

871,160. NEWPORT AND DESIGN. Lorillard Corporation. SN 305,331. Pub. 3–25–69. Filed 8–16–68.

871,161. MINERS' EXTRA. The American Tobacco Company. SN 309,502. Pub. 4–1–69. Filed 10–14–68.

Class 18 – Medicines and Pharmaceutical Preparations

871,162. CALPAN FREE-FLO. Abbott Laboratories. SN 280,000. Pub. 4–1–69. Filed 9–11–67.

871,163. AMPICILLOX. Beecham Group Limited, d.b.a. Beecham Research Laboratories. SN 281,267. Pub. 4–1–69. Filed 9–27–67.

871,164. 2G/DM. The Dow Chemical Company. SN 282,782. Pub. 4–1–69. Filed 10–18–67.

871,165. SUPER ALKA-SELTZER. Miles Laboratories, Inc. SN 284,095. Pub. 4–1–69. Filed 11–3–67.

871,166. AMPU-TENS. Knoll Pharmaceutical Company. SN 295,826. Pub. 4–1–69. Filed 4–17–68.

871,167. F FELCO AND DESIGN. Farmers Regional Cooperative. SN 307,805. Pub. 4–1–69. Filed 9–20–68.

Class 19 – Vehicles

871,081. (See Class 1 for this trademark.)

871,085. (See Class 1 for this trademark.)

871,168. BIG D. York Trailer Company Limited. SN 264,357. Pub. 4–1–69. Filed 2–9–67.

871,169. ISO AND DESIGN. Iso S.p.A. Automotoveicoli. SN 283,897. Pub. 4–1–69. Filed 11–1–67.

871,170. LEAPING JAGUAR (DESIGN). Jaguar Cars Limited. SN 286,150. Pub. 4–1–69. Filed 12–1–67.

871,171. SUPER-ALPINE. Bombardier Limited. SN 289,003. Pub. 4–1–69. Filed 1–17–68.

871,172. ROMANY. Gordon Payne Limited. SN 289,712. Pub. 4–1–69. Filed 1–26–68.

871,173. HULO. Gebroeders Van Huet's Laad-en Lossystemen "Hulo" NV. MULTIPLE CLASS (Classes 19 and 23). SN 289,798. Pub. 4–1–69. Filed 1–29–68.

871,174. BOSTROM. Universal Oil Products Company, d.b.a. UOP Bostrom Division. SN 291,792. Pub. 4–1–69. Filed 2–23–68.

871,175. CAMP CRAFT AND DESIGN. Herbert E. Bolton, Jr. SN 292,072. Pub. 4–1–69. Filed 2–28–68.

871,176. W AND DESIGN. The Weatherhead Company. SN 292,522. Pub. 4–1–69. Filed 3–5–68.

871,177. HUSTLER. Fenton Manufacturing Corp. SN 292.562. Pub. 4–1–69. Filed 3–6–68.

871,178. VANTAGE. Southern Fiber Glass Products, Inc. SN 295,185. Pub. 4–1–69. Filed 4–8–68.

871,179. BARON ETC. AND DESIGN. Black Rock Development Corporation. SN 296,632. Pub 4–1–69. Filed 4–26–68.

871,180. COMP. TECH. Robert A. Baughman. SN 297,952. Pub. 4–1–69. Filed 5–13–68.

871,181. REVERE. DMH Corporation. SN 312,438. Pub. 4–1–69. Filed 11–18–68.

871,182. CHOPPER. Raleigh Industries of America, Inc. SN 312,603. Pub. 4–1–69. Filed 11–19–68.

871,183. KURBMASTER. J. B. E. Olson Corporation. SN 313,327. Pub. 4–1–69. Filed 11–29–68.

Class 20 – Linoleum and Oiled Cloth

871,184. FOAM-STEP. American Biltrite Rubber Co., Inc. SN 285,508. Pub. 8–27–68. Filed 11–24–67.

Class 21 – Electrical Apparatus, Machines, and Supplies

871,081. (See Class 1 for this trademark.)

871,185. VIM PAC. Hitachi Maxell, Ltd. SN 256,665. Pub. 4–1–69. Filed 10–18–66.

871,186. T-VION. T-Vion, Inc. SN 266,109. Pub. 4–1–69. Filed 3–6–67.

871,187. SYNCHRO-TWIN. Fidelitone, Inc. SN 284,185. Pub. 4–1–69. Filed 11–6–67.

871,188. CLC AND DESIGN. Crown Lamp Co. SN 284,453. Pub. 4–1–69. Filed 11–9–67.

871,189. SILICONFIRE. Dick Elza Stearns. SN 284,510. Pub. 4–1–69. Filed 11–9–67.

871,190. CHROMAGRAPH. Dr. Ing. Rudolf Hell. SN 285,653. Pub. 4–1–69. Filed 11–27–67.

871,191. "POUR 'N SERVE." Cory Corporation. SN 286,511. Pub. 4–1–69. Filed 12–8–67.

871,192. MISCELLANEOUS DESIGN. Oshino Electric Lamp Works, Ltd. SN 287,312. Pub. 4–1–69. Filed 12–20–67.

871,193. TELE-COMMAND. Private Tele-Communications, Inc. SN 289,206. Pub. 4–1–69. Filed 1–19–68.

871,194. TELE-REPLY. Private Tele-Communications, Inc. SN 289,830. Pub. 4–1–69. Filed 1–29–68.

871,195. KLIPSCH MODEL H. Klipsch and Associates, Inc. SN 293,151. Pub. 4–1–69. Filed 3–13–68.

871,196. TYCOLITE. Sybron Corporation, by merger from Taylor Instrument Companies. SN 293,769. Pub. 4–1–69. Filed 3–20–68.

871,197. GENIE. The Alliance Manufacturing Company, Inc. SN 295,003. Pub. 4–1–69. Filed 4–5–68.

871,198. MONSANTO. Monsanto Company. MULTIPLE CLASS (Classes 21, 26, and 27). SN 295,279. Pub. 4–1–69. Filed 4–10–68.

871,199. MISCELLANEOUS DESIGN. Radiation Systems, Inc. SN 295,671. Pub. 4–1–69. Filed 4–15–68.

871.200. RSI AND DESIGN. Radiation Systems, Inc. SN 295,672. Pub. 4–1–69. Filed 4–15–68.

871,201. PATHMARK. Supermarkets General Corporation, by change of name and assignment from Louket Markets, Inc. SN 295,833. Pub. 4–1–69. Filed 4–17–68.

871,202. PERFBOX. Tandy Corporation, d.b.a. Radio Shack. SN 296,598. Pub. 4–1–69. Filed 4–25–68.

871,203. TURCO. Purex Corporation, Ltd., d.b.a. Turco Products, Inc. MULTIPLE CLASS (Classes 21 and 23). SN 297,148. Pub. 4–1–69. Filed 5–2–68.

871,204. LITTLE GIANT STARBRITE. Little Giant Corporation, d.b.a. Little Giant Pump Company, and Little Giant Pump Co. SN 298,232. Pub. 4–1–69. Filed 5–15–68.

871,205. VILLAGER. Nu-Art Lighting and Manufacturing Co. SN 300,366. Pub. 4–1–69. Filed 6–13–68.

871,206. ENERCELL. Tandy Corporation, d.b.a. Radio Shack. SN 301,558. Pub. 3–18–69. Filed 6–27–68.

871,207. SAGE AND DESIGN. Sage Laboratories, Inc. SN 305,494. Pub. 4–1–69. Filed 8–19–68.

871,208. SK. Standard Kollsman Industries Inc. SN 306,445. Pub. 4–1–69. Filed 9–3–68.

871,209. FAIRCHILD HILLER. Fairchild Hiller Corporation. SN 307,804. Pub. 4–1–69. Filed 9–20–68.

Class 22 – Games, Toys, and Sporting Goods

871,210. BANGLE DANGLES. Hasbro Industries, Inc., by change of name from Hassenfeld Bros. Inc. SN 269,882. Pub. 12–12–67. Filed 4–24–67.

871,211. ZEKE'S. The Don Rich Co. SN 276,473. Pub. 4–1–69. Filed 8–23–67.

871,212. BABY SING AND DESIGN. Gadgets Diffusion S.A. MULTIPLE CLASS (Classes 22 and 36). SN 280,409. Pub. 4–1–69. Filed 9–15–67.

871,213. RICK-TICK TENNIS. N.V. Nemas. SN 288,658. Pub. 4–1–69. Filed 12–12–67.

871,214. CAR-GO. Chandos Industries, Inc. SN 291,352. Pub. 4–1–69. Filed 2–19–68.

871,215. CAR-GO (DESIGN). Chandos Industries, Inc. SN 291,353. Pub. 4–1–69. Filed 2–19–68.

871,216. ART-GIZMO. Artco, Inc. SN 291,824. Pub. 4–1–69. Filed 2–26–68.

871,217. SEAL. Gentex Corporation. SN 293,821. Pub. 4–1–69. Filed 3–21–68.

871,218. SLUMBERELLA. General Recreation Industries, Inc. SN 297,555. Pub. 4–1–69. Filed 5–7–68.

871,219. MR. HOCKEY AND DESIGN. Pierre Delfausse. SN 298,206. Pub. 4–1–69. Filed 5–15–68.

871,220. SIGNATURE MODEL. Northwestern Golf Company. SN 298,850. Pub. 4–1–69. Filed 5–22–68.

871,221. DOLL JAW-BRAKER. Thompson Fishing Tackle Company, Inc. SN 299,887. Pub. 3–18–69. Filed 6–6–68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

871,081. (See Class 1 for this trademark.)

871,097. (See Class 4 for this trademark.)

871,132. (See Class 13 for this trademark.)

871,149. (See Class 15 for this trademark.)

871,173. (See Class 19 for this trademark.)

871,203. (See Class 21 for this trademark.)

871,222. AUTOPACK. Autopack Limited. SN 206,122. Pub. 5-31-66. Filed 11-13-64.

871,223. PEPPERMINT STICK (DESIGN). UTD Corporation (Delaware corporation), by assignment and change of name from UTD Corporation (Massachusetts corporation). SN 246,826. Pub. 4-1-69. Filed 5-27-66.

871,224. SPC AND DESIGN. Processed Steel Company. SN 261,877. Pub. 4-1-69. Filed 1-3-67.

871,225. SPC DURASTEEL AND DESIGN. Processed Steel Company. SN 261,878. Pub. 4-1-69. Filed 1-3-67.

871,226. SPC DURALLOY AND DESIGN. Processed Steel Company. SN 261,879. Pub. 4-1-69. Filed 1-3-67.

871,227. SHERIDAN. Harris-Intertype Corporation, by merger from T. W. & C. B. Sheridan Co., d.b.a. The Sheridan Company. SN 266,470. Pub. 4-1-69. Filed 3-10-67.

871,228. MOON EQUIPPED AND EYES SYMBOL. Dean Moon, d.b.a. Moon Equipment Company. SN 267,646. Pub. 4-1-69. Filed 3-27-67.

871,229. CLINVERTOR. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company. SN 273,324. Pub. 4-1-69. Filed 6-7-67.

871,230. SPRAY-HAWK. Mallinckrodt Chemical Works. SN 273,511. Pub. 4-1-69. Filed 6-9-67.

871,231. SPHEROMILL. Maschinenfabrik Frorlep G.m.b.H. SN 274,816. Pub. 4-1-69. Filed 6-26-67.

871,232. VIPRES. Pedershaab Maskinefabrik A/S. SN 278,989. Pub. 4-1-69. Filed 8-24-67.

871,233. TOPLINE ETC. AND DESIGN. Top-Line Corporation. SN 279,013. Pub. 4-1-69. Filed 8-24-67.

871,234. BERGMANS. Ball Machinery Company. SN 280,004. Pub. 4-1-69. Filed 9-11-67.

871,235. MINILIFT. Didsbury Engineering Company Limited. SN 280,403. Pub. 4-1-69. Filed 9-15-67.

871,236. NIS (DESIGN). Olin N. Ennis, d.b.a. Ennis Manufacturing. SN 282,448. Pub. 4-1-69. Filed 10-13-67.

871,237. ASTROCLEAN. E. J. Ward Limited. SN 282,499. Pub. 4-1-69. Filed 10-13-67.

871,238. GYROJET. Michel A. Saad, d.b.a. Gyrojet Co. SN 283,932. Pub. 4-1-69. Filed 11-1-67.

871,239. FLEETWOOD. Poloron Products of Indiana, Inc., assignee of Levitt Manufacturing Corp. SN 284,022. Pub. 4-1-69. Filed 11-2-67.

871,240. ORBITSEAL. Pratt Manufacturing Corp. SN 284,500. Pub. 4-1-69. Filed 11-9-67.

871,241. BADGER AND DESIGN. Badger Northland Inc. SN 285,712. Pub. 4-1-69. Filed 11-28-67.

871,242. BERCO AND DESIGN. S.p.A. Officine Meccaniche Bertoni & Cotti. MULTIPLE CLASS (Classes 23 and 26). SN 286,052. Pub. 4-1-69. Filed 12-4-67.

871,243. GROBEXTRA INTERMIX. Grob & Co. Limited. SN 289,297. Pub. 4-1-69. Filed 1-22-68.

871,244. GROBEXTRA SOLOMIX. Grob & Co. Limited. SN 289,298. Pub. 4-1-69. Filed 1-22-68.

871,245. GROBEXTRA DUOMIX. Grob & Co. Limited. SN 289,299. Pub. 4-1-69. Filed 1-22-68.

871,246. ACCO. Gary Industries, Inc., d.b.a. Acco Products. SN 289,583. Pub. 4-1-69. Filed 1-25-68.

871,247. VARI-CYCLE. The Reliance Electric and Engineering Company, d.b.a. Reeves Pulley Division. SN 290,329. Pub. 4-1-69. Filed 2-5-68.

871,248. WINTER. National Twist Drill & Tool Co. (Delaware corporation), assignee of National Twist Drill & Tool Co. (Michigan corporation). MULTIPLE CLASS (Classes 23 and 26). SN 291,304. Pub. 4-1-69. Filed 2-19-68.

871,249. KITCHENAID. The Hobart Manufacturing Company. SN 291,394. Pub. 4-1-69. Filed 2-19-68.

871,250. CORDOVA. United Silver and Cutlery Company. SN 291,449. Pub. 4-1-69. Filed 2-19-68.

871,251. QUALIMATIC. National-Standard Company. SN 292,805. Pub. 4-1-69. Filed 3-8-68.

871,252. AMEC AND DESIGN. All Mechanical Equipment Company. SN 293,094. Pub. 4-1-69. Filed 3-13-68.

871,253. RAILBIRD. Astron Corporation. SN 293,791. Pub. 4-1-69. Filed 3-21-68.

871,254. HOTSY. Charles L. Anderson, d.b.a. Hotsy Company. SN 296,391. Pub. 4-1-69. Filed 4-24-68.

871,255. FABRILINE. Manco Mfg. Co. SN 297,200. Pub. 4-1-69. Filed 5-2-68.

871,256. UR-A-FLEX. Pivot Punch Corporation. SN 301,962. Pub. 4-1-69. Filed 7-3-68.

871,257. THIOVEC. Thiokol Chemical Corporation. SN 302,142. Pub. 4-1-69. Filed 7-5-68.

871,258. MINITIE. Doughboy Industries, Inc. SN 302,675. Pub. 4-1-69. Filed 7-15-68.

871,259. GENERAL ELECTRIC AND GE DESIGN. General Electric Company. SN 309,248. Pub. 4-1-69. Filed 10-9-68.

Class 24 — Laundry Appliances and Machines

871,149. (See Class 15 for this trademark.)

Class 25 — Locks and Safes

871,260. VIRO ITALY AND DESIGN. Viro Innocenti S.p.A. SN 307,366. Pub. 4-1-69. Filed 9-13-68.

Class 26 — Measuring and Scientific Appliances

871,081. (See Class 1 for this trademark.)

871,097. (See Class 4 for this trademark.)

871,113. (See Class 6 for this trademark.)

871,198. (See Class 21 for this trademark.)

871,242. (See Class 23 for this trademark.)

871,248. (See Class 23 for this trademark.)

871,261. CA AND DESIGN. Cryogenic Associates, Inc. SN 274,590. Pub. 4-1-69. Filed 6-23-67.

871,262. ARCASWISS. Bogen Photo Corp. SN 275,828. Pub. 4-1-69. Filed 7-12-67.

871,263. FISHTHOMETER. Fishmaster Products, Inc. SN 281,569. Pub. 4-1-69. Filed 10-2-67.

871,264. TRAVEGAR. Albert Schacht KG. SN 281,856. Pub. 4-1-69. Filed 10-5-67.

871,265. TRAVEMAT. Albert Schacht KG. SN 281,857. Pub. 4-1-69. Filed 10-5-67.

871,266. ISODUCTOR. Melabs. SN 284,315. Pub. 4-1-69. Filed 11-7-67.

871,267. PRESEARCH. Presearch Incorporated. SN 285,147. Pub. 4-1-69. Filed 11-17-67.

871,268. POSIMATIC. Societe des Lunetiers. SN 286,559. Pub. 4-1-69. Filed 12-8-67.

871,269. RI (DESIGN). Ray-Tek. SN 287,764. Pub. 4-1-69. Filed 12-27-67.

871,270. CEILOSKOP. Impulsphysik G.m.b.H. SN 288,699. Pub. 4-1-69. Filed 1-12-68.

871,271. SWAN AND DESIGN. Swan Optical Corp. SN 290,548. Pub. 4-1-69. Filed 2-7-68.

871,272. LAMBDA DIAL AND DESIGN. Justin J. Shapiro, d.b.a. Labindustries. SN 290,979. Pub. 4-1-69. Filed 2-13-68.

871,273. DELMAR. Perkin-Elmer Corporation. SN 292,236. Pub. 4-1-69. Filed 3-1-68.

871,274. CHIP GUARD. ESB Incorporated. SN 295,020. Pub. 4-1-69. Filed 4-5-68.

871,275. FIBROX. The Rank Organisation Limited. SN 300,481. Pub. 4-1-69. Filed 6-14-68.

871,276. OMKI (DESIGN). OMSI/Kit, Inc. SN 302,752. Pub. 4-1-69. Filed 7-15-68.

871,277. CLOMETER. Diamond Shamrock Corporation, d.b.a. Diamond Shamrock Chemical Company. SN 308,948. Pub. 4-1-69. Filed 10-7-68.

Class 27 — Horological Instruments

871,198. (See Class 21 for this trademark.)

871,278. BIRD-ON-PENDULUM AND DESIGN. Connecticut Clock Company. SN 299,730. Pub. 4-1-69. Filed 6-5-68.

871,279. ACCURATRONIC. Bulova Watch Company, Inc. SN 304,584. Pub. 2-18-69. Filed 8-7-68.

Class 28 — Jewelry and Precious-Metal Ware

871,280. CARDEILHAC. Orfevrerie Christofle. SN 294,967 Pub. 4-1-69. Filed 4-4-68.

Class 29 — Brooms, Brushes, and Dusters

871,281. VELTEX. Hutchings & Harding Limited. SN 281,198. Pub. 4-1-69. Filed 9-26-67.

Class 31 — Filters and Refrigerators

871,081. (See Class 1 for this trademark.)

871,282. FER-OX. Elgin Softener, Inc. SN 277,546. Pub. 4-1-69. Filed 8-4-67.

871,283. MF-LIFEGARD. Millipore Corporation. SN 278,985. Pub. 4-1-69. Filed 8-24-67.

871,284. VIRTIS. The Virtis Company, Inc. SN 283,046. Pub. 4-1-69. Filed 10-20-67.

871,285. CCR-I. Nalco Chemical Company. SN 293,163. Pub. 4-1-69. Filed 3-13-68.

871,286. HAM MASTER. Supreme Foods, Inc., d.b.a. Displaymor Manufacturing Company. SN 294,422. Pub. 4-1-69. Filed 3-28-68.

Class 32 — Furniture and Upholstery

871,287. AUTHENTIC FURNITURE PRODUCTS AND DESIGN. Authentic Furniture Products, Inc. SN 285,643. Pub. 4-1-69. Filed 11-27-67.

871,288. CROWN-O-PEDIC. Perfection Bedding Company. SN 305,485. Pub. 2-18-69. Filed 8-19-68.

871,289. PAOLI. Paoli Chair Company, Inc. SN 307,666. Pub. 4-1-69. Filed 9-18-68.

871,290. MELWOOD. Lerner Manufacturing, Inc. SN 308,908. Pub. 4-1-69. Filed 10-4-68.

871,291. HOUSEMASTER. Selig Manufacturing Company, Inc. SN 309,404. Pub. 4-1-69. Filed 10-10-68.

871,292. TWIN TIME. Restonic Corporation. SN 309,476. Pub. 4-1-69. Filed 10-11-68.

871,293. HI-VUE. Acra Thread Company, Inc. SN 309,727. Pub. 4-1-69. Filed 10-16-68.

871,294. VERSA-CABINET. Pagebar, Inc. SN 311,210. Pub. 2-25-69. Filed 11-4-68.

Class 33 — Glassware

871,295. INDEPENDENCE. Interpace Corporation, assignee of Castleton China, Inc. SN 284,608. Pub. 4-1-69. Filed 11-13-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

871,296. ROSTOFREE. Bernhard Kirsch. SN 262,944. Pub. 4-1-69. Filed 1-20-67.

871,297. PYRONICS. Pyronics, Inc. SN 268,843. Pub. 4-1-69. Filed 4-11-67.

871,298. AB DESTRUCTOR AND DESIGN. AB Destructor. SN 270,464. Pub. 4-1-69. Filed 5-2-67.

871,299. CHAMP-HEATER. Champion Heater Company, Inc. SN 278,872. Pub. 4-1-69. Filed 8-23-67.

871,300. STAY-CLEAN. J. W. Harris Co., Inc. SN 279,072. Pub. 4-1-69. Filed 8-25-67.

871,301. LECTROTIN AND DESIGN. Hexacon Electric Company. SN 282,463. Pub. 4-1-69. Filed 10-13-67.

871,302. RANOMATIC. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company. SN 283,570. Pub. 4-1-69. Filed 10-27-67.

871,303. RANTUNG. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company. SN 283,571. Pub. 4-1-69. Filed 10-27-67.

871,304. RANMANG. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company. SN 283,572. Pub. 4-1-69. Filed 10-27-67.

871,305. RANITE. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company. SN 283,573. Pub. 4-1-69. Filed 10-27-67.

871,306. MICROCHEF. Beverly D. Kumpfer. SN 284,924. Pub. 4-1-69. Filed 11-15-67.

871,307. AMERICANA. General Electric Company. SN 287,644. Pub. 4-1-69. Filed 12-27-67.

871,308. DIFFUSA-LITE. Hugh H. Aiken, d.b.a. Diffusa-Lite Company. SN 288,581. Pub. 4-1-69. Filed 1-11-68.

871,309. FANNY WARMER. Richard E. Dennis, d.b.a. Dennis Mfg. Co. SN 288,943. Pub. 4-1-69. Filed 1-16-68.

871,310. TARTAN. Eaton Yale & Towne Inc. SN 291,599. Pub. 4-1-69. Filed 2-21-68.

871,311. ARROW (DESIGN). Varian Associates. SN 293,332. Pub. 4-1-69. Filed 3-14-68.

871,312. IMPACT-O-WELD. The McKay Company. SN 294,295. Pub. 4-1-69. Filed 3-27-68.

871,313. MITEY MIDGET. Fostoria-Fannon, Incorporated. SN 294,612. Pub. 4-1-69. Filed 4-1-68.

871,314. THUNDERBOLT. Miller Electric Mfg. Co. SN 307,389. Pub. 4-1-69. Filed 9-16-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

871,081. (See Class 1 for this trademark.)

871,128. (See Class 12 for this trademark.)

871,145. (See Class 13 for this trademark.)

871,146. (See Class 13 for this trademark.)

871,315. STAR. Woodward Wanger Company. SN 283,836. Pub. 4-1-69. Filed 10-31-67.

871,316. DESIGN OF A STAR. Woodward Wanger Company. SN 283,837. Pub. 4-1-69. Filed 10-31-67.

871,317. PLASTI PAK. Garlock Inc. SN 298,439. Pub. 12-10-68. Filed 5-17-68.

871,318. SUN VALLEY. Southern Stores, Inc. SN 310,988. Pub. 4-1-69. Filed 10-31-68.

Class 36 — Musical Instruments and Supplies

871,212. (See Class 22 for this trademark.)

871,319. RESPONSYSTEM. General Electronic Laboratories, Inc. SN 287,647. Pub. 4-1-69. Filed 12-27-67.

871,320. BELL AND FIGURE (DESIGN). Schulmerich Carillons, Inc. SN 309,342. Pub. 4-1-69. Filed 10-10-68.

Class 37 — Paper and Stationery

871,085. (See Class 1 for this trademark.)

871,321. MINI NOTES. E. Errett Smith, Inc. SN 270,515. Pub. 4-1-69. Filed 5-2-67.

871,322. COPI AND DESIGN. Computer Papers Incorporated, d.b.a. Computer Papers Inc. SN 277,027. Pub. 4-1-69. Filed 7-28-67.

871,323. GIRL TALK. Westab Inc. SN 297,153. Pub. 12-10-68. Filed 5-2-68.

871,324. CHAN-L-PAK. F. M. Howell & Company, Inc. SN 297,782. Pub. 4-1-69. Filed 5-9-68.

871,325. KANGAROO PAK AND DESIGN. Double Envelope Corporation. SN 300,343. Pub. 4-1-69. Filed 6-13-68.

871,326. MAGNET VUE. The Holson Company. SN 301,067. Pub. 4-1-69. Filed 6-21-68.

871,327. TUFFY. Lewis R. Beyer, d.b.a. The Lewart Company. SN 301,694. Pub. 4-1-69. Filed 7-1-68.

871,328. PRO-SWING. Richard A. Hatfield, d.b.a. The Pro-Swing Company. SN 301,940. Pub. 4-1-69. Filed 7-3-68.

871,329. FINCH TITLE "95." Finch, Pruyn & Company, Incorporated. SN 303,045. Pub. 4-1-69. Filed 7-18-68.

871,330. MEDALIST. American Can Company. SN 303,127. Pub. 4-1-69. Filed 7-19-68.

871,331. DI-TAB. Diagraph-Bradley Industries, Inc. SN 303,148. Pub. 4-1-69. Filed 7-19-68.

871,332. ASTRA. Brown Company. SN 303,591. Pub. 4-1-69. Filed 7-25-68.

871,333. CURAN. Curwood, Inc. SN 303,597. Pub. 4-1-69. Filed 7-25-68.

871,334. ROTOBULK. P. H. Glatfelter Company. SN 303,698. Pub. 4-1-69. Filed 7-26-68.

871,335. POCKET ACCENT. Sanford Ink Company. SN 303,708. Pub. 4-1-69. Filed 7-26-68.

871,336. BRIEFETTES. Orlando A. Battista, d.b.a. Reader-Services Company. SN 303,763. Pub. 4-1-69. Filed 7-29-68.

871,337. M AND DESIGN. Mohawk Paper Mills, Inc. SN 303,811. Pub. 4-1-69. Filed 7-29-68.

871,338. TECHNI-PEEL. Brown Company. SN 303,983. Pub. 4-1-69. Filed 7-31-68.

871,339. DESKRIBE. Accuray Products Incorporated. SN 305,365. Pub. 4-1-69. Filed 8-19-68.

871,340. FINESSE. Accuray Products Incorporated. SN 305,366. Pub. 4-1-69. Filed 8-19-68.

Class 38 — Prints and Publications

871,341. INFORM NATIONAL REPORTS. Paul R. Bish. SN 262,669. Pub. 4-1-69. Filed 1-17-67.

871,342. MOODY'S. Moody's Investors Service, Inc. SN 269,772. Pub. 4-1-69. Filed 4-21-67.

871,343. DURADIZED. Metalphoto Corporation, assignee of Allied Decals, Inc. MULTIPLE CLASS (Classes 38 and 50). SN 274,578. Pub. 1-28-69. Filed 6-23-67.

871,344. PIXURE AD. Farm Business Council, Inc. SN 278,888. Pub. 4-1-69. Filed 8-23-67.

871,345. EMPHASIZER. Becton, Dickinson and Company, by merger from Bard-Parker Company, Inc. SN 279,796. Pub. 3-18-69. Filed 9-7-67.

871,346. OLD AND NOUVEAU. Norcross, Inc. SN 282,203. Pub. 4-1-69. Filed 10-10-67.

871,347. DESIGN OF STYLIZED BIRD. Air New Zealand Limited. SN 282,424. Pub. 4-1-69. Filed 10-13-67.

871,348. BAKE-OFF. The Pillsbury Company. SN 283,029. Pub. 4-1-69. Filed 10-20-67.

871,349. TEL-A-CARD. Robert T. Paul and Fay L. Paul (partnership). SN 289,030. Pub. 2-4-69. Filed 1-17-68.

871,350. LIMNOS. Great Lakes Foundation. SN 292,926. Pub. 4-1-69. Filed 3-11-68.

871,351. PARAMOUNT TELEVISION A GULF+WESTERN COMPANY AND DESIGN. Paramount Pictures Corporation. SN 293,565. Pub. 4-1-69. Filed 3-18-68.

871,352. SCROLL OF FORTUNE. Ross Enterprises. SN 294,210. Pub. 4-1-69. Filed 3-26-68.

871,353. FAMOUS WRITERS MAGAZINE. Famous Writers School, Inc. SN 297,548. Pub. 4-1-69. Filed 5-7-68.

871,354. HOLLY HOBBIES. American Greetings Corporation. SN 302,378. Pub. 4-1-69. Filed 7-10-68.

871,355. PICSIE. United States Steel Corporation. SN 302,476. Pub. 12-17-68. Filed 7-11-68.

871,356. TODAY'S FARMER. Midcontinent Farmers Association. SN 308,117. Pub. 4-1-69. Filed 9-24-68.

871,357. CFR AND DESIGN. Continental Reports, Incorporated. SN 309,845. Pub. 4-1-69. Filed 10-17-68.

871,358. QUALIFIER. Willard Agency, Inc. SN 310,159. Pub. 4-1-69. Filed 10-21-68.

871,359. SCOOTER. National Periodical Publications, Inc. SN 312,158. Pub. 3-25-69. Filed 11-14-68.

871,360. PLAY ALONG BOOKS AND DESIGN. Random House, Inc. SN 312,722. Pub. 4-1-69. Filed 11-21-68.

871,361. HORSE'S HEAD (DESIGN). Lancer Books, Inc. SN 313,542. Pub. 4-1-69. Filed 12-4-68.

Class 39 — Clothing

871,362. GWENDABRIL. M. Caulliez & Delaoutre. MULTIPLE CLASS (Classes 39, 42, and 43). SN 276,979. Pub. 4-1-69. Filed 7-28-67.

871,363. TIP-TOP AND DESIGN. Tip Top Products Company. MULTIPLE CLASS (Classes 39 and 40). SN 281,646. Pub. 4-1-69. Filed 10-2-67.

871,364. ROYAL CADET. R. P. Hazzard Co. SN 284,124. Pub. 4-1-69. Filed 10-10-67.

871,365. THE COLLEGER. Janet Solovei, d.b.a. Hope Reed. SN 287,466. Pub. 4-1-69. Filed 12-22-67.

871,366. BERT PALEY LTD. AND DESIGN. Bert Paley Ltd., Inc. SN 291,020. Pub. 4-1-69. Filed 2-14-68.

871,367. KCD. Kimberly-Clark Corporation. SN 291,751. Pub. 4-1-69. Filed 2-23-68.

871,368. LOGO-TIES. Wembley, Inc. SN 292,524. Pub. 4-1-69. Filed 3-5-68.

871,369. DRI-GUARD. Harold J. Ralph, d.b.a. H. J. Ralph Co. SN 301,391. Pub. 4-1-69. Filed 6-26-68.

871,370. NINA DIMOS. Nina Dimos. SN 301,955. Pub. 1-14-69. Filed 7-3-68.

871,371. KALVI. Grattan Warehouses Limited. SN 304,916. Pub. 4-1-69. Filed 8-12-68.

Class 40 — Fancy Goods, Furnishings, and Notions

871,363. (See Class 39 for this trademark.)

Class 41 — Canes, Parasols, and Umbrellas

871,372. 1ST TEE. Pete Uram Sales, Inc. SN 291,921. Pub. 4-1-69. Filed 2-26-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

871,362. (See Class 39 for this trademark.)

871,373. RIVERDALE. United Merchants and Manufacturers, Inc. SN 300,992. Pub. 4-1-69. Filed 6-20-68.

871,374. RIVERDALE'S. United Merchants and Manufacturers, Inc. SN 300,993. Pub. 4-1-69. Filed 6-20-68.

Class 43 — Thread and Yarn

871,362. (See Class 39 for this trademark.)

871,375. SEALTITE. Rich-Flex Mfg. Corporation. SN 289,122. Pub. 4-1-69. Filed 1-18-68.

Class 44 — Dental, Medical, and Surgical Appliances

871,376. STERI-CASE. Popper & Sons, Inc. SN 264,234. Pub. 9-10-68. Filed 2-8-67.

871,377. COLPAC. Chattanooga Pharmacal Co. SN 274,185. Pub. 4-1-69. Filed 6-19-67.

871,378. KINDNESS SWING SET. Clairol Incorporated. SN 280,563. Pub. 4-1-69. Filed 9-18-67.

871,379. FUTURO. Jung Products, Inc. SN 286,943. Pub. 4-1-69. Filed 12-14-67.

871,380. SURGICAL SYSTEMS. Air Instruments, Inc. SN 287,710. Pub. 4-1-69. Filed 12-28-67.

871,381. VISI-VENT. Pharma/Surge, Inc. SN 288,715. Pub. 4-1-69. Filed 1-12-68.

871,382. KOMPAK. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 291,526. Pub. 4-1-69. Filed 2-20-68.

871,383. TECH-TROL. The Dentists' Supply Company of New York. SN 291,720. Pub. 4-1-69. Filed 2-23-68.

871,384. ORTHO TAIN. Earl O. Bergersen. SN 295,302. Pub. 4-1-69. Filed 4-10-68.

871,385. DRI-ANGLE. Theta Corporation. SN 297,717. Pub. 4-1-69. Filed 5-8-68.

871,386. BUTTERFLY. Abbott Laboratories. SN 297,746. Pub. 12-24-68. Filed 5-9-68.

871,387. HAMILTON. American Hospital Supply Corporation, assignee of Hamilton Manufacturing Company. SN 298,597. Pub. 4-1-69. Filed 5-20-68.

871,388. WISCO. J. Wiss and Sons Co. SN 300,149. Pub. 4-1-69. Filed 6-10-68.

871,389. CAULK ZOE B & T AND DESIGN. The Dentists' Supply Company of New York. SN 306,893. Pub. 4-1-69. Filed 9-9-68.

871,390. CAULK ZOE 2200 AND DESIGN. The Dentists' Supply Company of New York. SN 306,895. Pub. 4-1-69. Filed 9-9-68.

871,391. MISCELLANEOUS DESIGN. Cardinal Instrument Corporation. SN 307,559. Pub. 4-1-69. Filed 9-17-68.

871,392. MINIBATH. Delta Laboratories, Inc. of Florida. SN 309,365. Pub. 4-1-69. Filed 10-10-68.

871,393. HELIOCAP. Louis Jaunet. SN 309,588. Pub. 4-1-69. Filed 10-14-68.

871,394. DEN-SHUR-WELD. Modalities Research Inc. SN 309,817. Pub. 4-1-69. Filed 10-17-68.

Class 45 — Soft Drinks and Carbonated Waters

871,395. IT'S SOMETHING ELSE. The Frostie Company. SN 297,666. Pub. 4-1-69. Filed 5-8-68.

Class 46 — Foods and Ingredients of Foods

871,396. MIGHTY MALT. The Borden Company. SN 155,887. Pub. 10-13-64. Filed 10-25-62.

871,397. GIFT-PRIDE AND DESIGN. Maritime Imports, Incorporated. SN 275,280. Pub. 4-1-69. Filed 7-3-67.

871,398. ENDORA. Midwest Biscuit Company. SN 283,809. Pub. 4-1-69. Filed 10-31-67.

871,399. MW AND DESIGN. MW Fruit Gifts. SN 283,908. Pub. 4-1-69. Filed 11-1-67.

871,400. IRISH ROSE TEA AND DESIGN. The Indian Coffee Corporation, d.b.a. The Breakfast Cheer Coffee Company. SN 284,264. Pub. 4-1-69. Filed 11-6-67.

871,401. PRONOLYTE. The Dietene Company. SN 285,825. Pub. 4-1-69. Filed 11-29-67.

871,402. SNOW CREAM. Statesville Flour Mills Company. SN 288,722. Pub. 4-1-69. Filed 1-12-68.

871,403. CHANGO. Chango Citrus Association. SN 289,777. Pub. 4-1-69. Filed 1-29-68.

871,404. DEER ISLE. Stonington Packing Co., Inc. SN 289,844. Pub. 4-1-69. Filed 1-29-68.

871,405. PLENTY PRODUCTS. Malt-A-Plenty, Inc. SN 291,673. Pub. 4-1-69. Filed 2-23-68.

871,406. TASTY PAK. Country Gardens Inc. SN 293,362. Pub. 4-1-69. Filed 3-15-68.

871,407. FRANCO-SUISSE AND DESIGN. Fromagerie Franco Suisse "Le Ski" S.A. SN 294,038. Pub. 4-1-69. Filed 3-25-68.

871,408. CONTROSE. The Dietene Company. SN 295,921. Pub. 4-1-69. Filed 4-18-68.

871,409. COLDBROOK FARMS. Lipman Bros., Inc., d.b.a. Coldbrook Farms Poultry. SN 296,030. Pub. 4-1-69. Filed 4-19-68.

871,410. NUTRI-SNACKS. Nutrilite Products, Inc. SN 296,567. Pub. 4-1-69. Filed 4-25-68.

871,411. EL TINAJON AND DESIGN. Eduardo Hernandez. SN 297,563. Pub. 4-1-69. Filed 5-7-68.

871,412. ALPO CAT FEAST. Allen Products Co., Inc. SN 297,641. Pub. 4-1-69. Filed 5-8-68.

871,413. TURF CHEESECAKE AND DESIGN. Gracie Square Pastry Corp. SN 297,997. Pub. 4-1-69. Filed 5-13-68.

871,414. EVE AND DESIGN. Modern Eve Products Co., Inc. SN 298,142. Pub. 4-1-69. Filed 5-14-68.

871,415. JET-SICLE. Consolidated Foods Corporation, d.b.a. Joe Lowe Company. SN 298,201. Pub. 4-1-69. Filed 5-15-68.

871,416. AJINOMOTO CO.'S GMP. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc. SN 299,924. Pub. 4-1-69. Filed 6-6-68.

871,417. AJINOMOTO CO.'S I+G. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc. SN 299,925. Pub. 4-1-69. Filed 6-6-68.

871,418. AJINOMOTO CO.'S IMP. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc. SN 299,926. Pub. 4-1-69. Filed 6-6-68.

871,419. MEAT BALLY-O. American Home Products Corporation. SN 299,932. Pub. 4-1-69. Filed 6-7-68.

871,420. CARAVAN ETC. Walter M. Lowney Company Limited. SN 299,989. Pub. 4-1-69. Filed 6-7-68.

871,421. KATCH-ON. General Spice, Inc. SN 300,584. Pub. 4-1-69. Filed 6-17-68.

871,422. PLEASANT HILL FARM. FCX, Inc., d.b.a. FCX Egg Marketing Service. SN 300,769. Pub. 4-1-69. Filed 5-6-68.

871,423. NORDA. Norda Essential Oil & Chemical Co., Inc. SN 301,293. Pub. 4-1-69. Filed 5-20-68.

871,424. "FRU-GEL." Ludford Fruit Products, Inc. SN 305,789. Pub. 4-1-69. Filed 8-23-68.

871,425. DESIGN OF TWO CHILDREN. The Jel Sert Company. SN 310,283. Pub. 4-1-69. Filed 10-23-68.

Class 47 — Wines

871,426. MEDITERRANEO. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines. SN 298,740. Pub. 4-1-69. Filed 5-21-68.

Class 48 — Malt Beverages and Liquors

871,427. OLDE ENGLISH 800 AND DESIGN. Blitz-Weinhard Company. SN 296,298. Pub. 4-1-69. Filed 4-23-68.

871,428. "800." Blitz-Weinhard Company. SN 296,299. Pub. 4-1-69. Filed 4-23-68.

871,429. JAX AND DESIGN. Jackson Brewing Company. SN 300,934. Pub. 4-1-69. Filed 6-20-68.

871,430. JAX AND DESIGN. Jackson Brewing Company. SN 300,935. Pub. 4-1-69. Filed 6-20-68.

Class 49 — Distilled Alcoholic Liquors

871,431. SHOGUN. Kobrand Corporation. SN 209,185. Pub. 4-1-69. Filed 12-31-64.

871,432. CALALOO. E. Delatour & Cie., Sosiete Anonime. SN 279,933. Pub. 4-1-69. Filed 9-8-67.

871,433. YANKEELAND. E. Delatour & Cie., S.A. SN 283,323. Pub. 4-1-69. Filed 10-25-67.

871,434. HASTING HILLS. Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A. SN 291,186. Pub. 4-1-69. Filed 2-15-68.

871,435. HARRINGTON MANOR. Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A. SN 291,188. Pub. 4-1-69. Filed 2-15-68.

Class 50 — Merchandise Not Otherwise Classified

871,343. (See Class 38 for this trademark.)

871,436. BATMAN. National Periodical Publications, Inc. SN 269,088. Pub. 4-1-69. Filed 4-13-67.

871,437. EBERHARD FABER-BOARD. Eberhard Faber Inc. SN 288,685. Pub. 4-1-69. Filed 1-12-68.

871,438. MINI-KITCHEN. Nor Jean Co., Inc. SN 302,283. Pub. 4-1-69. Filed 7-9-68.

871,439. CAP-IT. Jersey Wood & Metal Specialties Co., Inc. SN 306,670. Pub. 4-1-69. Filed 9-5-68.

Class 51 — Cosmetics and Toilet Preparations

871,440. ORIENTAL SPICE AND DESIGN. Shulton, Inc., assignee of Ellen Kaye Laboratories, Inc. SN 261,376. Pub. 6-4-68. Filed 12-23-66.

871,441. BABY FEVER. Kenneth Beauty Salons & Products, Inc. SN 293,149. Pub. 4-1-69. Filed 3-13-68.

871,442. WET FLAMES. Del Laboratories, Inc. SN 294,021. Pub. 4-1-69. Filed 3-25-68.

871,443. ZIZANIE. Parfumerie Fragonard Georges Fuchs & Cie. SN 294,969. Pub. 4-1-69. Filed 4-4-68.

871,444. ESPRIT DE RAYETTE. Rayette-Faberge, Inc. SN 295,253. Pub. 4-1-69. Filed 4-9-68.

871,445. MASCUMETICS. Carley, Inc. SN 296,106. Pub. 4-1-69. Filed 4-22-68.

871,446. ROYALE GUILD OF PERFUMERS LTD. AND DESIGN. Vivaudou Creations Ltd. SN 298,985. Pub. 4-1-69. Filed 5-23-68.

871,447. PHAETON. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,568. Pub. 4-1-69. Filed 6-28-68.

871,448. DOMINO. Viviane Woodard Corporation, assignee of Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,569. Pub. 4-1-69. Filed 6-28-68.

871,449. SPECIAL EVENT. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,572. Pub. 4-1-69. Filed 6-28-68.

871,450. CREVASSE. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,573. Pub. 4-1-69. Filed 6-28-68.

871,451. GARLANDIA. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,574. Pub. 4-1-69. Filed 6-28-68.

871,452. EL RUTH. El Ruth Cosmetics and Products, Inc. SN 304,859. Pub. 4-1-69. Filed 8-12-68.

871,453. GLOBE (DESIGN). Treas Ur Le Creations, Inc. SN 307,291. Pub. 4-1-69. Filed 9-13-68.

871,454. FLEXI GLOSS. Faberge, Inc. SN 307,927. Pub. 4-1-69. Filed 9-23-68.

871,455. METAMORPHOSES. The Gillette Company. SN 313,231. Pub. 4-1-69. Filed 11-29-68.

Class 52 — Detergents and Soaps

871,447. (See Class 51 for this trademark.)

871,448. (See Class 51 for this trademark.)

871,449. (See Class 51 for this trademark.)

871,450. (See Class 51 for this trademark.)

871,451. (See Class 51 for this trademark.)

871,456. RD–16. General Dynamics. SN 284,083. Pub. 4-1-69. Filed 11-3-67.

871,457. SAPTIL. Henkel & Cie, G.m.b.H. SN 284,196. Pub. 4-1-69. Filed 11-6-67.

871,458. THE SPARKLER. Colgate-Palmolive Company. SN 295,312. Pub. 4-1-69. Filed 4-10-68.

871,459. BLACO-PER. Baron Blakeslee, Inc. SN 302,278. Pub. 4-1-69. Filed 7-9-68.

871,460. BLACO-TRI. Baron Blakeslee, Inc. SN 302,279. Pub. 4-1-69. Filed 7-9-68.

871,461. BLACO-THANE. Baron Blakeslee, Inc. SN 302,281. Pub. 4-1-69. Filed 7-9-68.

Service Marks

Class 100 — Miscellaneous

871,081. (See Class 1 for this trademark.)

871,462. SPEEDEE BEE-TEE-U AND DESIGN. Columbia Gas of Pennsylvania, Inc. SN 253,208. Pub. 4-1-69. Filed 8-26-66.

871,463. FIRE APPARATUS MANUFACTURERS ASSOCIATION. Fire Apparatus Manufacturers Association, Inc. SN 256,934. Pub. 4-1-69. Filed 10-21-66.

871,464. SELECTRA-DATE. Selectra-Date Corporation. SN 263,700. Pub. 4-1-69. Filed 1-31-67.

871,465. MAXON AND DESIGN. Maxon Premix Burner Company, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 269,767. Pub. 4-1-69. Filed 4-21-67.

871,466. PINNACLE PEAK. Agro Land and Cattle Company, Inc. SN 270,335. Pub. 4-1-69. Filed 5-1-67.

871,467. AIR GIANT EXPRESS. TBD Industries, Inc. SN 276,049. Pub. 4-1-69. Filed 7-14-67.

871,468. MISCELLANEOUS DESIGN. TBD Industries, Inc. SN 276,050. Pub. 4-1-69. Filed 7-14-67.

871,469. "SI" PERKINS. Clarence R. Perkins, Sr., and Ruth A. Perkins (partnership). SN 279,324. Pub. 4-1-69. Filed 8-29-67.

871,470. WE TICKLE TUMMIES ACROSS AMERICA. Shake 'n' Dog, Inc. SN 279,756. Pub. 4-1-69. Filed 9-6-67.

871,471. WASTE AUDIT. Cyrus Wm. Rice & Company. SN 280,635. Pub. 4-1-69. Filed 9-18-67.

871,472. MTI ETC. AND DESIGN. Marine Testing Institute, Inc. SN 289,820. Pub. 4-1-69. Filed 1-29-68.

871,473. KK KOZY KAMPERS ETC. AND DESIGN. Kozy Kampers, Inc. SN 292,388. Pub. 4-1-69. Filed 3-4-68.

871,474. SUTPHEN'S. Sutphen's Inc. SN 293,419. Pub. 4-1-69. Filed 3-15-68.

871,475. KING COLE PIZZA PALACE. King Cole Pizza Palace Corporation. SN 294,056. Pub. 4-1-69. Filed 3-25-68.

871,476. A FANCIFUL REPRESENTATION OF A MEXICAN MAN HOLDING A TACO AND WEARING AN APRON AND A HAT. Thomas H. Bernatz, d.b.a. Little O'Taco Maker. SN 294,455. Pub. 4-1-69. Filed 3-29-68.

871,477. LEPRECHAUN "SOUND AS THE GROUND" AND DESIGN. Leprechaun Mining and Chemical, Inc. SN 294,947. Pub. 4-1-69. Filed 4-4-68.

871,478. LEPRECHAUN AND DESIGN. Leprechaun Mining and Chemical, Inc. SN 294,948. Pub. 4-1-69. Filed 4-4-68.

Class 101 — Advertising and Business

871,081. (See Class 1 for this trademark.)

871,479. SUPER PRO. Glendinning Companies, Inc. SN 273,063. Pub. 4-1-69. Filed 6-5-67.

871,480. GULF SOUTH AND DESIGN. Gulf South Advertising Specialties, Inc. SN 273,192. Pub. 4-1-69. Filed 6-6-67.

871,481. INTRO. American Marketing Association. SN 273,842. Pub. 4-1-69. Filed 6-14-67.

871,482. INFO/CO. Glenn Advertising, Inc. SN 275,941. Pub. 4-1-69. Filed 7-13-67.

871,483. PRISUNIC. Societe des Magasins Prisunic. SN 281,338. Pub. 4-1-69. Filed 9-19-67.

871,484. MISCELLANEOUS DESIGN. National-Braemar, Inc. SN 282,814. Pub. 4-1-69. Filed 10-18-67.

871,485. DONUTS TO DOLLARS. Spot-O-Gold Corporation. SN 285,262. Pub. 4-1-69. Filed 11-20-67.

871,486. AMERICAN HARDWARE STORES AND DESIGN. American Hardware Supply Company. SN 289,465. Pub. 4-1-69. Filed 1-24-68.

871,487. WATERWAYS EXPOSITION. Associated Exhibition Management, Inc. SN 290,939. Pub. 4-1-69. Filed 2-13-68.

871,488. WINNER'S CIRCLE. Glendinning Companies, Inc. SN 291,064. Pub. 4-1-69. Filed 2-14-68.

871,489. TY AND DESIGN. Temporarily Yours Personnel Service, Inc. SN 292,633. Pub. 4-1-69. Filed 3-6-68.

871,490. OVAL AND CROWN (DESIGN). Temporarily Yours Personnel Service, Inc. SN 292,634. Pub. 4-1-69. Filed 3-6-68.

871,491. INTRODUCTION PLEASE. Peggy Dufur, d.b.a. Introduction Please. SN 293,917. Pub. 4-1-69. Filed 3-22-68.

871,492. CONEXPO. Construction Industry Manufacturers Association. SN 296,521. Pub. 4-1-69. Filed 4-25-68.

871,493. FOTOMATE. Fotomat Corporation. SN 300,646. Pub. 4-1-69. Filed 6-18-68.

871,494. EXECUTIVE ACTION, INC. Executive Action, Inc. SN 302,732. Pub. 4-1-69. Filed 7-15-68.

871,495. SAV-ON. Sav-On, Inc. SN 307,812. Pub. 4-1-69. Filed 9-20-68.

871,496. DESIGN OF A BUCCANEER. Buccaneer Stamp Company. SN 310,516. Pub. 4-1-69. Filed 10-25-68.

Class 102 — Insurance and Financial

871,497. MOODY'S. Moody's Investors Service, Inc. SN 269,773. Pub. 4-1-69. Filed 4-21-67.

871,498. MOODY'S. Moody's Investors Service, Inc. SN 269,774. Pub. 4-1-69. Filed 4-21-67.

871,499. INAMATION. Insurance Company of North America. SN 271,710. Pub. 4-1-69. Filed 5-17-67.

871,500. MARINE CARGOLOG. Insurance Company of North America. SN 273,644. Pub. 4-1-69. Filed 6-12-67.

871,501. TKM. Tozer Kemsley & Millbourn Ltd. SN 276,263. Pub. 4-1-69. Filed 7-18-67.

871,502. TKM AND DESIGN. Tozer Kemsley & Millbourn Ltd. SN 276,264. Pub. 4-1-69. Filed 7-18-67.

871,503. GREAT SOUTHERN FINANCE. Southern Management, Incorporated. SN 282,633. Pub. 4-1-69. Filed 10-16-67.

871,504. GH (DESIGN). Glasgow Hicks Company. SN 287,553. Pub. 4-1-69. Filed 12-26-67.

871,505. 54 POLICY AND DESIGN. American Retirement Life Insurance Company. SN 296,005. Pub. 4-1-69. Filed 4-19-68.

871,506. EQUILIFE. Equitable Life Insurance Company. SN 309,758. Pub. 4-1-69. Filed 10-16-68.

Class 103 — Construction and Repair

871,081. (See Class 1 for this trademark.)

871,465. (See Class 100 for this trademark.)

871,507. NU-LOOK 1 HR. CLEANERS AND DESIGN. Karl N. Dickey, d.b.a. Nu-Look 1 Hr. Cleaners. SN 281,273. Pub. 4-1-69. Filed 9-27-67.

871,508. SPARKLE WASH AND DESIGN. Sparkle Wash, Inc. SN 285,070. Pub. 4-1-69. Filed 11-16-67.

871,509. SERVICEMASTER AND DESIGN. Servicemaster Industries, Inc. SN 288,238. Pub. 4-1-69. Filed 1-5-68.

871,510. BRE. Peter G. Botsford, d.b.a. Botsford Racing Enterprises. SN 290,820. Pub. 4-1-69. Filed 2-12-68.

871,511. HY·GYM. National Service Industries, Inc. SN 296,561. Pub. 4-1-69. Filed 4-25-68.

871,512. BERGER. Berger Lumber Corp. SN 296,795. Pub. 4-1-69. Filed 4-29-68.

Class 104 — Communication

871,513. DESIGN OF NUMERAL ELEVEN. Bryant Radio & Television, Inc. SN 268,021. Pub. 4-1-69. Filed 3-31-67.

Class 105 — Transportation and Storage

871,514. MEXICO A LA CARTE. United Tours, Inc. SN 288,895. Pub. 4-1-69. Filed 1-15-68.

Class 106 — Material Treatment

871,081. (See Class 1 for this trademark.)

871,515. SBS INC. AND DESIGN. Specialized Business Services, Inc. SN 264,767. Pub. 4-1-69. Filed 2-15-67.

871,516. GAF AND DESIGN. GAF Corporation. SN 309,423. Pub. 4-1-69. Filed 10-11-68.

871,517. GAF. GAF Corporation. SN 309,425. Pub. 4-1-69. Filed 10-11-68.

Class 107 — Education and Entertainment

871,518. CC AND DESIGN. Children's Caravan, Inc. SN 242,429. Pub. 12-3-68. Filed 4-1-66.

871,519. FREAKOUT. Herbert L. Cohen and Frank Zappa (joint owners). SN 259,808. Pub. 4-1-69. Filed 12-1-66.

871,520. SR. Institute of Modern Languages, Inc. SN 280,065. Pub. 4-1-69. Filed 9-11-67.

871,521. NPSA ETC. AND DESIGN. National Professional Salesmen's Association. SN 281,483. Pub. 4-1-69. Filed 9-29-67.

871,522. BOWLING BANK. Claster Enterprises, Inc. SN 288,001. Pub. 4-1-69. Filed 1-3-68.

871,523. EL SURCO DEL AIRE. Deere & Company. SN 292,767. Pub. 4-1-69. Filed 3-8-68.

871,524. THE IMPACT OF BRASS. Talent Unlimited, Incorporated. SN 294,536. Pub. 4-1-69. Filed 3-29-68.

871,525. DREAM HOUSE. Don Reid Productions, Inc. SN 294,658. Pub. 4-1-69. Filed 4-1-68.

871,526. FAMOUS SCHOOLS FOR WOMEN AND DESIGN. Famous Artists Schools, Inc. SN 294,829. Pub. 4-1-69. Filed 4-3-68.

871,527. FOX AND HORN DESIGN. Crestmark Productions of America, Inc. SN 294,920. Pub. 4-1-69. Filed 4-4-68.

871,528. TALLY-HO. Crestmark Productions of America, Inc. SN 294,922. Pub. 4-1-69. Filed 4-4-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

871,529. Paste-Well Corporation, Pasadena, Calif. SN 280,625. Filed P.R. 9-18-67; Am. S.R. 2-24-69.

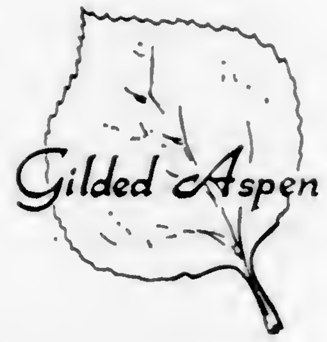
PASTE-WELL

For Machines Applying Adhesive Coatings to Strips of Wall Covering Material (Int. Cl. 7).

First use Aug. 18, 1966.

Class 28 — Jewelry and Precious-Metal Ware

871,530. Robert C. Hall and Marjorie D. Hall (joint owners), d.b.a. Gilded Aspen, Rollinsville, Colo. SN 281,982. Filed P.R. 10-6-67; Am. S.R. 3-19-69.



For Jewelry (Int. Cl. 14).

First use July 1964.

Class 34 — Heating, Lighting, and Ventilating Apparatus

871,531. Conveyor Heat Products Corp., Philadelphia, Pa., assignee of Mike Mennies & Son, d.b.a. Conveyor Heat Products Co., Philadelphia, Pa. SN 283,263. Filed P.R. 10-24-67; Am. S.R. 2-10-69.

CONVEY-A-BROIL

For Electric Conveyor-Operated Food-Cooking Ovens (Int. Cl. 11).

First use May 2, 1967.

Class 38 — Prints and Publications

871,532. Industry Publications, Inc., Fairfield, N.J. SN 295,738. Filed P.R. 4-16-68; Am. S.R. 3-24-69.

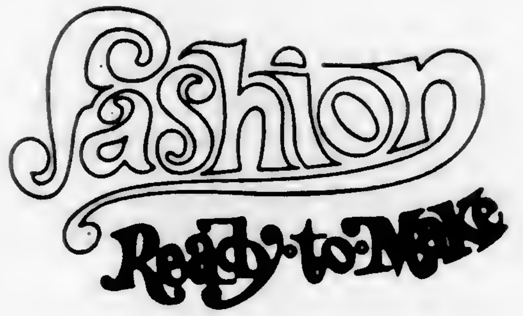
AG CHEM NEWS LETTER

For Newsletter Dealing Exclusively With News and Developments Relating to the Field of Agriculture (Int. Cl. 16).

First use June 1966.

Class 43 — Thread and Yarn

871,533. Columbia-Minerva Corporation, New York, N.Y. SN 284,167. Filed P.R. 11-6-67; Am. S.R. 3-6-69.



For Yarn Kits for Dresses and Sweaters (Int. Cl. 23).

First use Oct. 20, 1967.

Class 46 — Foods and Ingredients of Foods

871,534. Petrx Corporation, Chicago, Ill. SN 279,679. Filed P.R. 9-5-67; Am. S.R. 3-24-69.

SHED-LESS

For Food Supplements for Helping To Prevent Excessive Shedding in Animals, Such as Dogs (Int. Cl. 5).

First use July 24, 1967.

Class 51 — Cosmetics and Toilet Preparations

871,535. The Mennen Company, Morristown, N.J. SN 315,085. Filed 12-23-68.

WILD MOSS

For After Shave Lotion (Int. Cl. 3).

First use Mar. 3, 1967.

871,536. The Mennen Company, Morristown, N.J. SN 315,086. Filed 12-23-68.

DRY LIME

For After Shave Lotion (Int. Cl. 3).

First use June 27, 1967.

TRADEMARK REGISTRATIONS RENEWED

32,911. DIAMOND-SHAPED DESIGN. Cl. 13 (Int. Cls. 6 and 17). 5-16-1899.
72,574. FAULTLESS. Cl. 39 (Int. Cl. 25). 2-2-09.
72,754. "BLUE RIBBON" ETC. AND RIBBON DESIGN. Cl. 4 (Int. Cl. 3). 2-16-09.
73,160. DARCOVA. Cl. 35 (Int. Cl. 17). 3-23-09.
73,285. MARIANNE. Cl. 46 (Int. Cls. 29 and 30). 4-6-09.
73,817. HICKORY. Cl. 2 (Int. Cl. 16). 5-25-09.
73,966. "CHIEF" AND INDIAN HEAD DESIGN. Cl. 46 (Int. Cl. 29). 6-8-09.
74,425. YALE. Cl. 13 (Int. Cl. 6). 7-13-09.
74,619. BETSY ROSS. Cl. 46 (Int. Cl. 30). 7-27-09.
74,749. REPRESENTATION OF TUG OF WAR GAME WITH COAT. Cl. 39 (Int. Cl. 25). 8-3-09.
247,247. "ART METAL" AND DESIGN. Cl. 32 (Int. Cls. 16 and 20). 9-25-28.
253,150. THISTLEWEIGHT. Cl. 39 (Int. Cl. 25). 2-19-29.
254,111. POLAR B'AR. Cl. 46 (Int. Cl. 30). 3-12-29.
254,674. TELKEE. Cl. 13 (Int. Cls. 6 and 20). 3-26-29.
254,890. "UNIVERSAL" ETC. AND DESIGN. Cl. 14 (Int. Cl. 6). 4-2-29.
254,910. CORENCO. Cl. 10 (Int. Cl. 1). 4-2-29.
255,050. SOUTHERN DAIRIES. Cl. 46 (Int. Cls. 29 and 30). 4-9-29.
255,100. CRYPTORIUM. Cl. 2 (Int. Cl. 6). 4-16-29.
255,993. WONDRESS AND DESIGN. Cl. 42 (Int. Cl. 24). 5-7-29.
256,211. RENOWN. Cl. 37 (Int. Cl. 16). 5-7-29.
256,552. CORENCO. Cl. 5 (Int. Cl. 1). 5-21-29.
256,553. CORENCO. Cl. 46 (Int. Cls. 29, 30, and 31). 5-21-29.
257,000. "ASH GROVE SNOWFLAKE" ETC. ENCLOSED BY CIRCULAR DESIGN. Cl. 12 (Int. Cl. 19). 5-28-29.
257,166. "STIP." Cl. 18 (Int. Cl. 5). 5-28-29.
257,188. TIMANG. Cl. 14 (Int. Cl. 6). 5-28-29.
257,361. CORENCO. Cl. 52 (Int. Cl. 4). 6-4-29.
257,977. ECLIPSE. Cl. 32 (Int. Cl. 20). 6-25-29.
257,994. ATLANTIC PACKING CO. Cl. 52 (Int. Cl. 4). 6-25-29.
258,159. "CLIN-CO" AND DESIGN. Cl. 16 (Int. Cls. 2 and 3). 6-25-29.
258,323. CORENCO. Cl. 15 (Int. Cl. 4). 7-2-29.
259,615. HYTOR. Cl. 23 (Int. Cl. 1). 8-6-29.
260,592. STRANDSHEEN. Cl. 43 (Int. Cl. 23). 8-27-29.
260,595. CORENCO. Cl. 1 (Int. Cls. 18 and 22). 8-27-29.
260,616. SUPER .38 AUTOMATIC. Cl. 9 (Int. Cl. 13). 8-27-29.
260,660. SPORTFAIR. Cl. 42 (Int. Cl. 24). 8-27-29.
261,176. "CROWN MOHAIR" AND REPRESENTATION OF CROWN WITHIN DIAMOND-SHAPED DESIGN. Cl. 42 (Int. Cl. 24). 9-10-29.
261,178. RONSON. Cl. 8 (Int. Cl. 34). 9-10-29.
261,240. "THE NATIONAL GEOGRAPHIC MAGAZINE" AND DESIGN. Cl. 38 (Int. Cl. 16). 9-10-29.
261,339. FREART. Cl. 37 (Int. Cl. 16). 9-17-29.
442,562. THERMOFLEX. Cl. 12 (Int. Cl. 17). 4-26-49.
442,581. TAPGUN. Cl. 21 (Int. Cl. 7). 5-3-49.
442,634. BRIGADOON. Cl. 39 (Int. Cl. 25). 5-3-49.
442 910. "RECOLD." Cl. 31 (Int. Cl. 11). 6-21-49.
442,992. ROLLFAST. Cl. 19 (Int. Cl. 12). 6-28-49.
442,999. ATHLETE. Cl. 19 (Int. Cl. 12). 6-28-49.
443,000. KEYSTONE AND DESIGN. Cl. 19 (Int. Cl. 12). 6-28-49.
443,003. FUEL WATCHMAN ETC. AND DESIGN. Cl. 34 (Int. Cl. 11). 6-28-49.
443,048. OVERLAND AND DESIGN. Cl. 22 (Int. Cl. 12). 7-5-49.
443,049. SAVAGE AND DESIGN. Cl. 22 (Int. Cl. 12). 7-5-49.
443,050. PRINCETON AND DESIGN. Cl. 22 (Int. Cl. 12). 7-5-49.
504,511. CLARY. Cl. 26 (Int. Cl. 9). 11-30-48.
506,680. SEAL KRAFT "IT'S COATED" ETC. AND DESIGN. Cl. 1 (Int. Cl. 31). 2-15-49.
507,688. PENICLE. Cl. 18 (Int. Cl. 5). 3-15-49.
507,819. PERFECTION. Cl. 42 (Int. Cl. 24). 3-22-49.
507,869. BRANDYWINE. Cl. 46 (Int. Cl. 29). 3-22-49.
508,135. FRESHIE FRESHIE AND DESIGN. Cl. 46 (Int. Cls. 29 and 31). 4-5-49.
508,142. CONTROLITE. Cl. 21 (Int. Cl. 9). 4-5-49.
508,353. WORTHMORE. Cl. 6 (Int. Cls. 1 and 5). 4-12-49.
508,426. TT AND DESIGN. Cl. 26 (Int. Cl. 9). 4-12-49.
508,543. AERFLOTED. Cl. 1 (Int. Cl. 1). 4-12-49.
508,544. SUPREX. Cl. 1 (Int. Cl. 19). 4-12-49.
508,627. GLUAID. Cl. 5 (Int. Cl. 1). 4-12-49.
508,628. WYCILLIN. Cl. 18 (Int. Cl. 5). 4-12-49.
508,692. MARACA. Cl. 49 (Int. Cl. 33). 4-19-49.
508,698. STELLAR AND DESIGN. Cl. 46 (Int. Cls. 29 and 31). 4-19-49.
508,738. LIAFON. Cl. 18 (Int. Cl. 5). 4-19-49.
508,835. CLOSED CIRCUIT. Cl. 38 (Int. Cl. 16). 4-19-49.
508,836. OPEN MIKE. Cl. 38 (Int. Cl. 16). 4-19-49.
508,879. HYDRO. Cl. 13 (Int. Cl. 6). 4-26-49.
509,121. KONIK. Cl. 14 (Int. Cl. 6). 4-26-49.
509,445. ARMORUBBER. Cl. 35 (Int. Cl. 12). 5-3-49.
509,674. THE STUART FORMULA. Cl. 18 (Int. Cl. 5). 5-10-49.
509,739. ANTIPHLOGISTINE. Cl. 18 (Int. Cl. 5). 5-10-49.
509,756. DUN'S REVIEW. Cl. 38 (Int. Cl. 16). 5-10-49.
509,859. LUXURO. Cl. 46 (Int. Cl. 30). 5-17-49.
510,039. TUFFLEX. Cl. 32 (Int. Cl. 22). 5-24-49.
510,114. P.N. PRACTICAL FRONT. Cl. 39 (Int. Cl. 25). 5-24-49.
510,244. MAGIC. Cl. 51 (Int. Cl. 3). 5-31-49.
510,330. ALKA-SELTZER. Cl. 18 (Int. Cl. 5). 5-31-49.
510,548. VARI-TYPER. Cl. 23 (Int. Cl. 16). 6-7-49.
510,552. ARIENS-TILLER AND DESIGN. Cl. 23 (Int. Cl. 7). 6-7-49.
510,624. UNION. Cl. 2 (Int. Cl. 6). 6-7-49.
510,770. STAR IN CIRCLES (SYMBOL). Cl. 24 (Int. Cl. 7). 6-7-49.
510,800. VANDERBILT CUSHION MASTER. Cl. 35 (Int. 12). 6-7-49.
511.039. FEROX. Cl. 52 (Int. Cl. 3). 6-14-49.
511,098. ELIZABETH ARDEN MILKY LIQUID CLEANSER. Cl. 51 (Int. Cl. 3). 6-14-49.
511,247. STRONG. Cl. 13 (Int. Cl. 6). 6-21-49.
511,277. HICKEY-FREEMAN. Cl. 39 (Int. Cl. 25). 6-21-49.
511,321. SPORTRIO. Cl. 39 (Int. Cl. 25). 6-21-49.
511,493. GRENALD'S SHUTTLE LOTION AND DESIGN. Cl. 51 (Int. Cl. 5). 6-21-49.
511,638. CANTERBURY. Cl. 46 (Int. Cl. 30). 6-28-49.
511,796. KING MIDAS SPECIAL. Cl. 46 (Int. Cl. 30). 7-5-49.
511,797. VERMILION. Cl. 46 (Int. Cl. 30). 7-5-49.
511,798. KING MIDAS. Cl. 46 (Int. Cl. 30). 7-5-49.
511,828. MONARK. Cl. 19 (Int. Cl. 12). 7-5-49.
511,831. HAM-ETT. Cl. 46 (Int. Cl. 29). 7-5-49.
512,108. ROSCO. Cl. 23 (Int. Cl. 8). 7-12-49.
512,115. DESIGN OF A SEAL. Cl. 26 (Int. Cl. 9). 7-12-49.
512,133. BUTTER BRICKLE. Cl. 46 (Int. Cl. 30). 7-12-49.

512,135. CREAM SPONGE. Cl. 46 (Int. Cl. 30). 7–12–49.
512,462. NACCAMIDE. Cl. 6 (Int. Cl. 3). 7–19–49.
512,471. OXCO. Cl. 29 (Int. Cl. 21). 7–19–49.
512,523. ANODEX. Cl. 4 (Int. Cl. 3). 7–19–49.
512,559. HI-RISE AND DESIGN. Cl. 32 (Int. Cl. 20). 7–19–49.
512,779. FELPAX. Cl. 23 (Int. Cl. 7). 7–26–49.
512,938. HUNTINGTON. Cl. 47 (Int. Cl. 33). 7–26–49.
513,021. FLAMCO. Cl. 12 (Int. Cl. 6). 8–2–49.
513,111. HIGHLAND CLAN. Cl. 49 (Int. Cl. 33). 8–2–49.
513,132. CHANEL. Cl. 52 (Int. Cl. 3). 8–2–49.
513,134. NUCODAN. Cl. 18 (Int. Cl. 5). 8–2–49.
513,151. P.V. AND DESIGN. Cl. 6 (Int. Cl. 5). 8–2–49.
513.251. AUTO-COPY. Cl. 37 (Int. Cl. 16). 8–9–49.
513,257. SIPES. Cl. 16 (Int. Cl. 2). 8–9–49.
513.262. STINKIL. Cl. 16 (Int. Cl. 2). 8–9–49.
513,305. LESLIE FAY. Cl. 39 (Int. Cl. 25). 8–9–49.
513,366. CATON AND DESIGN. Cl. 45 (Int. Cl. 32). 8–9–49.
513,371. MUEHLEBACH. Cl. 46 (Int. Cl. 30). 8–9–49.
513,434. PLASTICLEER. Cl. 37 (Int. Cl. 16). 8–9–49.
513,558. ARMOUR STAR AND DESIGN. Cl. 46 (Int. Cls. 29, 30, 31, and 32). 8–16–49.
513,616. GEM. Cl. 39 (Int. Cl. 25). 8–16–49.
513,679. BARONIAL. Cl. 16 (Int. Cl. 2). 8–16–49.
513,694. INTERNATIONAL BANK WASH., D.C. AND DESIGN. Cl. 38 (Int. Cl. 16). 8–16–49.
513,742. CURLATOR. Cl. 23 (Int. Cl. 7). 8–16–49.
514,027. SHUR SHOT. Cl. 9 (Int. Cl. 13). 8–23–49.
514,082. COMPCO. Cl. 26 (Int. Cl. 9). 8–23–49.
514,107. GATTLE'S. Cl. 42 (Int. Cl. 24). 8–23–49.
514,148. BRECK BRILLIANT. Cl. 51 (Int. Cl. 3). 8–23–49.
514,214. NONSEPARA. Cl. 15 (Int. Cl. 4). 8–23–49.
514,222. D-LEET. Cl. 6 (Int. Cl. 1). 8–23–49.
514,332. ROUND THE CLOCK DEMI. Cl. 39 (Int. Cl. 25). 8–30–49.
514,384. WHITE OAK. Cl. 46 (Int. Cl. 30). 8–30–49.
514,419. TEMPECO GROVES. Cl. 46 (Int. Cl. 31). 8–30–49.
514,516. CHROMEND. Cl. 14 (Int. Cl. 9). 8–30–49.
514,706. SHAKEPROOF. Cl. 13 (Int. Cl. 6). 9–6–49.
514,776. COMOY'S. Cl. 8 (Int. Cl. 34). 9–6–49.
514,789. CERTANE. Cl. 44 (Int. Cl. 10). 9–6–49.
514,806. NESTLE. Cl. 51 (Int. Cl. 3). 9–6–49.
514,882. RANDOX. Cl. 6 (Int. Cl. 1). 9–6–49.
514,896. PARK AVENUE. Cl. 42 (Int. Cl. 24). 9–6–49.
514,992. HUSSMANN. Cl. 31 (Int. Cl. 11). 9–13–49.
515,038. KUBO. Cl. 46 (Int. Cl. 30). 9–13–49.
515,071. ELSON. Cl. 37 (Int. Cl. 16). 9–13–49.
515,152. FOUR HORSEMEN (DESIGN). Cl. 15 (Int. Cl. 4). 9–13–49.
515,153. FALLS CITY. Cl. 22 (Int. Cl. 28). 9–13–49.
515,154. AIR BREATHER. Cl. 22 (Int. Cl. 28). 9–13–49.
515,185. SUPERCEDAR. Cl. 12 (Int. Cl. 19). 9–13–49.
515,237. FEED FACTS. Cl. 38 (Int. Cl. 16). 9–20–49.
515,370. RITE-EZEE. Cl. 37 (Int. Cl. 16). 9–20–49.
515,392. WIZARD. Cl. 23 (Int. Cl. 7). 9–20–49.
515,474. CRAFTMASTER. Cl. 37 (Int. Cl. 16). 9–20–49.

TRADEMARK REGISTRATIONS CANCELED

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336,212. HARVEST TIME AND DESIGN. Cl. 49. 6–30–36.
728,824. "DOLLY·POP." Cl. 22. 3–20–62.
731,293. WELLMAN-LORD WL ENGINEERING INC. AND DESIGN. Cl. 100. 5–8–62.
731,684. TIENSEEM. Cl. 1. 5–22–62.

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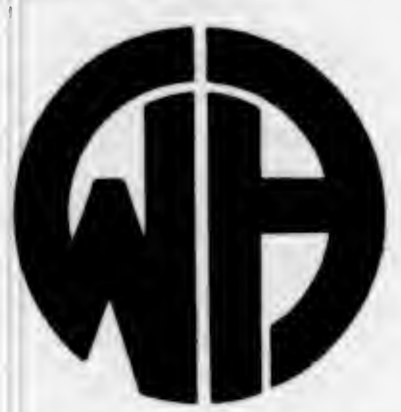
748,584. PERMATROL. Cl. 1.
748,586. 12. Cl. 1.
748,590. SND. Cl. 1.
748,601. AAI AND DESIGN. Cl. 4.
748,604. CHEM-AD. Cl. 5.
748,608. KWIP. Cl. 6.
748,610. COGEGAL. Cl. 6.
748,611. B.R.P. Cl. 6.
748,614. KARA CIDE. Cl. 6.
748,615. VENMIST. Cl. 6.
748,622. SECS PLASTIC AMMO AND DESIGN. Cl. 9.
748,626. INTERNATIONAL. Cl. 9.
748,628. SKYSHOOTER. Cl. 9.
748,629. CON-VEL. Cl. 9.
748,631. TRU-CUT. Cl. 9.
748,635. GRO-BLOOM. Cl. 10.
748,636. FRIENDLY. Cl. 10.
748,637. INDELI-STAMP. Cl. 11.
748,640. CONCO. Cl. 12.
748,661. DIVERZIP. Cl. 16.
748,663. BITUPOX. Cl. 16.
748,674. POSIDRON. Cl. 18.
748,676. LAMPIT. Cl. 18.
748,678. SARINOID. Cl. 18.
748,679. PERDEX. Cl. 18.
748,680. CHLORO-ZOL. Cl. 18.
748,685. CAMPI. Cl. 19.
748,700. AQUA 600. Cl. 21.
748,704. ROBOPHONE. Cl. 21.
748,705. RADIOMOBILE. Cl. 21.
748,707. BEANSTALK. Cl. 21.
748,708. STARTEX. Cl. 21.
748,713. NO SNO AND DESIGN. Cl. 21.
748,714. DITROL. Cl. 21.
748,715. DREXAMATIC. Cl. 21.
748,717. PLAINSMAN. Cl. 21.
748,721. COLT AND DESIGN. Cl. 22.
748,722. SGCA ETC. AND DESIGN. Cl. 22.
748,723. TIC-TAC 4. Cl. 22.
748,724. LAFF'N LEARN ETC. AND DESIGN. Cl. 22.
748,725. GOLFMETER. Cl. 22.
748,727. SNUG HUT AND DESIGN. Cl. 22.
748,729. KITCHENEER. Cl. 23.
748,732. SPEEDY-SHOVEL. Cl. 23.
748,733. SGCA AND DESIGN. Cl. 23.
748,734. AML AND DESIGN. Cl. 23.
748,746. TIME-O-MATIC. Cl. 26.
748,749. KOMA. Cl. 26.
748,750. I. Cl. 26.
748,753. PC AND DESIGN. Cl. 26.
748,754. VIVICHROME. Cl. 26.
748,755. K-LOGGER. Cl. 26.
748,756. K AND DESIGN. Cl. 26.
748,760. DYNA-GRADER. Cl. 26.
748,763. SPACELABS. Cl. 26.
748,767. ANSWER-MATE. Cl. 26.
748,770. CHEVRON. Cl. 26.
748,772. M.J. AND DESIGN. Cl. 28.
748,775. SBN AND DESIGN. Cl. 28.
748,777. KOL. Cl. 28.
748,779. HB AND DESIGN. Cl. 28.
748,785. HEARTCRAFT. Cl. 28.
748,786. P. Cl. 28.
748,787. BRITETYPE STIX AND DESIGN. Cl. 29.
748,788. GLASSAVER. Cl. 29.
748,789. MR. PICK-UP. Cl. 29.
748,793. VENDSOFT. Cl. 31.
748,794. "SURF" CREATION. Cl. 32.
748,796. MAT-VU. Cl. 33.
748,799. BESTOCOR. Cl. 35.
748,800. PLAINSMAN. Cl. 35.
748,807. THE SOCIETY OF JUBAL. Cl. 36.
748,809. FLINT. Cl. 36.
748,822. SPARKLE CAL. Cl. 38.
748,827. AUDIOPRINT. Cl. 38.
748,828. CURRENT HISTORY. Cl. 38.
748,829. SGCA ETC. AND DESIGN. Cl. 39.
748,832. YOUTHEME AND DESIGN. Cl. 39.
748,837. TROPIGAL AND DESIGN. Cl. 39.
748,840. ROYAL AFGHAN. Cl. 42.
748,847. DM–62. AND DESIGN. Cl. 42.
748,850. CRISPY MAID. Cl. 46.
748,852. CHEF ANDRE. Cl. 46.
748,860. MOKAVA. Cl. 46.
748,864. VTM. Cl. 46.

748,865. LIFETIME. Cl. 46.
748,874. FONTANA D'ORO OIL. Cl. 46.
748,879. DARAFLOW. Cl. 50.
748,883. MOE. Cl. 50.
748,888. SHEER MIST. Cl. 51.
748,897. LUSTRE-KOTE. Cl. 52.
748,900. BLUE HEDGE. Cl. 52.
748,902. CHECK √ 'N √ SHOP LIST. Cl. 101.
748,903. CONTINENTAL SOLDIER (DESIGN). Cl. 102.
748,907. DURABILT. Cl. 103.
748,909. PLANARENA. Cl. 103.
748,910. WP WRIGHT & PIERCE AND DESIGN. Cl. 103.
748,911. FRANK & JERRY'S. Cl. 103.
748,912. $ AND AIRCRAFT DESIGN. Cl. 105.
748,913. MUSIC MAXIMUM. Cl. 107.
748,915. BISCUIT BAKERS INSTITUTE INC. BBI AND DESIGN. Cl. 200.
748,817. ASTA ETC. AND DESIGN. Cl. 200.

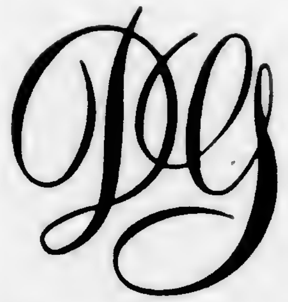
TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

251,949. TAKA-DIASTASE. Cl. 6. 1–22–29. Takamine Ferment Company, Parke, Davis & Company, Detroit, Mich. Amended: In the statement, column 1, lines 9 through 11, the description of goods is deleted and *digestant preparation of starch foods* is inserted.

442,798. WH AND DESIGN. Cl. 13. 5–31–49. Whittet-Higgins Company, Providence, R.I. Amended: In the statement, column 2, lines 1 through 3 are deleted, and the drawing is amended to appear:



502,174. DG (DESIGN). Cl. 6. 9–14–48. Lehn & Fink Products Corporation. Dorothy Gray, Ltd., New York, N.Y. Amended to appear:

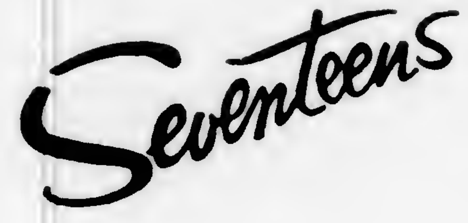


505,593. RAPID WRITER. Cl. 37. 1–11–49. The Joseph Dixon Crucible Company, Jersey City, N.Y. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

505,594. BEGINNERS. Cl. 37. 1–11–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

505,595. SEQUOIA. Cl. 37. 1–11–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statment, column 1, line 1, before "Joseph" *The* should be inserted.

509,391. SEVENTEEN. Cl. 39. 5–3–49. Miles Shoes Incorporated. Melville Shoe Corporation, New York, N.Y. Amended to appear:



510,970. ANADEL. Cl. 37. 6–14–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

510,973. ORIOLE. Cl. 37. 6–14–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,245. INTENSO. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,391. FLAMINGO. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,392. MODERN WRITING. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,393. ORDER BOOK. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,394. OPERATORS. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

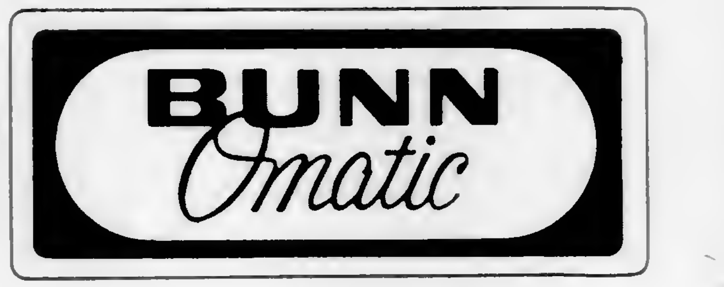
511,395. PHANO. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

511,396. POPPY. Cl. 37. 6–21–49. The Joseph Dixon Crucible Company, Jersey, City, N.J. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, before "Joseph" *The* should be inserted.

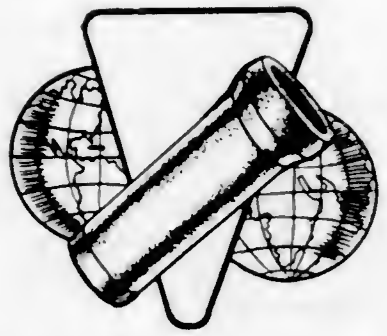
652,216. BENSONS. Cl. 46. 9–24–57. Bensons Confectionery Limited, Bury, England. Amended to appear:

BENSONS

694,904. BUNN OMATIC AND DESIGN. Cl. 34. 3–22–60. Bunn Capitol Company. Bunn-O-Matic Corporation, Springfield, Ill. Amended to appear:



725,324. DESIGN OF TWO HEMISPHERES. Cl. 23. 12–19–61. Concrete Pipe Machinery Company, Sioux City, Iowa. Amended to appear:



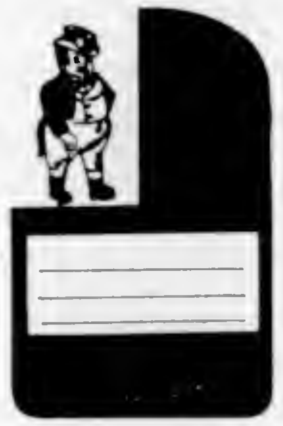
748,606. MARCRON. Cl. 6. 4–30–63. Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. Corrected: In the statement, column 1, line 2, "Delaware" should be deleted and *Maryland* should be inserted.

751,116. DURO PLASTIC AND DESIGN. Cl. 5. 6–18–63. Woodhill Chemical Sales Corporation, Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "The" should be deleted and in column 2, line 6, "darn" should be deleted.

765,737. B-NINE. Cl. 10. 3–3–64. United States Rubber Company, New York, N.Y. Corrected: In the statement, column 2, line 2, "1962" should be deleted and *1963* should be deleted.

862,430. BIOGRAPH PICTURES. Cl. 38. 12–24–68. Biograph Pictures, Inc., Oakland, N.J. Corrected: In the statement, column 1, line 1, "Biographic" should be deleted and *Biograph* should be inserted.

865,413. COUNTRY SPORTSMAN AND DESIGN. Cl. 42. 2–25–69. Haft & Co., Ltd., New York, N.Y. Corrected to appear:



868,714. MICRO-LINE. Cl. 44. 4–29–69. American Hospital Supply Corporation, assignee of V. Mueller & Company, Evanston, Ill. Corrected: In the statement, column 2, line 3, "cardovascular" should be deleted and *cardiovascular* should be inserted.

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JUNE 17, 1969

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AB Destructor, Varby, Sweden. 871,298, pub. 4–1–69. Cl. 34.
Abbott Laboratories, North Chicago, Ill. 871,162, pub. 4–1–69. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 871,386, pub. 12–24–68. Cl. 44.
Acco Products: *See*—
  Gary Industries, Inc.
Accuray Products Inc., Wallington, N.J. 871,339–40, pub. 4–1–69. Cl. 37.
Acra Thread Co., Inc., Anaheim, Calif. 871,293, pub. 4–1–69. Cl. 32.
Agosta, John, d.b.a. Fontana D'Oro Co., New York, N.Y. 748,874, canc. Cl. 46.
Agro Land & Cattle Co., Inc., Tucson, Ariz. 871,466, pub. 4–1–69. Cl. 100.
Aiken, Hugh H., d.b.a. Diffusa-Lite Co., Conshohocken, Pa. 871,308, pub. 4–1–69. Cl. 34.
Air Instruments, Inc., Santa Barbara, Calif. 871,380, pub. 4–1–69. Cl. 44.
Air New Zealand Ltd., Auckland, New Zealand. 871,347, pub. 4–1–69. Cl. 38.
Ajinomoto Co., Inc.: *See*—
  Ajinomoto Kabushiki Kaisha.
Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc., Tokyo, Japan. 871,416–8, pub. 4–1–69. Cl. 46.
Alaska Packers Association, to Alaska Packers Association, Inc., San Francisco, Calif. 73,966, ren. 6–17–69. Cl. 46.
Alaska Packers Association, Inc.: *See*—
  Alaska Packers Association.
All Mechanical Equipment Co., Chicago, Ill. 871,252, pub. 4–1–69. Cl. 23.
Allen Products Co., Inc., Allentown, Pa. 871,412, pub. 4–1–69. Cl. 46.
Alliance Mfg. Co., Inc., The, Alliance, Ohio. 871,197, pub. 4–1–69. Cl. 21.
Allied Decals, Inc.: *See*—
  Metalphoto Corp.
Allied Decals, Inc., Cleveland, Ohio. 748,822, canc. Cl. 38.
American Biltrite Rubber Co., Inc., Trenton, N.J. 871,184, pub. 8–27–68. Cl. 20.
American Can Co., New York, N.Y. 871,330, pub. 4–1–69. Cl. 37.
American Crayon Co., The, Sandusky, Ohio, to The Joseph Dixon Crucible Co., Jersey City, N.J. 261,339, ren. 6–17–69. Cl. 37.
American Crayon Co., The, Sandusky, Ohio, to The Joseph Dixon Crucible Co., Jersey City, N.J. 515,071, ren. 6–17–69. Cl. 37.
American Gas Association, Inc., New York, N.Y. 510,770, ren. 6–17–69. Cl. 24.
American Greetings Corp., Cleveland, Ohio. 871,354, pub. 4–1–69. Cl. 38.
American Hardware Supply Co., East Butler, Pa. 871,486, pub. 4–1–69. Cl. 101.
American Home Products Corp.: *See*—
  Wyeth Inc.
American Home Products Corp., New York, N.Y. 871,419, pub. 4–1–69. Cl. 46.
American Hospital Supply Corp., to V. Mueller & Co., Evanston Ill. 868,714, cor. Cl. 44.
American Hospital Supply Corp., Evanston, Ill., from Hamilton Mfg. Co., Two Rivers, Wis. 871,387, pub. 4–1–69. Cl. 44.
American Hygienic Laboratories, Inc.: *See*—
  Pepper-Grenald Labs.
American Marketing Association, Chicago, Ill. 871,481, pub. 4–1–69. Cl. 101.
American Pipe & Construction Co., Monterey Park, Calif. 871,128, pub. 4–1–69. Multiple Class (Classes 12 and 35).
American Retirement Life Insurance Co., Fort Worth, Tex. 871,505, pub. 4–1–69. Cl. 102.
American Society of Travel Agents, Inc., The, New York, N.Y. 748,917, canc. Cl. 200.
American Tobacco Co., The, New York, N.Y. 871,161, pub. 4–1–69. Cl. 17.
American Tube & Controls Inc., West Warwick, R.I. 871,142, pub. 4–1–69. Cl. 13.
Anchor Post Products, Inc., Baltimore, Md. 871,144, pub. 4–1–69. Cl. 13.
Anderson, Charles L., d.b.a. Hotsy Co., Jackson, Wyo. 871,254, pub. 4–1–69. Cl. 23.
Anderson, Clayton & Co., Houston, Tex. 871,082, pub. 4–1–69. Cl. 1.
Antro Abrasives, Inc., New York, N.Y. 748,601, canc. Cl. 4.
Arcos Corp., Philadelphia, Pa. 514,516, ren. 6–17–69. Cl. 14.
Arden, Elizabeth, Sales Corp., New York, N.Y. 511,098, ren. 6–17–69. Cl. 51.
Ariens Co., Brillion, Wis. 510,552, ren. 6–17–69. Cl. 23.
Armour & Co., Chicago, Ill. 511,831, ren. 6–17–69. Cl. 46.
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Arm-Rest-Toilet Seat Co.: *See*—
  Thomas, Stephen J.
Art Metal Construction Co., to Art Metal-Knoll Corp., Jamestown, N.Y. 247,247, ren. 6–17–69. Cl. 32.
Art Metal Works, Inc., Newark, to Ronson Corp., Woodbridge, N.J. 261,178, ren. 6–17–69. Cl. 8.
Art Metal-Knoll Corp.: *See*—
  Art Metal Construction Co.
Artco, Inc., Addison, Ill. 871,216, pub. 4–1–69. Cl. 22.
Arvin Industries, Inc., Columbus, Ind. 748,713, canc. Cl. 21.
Ash Grove Cement Co.: *See*—
  Ash Grove Lime & Portland Cement Co.
Ash Grove Lime & Portland Cement Co., to Ash Grove Cement Co., Kansas City, Mo. 257,000, ren. 6–17–69. Cl. 12.
Associated Exhibition Management, Inc., St. Louis, Mo. 871,487, pub. 4–1–69. Cl. 101.
Astlett, H. A., & Co., Inc., New York, N.Y. 871,093, pub. 4–1–69. Cl. 1.
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  Consolidated Rendering Co.
Atlas Chemical Industries, Inc.: *See*—
  Stuart Co., The.
Atlas Chemical Industries, Inc., Wilmington, Del. 871,104, pub. 4–1–69. Cl. 6.
Authentic Furniture Products, Inc. El Segundo Calif. 871-287, pub. 4–1–69. Cl. 32.
Autopack Ltd., Malvern Link, England. 871,222, pub. 5–31–66. Cl. 23.
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  Woodard, Viviane, Corp.
Avon Products, Inc., New York, N.Y. 871,447, pub. 4–1–69. Multiple Class (Classes 51 and 52).
Avon Products, Inc., New York, N.Y. 871,449–51, pub. 4–1–69. Multiple Class (Classes 51 and 52).
BASF: *See*—
  Badische Anilin- & Soda-Fabrik Aktiengesellschaft.
Badger Northland Inc., Kaukauna, Wis. 871,241, pub. 4–1–69. Cl. 23.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft, d.b.a. BASF, Ludwigshafen on Rhine, Germany. 871,109, pub. 4–1–69. Cl. 6.
Ball Machinery Co., Chicago, Ill. 871,234, pub. 4–1–69. Cl. 23.
Bard-Parker Co., Inc.: *See*—
  Becton, Dickinson & Co.
Bargain Town U.S.A.: *See*—
  Retail Centers of the Americas, Inc.
Baron Blakeslee, Inc., Chicago, Ill. 871,459–61, pub. 4–1–69. Cl. 52.
Battista, Orlando A., d.b.a. Reader-Services Co., Morrisville, Pa. 871,336, pub. 4–1–69. Cl. 37.
Baughman, Robert A., Indianapolis, Ind. 871,180, pub. 4–1–69. Cl. 19.
Becton, Dickinson & Co., East Rutherford, N.J., from Bard-Parker Co., Inc., Danbury, Conn. 871,345, pub. 3–18–69. Cl. 38.
Beecham Group Ltd., d.b.a. Beecham Research Laboratories, Middlesex, England. 871,163, pub. 4–1–69. Cl. 18.
Beecham Research Laboratories: *See*—
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Bensons Confectionery Ltd., Bury, England. 652,216. Am. 7(d). Cl. 46.
Berger Lumber Corp., West Kingston, R.I. 871,512, pub. 4–1–69. Cl. 103.
Bergersen, Earl O., Winnetka, Ill. 871,384, pub. 4–1–69. Cl. 44.
Bernatz, Thomas H., d.b.a. Little O'Taco Maker, Whittier, Calif. 871,476, pub. 4–1–69. Cl. 100.
Better Radiator Products Co., Costa Mesa, Calif. 748,611, canc. Cl. 6.
Betz Laboratories, Inc., Trevose, Pa. 871,110, pub. 4–1–69. Cl. 6.
Beyer, Lewis R., d.b.a. The Lewart Co., Cleveland, Ohio. 871,327, pub. 4–1–69. Cl. 37.
Biograph Pictures, Inc., Oakland, N.J. 862,430, cor. Cl. 38.
Biological Research, Inc., from Biological Research, Inc., St. Louis, Mo. 748,788, canc. Cl. 29.
Biscuit Bakers Institute, Inc., Chicago, Ill. 748,915, canc. Cl. 200.
Bish, Paul R., Elizabeth, N.J. 871,341, pub. 4–1–69. Cl. 38.
Black & Decker Mfg. Co., The, Towson, Md. 442,581, ren. 6–17–69. Cl. 21.
Black Rock Development Corp., Walnut Ridge, Ark. 871,179, pub. 4–1–69. Cl. 19.
Blanicke Strojirny, narodni podnik, Vlasim, Czechoslovakia. 871,122, pub. 4–1–69. Cl. 9.
Blitz-Weinhard Co., Portland, Oreg. 871,427–8, pub. 4–1–69. Cl. 48.
Bogen Photo Corp., Englewood, N.J. 871,262, pub. 4–1–69. Cl. 26.
Bolton, Herbert E., Jr., El Monte, Calif. 871,175, pub. 4–1–69. Cl. 19.
Bombardier Ltd., Valcourt, Quebec, Canada. 871,171, pub. 4–1–69. Cl. 19.
Borden Co., The, New York, N.Y. 871,396, pub. 10–13–64. Cl. 46.
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  Brandywine Mushroom Corp.

Borg-Warner Corp. : *See—*
Refrigeration Engineering Inc.
Botsford, Peter G., d.b.a. Botsford Racing Enterprises, Boulder, Colo. 871,510, pub. 4–1–69. Cl. 103.
Botsford Racing Enterprises : *See—*
Botsford, Peter G.
Brandes, Hermann, New York, N.Y. 748,779, canc. Cl. 28.
Brandywine Mushroom Corp., West Chester, Pa., to Borden, Inc., New York, N.Y. 507,869, ren. 6–17–69. Cl. 46.
Braun, J. G., Co., Skokie, Ill. 871,126, pub. 4–1–69. Multiple Class (Classes 12, 13, and 14).
Breakfast Cheer Coffee Co., The : *See—*
Indian Coffee Corp., The.
Breck, John H., Inc., Springfield, Mass., to John H. Breck, Inc., Wayne, N.J. 514,148, ren. 6–17–69. Cl. 51.
Brigadoon Hosiery Mills, to Brigadoon Hosiery Mills, Inc., New York, N.Y. 442,634, ren. 6–17–69. Cl. 39.
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Brigadoon Hosiery Mills.
British Silverware Ltd., Sheffield, England. 871,132, pub. 4–1–69. Multiple Class (Classes 13 and 23).
Broadcasting Publications, Inc., Washington, D.C. 508,835–6, ren. 6–17–69. Cl. 38.
Brown Co., New York, N.Y. 871,332, pub. 4–1–69. Cl. 37.
Brown Co., New York, N.Y. 871,338, pub. 4–1–69. Cl. 37.
Brown, George C., & Co., to George C. Brown & Co., Inc., Greensboro, N.C. 515,185, ren. 6–17–69. Cl. 12.
Brown, George C., & Co., Inc. : *See—*
Brown, George C., & Co.
Brunswick Corp., Chicago, Ill. 748,897, canc. Cl. 52.
Bryant Radio & Television, Inc., Lubbock, Tex. 871,513, pub. 4–1–69. Cl. 104.
Buccaneer Stamp Co., Waco, Tex. 871,496, pub. 4–1–69. Cl. 101.
Budd Co., The, Philadelphia, Pa. 871,085, pub. 4–1–69. Multiple Class (Classes 1, 14, 19, and 37).
Bulova Watch Co., Inc., Flushing, N.Y. 871,279, pub. 2–18–69. Cl. 27.
Bunn Capitol Co., to Bunn-O-Matic Corp., Springfield, Ill. 694,904. Am. 7(d). Cl. 34.
Byers Color Laboratory, Inc., Portland, Oreg. 748,754, canc. Cl. 26.
Calgon Corp., Pittsburgh, Pa. 871,111, pub. 4–1–69. Cl. 6.
California Beauty & Barber Supply, Inc., d.b.a. Sheer-Mist Laboratories, Hollywood, Calif. 748,888, canc. Cl. 51.
Campbell, Inc., Chicago, Ill., to Jack Constant Hosiery, Inc., New Berlin, Wis. 253,150, ren. 6–17–69. Cl. 39.
Candi-Enterprises : *See—*
Curtis, Joseph A., Jr.
Cardinal Instrument Corp., Cambridge, Mass. 871,391, pub. 4–1–69. Cl. 44.
Carley, Inc., Haddonfield, N.J. 871,445, pub. 4–1–69. Cl. 51.
Carlisle Chemical Works, Inc., Reading, Ohio. 871,155, pub. 4–1–69. Cl. 16.
Carson Chemical Co. : *See—*
Morehouse Mfg. Co.
Carter Corp. : *See—*
Carter Dry Goods Co.
Carter Dry Goods Co., to Carter Corp., Louisville, Ky. 514,896, ren. 6–17–69. Cl. 42.
Carter-Wallace, Inc. : *See—*
Wallace Laboratories, Inc.
Castleton China, Inc. : *See—*
Interpace Corp.
Caterpillar Tractor Co., Peoria, Ill. 871,145–6, pub. 4–1–69. Multiple Class (Classes 13 and 35).
Caton Spring Water Co. : *See—*
Seven-Up Bottling Co. of Baltimore, Inc., The.
Caulliez, M., & Delaoutre, Nord, France. 871,362, pub. 4–1–69. Multiple Class (Classes 39, 42, and 43).
Chaffee, Thomas K., Co., Providence, R.I. 871,129, pub. 1–14–69. Cl. 12.
Champion Heater Co., Inc., St. Louis, Mo. 871,299, pub. 4–1–69. Cl. 34.
Chandos Industries, Inc., Chicago, Ill. 871,214–15, pub. 4–1–69. Cl. 22.
Chanel, Inc., New York, N.Y. 513,132, ren. 6–17–69. Cl. 52.
Chango Citrus Association, Harlingen, Tex. 871,403, pub. 4–1–69. Cl. 46.
Chase, L. C., & Co., Boston, Mass., to Goodall Sanford Inc., Wilmington, Del. 260,660, ren. 6–17–69. Cl. 42.
Chattanooga Pharmacal Co., Chattanooga, Tenn. 871,377, pub. 4–1–69. Cl. 44.
Cheeseman-Elliott Co. : *See—*
Seagrave Corp., The.
Chemical Adhesives Corp., New York, N.Y. 748,604, canc. Cl. 5.
Chicago Federation of Labor, Chicago, Ill. 748,913, canc. Cl. 107.
Chicopee Mfg. Corp. : *See—*
Johnson & Johnson.
Children's Caravan, Inc., Weston, Conn. 871,518, pub. 12–3–68. Cl. 107.
Clairol Inc., New York, N.Y. 871,378, pub. 4–1–69. Cl. 44.
Clary Multiplier Corp., Los Angeles, Calif., to Sperry Rand Corp., New York, N.Y. 504,511, ren. 6–17–69. Cl. 26.
Claster Enterprises, Inc., Baltimore, Md. 871,522, pub. 4–1–69. Cl. 107.
Clayton Mark & Co., Evanston, Ill. 508,879, ren. 6–17–69. Cl. 13.
Cleveland Technical Center, Inc., Cleveland, Ohio. 871,108, pub. 4–1–69. Cl. 6.
Clinton Co., The, Chicago, Ill., to The Valspar Corp., Rockford, Ill. 258,159, ren. 6–17–69. Cl. 16.
Clinton Corn Processing Co. : *See—*
Standard Brands Inc.
Clipper Pyrotechnic Corp., Lynwood, Calif. 748,628, canc. Cl. 9.
Coats & Clark Inc. : *See—*
Coats, J. & P., (R.I.), Inc.
Coats, J. J., (R.I.), Inc., Pawtucket, R.I., to Coats & Clark Inc., New York, N.Y. 260,592, ren. 6–17–69. Cl. 43.
Cohen, Herbert L., and Frank Zappa, Los Angeles, Calif. 871,519, pub. 4–1–69. Cl. 107.
Coldbrook Farms Poultry : *See—*
Lipman Bros., Inc.
Colgate-Palmolive Co., New York, N.Y. 871,458, pub. 4–1–69. Cl. 52.
Colt's Inc. : *See—*
Colt's Patent Fire Arms Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., to Colt's Inc., Hartford, Conn. 260,616, ren. 6–17–69. Cl. 9.
Colt's Patent Fire Arms Mfg. Co., Inc., Hartford, Conn. 748,721, canc. Cl. 22.
Columbia Gas of Pennsylvania, Inc., Pittsburgh, Pa. 871,462, pub. 4–1–69. Cl. 100.
Columbia-Minerva Corp., New York, N.Y. 871,533. Cl. 43.
Comoy, H., & Co., Ltd., London, England. 514,776, ren. 6–17–69. Cl. 8.
Compagnie Generale Dos Gaz Liquefies Cogegal, Paris, France. 748 610, canc. Cl. 6.
Compco Corp., Chicago, Ill. 514,082, ren. 6–17–69. Cl. 26.
Computer Papers Inc., d.b.a. Computer Papers Inc., Des Moines, Iowa. 871,322, pub. 4–1–69, Cl. 37.
Conco Building Products, Inc., Mendota, Ill. 748,640, canc. Cl. 12.
Concrete Pipe Machinery Co., Sioux City, Iowa. 725,324. Am. 7(d). Cl. 23.
Connecticut Clock Co., Bristol, Conn. 871,278, pub. 4–1–69. Cl. 27.
Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 871,415, pub. 4–1–69. Cl. 46.
Consolidated Machine Tool Corp., Rochester, to Curlator Corp., East Rochester, N.Y. 513,742, ren. 6–17–69. Cl. 23.
Consolidated Rendering Co., d.b.a. Atlantic Packing Co., Boston, to Corenco Corp., Tewksbury, Mass. 254,910, ren. 6–17–69. Cl. 10.
Consolidated Rendering Co., d.b.a. Atlantic Packing Co., Boston, to Corenco Corp., Tewksbury, Mass. 256,552–3, ren. 6–17–69. Cl. 5.
Consolidated Rendering Co., to Corenco Corp., Tewksbury, Mass. 257,361, ren. 6–17–69. Cl. 52.
Consolidated Rendering Co., d.b.a. Atlantic Packing Co., Boston, to Corenco Corp., Tewksbury, Mass. 257,994, ren. 6–17–69. Cl. 52.
Consolidated Rendering Co., d.b.a. Atlantic Packing Co., Boston, to Corenco Corp., Tewksbury, Mass. 258,323, ren. 6–17–69. Cl. 15.
Consolidated Rendering Co., d.b.a. Atlantic Packing Co., Boston, to Corenco Corp., Tewksbury, Mass. 260,595, ren. 6–17–69. Cl. 1.
Constant, Jack, Hosiery, Inc. : *See—*
Campbell, Inc.
Construction Industry Manufacturers Assn., Milwaukee, Wis. 871,492, pub. 4–1–69. Cl. 101.
Continental Insurance Co., The, New York, N.Y. 748,903, canc. Cl. 102.
Continental Oil Co., Ponca City, Okla. 748,584, canc. Cl. 1.
Continental Oil Co., Ponca City, Okla. 871,147, pub. 4–1–69. Cl. 13.
Continental Reports, Inc., Denver, Colo. 871,357, pub. 4–1–69. Cl. 38.
Continental Steel Corp., Kokomo, Ind. 509,121, ren. 6–17–69. Cl. 14.
Conveyor Heat Products Co. : *See—*
Conveyor Heat Products Corp.
Conveyor Heat Products Corp., from Mike Mennies & Son, d.b.a. Conveyor Heat Products Co., Philadelphia, Pa. 871,531. Cl. 34.
Conwed Corp. : *See—*
Wood Conversion Co.
Conwed Corp., St. Paul, Minn. 871,086, pub. 4–1–69. Cl. 1.
Corenco Corp. : *See—*
Consolidated Rendering Co.
Cory Corp., Chicago, Ill. 871,191, pub. 4–1–69. Cl. 21.
Country Gardens Inc., Milwaukee, Wis. 871,406, pub. 4–1–69. Cl. 46.
Coxhead, Ralph C., Corp., New York, N.Y., to Vari-Typer Corp., East Hanover, N.J. 510,548, ren. 6–17–69. Cl. 23.
Crane Co., New York, N.Y. 871,140, pub. 4–1–69. Cl. 13.
Crestmark Productions of America, Inc., Atlanta, Ga. 871,527–8, pub. 4–1–69. Cl. 107.
Crown Lamp Co., Greensburg, Pa. 871,188, pub. 4–1–69. Cl. 21.
Cryogenic Associates, Inc., Indianapolis, Ind. 871,261, pub. 4–1–69. Cl. 26.
Curlator Corp. : *See—*
Consolidated Machine Tool Corp.
Current History, Inc., Philadelphia, Pa. 748,828, canc. Cl. 38.
Curtis, Joseph A., Jr., d.b.a. Candi-Enterprises, Hawthorne, Calif. 748,723, canc. Cl. 22.
Curwood, Inc., New London, Wis. 871,333, pub. 4–1–69. Cl. 37.
Cutter Laboratories, Inc. : *See—*
Pilchard, Jennings B.
Cutters Exchange, Inc., Nashville, Tenn. 871,149, pub. 4–1–69. Multiple Class (Classes 15, 23, and 24).
DMH Corp., St. Louis, Mich. 871,181, pub. 4–1–69. Cl. 19.
Darling Pump & Mfg. Co. Ltd., The, to Darling Value & Mfg. Co., Williamsport, Pa. 73,160, ren. 6–17–69. Cl. 35.
Darling Value & Mfg. Co. : *See—*
Darling Pump & Mfg. Co. Ltd., The.

Daubert Chemical Co., Oak Brook, Ill. 871,152, pub. 4–1–69. Cl. 15.
Davis Equipment, Inc., Tulsa, Okla. 748,629, canc. Cl. 9.
Deere & Co., Moline, Ill. 871,523, pub. 4–1–69. Cl. 107.
Deering Milliken, Inc., New York, N.Y. 748,847, canc. Cl. 42.
Del Laboratories, Inc., Farmingdale, N.Y. 871,442, pub. 4–1–69. Cl. 51.
Delatour, E., & Cie, Sosiete Anonime, St. Croix, Virgin Islands. 871,432–3, pub. 4–1–69. Cl. 49.
Delfausse, Pierre, New York, N.Y. 871,219, pub. 4–1–69. Cl. 22.
Delta Laboratories, Inc., of Florida, Des Plaines, Ill. 871,392, pub. 4–1–69. Cl. 44.
Dennis Mfg. Co. : *See—*
Dennis, Richard D.
Dennis, Richard D., d.b.a. Dennis Mfg. Co., San Jose, Calif. 871,309, pub. 4–1–69. Cl. 34.
Dentists' Supply Co. of New York, The, York, Pa. 871,383, pub. 4–1–69. Cl. 44.
Dentists' Supply Co. of New York, The, York, Pa. 871,389–90, pub. 4–1–69. Cl. 44.
Denver Chemical Mfg. Co. : *See—*
Denver Chemical Mfg. Co., The.
Denver Chemical Mfg. Co., The, New York, N.Y., to Denver Chemical Mfg. Co., Stamford, Conn. 509,739, ren. 6–17–69. Cl. 18.
Diagraph-Bradley Industries, Inc., Herrin, Ill. 871,331, pub. 4–1–69. Cl. 37.
Diamond Shamrock Chemical Co. : *See—*
Diamond Shamrock Corp.
Diamond Shamrock Corp., d.b.a. Diamond Shamrock Chemical Co., Cleveland, Ohio. 871,277, pub. 4–1–69. Cl. 26.
Dickey, Karl N., d.b.a. Nu-Look 1 Hr. Cleaners, Washington, D.C. 871,507, pub. 4–1–69. Cl. 103.
Didsbury Engineering Co. Ltd., Manchester, England. 871,235, pub. 4–1–69. Cl. 23.
Dietene Co., The, Minneapolis, Minn. 871,401, pub. 4–1–69. Cl. 46.
Dietene Co., The, Minneapolis, Minn. 871,408, pub. 4–1–69. Cl. 46.
Diffusa-Lite Co. : *See—*
Aiken, Hugh H.
Dimos, Nina, New York, N.Y. 871,370, pub. 1–14–69. Cl. 39.
Displaymor Mfg. Co. : *See—*
Supreme Foods, Inc.
Diversey Corp., The, Chicago, Ill. 748,661, canc. Cl. 16.
Dixon, Joseph, Crucible Co., The : *See—*
American Crayon Co., The.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 256,211, ren. 6–17–69. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 505,593–5, cor. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 510,970, cor. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 510,973, cor. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 511,245, cor. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 511,391–6, cor. Cl. 37.
Dollar, Robert, Co., The, San Francisco, Calif. 748,912, canc. Cl. 105.
Double Envelope Corp., Roanoke, Va. 871,325, pub. 4–1–69. Cl. 37.
Doughboy Industries, Inc., New Richmond, Wis. 871,258, pub. 4–1–69. Cl. 23.
Dow Chemical Co., The, Midland, Mich. 871,164, pub. 4–1–69. Cl. 18.
Drexel Dynamics Corp., Horsham, Pa. 748,715, canc. Cl. 21.
Dufur, Peggy, d.b.a. Introduction Please, Kansas City, Mo. 871,491, pub. 4–1–69. Cl. 101.
Dumas-Wilson & Co., St. Louis, Mo. 748,678, canc. Cl. 18.
Dun & Bradstreet, Inc., New York, N.Y. 509,756, ren. 6–17–69. Cl. 38.
Durabilt Homes Corp., Little Falls, N.J. 748,907, canc. Cl. 103.
ESB Inc., Philadelphia, Pa. 871,274. pub. 4–1–69. Cl. 26.
E-Z Opener Bag Co., Taylorville, Ill., to Gulf States Paper Corp., Tuscaloosa, Ala. 73,817, ren. 6–17–69. Cl. 2.
Eastman Kodak Co., Rochester, N.Y. 748,770, canc. Cl. 26.
Eaton Yale & Towne, Inc. : *See—*
Yale & Towne Mfg. Co., The.
Eaton Yale & Towne Inc., Cleveland, Ohio. 871,310, pub. 4–1–69. Cl. 34.
Eberhard Faber Inc., Wilkes-Barre, Pa. 871,437, pub. 4–1–69. Cl. 50.
Eclipse Sleep Eclipse Sleep Products, Inc. : *See—*
United States Cabinet Bed Co.
Eimco Corp., The, Salt Lake City, Utah. 871,138, pub. 4–1–69. Cl. 13.
El Ruth Cosmetics & Products, Inc., Reno, Nev. 871,452, pub. 4–1–69. Cl. 51.
Electric Storage Battery Co., The, Philadelphia, Pa. 748,708, canc. Cl. 21.
Electromagnetic Industries, Inc., Sayville, N.Y. 748,714, canc. Cl. 21.
Elgin Softener, Inc., Elgin, Ill. 871,282, pub. 4–1–69. Cl. 31.
Endo Laboratories, Inc. : *See—*
Endo Products Inc.
Endo Products Inc., Richmond Hill, to Endo Laboratories, Inc., Garden City, N.Y. 513,134, ren. 6–17–69. Cl. 18.
Engelhard Hanovia, Inc., Newark, N.J. 748,590, canc. Cl. 1.
Ennis Mfg. : *See—*
Ennis, Olin N.
Ennis, Olin N., d.b.a. Ennis Mfg., Clio, Mich. 871,236, pub. 4–1–69. Cl. 23.
Enro Shirt Co., The : *See—*
Rosenfeld, E., & Co.
Equitable Life Insurance Co., Washington, D.C. 871,506, pub. 4–1–69. Cl. 102.
Esco, Inc., Houston, Tex. 871,084, pub. 2–18–69. Cl. 1.
Executive Action, Inc., Washington, D.C. 871,494, pub. 4–1–69. Cl. 101.
FCX Egg Marketing Services : *See—*
FCX, Inc.
FCX, Inc., d.b.a. FCX Egg Marketing Service, Raleigh, N.C. 871,422, pub. 4–1–69. Cl. 46.
Faberge, Inc., New York, N.Y. 871,454, pub. 4–1–69. Cl. 51.
Fairchild Hiller Corp., Germantown, Md. 871,209, pub. 4–1–69. Cl. 21.
Famous Artists Schools, Inc., Westport, Conn. 871,526, pub. 4–1–69. Cl. 107.
Famous Writers School, Inc., Westport, Conn. 871,353, pub. 4–1–69. Cl. 38.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 748,676, canc. Cl. 18.
Farm Business Council, Inc., Urbana, Ill. 871,344, pub. 4–1–69. Cl. 38.
Farmers Regional Cooperative, Fort Dodge, Iowa. 871,167, pub. 4–1–69. Cl. 18.
Fay, Leslie, Fashions, Inc., to Leslie Fay, Inc., New York, N.Y. 513,305, ren. 6–17–69. Cl. 39.
Fay, Leslie, Inc. : *See—*
Fay, Leslie, Fashions, Inc.
Feltessence Export Corp., Brooklyn, N.Y., from Joseph Felton, New York, N.Y. 748,860, canc. Cl. 46.
Felton, Joseph : *See—*
Feltessence Export Corp.
Fenn Bros. Inc., to Fenn Bros., Inc., Sioux Falls, S. Dak. 512,133, ren. 6–17–69. Cl. 46.
Fenton Mfg. Corp., Gardena, Calif. 871,177, pub. 4–1–69. Cl. 19.
Fidelitone, Inc., Chicago, Ill. 871,187, pub. 4–1–69. Cl. 21.
Field, A. H. T., & Co. Ltd., Vancouver, British Columbia, Canada. 871,117, pub. 4–1–69. Cl. 6.
Field, Henry, Seed & Nursery Co., Shenandoah, Iowa. 871,095, pub. 4–1–69. Cl. 1.
Field, Henry Seed & Nursery Co., Shenandoah, Iowa. 871,125, pub. 4–1–69. Cl. 10.
Fieldcrest Mills, Inc. : *See—*
Price, L. B., Mercantile Co., The.
Finch, Pruyn & Co., Inc., Glens Falls, N.Y. 871,329, pub. 4–1–69. Cl. 37.
Fire Apparatus Manufacturers Association, Inc., Washington, D.C. 871,463, pub. 4–1–69. Cl. 100.
Fishmaster Products, Inc., Tulsa, Okla. 871,263, pub. 4–1–69. Cl. 26.
Florida Metal Products, Inc., Jacksonville, Fla. 513,021, ren. 6–17–69. Cl. 12.
Fontana D'Oro Co. : *See—*
Agosta, John.
Forget-Me-Not Co., Inc. : *See—*
Forget-Me-Not Potato Chip Co., Inc.
Forget-Me-Not Potato Chip Co., Inc., d.b.a. Forget-Me-Not Co., Inc., Syracuse, N.Y. 748,850, canc. Cl. 46.
Foseco International Ltd., Birmingham, England. 871,106, pub. 4–1–69. Cl. 6.
Fostoria-Fannon, Inc., Fostoria, Ohio. 871,313, pub. 4–1–69. Cl. 34.
Fotomat Corp., La Jolla, Calif. 871,493, pub. 4–1–69. Cl. 101.
Four Square Paint Co. : *See—*
Seagrave Corp., The.
Frank & Jerry's Service Center : *See—*
Marzullo, Frangisco.
Free State Specialty Co., Baltimore, Md. 748,789, canc. Cl. 29.
Fromagerie Franco Suisse "Le Ski" S.A., Brussels, Belgium. 871,407, pub. 4–1–69. Cl. 46.
Frostie Co., The, Camden, N.J. 871,395, pub. 4–1–69. Cl. 45.
Fuller Brush Co., The, East Hartford, Conn. 748,900, canc. Cl. 52.
GAF Corp., New York, N.Y. 871,516–17, pub. 4–1–69. Cl. 106.
Gadgets Diffusion S.A., C/Philibert Theytaz, Geneva, Switzerland. 871,212, pub. 4–1–69. Multiple Class (Classes 22 and 36).
Galion Metallic Vault Co., The, Galion, Ohio, to Harsco Corp., Camp Hill, Pa. 255,100, ren. 6–17–69. Cl. 2.
Garlock Inc., Palmyra, N.Y. 871,317, pub. 12–10–68. Cl. 35.
Gary Industries, Inc., d.b.a. Acco Products, Chicago, Ill. 871,246, pub. 4–1–69. Cl. 23.
Gattle, Mrs. H., Linen Co., The, Cincinnati, Ohio. 514,107, ren. 6–17–69. Cl. 42.
Gebroeders Van Huet's Laad- en Lossystemen "Hulo" NV, Pannerden, Netherlands. 871,173, pub. 4–1–69. Multiple Class (Classes 19 and 23).
General Dynamics, Groton, Conn. 871,456, pub. 4–1–69. Cl. 52.
General Electric Co., Schenectady, N.Y. 871,259, pub. 4–1–69. Cl. 23.
General Electric Co., Louisville, Ky. 871,307, pub. 4–1–69. Cl. 34.
General Electronic Laboratories, Inc., Boston, Mass. 871,319, pub. 4–1–69. Cl. 36.
General Recreation Industries, Inc., Minneapolis, Minn. 871,218, pub. 4–1–69. Cl. 22.
General Spice, Inc., Linden, N.J. 871,421, pub. 4–1–69. Cl. 46.
Gentex Corp., New York, N.Y. 871,217, pub. 4–1–69. Cl. 22.
Germain's, Inc., Los Angeles, Calif. 748,586, canc. Cl. 1.
Gettier-Montanye, Inc., Glyndon, Md. 515,370, ren. 6–17–69. Cl. 37.
Gilded Aspen : *See—*
Hall, Robert C., and Marjorie D. Hall.

Gillette Co., The, Boston, Mass. 871,455, pub. 4–1–69. Cl. 51.
Glasgow Hicks Co., Wilmington, N.C. 871,504, pub. 4–1–69. Cl. 102.
Glatfelter, P. H., Co., Spring Grove, Pa. 871,334, pub. 4–1–69. Cl. 37.
Glendinning Companies, Inc., Westport, Conn. 871,479, pub. 4–1–69. Cl. 101.
Glendinning Companies, Inc., Westport, Conn. 871,488, pub. 4–1–69. Cl. 101.
Glenn Advertising, Inc., Dallas, Tex. 871,482, pub. 4–1–69. Cl. 101.
Goldsmith, Louis, Inc., Philadelphia, Pa. 511,321, ren. 6–17–69. Cl. 39.
Golfmeter Co., The, Cockeysville, Md. 748,725, canc. Cl. 22.
Goodall Sanford Inc.: *See—*
  Chase, L. C., & Co.
  Lesher, Whitman & Co., Inc.
Goodfriend, David J., Philadelphia, Pa. 512,462, ren. 6–17–69. Cl. 6.
Grace, W. R., & Co., Cambridge, Mass. 748,879, canc. Cl. 50.
Grace, W. R., & Co., Cambridge, Mass. 871,102, pub. 4–1–69. Cl. 5.
Gracie Square Pastry Corp., New York, N.Y. 871,413, pub. 4–1–69. Cl. 46.
Grattan Warehouses Ltd., Bradford, England. 871,371, pub. 4–1–69. Cl. 39.
Great Lakes Foundation, Ann Arbor, Mich. 871,350, pub. 4–1–69. Cl. 38.
Gregoire's Flowers, Inc., San Francisco,, Calif. 871,083, pub. 4–1–69. Cl. 1.
Grob & Co. Ltd., Zurich, Switzerland. 871,243–5, pub. 4–1–69. Cl. 23.
Gulf Fertilizer Co., The, Tampa, Fla. 748,635–6, canc. Cl. 10.
Gulf South Advertising Specialties, Inc., Baton Rouge, La. 871,480, pub. 4–1–69. Cl. 101.
Gulf States Paper Corp.: *See—*
  E-Z Opener Bag Co.
Gyrojet Co.: *See—*
  Saad, Michel A.
Haft & Co., Ltd., New York, N.Y. 865,413, cor. Cl. 42.
Hall, Robert C., and Marjorie D. Hall, d.b.a. Gilded Aspen, Rollinsville, Colo. 871,530. Cl. 28.
Hamilton Mfg. Co.: *See—*
  American Hospital Supply Corp.
Harms, Percy, Corp., Skokie, Ill. 871,151, pub. 4–1–69. Cl. 15.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 442,992, ren. 6–17–69. Cl. 19.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 442,999, ren. 6–17–69. Cl. 19.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 443,000, ren. 6–17–69. Cl. 19.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 443,048–50, ren. 6–17–69. Cl. 22.
Harris, J. W., Co., Inc., Cincinnati, Ohio. 871,300, pub. 4–1–69. Cl. 34.
Harris-Intertype Corp., Cleveland, Ohio, from T. W. & C. B. Sheridan Co., d.b.a. The Sheridan Co., New York, N.Y. 871,227, pub. 4–1–69. Cl. 23.
Harsco Corp.: *See—*
  Gallon Metallic Vault Co., The.
  Taylor-Wharton Iron & Steel Co.
Hasbro Industries, Inc., from Hassenfeld Bros. Inc., Pawtucket, R.I. 871,210, pub. 12–12–67. Cl. 22.
Hassenfeld Bros. Inc.: *See—*
  Hasbro Industries, Inc.
Hatfield, Richard A., d.b.a. The Pro-Swing Co., Huntington, W. Va. 871,328, pub. 4–1–69. Cl. 37.
Hazzard, R. P., Co., Augusta, Maine. 871,364, pub. 4–1–69. Cl. 39.
Hell, Rudolf, Dr. Ing., Kiel-Dietrichsdorf, Germany. 871,190, pub. 4–1–69. Cl. 21.
Henkel & Cie, G.m.b.H., Dusseldorf, Germany. 871,457, pub. 4–1–69. Cl. 52.
Hernandez, Eduardo, New York, N.Y. 871,411, pub. 4–1–69. Cl. 46.
Hexacon Electric Co., Roselle Park, N.J. 871,301, pub. 4–1–69. Cl. 34.
Hickey-Freeman Co., to Hickey-Freeman Co., Inc., Rochester, N.Y. 511,277, ren. 6–17–69. Cl. 39.
Hickey-Freeman Co., Inc.: *See—*
  Hickey-Freeman Co.
Hicks, Paul, Co., Midland, Tex. 871,098, pub. 4–1–69. Cl. 4.
Highland Bonding Co. Ltd., Paisley, Scotland. 513,111, ren. 6–17–69. Cl. 49.
Hitachi Maxell, Ltd., Osaka, Japan. 871,185, pub. 4–1–69. Cl. 21.
Hobart Mfg. Co., The, Troy, Ohio. 871,249, pub. 4–1–69. Cl. 23.
Hodson Corp., The, Chicago, Ill. 514,214, ren. 6–17–69. Cl. 15.
Hodson Corp., The, Chicago, Ill. 515,152, ren. 6–17–69. Cl. 15.
Hoffmaster Co., Inc.: *See—*
  Hoffmaster Paper Co., Inc.
Hoffmaster Paper Co., Inc., to Hoffmaster Co., Inc., Oshkosh, Wis. 515,474, ren. 6–17–69. Cl. 37.
Holliston Laboratories, Inc., Boston, Mass. 871,121, pub. 4–1–69. Cl. 6.
Holson Co., The, Wilton, Conn. 871,326, pub. 4–1–69. Cl. 37.
Hotsy Co.: *See—*
  Anderson, Charles L.
Howell, F. M., & Co., Inc., Elmira, N.Y. 871,324, pub. 4–1–69. Cl. 37.
Hoyt Mfg. Corp., Westport, Mass. 748,615, canc. Cl. 6.
Huber, J. M., Corp., Borger, Tex. 508,543–4, ren. 6–17–69. Cl. 1.
Huffman Mfg. Co., The: *See—*
  Monark Silver King, Inc.
Hunt, Philip A., Chemical Corp., Palisades Park, N.J. 871,114–15, pub. 4–1–69. Cl. 6.
Hussmann-Ligonier Co., now by change of name Hussmann Refrigerator Co., to Pet Inc., St. Louis, Mo. 514,992, ren. 6–17–69. Cl. 31.
Hussmann Refrigerator Co.: *See—*
  Hussmann-Ligonier Co.
Hutchings & Harding Ltd., Cambridge, England. 871,281, pub. 4–1–69. Cl. 29.
ICI America Inc., Stamford, Conn. 871,101, pub. 4–1–69. Cl. 5.
ISO S.p.A. Automotoveicoli, Milan, Italy. 871,169, pub. 4–1–69. Cl. 19.
Ideax Corp., New York, N.Y. 748,749, canc. Cl. 26.
Ilikon Corp., Natick, Mass. 748,750, canc. Cl. 26.
Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. 871,118, pub. 4–1–69. Cl. 6.
Illinois Tool Works, to Illinois Tool Works Inc., Chicago, Ill. 514,706, ren. 6–17–69. Cl. 13.
Illinois Tool Works Inc.: *See—*
  Illinois Tool Works.
Illinois Tool Works Inc., Chicago, Ill. 871,139, pub. 1–28–69. Cl. 13.
Impulsphysik G.m.b.H., Hamburg-Rissen, Germany. 871,270, pub. 4–1–69. Cl. 26.
Indian Coffee Corp., The, d.b.a. The Breakfast Cheer Coffee Co., Leetsdale, Pa. 871,400, pub. 4–1–69. Cl. 46.
Industry Publications, Inc., Fairfield N.J. 871,532. Cl. 38.
Inland Bed Co., to Inland Bed Co., Chicago, Ill. 512,559, ren. 6–17–69. Cl. 32.
Institute of Modern Languages, Inc., Washington, D.C. 871,520, pub. 4–1–69. Cl. 107.
Insurance Co. of North America, Philadelphia, Pa. 871,499–500, pub. 4–1–69. Cl. 102.
International Bank, Washington, D.C. 513,694, ren. 6–17–69. Cl. 38.
International Guns, Inc., Yonkers, N.Y. 748,626, canc. Cl. 9.
International Metal Polish Co., to International Metal Polish Co. Inc., Indianapolis, Ind. 72,754, ren. 6–17–69. Cl. 4.
International Metal Polish Co. Inc.: *See—*
  International Metal Polish Co.
International Milling Co., Inc.: *See—*
  Wells Flour Milling Co.
Interpace Corp., Parsippany, N.J., from Castleton China, Inc., New Castle, Pa. 871,295, pub. 4–1–69. Cl. 33.
Interpool Products Co.: *See—*
  Whitmer, Charles C.
Introduction Please: *See—*
  Dufur, Peggy.
Jackson Brewing Co., New Orleans, La. 871,429–30, pub. 4–1–69. Cl. 48.
Jaguar Cars Ltd., Coventry, Warwickshire, England. 871,170, pub. 4–1–69. Cl. 19.
Jamaica Associates, Ltd., Kingston, Jamaica. 748,837, canc. Cl. 39.
Jaunet, Louis, Paris, France. 871,393, pub. 4–1–69. Cl. 44.
Jefferson Electric Co., Bellwood, Ill. 748,700, canc. Cl. 21.
Jel Sert Co., The, Bellwood, Ill. 871,425, pub. 4–1–69. Cl. 46.
Jenkins, Alfred B., to Jenkins Bros., New York, N.Y. 32,911, ren. 6–17–69. Cl. 13.
Jenkins Bros.: *See—*
  Jenkins, Alfred B.
Jersey Wood & Metal Specialties Co., Inc., Union, N.J. 871,439 pub. 4–1–69. Cl. 50.
Johnson & Johnson, from Chicopee Mfg. Corp., d.b.a. Refined Products Co., New Brunswick, N.J. 748,614, canc. Cl. 6.
Johns-Manville Corp., New York, N.Y. 442,562, ren. 6–17–69. Cl. 12.
Joma, Inc., Pacific Palisades, Calif. 871,099–100, pub. 4–1–69. Cl. 5.
Jung Products, Inc., Cincinnati, Ohio. 871,379, pub. 4–1–69. Cl. 44.
Junge Baking Co., Joplin, Mo. 748,864, canc. Cl. 46.
Kaufman, Herbert, New York, N.Y. 748,902, canc. Cl, 101.
Kaye, Ellen, Laboratories, Inc.: *See—*
  Shulton, Inc.
Keenan, L. W., & Co., Los Angeles, Calif. 748,685, canc. Cl. 19.
Keinath Instrument Co., Columbus, Ohio. 748,755–6, canc. Cl. 26.
Kelley-Springfield Tire Co., The: *See—*
  Vanderbilt Tire & Rubber Corp.
Kelley-Springfield Tire Co., The, Cumberland, Md. 509,445, ren. 6–17–69. Cl. 35.
Kenneth Beauty Salons & Products, Inc., New York, N.Y. 871,441, pub. 4–1–69. Cl. 51.
Kilrog, Inc., Laurelton, N.Y. 748,746, canc. Cl. 26.
Kimberly-Clark Corp., Neenah, Wis. 871,367, pub. 4–1–69. Cl. 39.
King Cole Pizza Palace Corp., Cleveland, Ohio. 871,475, pub. 4–1–69. Cl. 100.
Kirsch, Bernhard, Biewer, Germany. 871,296, pub. 4–1–69. Cl. 34.
Kitcheneering Co. of America: *See—*
  Rival Mfg. Co.
Klipsch & Associates, Inc., Hope, Ark. 871,195, pub. 4–1–69. Cl. 21.
Klugmann, Alfred, Inc., New York, N.Y. 731,684, canc. Cl. 1.
Knoll Pharmaceutical Co., Orange, N.J. 871,166, pub. 4–1–69. Cl. 18.
Kobrand Corp., New York, N.Y. 871,431, pub. 4–1–69. Cl. 49.
Kodensha Co., Ltd., Tochigi-shi, Japan. 871,124, pub. 4–1–69. Cl. 9.

Koltun, Jacob, d.b.a. Koltun Jewelry Co., New York, N.Y. 748,777, canc. Cl. 28.
Koltun Jewelry Co.: *See—*
  Koltun, Jacob.
Kozy Kampers, Inc., Fort Lauderdale, Fla. 871,473, pub. 4–1–69. Cl. 100.
Kumpfer, Beverly D., Salt Lake City, Utah. 871,306, pub. 4–1–69. Cl. 34.
Kurfees Paint Co., Louisville, Ky. 871,156, pub. 4–1–69. Cl. 16.
Kwip Mfg. Co., Santa Monica, Calif. 748,608, canc. Cl. 6.
Labelon Corp.: *See—*
  Stylograph Corp., The.
Labindustries: *See—*
  Shapiro, Justin J.
Lancer Books, Inc., New York, N.Y. 871,361, pub. 4–1–69. Cl. 38.
Langenau Mfg. Co., The, Cleveland, Ohio. 748,793, canc. Cl. 31.
Lapine Enterprises, Inc., Cleveland, Ohio. 748,705, canc. Cl. 21.
Lehn & Fink Products Corp., to Dorothy Gray, Ltd., New York, N.Y. 502,174, Am. 7(d). Cl. 6.
Leprechaun Mining & Chemical, Inc., Las Vegas, Nev. 871,477–8, pub. 4–1–69. Cl. 100.
Lerner Mfg., Inc., Melville, N.Y. 871,290, pub. 4–1–69. Cl. 32.
Lesher, Whitman & Co., Inc., New York, N.Y., to Goodall Sanford Inc., Wilmington, Del. 261,176, ren. 6–17–69. Cl. 42.
Levitt Mfg. Corp.: *See—*
  Poloron Products of Indiana, Inc.
Lewart Co., The: *See—*
  Beyer, Lewis R.
Lewis, Rosemarie, d.b.a. Vogarell Products Co., to Vogarell Products, Inc., Los Angeles, Calif. 514,789, ren. 6–17–69. Cl. 44.
Liaaen, A. M., Aalesund, Norway. 748,734, canc. Cl. 23.
Lifetime Inc., Brooklandville, Md. 748,865, canc. Cl. 46.
Line Material Co., Milwaukee, Wis., to McGraw-Edison Co., Elgin, Ill. 508,142, ren. 6–17–69. Cl. 21.
Lipman Bros., Inc., d.b.a. Coldbrook Farms Poultry, Augusta, Maine. 871,409, pub. 4–1–69. Cl. 46.
Lithoplate, Inc., Covina, Calif. 871,120, pub. 4–1–69. Cl. 6.
Little Giant Pump Co.: *See—*
  Little Giant Corp.
Little Giant Corp., d.b.a. Little Giant Pump Company and Little Giant Pump Co., Oklahoma City, Okla. 871,204, pub. 4–1–69. Cl. 21.
Little O'Taco Maker: *See—*
  Bernatz, Thomas H.
Lorillard Corp., New York, N.Y. 871,160, pub. 3–25–69. Cl. 17.
Louket Markets, Inc.: *See—*
  Supermarkets General Corp.
Lowe, Joe, Co.: *See—*
  Consolidated Foods Corp.
Lowney, Walter M., Co. Ltd., Sherbrooke, Quebec, Canada. 871,420, pub. 4–1–69. Cl. 46.
Luford Fruit Products, Inc., Los Angeles, Calif. 871,424, pub. 4–1–69. Cl. 46.
MR Plastics & Coatings, Inc., Maryland Heights, Mo. 871,089–91, pub. 4–1–69. Cl. 1.
MW Fruit Gifts, Houston, Tex. 871,399, pub. 4–1–69. Cl. 46.
MacDermid Inc., Waterbury, Conn. 512,523, ren. 6–17–69. Cl. 4.
Macklin Co., Jackson, Mich. 748,760, canc. Cl. 26.
MacMillan Bloedel Ltd., Vancouver, British Columbia, Canada. 871,127, pub. 4–1–69. Cl. 12.
MacMillan Ring-Free Oil Co., Inc., New York, N.Y. 871,154, pub. 4–1–69. Cl. 15.
Mallinckrodt Chemical Works, St. Louis, Mo. 871,230, pub. 4–1–69. Cl. 23.
Malt-A-Plenty, Inc., Tulsa, Okla. 871,405, pub. 4–1–69. Cl. 46.
Manco Mfg. Co., Bradley, Ill. 871,255, pub. 4–1–69. Cl. 23.
Mandabach, Paul J., Inc., Chicago, Ill. 748,680, canc. Cl. 18.
Marine Testing Institute, Inc., Mamaroneck, N.Y. 871,472, pub. 4–1–69. Cl. 100.
Maritime Imports, Inc., Los Angeles, Calif. 871,397, pub. 4–1–69. Cl. 46.
Martin Oil Service, Inc., Blue Island, Ill. 871,153, pub. 4–1–69. Cl. 15.
Marzullo, Frangisco, d.b.a. Frank & Jerry's Service Center, Bethesda, Md. 748,911, canc. Cl. 103.
Maschinenfabrik Froriep G.m.b.H., Rheinland, Germany. 871,231, pub. 4–1–69. Cl. 23.
Maxon Premix Burner Co., Inc., Muncie, Ind. 871,465, pub. 4–1–69. Multiple Class (Classes 100 and 103).
McCrosky Tool Corp., Meadville, Pa. 515,392, ren. 6–17–69. Cl. 23.
McGraw-Edison Co.: *See—*
  Line Material Co.
McKay Co., The, Pittsburgh, Pa. 871,312, pub. 4–1–69. Cl. 34.
Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. 871,426, pub. 4–1–69. Cl. 47.
Mediterranean Wines: *See—*
  Mediterranean Importing Co., Inc.
Melabs, Palo Alto, Calif. 871,266, pub. 4–1–69. Cl. 26.
Mennen Co., The, Morristown, N.J. 871,535–6. Cl. 51.
Mennies, Mike, & Son: *See—*
  Conveyor Heat Products Corp.
Metalphoto Corp., Cleveland, Ohio. 871,113, pub. 4–1–69. Multiple Class (Classes 6 and 26).
Metalphoto Corp., Warrensville Heights, from Allied Decals, Inc., Cleveland, Ohio. 871,343, pub. 1–28–69. Multiple Class (Classes 38 and 50).
Midcontinent Farmers Association, Columbia, Mo. 871,356, pub. 4–1–69. Cl. 38.
Midwest Biscuit Co., Burlington, Iowa. 871,398, pub. 4–1–69. Cl. 46.
Miles Laboratories, Inc., Elkhart, Ind. 510,330, ren. 6–17–69. Cl. 18.
Miles Laboratories, Inc., Elkhart, Ind. 871,165, pub. 4–1–69. Cl. 18.
Miles Shoes Inc., to Melville Shoe Corp., New York, N.Y. 509,391. Am. 7(d). Cl. 39.
Miller Electric Mfg. Co., Appleton, Wis. 871,314, pub. 4–1–69. Cl. 34.
Miller Felpax Corp., Winona, Minn. 512,779, ren. 6–17–69. Cl. 23.
Miller, R. H., Co., Homer, N.Y. 871,107, pub. 4–1–69. Cl. 6.
Millipore Corp., Bedford, Mass. 871,283, pub. 4–1–69. Cl. 31.
Mishawaka Rubber Co., Inc.: *See—*
  Mishawaka Rubber & Woolen Mfg. Co.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 513,616, ren. 6–17–69. Cl. 39.
Mittelman, John, & Sons, Inc., Wilmington, Del. 748,832, canc. Cl. 39.
Mixet Co., Montbello, Calif. 871,134, pub. 4–1–69. Cl. 13.
Modalities Research Inc., Long Island City, N.Y. 871,394, pub. 4–1–69. Cl. 44.
Modern Eve Products Co., Inc., Brooklyn, N.Y. 871,414, pub. 4–1–69. Cl. 46.
Modernization, Inc., Cleveland, Ohio. 748,909, canc. Cl. 103.
Mohawk Paper Mills, Inc., Cohoes, N.Y. 871,337, pub. 4–1–69. Cl. 37.
Monark Silver King, Inc., Chicago, Ill., to The Huffman Mfg. Co., Miamisburg, Ohio. 511,828, ren. 6–17–69. Cl. 19.
Monsanto Co.: *See—*
  Monsanto Chemical Co.
Monsanto Co., St. Louis, Mo. 871,198, pub. 4–1–69. Multiple Class (Classes 21, 26, and 27).
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 514,222 ren. 6–17–69. Cl. 6.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 514,882, ren. 6–17–69. Cl. 6.
Monte Jewelry Mfg. Corp., New York, N.Y. 748,772, canc. Cl. 28.
Moody's Investors Service, Inc., New York, N.Y. 871,342, pub. 4–1–69. Cl. 38.
Moody's Investors Service, Inc., New York, N.Y. 871,497–8, pub. 4–1–69. Cl. 102.
Moon, Dean, d.b.a. Moon Equipment Co., Santa Fe Springs, Calif. 871 228, pub. 4–1–69. Cl. 23.
Moon Equipment Co.: *See—*
  Moon, Dean.
Moorman Mfg. Co., Quincy, Ill. 515,237, ren. 6–17–69. Cl. 38.
Morehouse Mfg. Co., to Carson Chemical Co., Savannah, Ga. 510,244, ren. 6–17–69. Cl. 51.
Morton International, Inc., Chicago, Ill. 871,116, pub. 2–18–69. Cl. 6.
Mutual Dealers Wholesale, Inc., St. Paul, Minn. 508,353, ren. 6–17–69. Cl. 6.
N.V. Nemas, Bovenkarspel, Netherlands. 871,213, pub. 4–1–69. Cl. 22.
Nash Engineering Co., The, South Norwalk, Conn. 259,615, ren. 6–17–69. Cl. 23.
Nalco Chemical Co., Chicago, Ill. 871,285, pub. 4–1–69. Cl. 31.
National Dairy Products Corp.: *See—*
  Southern Dairies, Inc.
National Geographic Society, Washington, D.C. 261,240, ren. 6–17–69. Cl. 38.
National Hosiery Mills, Inc., Indianapolis, Ind., to U.S. Industries, Inc., New York, N.Y. 514,332, ren. 6–17–69. Cl. 39.
National Periodical Publications, Inc., New York, N.Y. 871,359 pub. 3–25–69. Cl. 38.
National Periodical Publications, Inc., New York, N.Y. 871,436, pub. 4–1–69. Cl. 50.
National Professional Salesmen's Association, Cleveland, Ohio. 871,521, pub. 4–1–69. Cl. 107.
National Service Industries, Inc., Atlanta, Ga. 871,511, pub. 4–1–69. Cl. 103.
National-Standard Co., Niles, Mich. 871,251, pub. 4–1–69. Cl. 23.
National Twist Drill & Tool Co., from National Twist Drill & Tool Co., Rochester, Mich. 871,248, pub. 4–1–69. Multiple Class (Classes 23 and 26).
National-Braemar, Inc., San Francisco, Calif. 871,484, pub. 4–1–69. Cl. 101.
Nestle-Lemur Co., The, New York, N.Y. 514,806, ren. 6–17–69. Cl. 51.
Newman, I., & Sons, Inc., New Haven, Conn., to Sarong, Inc., New York, N.Y. 510,114, ren. 6–17–69. Cl. 39.
Nu-Art Lighting & Mfg. Co., Salt Lake City, Utah. 871,205, pub. 4–1–69. Cl. 21.
Nu-Look 1 Hr. Cleaners: *See—*
  Dickey, Karl N.
Nutrilite Products, Inc., Buena Park, Calif. 871,410, pub. 4–1–69. Cl. 46.
Nor Jean Co., Inc., Burnsville, Minn. 871,438, pub. 4–1–69. Cl. 50.
Norcross, Inc., New York, N.Y. 871,346, pub. 4–1–69. Cl. 38.
Norda Essential Oil & Chemical Co., Inc., New York, N.Y. 871,423, pub. 4–1–69. Cl. 46.
Northwestern Golf Co., Chicago, Ill. 871,220, pub. 4–1–69. Cl. 22.
O'Donnell, J. J.: *See—*
  O'Donnell, J. J., Woolens, Inc.
O'Donnell, J. J., Woolens, Inc., d.b.a. J. J. O'Donnell, Farnumsville, Mass. 748,840, canc. Cl. 42.

Olin Mathieson Chemical Corp., East Alton, Ill. 748,631, canc. Cl. 9.
Olive Products Co., Oroville, Calif. 508,698, ren. 6–17–69. Cl. 46.
Olson, J. B. E., Corp., Garden City, N.Y. 871,183, pub. 4–1–69. Cl. 19.
Omsi/Kit, Inc., Portland, Oreg. 871,276, pub. 4–1–69. Cl. 26.
Orfevrerie Christofle, Paris, France. 871,280, pub. 4–1–69. Cl. 28.
Oshino Electric Lamp Works, Ltd., Tokyo, Japan. 871,192, pub. 4–1–69. Cl. 21.
Ostbye & Anderson, Inc., Minneapolis, Minn. 748,785, canc. Cl. 28.
Ox Fibre Brush Co., Inc., Frederick, Md., to Vistron Corp., Cleveland, Ohio. 512,471, ren. 6–17–69. Cl. 29.
Pagebar, Inc., Miami, Fla. 871,294, pub. 2–25–69. Cl. 32.
Paley, Bert, Ltd., Inc., Boston, Mass. 871,366, pub. 4–1–69. Cl. 39.
Paoli Chair Co., Inc., Paoli, Ind. 871,289, pub. 4–1–69. Cl. 32.
Paramount Pictures Corp., New York, N.Y. 871,351, pub. 4–1–69. Cl. 38.
Parfumerie Fragonard Georges Fuchs & Cie, Paris, France. 871,443, pub. 4–1–69. Cl. 51.
Paste-Well Corp., Pasadena, Calif. 871,529. Cl. 23.
Paul, Robert T., and Fay L. Paul, Fort Myers, Fla. 871,349, pub. 2–4–69. Cl. 38.
Payne, Gordon, Ltd., Poole, Dorset, England. 871,172, pub. 4–1–69. Cl. 19.
Peavey Co.: *See*—
Peavey, F. H., & Co.
Van Dusen Harrington Co.
Peavey, F. H., & Co., to Peavey Co., Minneapolis, Minn. 513,151, ren. 6–17–69. Cl. 6.
Pedershaab Maskinefabrik A/S, Bronderslev, Denmark. 871,232, pub. 4–1–69. Cl. 23.
Pepper-Grenald Labs., to American Hygienic Laboratories, Inc., Miami Beach, Fla. 511,493, ren. 6–17–69. Cl. 51.
Perfection Bedding Co., Birmingham, Ala. 871,288, pub. 2–18–69. Cl. 32.
Perfect Circle Corp., Hagerstown, Ind. 748,753, canc. Cl. 26.
Perkin-Elmer Corp., Norwalk, Conn. 871,273, pub. 4–1–69. Cl. 26.
Perkins, Clarence R., Sr., and Ruth A. Perkins, Kinsman, Ohio. 871,469, pub. 4–1–69. Cl. 100.
Permagile Corp. of America, Woodside, N.Y. 748,663, canc. Cl. 16.
Perry-Sherwood Corp., New York, N.Y. 748,787, canc. Cl. 29.
Pet Inc.: *See*—
Shattuck, Frank G., Co.
Hussmann-Ligonier Co.
Petersen & Sorensen Cigar- OG Tobaksfabriker A/S, Horsens, Jutland, Denmark. 871,159, pub. 4–1–69. Cl. 17.
Petrx Corp., Chicago, Ill. 871,534. Cl. 46.
Pharma/Surge, Inc., Portland, Oreg. 871,381, pub. 4–1–69. Cl. 44.
Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. 748,606, cor. Cl. 6.
Pilchard, Jennings B., d.b.a. Stip Mfg. Co., San Francisco, to Cutter Laboratories, Inc., Berkeley, Calif. 257,166, ren. 6–17–69. Cl. 18.
Pillsbury Co., The, Minneapolis, Minn. 871,348, pub. 4–1–69. Cl. 38.
Pivot Punch Corp., North Tonawanda, N.Y. 871,256, pub. 4–1–69. Cl. 23.
Plain, John, & Co., Chicago, Ill. 748,717, canc. Cl. 21.
Plain, John, & Co., Chicago, Ill. 748,800, canc. Cl. 35.
Plumly, P. W., Lumber Corp., Winchester, Va. 871,094, pub. 4–1–69. Cl. 1.
Poloron Products of Indiana, Inc., from Levitt Mfg. Corp., Michigan City, Ind. 871,239, pub. 4–1–69. Cl. 23.
Polyplaatex United, Inc., Union, N.J. 871,130–1, pub. 4–1–69. Cl. 12.
Poole, Foster M., d.b.a. Poole Mfg. Engineers, to Poole Instruments, Inc., Dallas, Tex. 508,426, ren. 6–17–69. Cl. 26.
Poole Instruments, Inc.: *See*—
Poole, Foster M.
Popper & Sons, Inc., New York, N.Y. 871,376, pub. 9–10–68. Cl. 44.
Pratt Mfg. Corp., Milwaukee, Wis. 871,240, pub. 4–1–69. Cl. 23.
Presearch Inc., Silver Spring, Md. 871,267, pub. 4–1–69. Cl. 26.
Price, L. B., Mercantile Co., The, St. Louis, Mo., to Fieldcrest Mills, Inc., Eden, N.C. 507,819, ren. 6–17–69. Cl. 42.
Princeton Jewelers, New York, N.Y. 748,786, canc. Cl. 28.
Private Tele-Communications, Inc., Chicago, Ill. 871,193–4, pub. 4–1–69. Cl. 21.
Processed Steel Co., Crystal Lake, Ill. 871,224–6, pub. 4–1–69. Cl. 23.
Pro-Swing Co., The: *See*—
Hatfield, Richard A.
Purex Corp., Ltd., d.b.a. Turco Products, Inc., Lakewood, Calif. 871,203, pub. 4–1–69. Multiple Class (Classes 21 and 23).
Pyronics, Inc., Cleveland, Ohio. 871,297, pub. 4–1–69. Cl. 34.
Rademacher, Joseph A., Long Prairie, Minn. 748,809, canc. Cl. 36.
Radiation Systems, Inc., McLean, Va. 871,199–200, pub. 4–1–69. Cl. 21.
Radio Shack: *See*—
Tandy Corp.
Raleigh Industries of America, Inc., Boston, Mass. 871,182, pub. 4–1–69. Cl. 19.
Ralph, H. J., Co.: *See*—
Ralph, Harold J.
Ralph, Harold J., d.b.a. H. J. Ralph Co., Orange, Calif. 871,369, pub. 4–1–69. Cl. 39.
Random House, Inc., New York, N.Y. 871,360, pub. 4–1–69. Cl. 38.
Rank Organisation Ltd., The, London, England. 871,275, pub. 4–1–69. Cl. 26.
Rankin, D & W, Mfg. Co., d.b.a. Rankin Mfg. Co., Alhambra, Calif. 871,302–5, pub. 4–1–69. Cl. 34.
Rankin Mfg. Co.: *See*—
Rankin, D & W, Mfg. Co.
Rayette-Faberge, Inc., New York, N.Y. 871,444, pub. 4–1–69. Cl. 51.
Ray-Tek, Mountain View, Calif. 871,269, pub. 4–1–69. Cl. 26.
Reader-Services Co.: *See*—
Battista, Orlando A.
Reed, Hope: *See*—
Solovei, Janet.
Reeves Pulley Division: *See*—
Reliance Electric & Engineering Co., The.
Refined Products Co.: *See*—
Johnson & Johnson.
Refrigeration Engineering Inc., Los Angeles, Calif., to Borg-Warner Corp., Chicago, Ill. 442 910, ren. 6–17–69. Cl. 31.
Reid, Don, Productions, Inc., New York, N.Y. 871,525, pub. 4–1–69. Cl. 107.
Reinfeld, Joseph H., Inc., Newark, N.J. 336 212, canc. Cl. 49.
Reliance Electric & Engineering Co., The, d.b.a. Reeves Pulley Division, Cleveland, Ohio. 871,247, pub. 4–1–69. Cl. 23.
Remington Arms Co., Inc., Bridgeport, Conn. 514,027, ren. 6–17–69. Cl. 9.
Republic Paint & Varnish Co., Chicago, Ill. 513,679, ren. 6–17–69. Cl. 16.
Restonic Corp., Chicago, Ill. 871,292, pub. 4–1–69. Cl. 32.
Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A., Lawrence, N.Y. 871,434–5, pub. 4–1–69. Cl. 49.
Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 871,382, pub. 4–1–69. Cl. 44.
Rice, Cyrus Wm., & Co., Pittsburgh, Pa. 871,471, pub. 4–1–69. Cl. 100.
Rich, Don, Co., The, Redlands, Calif. 871,211, pub. 4–1–69. Cl. 22.
Rich-Flex Mfg. Corp., Central Falls, R.I. 871,375, pub. 4–1–69. Cl. 43.
Rival Mfg. Co., from Kitcheneering Co. of America, Kansas City, Mo. 748,729, canc. Cl. 23.
Robophone Ltd., London, England. 748 704, canc. Cl. 21.
Rome Fastener Corp., Milford, Conn. 871,136, pub. 4–1–69. Cl. 13.
Ronson Corp.: *See*—
Art Metal Works, Inc.
Rosenberg Bros. & Co., Smithtown, N.Y. 512,108, ren. 6–17–69. Cl. 23.
Rosenfeld, E., & Co., Baltimore, Md., to The Enro Shirt Co., Inc., Louisville, Ky. 72,574, ren. 6–17–69. Cl. 39.
Ross Enterprises, Kansas City, Mo. 871,352, pub. 4–1–69. Cl. 38.
Rothchild Printing Co., Inc., New York, N.Y. 748,827, canc. Cl. 38.
Russell Mfg. Co., Leicester, Mass. 748,724, canc. Cl. 22.
S.p.A. Officine Meccaniche, Copparo, Ferrara, Italy. 871,242, pub. 4–1–69. Multiple Class (Classes 23 and 26).
Saad, Michel A., d.b.a. Gyrojet Co., Santa Clara, Calif. 871,238, pub. 4–1–69. Cl. 23.
Safeway Stores, Inc., Oakland, Calif. 511,638, ren. 6–17–69. Cl. 46.
Sage Laboratories, Inc., Natick, Mass. 871,207, pub. 4–1–69. Cl. 21.
Sanford Ink Co., Bellwood, Ill. 871,335, pub. 4–1–69. Cl. 37.
Sarong, Inc.: *See*—
Newman, I., & Sons, Inc.
Sauter Laboratories, Inc., Nutley, N.J. 748,674, canc. Cl. 18.
Sav-On, Inc., Yonkers, N.Y. 871 495, pub. 4–1–69. Cl. 101.
Schacht, Albert, KG, Ulm (Danube), Germany. 871,264–5, pub. 4–1–69. Cl. 26.
Schenley Import Corp., to Schenley Industries, Inc., New York, N.Y. 512 938, ren. 6–17–69. Cl. 47.
Schenley Industries, Inc.: *See*—
Schenley Import Corp.
Schildmeier, H. C., Co., Indianapolis, Ind. 512,115, ren. 6–17–69. Cl. 26.
Schulmerich Carillons, Inc., Sellersville, Pa. 871,320, pub. 4–1–69. Cl. 36.
Seagrave Corp., The, d.b.a. Cheeseman-Elliott Co., and Four Square Paint Co., Brooklyn, N.Y. 871,157, pub. 4–1–69. Cl. 16.
Sealing Corp. of America, Santa Monica, Calif. 748,707, canc. Cl. 21.
Seamless Rubber Co., The: *See*—
Rexall Drug & Chemical Co.
Seely, L. Ross, d.b.a. Shelter Cove, Gardena, Calif. 748,794, canc. Cl. 32.
Selectra-Date Corp., Fort Lauderdale, Fla. 871,464, pub. 4–1–69. Cl. 100.
Selig Mfg. Co., Inc., Leominster, Mass. 871,291, pub. 4–1–69. Cl. 32.
Service Industries, Philadelphia, Pa. 511,039, ren. 6–17–69. Cl. 52.
Servicemaster Industries, Inc., Downers Grove, Ill. 871,509, pub. 4–1–69. Cl. 103.
Seven-Up Bottling Co. of Baltimore, Inc., The, d.b.a. Caton Spring Water Co., Catonsville, Md. 513,366, ren. 6–17–69. Cl. 45.
Severns, Raymond O., Cuyahoga Falls, Ohio. 748,727, canc. Cl. 22.
Shake 'N' Dog, Inc., Morgantown, W. Va. 871,470, pub. 4–1–69. Cl. 100.

Shapiro, Justin J., d.b.a. Labindustries, Berkeley, Calif. 871,272, pub. 4–1–69. Cl. 26.
Shattuck, Frank G., Co., New York, N.Y., to Pet Inc., St. Louis, Mo. 509,859, ren. 6–17–69. Cl. 46.
Sheer-Mist Laboratories: *See*—
California Beauty & Barber Supply, Inc.
Shelter Cove: *See*—
Seely, L. Ross.
Sheridan Co., The: *See*—
Harris-Intertype Corp.
Sheridan, T. W., & C. B., Co.: *See*—
Harris-Intertype Corp.
Shulton, Inc., Clifton, N.J., from Ellen Kaye Laboratories, Inc., St. Paul, Minn. 871,440, pub. 6–4–68. Cl. 51.
Sipe, James B., & Co., Pittsburgh, Pa. 513,257, ren. 6–17–69. Cl. 16.
Sipe, James B., & Co., Pittsburgh, Pa. 513,262, ren. 6–17–69. Cl. 16.
Smith, E. Errett, Inc., New York, N.Y. 871,321, pub. 4–1–69. Cl. 37.
Sobel, Harry, d.b.a. Sobel's Jewelry Co., New York, N.Y. 748,775, canc. Cl. 28.
Sobel's Jewelry Co.: *See*—
Sobel, Harry.
Societe des Lunetiers, Paris (Seine), France. 871,268, pub. 4–1–69. Cl. 26.
Societe des Magasins Prisunic, Paris, France. 871,483, pub. 4–1–69. Cl. 101.
Societe Lorraine de Laminage Continu (Sollac), Paris, France. 871,096, pub. 4–1–69. Multiple Class (Classes 2 and 14).
Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, S.N.E.C.M.A., Paris, France. 871,123, pub. 4–1–69. Cl. 9.
Solovei, Janet, d.b.a. Hope Reed, New York, N.Y. 871,365, pub. 4–1–69. Cl. 39.
Southern Dairies, Inc., Washington, D.C., to National Dairy Products Corp., New York, N.Y. 254,111, ren. 6–17–69. Cl. 46.
Southern Dairies, Inc., Washington, D.C., to National Dairy Products Corp., New York, N.Y. 255,050, ren. 6–17–69. Cl. 46.
Southern Fiber Glass Products, Inc., Sanford, Fla. 871,178, pub. 4–1–69. Cl. 19.
Southern Management, Inc., Greenville, N.C. 871,503, pub. 4–1–69. Cl. 102.
Southern Mills, Inc., Atlanta, Ga. 255,993, ren. 6–17–69. Cl. 42.
Southern Stores, Inc., Jacksonville, Fla. 871,318, pub. 4–1–69. Cl. 35.
Spacelabs, Inc., Van Nuys, Calif. 748,763, canc. Cl 26.
Sparkle Wash, Inc., Chagrin Falls, Ohio. 871,508, pub. 4–1–69. Cl. 103.
Spartan International Corp., Maspeth, N.Y. 871,137, pub. 4–1–69. Cl. 13.
Specialized Business Services, Inc., Rochester, N.Y. 871,515, pub. 4–1–69. Cl. 106.
Sperry Rand Corp.: *See*—
Clary Multiplier Corp.
Sporting Goods Corp. of America, Woonsocket, R.I. 748,722, canc. Cl. 22.
Sporting Goods Corp. of America, Woonsocket, R.I. 748,733, canc. Cl. 23.
Sporting Goods Corp. of America, Woonsocket, R.I. 748,829, canc. Cl. 39.
Spot-O-Gold Corp., Philadelphia, Pa. 871,485, pub. 4–1–69. Cl. 101.
Squibb, E. R., & Sons, to E. R. Squibb & Sons, Inc., New York, N.Y. 508,738, ren. 6–17–69. Cl. 18.
Squibb, E. R., & Sons, Inc.: *See*—
Squibb, E. R., & Sons.
Standard Brands Inc., d.b.a. Clinton Corn Processing Co., New York, N.Y. 871,229, pub. 4–1–69. Cl. 23.
Standard International Corp., Andover, Mass. 871,119, pub. 4–1–69. Cl. 6.
Standard Kollsman Industries Inc., Melrose Park, Ill. 871,208, pub. 4–1–69. Cl. 21.
Statesville Flour Mills Co., Statesville, N.C. 871,402, pub. 4–1–69. Cl. 46.
Stearns, Dick E., Shreveport, La. 871,189, pub. 4–1–69. Cl. 21.
Stein, Hall & Co., Inc., New York, N.Y. 508,627, ren. 6–17–69. Cl. 5.
Sterol Derivatives, Inc., Los Angeles, Calif. 748,679, canc. Cl. 18.
Stilwell, Arthur A., Co., New York, N.Y. 871,112, pub. 4–1–69. Cl. 6.
Stonington Packing Co., Inc., Stonington, Maine. 871,404, pub. 4–1–69. Cl. 46.
Stratton & Terstegge Co., Louisville, Ky. 515,153–4, ren. 6–17–69. Cl. 22.
Strohmeyer & Arpe Co., New York, N.Y. 73,285, ren. 6–17–69. Cl. 46.
Strong, Carlisle & Hammond Co., to White Consolidated Industries, Inc., Cleveland, Ohio. 511,247, ren. 6–17–69. Cl. 13.
Strouse, Inc., Norristown, Pa. 871,150, pub. 4–1–69. Cl. 15.
Strysko, George, Bronx, N.Y. 443,003, ren. 6–17–69. Cl. 34.
Stuart Co., The, Pasadena, Calif., to Atlas Chemical Industries, Inc., Wilmington, Del. 509,674, ren. 6–17–69. Cl. 18.
Stylograph Corp., The, Rochester, to Labelon Corp., Canandaigua, N.Y. 513,251, ren. 6–17–69. Cl. 37.
Sunnen Products Co., St. Louis, Mo. 871,097, pub. 4–1–69. Multiple Class (Classes 4, 23, and 26).
Supermarkets General Corp., Cranford, from Louket Markets, Inc., Jersey City, N.J. 871,201, pub. 4–1–69. Cl. 21.
Supreme Foods, Inc., d.b.a. Displaymor Mfg. Co., Los Angeles, Calif. 871,286, pub. 4–1–69. Cl. 31.
Sutphen's Inc., Wichita, Kans. 871,474, pub. 4–1–69. Cl. 100.
Swan Optical Corp., Long Island City, N.Y. 871,271, pub. 4–1–69. Cl. 26.
Sweet, Orr, & Co., New York, Newburg, Wappinger Falls, Brooklyn, N.Y., and Joliet, Ill., to Sweet-Orr & Co., Inc., New York, N.Y. 74,749, ren. 6–17–69. Cl. 39.
Sweet-Orr & Co., Inc.: *See*—
Sweet, Orr & Co.
Swiss-Tech, Inc., Delavan, Wis. 871,133, pub. 4–1–69. Cl. 13.
Sybron Corp., from Taylor Instrument Companies, Rochester, N.Y. 871,196, pub. 4–1–69. Cl. 21.
Systems Engineering & Component Sales Inc., St. Louis, Mo. 748,622, canc. Cl. 9.
TBD Industries, Inc., Seattle, Wash. 871,467–8, pub. 4–1–69. Cl. 100.
Takamine Ferment Co., to Parke, Davis & Co., Detroit, Mich. 251,949. Am. 7(d). Cl. 6.
Talent Unlimited, Inc., Louisville, Ky. 871,524, pub. 4–1–69. Cl. 107.
Tandy Corp., d.b.a. Radio Shack, Boston, Mass. 871,202, pub. 4–1–69. Cl. 21.
Tandy Corp., d.b.a. Radio Shack, Boston, Mass. 871,206, pub. 3–18–69. Cl. 21.
Taylor Instrument Companies: *See*—
Sybron Corp.
Taylor, W. A., & Co., New York, N.Y. 508,692, ren. 6–17–69. Cl. 49.
Taylor-Wharton Iron & Steel Co., High Bridge, N.J., to Harsco Corp., Camp Hill, Pa. 257,188, ren. 6–17–69. Cl. 14.
Teaching Machines, Inc., Albuquerque, N. Mex. 748,767, canc. Cl. 26.
Telkee, Inc.: *See*—
Thayer Telkee Corp.
Tempe Citrus Co., to Tempeco Groves, Tempe, Ariz. 514,419, ren. 6–17–69. Cl. 46.
Tempeco Groves: *See*—
Tempe Citrus Co.
Temporarily Yours Personnel Service, Inc., New York, N.Y. 871,489–90, pub. 4–1–69. Cl. 101.
Thayer Telkee Corp., San Francisco, Calif., to Telkee, Inc., Glen Riddle, Pa. 254,674, ren. 6–17–69. Cl. 13.
Thermark Corp., Hammond, Ind. 871,158, pub. 4–1–69. Cl. 16.
Theta Corp., Niagara Falls, N.Y. 871,385, pub. 4–1–69. Cl. 44.
Thiokol Chemical Corp., Bristol, Pa. 871,257, pub. 4–1–69. Cl. 23.
Thomas Industries Inc., Louisville, Ky. 748,883, canc. Cl. 50.
Thomas, Stephen J., d.b.a. Arm-Rest-Toilet Seat Co., Bellflower, Calif. 871,141, pub. 4–1–69. Cl. 13.
Thompson Fishing Tackle Co., Inc., Knoxville, Tenn. 871,221, pub. 3–18–69. Cl. 22.
Tip Top Products Co., Omaha, Nebr. 871,363, pub. 4–1–69. Multiple Class (Classes 39 and 40).
Top-Line Corp., Janesville, Wis. 871,233, pub. 4–1–69. Cl. 23.
Toyo Kohan Co., Ltd., Tokyo, Japan. 871,148, pub. 3–21–67. Cl. 14.
Tozer Kensley & Millbourn Ltd., London, England. 871,501–2, pub. 4–1–69. Cl. 102.
Trainer Corp., Hobbs, N. Mex. 871,088, pub. 4–1–69. Cl. 1.
Transamerican Sales & Service, Inc., Asbury Park, N.J. 748,732, canc. Cl. 23.
Treas Ur Le Creations, Inc., Houston, Tex. 871,453, pub. 4–1–69. Cl. 51.
Turco Products, Inc.: *See*—
Purex Corp., Ltd.
T-Vion, Inc., Oklahoma City, Okla. 871,186, pub. 4–1–69. Cl. 21.
Twin Packing Co., Inc., Philadelphia, Pa. 508,135, ren. 6–17–69. Cl. 46.
UOP Bostrom Division: *See*—
Universal Oil Products Co.
UTD Corp., Beverly Hills, Calif., from UTD Corp., Athol, Mass. 871,223, pub. 4–1–69. Cl. 23.
Ulano Products Co., Inc., Brooklyn, N.Y. 871,092, pub. 4–1–69. Cl. 1.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 728,824, canc. Cl. 22.
Union Steel Chest Corp., Le Roy, N.Y. 510,624, ren. 6–17–69. Cl. 2.
United Merchants & Manufacturers, Inc., New York, N.Y. 871,373–4, pub. 4–1–69. Cl. 42.
United Silver & Cutlery Co., Los Angeles, Calif. 871,250, pub. 4–1–69. Cl. 23.
U.S. Industries, Inc.: *See*—
National Hosiery Mills, Inc.
United States Cabinet Bed Co., New York, to Eclipse Sleep Products, Inc., Brooklyn, N.Y. 257,977, ren. 6–17–69. Cl. 32.
United States Rubber Co., New York, N.Y. 765,737, cor. Cl. 10.
United States Steel Corp., Pittsburgh, Pa. 871,355, pub. 12–17–68. Cl. 38.
United Tours, Inc., Miami, Fla. 871,514, pub. 4–1–69. Cl. 105.
Universal Foundry Co., Oshkosh, Wis. 254,890, ren. 6–17–69. Cl. 14.
Universal Oil Products Co., d.b.a. UOP Bostrom Division, Des Plaines, Ill. 871,174, pub. 4–1–69. Cl. 19.
Uram, Pete, Sales, Inc., Wyandotte, Mich. 871,372, pub. 4–1–69. Cl. 41.
Valspar Corp., The: *See*—
Clinton Co., The.
Valve Assemblers Corp., South Gate, Calif. 871,143, pub. 4–1–69. Cl. 13.
Valve Corp. of America, Forest Park, Ill. 871,135, pub. 4–1–69. Cl. 13.

Vanderbilt Tire & Rubber Corp., New York, N.Y., to The Kelley-Springfield Tire Co., Cumberland, Md. 510,800, ren. 6–17–69. Cl. 35.
Van Dusen Harrington Co., to Peavey Co., Minneapolis, Minn. 511,796–8, ren. 6–17–69. Cl. 46.
Van Dusen Harrington Co., to Peavey Co., Minneapolis, Minn. 512,135, ren. 6–17–69. Cl. 46.
Van Dusen Harrington Co., to Peavey Co., Minneapolis, Minn. 513,371, ren. 6–17–69. Cl. 46.
Van Dusen Harrington Co., to Peavey Co., Minneapolis, Minn. 514,384, ren. 6–17–69. Cl. 46.
Van Dusen Harrington Co., to Peavey Co., Minneapolis, Minn. 515,038, ren. 6–17–69. Cl. 46.
Varian Associates, Palo Alto, Calif. 871,311, pub. 4–1–69. Cl. 34.
Vari-Typer Corp. : *See*—
  Coxhead, Ralph C., Corp.
Victor Mfg. & Gasket Co., Chicago, Ill. 748,799, canc. Cl. 35.
Viro Innocenti S.p.A., Zola Predosa, Bologna, Italy. 871,260, pub. 4–1–69. Cl. 25.
Virtis Co., Inc., The, Gardiner, N.Y. 871,284, pub. 4–1–69. Cl. 31.
Vistron Corp. : *See*—
  Ox Fibre Brush Co., Inc.
Vivaudou Creations Ltd., New York, N.Y. 871,446, pub. 4–1–69. Cl. 51.
Vogarell Products Co. : *See*—
  Lewis, Rosemarie.
Vogarell Products, Inc. : *See*—
  Lewis, Rosemarie.
Wagner Bros. Feed Corp., Brooklyn, N.Y. 871,087, pub. 4–1–69. Cl. 1.
Wallace Laboratories, Inc., Princeton, N.J., to Carter-Wallace, Inc., New York, N.Y. 507,688, ren. 6–17–69. Cl. 18.
Ward, E. J., Ltd., Scarborough, Ontario, Canada. 871,237, pub. 4–1–69. Cl. 23.
Wayne Adhesive & Container Co., Detroit, Mich. 871,103, pub. 1–21–69. Cl. 5.
Weatherhead Co., The, Cleveland, Ohio. 871,176, pub. 4–1–69. Cl. 19.
Weiner & Gossage, Inc., San Francisco, Calif. 748,807, canc. Cl. 36.
Wellman-Lord Engineering, Inc., Lakeland, Fla. 731,293, canc. Cl. 100.
Wells Flour Milling Co., Wells, to International Milling Co., Inc., Minneapolis, Minn. 74,619, ren. 6–17–69. Cl. 46.
Wembley, Inc., New Orleans, La. 871,368, pub. 4–1–69. Cl. 39.
Westab Inc., Dayton, Ohio. 871,323, pub. 12–10–68. Cl. 37.
Western States Envelope Co., Milwaukee, Wis. 513,434, ren. 6–17–69. Cl. 37.
White Consolidated Industries, Inc. : *See*—
  Strong, Carlisle & Hammond Co.
Whitmer, Charles C., d.b.a. The Interpool Products Co., Cleveland, Ohio. 871,105, pub. 4–1–69. Cl. 6.
Whittaker Corp., Los Angeles, Calif. 871,081, pub. 4–1–69. Multiple Class (Classes 1, 2, 5, 9, 12, 13, 14, 19, 21, 23, 26, 31, 35, 100, 101, 103, and 106).
Whittet-Higgins Co., Providence, R.I. 442,798. Am. 7(d). Cl. 13.
Willard Agency, Inc., Mankato, Minn. 871,358, pub. 4–1–69. Cl. 38.
Wilson, C. E., Nurseries, Jacksonville, Tex., and Manchester, Conn., to C. E. Wilson Nurseries, Inc., Jacksonville, Tex. 506,680, ren. 6–17–69. Cl. 1.
Wilson, C. E., Nurseries, Inc. : *See*—
  Wilson, C. E., Nurseries.
Winters Stamp Mfg. Co., Elizabeth, N.J. 748,637, canc. Cl. 11.
Wiss, J., & Sons Co., Newark, N.J. 871,388, pub. 4–1–69. Cl. 44.
Wood Conversion Co., to Conwed Corp., St. Paul, Minn. 510,039, ren. 6–17–69. Cl. 32.
Woodard, Viviane, Corp., Panorama City, Calif., from Avon Products, Inc., New York, N.Y. 871,448, pub. 4–1–69. Multiple Class (Classes 51 and 52).
Woodhill Chemical Sales Corp., Cleveland, Ohio. 751,116, cor. Cl. 5.
Woodward Wanger Co., Philadelphia, Pa. 871,315–16, pub. 4–1–69. Cl. 35.
World-Wide Corp., New York, N.Y. 748,796, canc. Cl. 33.
Wright & Pierce, Topsham, Maine. 748,910, canc. Cl. 103.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 508,628, ren. 6–17–69. Cl. 18.
Yale & Towne Mfg. Co., The, Stamford, Conn., and New York, N.Y., to Eaton Yale & Towne, Inc., Cleveland, Ohio. 74,425, ren. 6–17–69. Cl. 13.
York Trailer Co. Ltd., Northamptonshire, England. 871,168, pub. 4–1–69. Cl. 19.

U.S. GOVERNMENT PRINTING OFFICE: O——1969

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1969

Examiner affirmed	144
Examiner affirmed in part	22
Examiner reversed	27
Total	193

Disclaimer

3,386,708.—*Joseph Dennis Christian*, San Francisco, Calif. APPARATUS FOR TREATING FLOWABLE MATERIALS. Patent dated June 4, 1968. Disclaimer filed May 16, 1969, by the assignee, *Packaged Power Terminals Inc.*

Hereby enters this disclaimer to claim 14 of said patent.

Certificates of Correction for the Week of June 24, 1969

Re. 26,339
3,219,302
3,257,355
3,274,131
3,309,376
3,316,293
3,324,112
3,334,158
3,342,837
3,345,373
3,353,902
3,354,079
3,354,144
3,355,074
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3,358,051
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3,373,195
3,373,208
3,373,651
3,373,917
3,374,331
3,374,375
3,374,844
3,378,476
3,382,241
3,411,501

New Applications Received During April 1969

Patents	8989
Designs	450
Plant Patents	6
Reissues	19
Total	9464

Issue—June 24, 1969

Patents	1300—No. 3,451,062 to No. 3,452,361, incl.
Designs	65—No. 214,482 to No. 214,546, incl.
Reissues	9—No. 26,610 to No. 26,618, incl.
Total	1374

PATENT EXAMINING CORPS

R. A. WAHL, **Assistant Commissioner**

CONDITION OF PATENT APPLICATIONS AS OF JUNE 2, 1969

*Denotes oldest new application.

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4-26-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*8-22-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-20-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*8-22-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-06-67
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-19-67
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-13-66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*6-14-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-10-67
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	7-26-67
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-19-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	9-20-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5-03-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	5-23-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	4-01-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	12-26-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	9-25-67

Total number of pending applications (excluding Designs)	186, 399
Total number of Design applications pending	3, 367

Expiration of patents: The patents within the range of numbers indicated below expire during June 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,598,659 to 2,601,678, inclusive
Plant Patents	Numbers 1,101 to 1,109, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

Simon S. Kahn *v.* Harvey F. Phipard, Jr.

No. 7979. Decided June 27, 1968

[55 CCPA 1284; 397 F.2d 995; 158 USPQ 269]

1. Interference—Estoppel.

In connection with a decision by the Primary Examiner granting Kahn's motion to dissolve the interference while denying Phipard's motion to add proposed counts and shift the burden of proof but suggesting two substitute counts which become the counts in issue, and a supplemental decision rejecting Kahn's assertion of estoppel against Phipard but granting Phipard's motion to shift the burden of proof, *Held* that "We agree with the Board that the circumstances here do not give rise to an estoppel against Phipard."

2. Same—Right To Make—Questions Ancillary to Priority.

"Since it is established that the matter of whether neither application in an interference supports the counts is a question of patentability not ancillary to priority, *Ray* v. *Kronmiller*, 35 CCPA 1085, 167 F.2d 518, 77 USPQ 389 (1948), there is no basis for finding error in the Board's treatment of Kahn's contentions regarding clauses (*e*) and (*f*)."

3. Same—Questions Ancillary to Priority.

"Lastly, Kahn's contention that count 3 is unpatentable over the Tinnerman patent, if interpreted to read on the 1960 Phipard application, in its context here, is plainly a contention of unpatentability over the prior art. The Board obviously treated it as such for it did not mention the patent in its decision and Kahn did not question that treatment in his request for reconsideration. We likewise may not consider the matter for the reason that patentability is not ancillary to priority. *Kleinman* v. *Steinbach*, 38 CCPA 924, 187 F.2d 743, 89 USPQ 151 (1951); *Glass* v. *De Roo*, 44 CCPA 723, 239 F.2d 402, 112 USPQ 62 (1956)."

4. Same—Board of Patent Interferences—Composition of Board—Acting Member on Board—35 U.S.C. 3.

"Kahn's challenge to the constitution of the Board [of Patent Interferences, because of the presence of an *acting* member] * * * is without either practical or legal significance. While 35 U.S.C. 3 states that the Commissioner, assistant commissioners, and examiners-in-chief shall be appointed 'by the President, by and with the advice and consent of the Senate,' examiners of interferences are not so appointed. Rather, they fall within the provision of section 3 for 'other officers and employees,' * * *"

Appeal from Patent Office. Interference No. 93,370.

AFFIRMED.

Curtis F. Prangley, *David A. Vogel*, *Douglas O. Baird*, *Prangley, Baird, Clayton, Miller & Vogel* (*John B. Armentrout*, of counsel) for appellant.

Richard R. Trexler, *Olson, Trexler, Wolters & Bushnell* (*Elmer Buckhorn*, *Buckhorn, Blore, Klarquist & Sparkman*, *Charles L. Sturtevant*, of counsel) for appellee.

Before Worley, *Chief Judge*, and Judges Rich, Smith, Almond, and Kirkpatrick [1]

Smith, *J.*, delivered the opinion of the court.

The Board of Patent Interferences [2] awarded priority of invention to Phipard in Interference No. 93,370 [3] and Kahn appeals. No testimony was taken by either party. The Board awarded priority to Phipard as the senior party in view of his effective 1960 filing date.

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Casanova and Crews, Examiners of Interferences, and Gaston, Acting Examiner of Interferences; opinion by Crews.

[3] The interference involves Kahn application Serial No. 147,535, filed October 25, 1961 and Phipard application Serial No. 172,057, filed February 5, 1962. Phipard is senior party as the result of a decision by the Primary Examiner giving him the benefit of the filing date of his copending application Serial No. 6,322, filed February 2, 1960.

While several issues are raised on this appeal, the determinative issue is whether Phipard was properly given the benefit of his filing date. An ancillary issue is also raised by Kahn who contends the award of priority is void because it was made by a board which was illegally constituted by reason of its including an *acting* examiner of interferences. Other issues which were raised by Kahn but which we do not regard as providing a basis for reversal are, broadly stated, that Phipard is estopped to contest priority, that it was improper to fail to set a new motion period after the present counts were substituted in the interference,[4] and that it was error for the Examiner to shift the burden of proof.

The invention in issue relates to a self-tapping screw with swaging protuberances on its work-entering end to facilitate the formation of a thread on the work piece. Count 3 of the interference is drawn to the article and count 4 to a process for making that article. The counts are so similar, insofar as the determinative issue is concerned, that we need consider only count 3 in detail.

An understanding of the invention adequate for present purposes can be gleaned from FIGS. 1–3 which appear in the drawings of both Phipard applications,[5] when considered with count 3 which is here reproduced with the addition of bracketed numerical references referring to the parts shown in these figures.

Fig. 1.

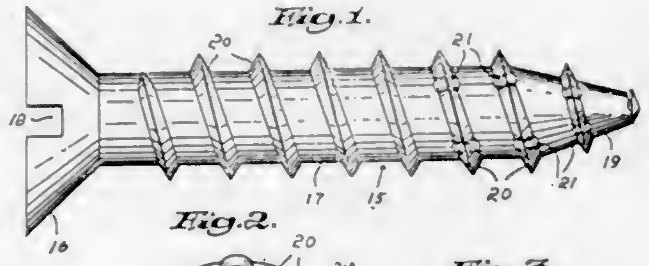


Fig. 2.

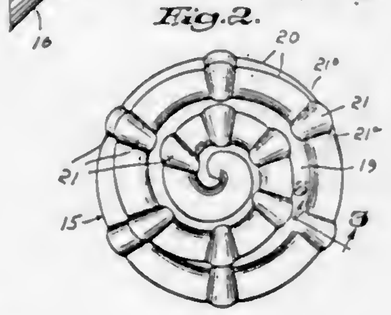
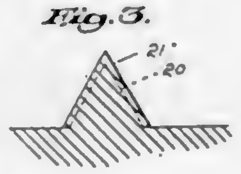


Fig. 3.



Count 3 reads:

3. A self-tapping fastener [screw 15] including:

(*a*) a shank portion [17] having an enlarged upset head [16] at one end and a tapered work-entering portion [19] terminating in a tip at the other end,

(*b*) said shank [17] and work-entering portions [19] being provided with a continuous helical rolled thread formation [20] throughout substantially the full length thereof,

(*c*) the pitch diameter cross sections of said rolled helical thread formation being of circular shape throughout the full length of said shank [17] and said work-entering end portions [19],

(*d*) a plurality of circumferentially spaced apart discrete thread forming protuberances [21] expressed from the flanks of the helical thread formation on said working-entering end portion [19] and throughout substantially the full length thereof,

(*e*) each of said protuberances [21] in cross section taken in the plane of intersecting said protuberance at the point of greatest offset of said protuberance from the helix of the thread and in a direction at right angles to the thread having a cross sectional boundary line along at least one side thereof extending substantially parallel with and substantially uniformly offset from the flank of the thread immediately forward thereof in the direction toward the tip of said work-entering end portion [19],

(*f*) the surface of the protuberance [21] on at least the forward side thereof in the direction toward said tip sloping smoothly and gradually from the flank of said thread to said boundary line,

(*g*) the crests of said protuberances [21] from said tip to said shank [17] increasing in distance progressively radially outwardly from the screw axis and the crest of the protuberance next adjacent the shank portion [17] being substantially the same distance radially outwardly from said axis as the crest of the thread on said shank portion and also substantially the same cross-sectional shape and dimensions.

The applications describe the function of the protuberances 21 as swaging the internal threads in the pilot hole in the work. This is in contrast to known self-tapping screws without such protuberances and in which substantially the full length of the thread performs that function. An advantage inherent in the present structure is a significant reduction of the contact friction during thread cutting.

The interference was originally declared January 30, 1963 with counts 1 and 2 which were generally similar to present counts 3 and 4. At that time Kahn was senior party because his application had the earlier filing date.

During the motion period Phipard moved (1) to amend to add two dependent counts to the interference issue, and (2) to shift the burden of proof on the basis that he was entitled to be designated the senior party by reason of the earlier filing date of his 1960 application.

Kahn filed a timely motion to dissolve. The motion was directed solely to clause (*f*) of counts 1 and 2 which then read:

> (*f*) the surface of the protuberance on at least the forward side thereof in the direction toward said tip sloping smoothly and gradually from the flank of said thread to said boundary at *a means* [*sic*] *angle with respect to the screw axis slightly greater than the angle of the pitch line of the thread with respect to said axis*, [Emphasis added.]

It was Kahn's position on this motion that the recitation in this clause of the emphasized portion prevented either party from making the count, and further that it was "vague, indefinite, confused and misdescriptive."

Phipard then moved to substitute new counts for counts 1 and 2. In the proposed new counts, the recitation in question in clause (*f*) was shortened by deleting the words "of the pitch line."

Kahn filed briefs in opposition to Phipard's motions, stating with respect to the motion to shift:

> * * * the subject-matter of the Interference Counts 1 and 2 simply is not disclosed in the earlier Phipard application *for the same reason that these counts are not disclosed in the later Phipard application as originally filed in the U.S. Patent Office*. [Emphasis added.]

On June 25, 1964 the Primary Examiner granted the Kahn motion to dissolve, holding that the language of clause (*f*) in counts 1 and 2 was indefinite. He also denied Phipard's motions to add the proposed dependent counts and to shift the burden of proof, characterizing the latter as immaterial. In denying Phipard's motion to substitute counts, the Examiner observed that the proposed deletion of the phrase "of the pitch line" in clause (*f*) overcame one of Kahn's objections to the clause, but held that the retention of the terminology "mean angle" left the language indefinite.

In the same decision, however, the Examiner suggested two substitute counts which ultimately became counts 3 and 4 here in issue.

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[4] We note that the Board, whose decision we here review, did not rule on the matter of a new motion period either originally or in a decision it rendered in response to a request for reconsideration by Kahn based on other matters.

[5] The Phipard application in interference is designated a continuation-in-part of the 1960 application. It includes figures identical to FIGS. 1–12 of the 1960 parent application as well as additional figures and other disclosure.

These counts are identical in substance to the original counts except that the language in clause (*f*), relied upon by Kahn in his motion to dissolve, was deleted completely. Clause (*f*) in former count 1 was thus shortened to read:

> (*f*) the surface of the protuberance on at least the forward side thereof in the direction toward said tip sloping smoothly and gradually from the flank of said thread to said boundary line,

A period of 60 days was set for the parties to make the suggested counts and file preliminary statements with respect thereto.

Both parties filed timely amendments making the suggested counts. At the same time he made the counts, Kahn stated that he was "at a loss" as to why the proposed counts were submitted to Phipard "because of the normal estoppel running against the junior party [Phipard]." Phipard, in making the proposed counts, stated that his earlier copending application supported the new counts and requested that he be accorded the benefit of the filing date of that case in the redeclaration of the interference.

On November 16, 1964, the Primary Examiner rendered a supplemental decision in which he rejected Kahn's assertion of estoppel against Phipard[6] and granted the Phipard motion to shift the burden of proof.

On December 14, 1964, Kahn requested reconsideration of this decision, asserting that the Examiner had no right to shift the burden of proof, since the interference had been dissolved. He also argued for the first time that clause (*c*) of the new counts was not readable on the disclosure of either party and that clause (*g*) of the counts did not read on FIGS. 1–12 of Phipard's applications. Kahn additionally argued, if clause (*g*) was interpreted to read on Phipard's FIGS. 1–12, that the counts were unpatentable over a patent to Tinnerman.[7] The Primary Examiner dismissed Kahn's request for the reason that it was not presented within 20 days of the decision as required by Rule 244(c).

On March 19, 1965, the interference was redeclared on the Examiner's suggested counts with Phipard designated senior party. On April 8, 1965, Kahn requested reconsideration of the redeclaration of the interference. He requested that a new motion period be set so that he could file a motion to dissolve the interference and also to be made senior party. The Interference Examiner considered this request as actually seeking review of the Primary Examiner's decisions of June 25, 1964 and November 16, 1964 and, as such, that it was filed too late.

Kahn then petitioned the Commissioner challenging the refusal of the Examiner to set a new motion period. The Commissioner denied this petition, stating:

> * * * There has been ample opportunity for Kahn to present and argue his objections to the proposed counts in the form of a timely petition for modification of the Primary Examiner's decision. In this connection attention is directed to section 1105.07 of the Manual of Patent Examining Procedure which states that any petition for reconsideration, rehearing or modification must be filed within twenty days of the decision. It will be noted that the provisions of this section embrace opposition to the admission of counts.

The Commissioner also said:

> It is noted that petitioner has requested that the party Kahn be accorded the position of senior party. However, this would involve reviewing the November 16, 1964 decision of the Primary Examiner and is therefore dismissed as belated and out of order.

Kahn then filed a "Statement and Motion for Final Hearing," asserting that he had filed a motion to dissolve and opposed the Phipard motion to shift the burden of proof. Phipard followed with a "Motion for Judgment." The Patent Interference Examiner set the case down for final hearing, stating that the Board of Patent Interferences would determine what issues were properly before it.

The Board rejected Kahn's position that Phipard was estopped to contest the counts. It stated that every argument advanced by Kahn as to failure of Phipard to support the counts was equally applicable to the original counts and to the counts proposed by Phipard during the motion period and that Kahn never made those arguments until after the decision of the Primary Examiner. The Board, however, did not decide the case on the basis that Kahn was not entitled to raise those matters at final hearing. Instead, it considered the substance of the contentions by Kahn that the counts are not supported by Phipard's 1960 application and held that the counts were supported by that application.

Before us, Kahn remains of the view that Phipard is estopped to contest the counts. On that point, his position is that the Examiner's motion decision granting Kahn's motion to dissolve while denying Phipard's motions to amend, substitute, and shift the burden of proof, terminated the interference with Kahn, the senior party, and invalidated the further proceedings.

The Board rejected Kahn's position, stating:

> The proceedings instituted by the original declaration were never suspended. The action of the Examiner in proposing the present counts was in the same paper as the decision on motions and included a notice that failure to assert them would be taken as a disclaimer. There was thus no termination of the contest or any proper basis for the contention by Kahn of estoppel against Phipard.

[1] We agree with the Board that the circumstances here do not give rise to an estoppel against Phipard. While we have considered the decisions relied on by Kahn in his brief, including particularly *Avery* v. *Chase*, 26 CCPA 823, 101 F.2d 205, 40 USPQ 343 (1939) and *Moore* v. *Hignett*, 152 USPQ 337 (Comm. Pat. 1966), we do not find them to prescribe a contrary conclusion.

Kahn challenges, on what we deem to be the dispositive issue here, whether counts 3 and 4 are supported by the 1960 Phipard application. Specifically, he asserts that certain expressions in (A) clause (*c*), (B) clause (*g*), and (C) clauses (*e*) and (*f*) are not supported by Phipard's 1960 application. He further asserts (D) that, if count 3 is so construed as to be supported by the application, it is unpatentable over the Tinnerman patent.[8] Phipard points out that those contentions were not raised by motion within the motion period nor by a timely request for reconsideration. He urges that such matters are therefore barred from consideration by Rule 258,[9] as then applicable.

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[6] As support for his action suggesting the proposed counts, the Examiner cited decisions of the Commissioner in *Dinkel* v. *D'Olier*, 1904 C.D. 572, 1130 O.G. 2507 (1904); and *Anderson* v. *Vrooman*, 1906 C.D. 295, 123 O.G. 2975 (1906).

[7] United States Patent No. 2,355,486, granted August 8, 1944.

[8] See note 7 supra.

[9] 258. *Matters considered in determining priority.*—(*a*) In determining priority of invention, the Board of Patent Interferences will consider only priority of invention on the evidence submitted. Questions of patentability of a claim generally will not be considered in the decision on priority; and neither will the patentability of a claim to an opponent be considered, unless the nonpatentability of the claim to the opponent * * * relates to matters which have been determined to be ancillary to priority and must be considered, *but a party shall not be entitled to raise such nonpatentability unless he has duly presented and prosecuted a motion under Rule 232 for dissolution upon such ground or shows good reason why such a motion was not presented and prosecuted.*

(*b*) The matters raised on a motion relating to the burden of proof * * * may be reviewed at final hearing. [Emphasis added.]

The Board discussed Kahn's right to argue the matter of support for the counts, stating:

> Phipard's contention that Kahn is now estopped to contest Phipard's right to make the counts has more solid substance but we do not consider that our decision should rest on the ground of estoppel. It is true, as asserted by Phipard, that every argument advanced by Kahn as to failure of Phipard alone to support the present counts is equally applicable to the original counts and to the counts proposed by Phipard during the motion period. It is also true that Kahn never made these arguments until after the decision of the Primary Examiner on motions. Kahn did, however, bring a motion to dissolve and he opposed Phipard's motions to amend and shift, and he advanced grounds in support of his positions sufficient to establish their validity in the judgment of the Primary Examiner. Having asserted a sufficient legal basis for his position, should he now be estopped to assert further grounds of attack against Phipard's support of different counts, merely because this further attack could have been made in regard to the original ones?

The question posed was left unanswered by the Board. As stated, however, it did not rest its decision on estoppel but instead considered the arguments on the merits, awarding priority to Phipard on the basis of that consideration.

Kahn's contention as to item "A," specifically is that the pitch diameter of the helical thread formation is not of circular shape as stated in clause (*c*) of the counts because there are a number of protuberances on the formation. However, the description of the formation as of circular shape is immediately modified by the recitation in clause (*d*) of "a plurality of circumferentially spaced apart discrete thread forming protuberances" stated to be "expressed from the flanks of the helical thread formation." We agree with the Board that the latter recitation plainly modifies the questioned description in clause (*c*) with the result that the two clauses together are plainly applicable to the structure disclosed in the Phipard applications.

Under item (B), Kahn urges that clause (*g*) is not applicable because of its recitation of the crest of the protuberance next adjacent the shank portion being "*substantially* the same distance radially outwardly from said [screw] axis as the crest of the thread on the shank portion and also *substantially* the same cross-sectional shape and dimensions." [Emphasis added.] Emphasizing that both aspects of the recitation are qualified by the word "substantially" and discussing the disclosure in the applications as to the dimensions of the protuberances or projections, the Board concluded that the recitation is supported in the earlier Phipard application and also in the interference applications.

We are satisfied that the Board did not err in that conclusion. Clause (*g*) appeared in the original counts which were suggested from the Phipard interference application. That application states:

> * * * the outer tips of the projections do not extend outwardly *substantially* beyond the crest outline of the thread in the main shank although the tips of the projections may extend slightly beyond such crest, such as two or three thousandths of an inch, to provide a small crest clearance in the main shank when desired, as shown in FIGS. 2 and 3 and as further explained below.
>
> As mentioned above, each thread-forming projection extends outwardly beyond the flanks and crest of the adjacent intermediate thread formation so as to hold such intermediate thread formation out of contact with the parent body as the tapered work-entering end portion of the screw is driven into the pilot hole. As illustrated in FIG. 3, the flanks of the projection in cross section are substantially parallel to the flanks of the adjacent thread so that the form, or cross-sectional shape, of the projection is *substantially* similar to that of the adjacent thread. The amount that each projection extends beyond the adjacent thread flanks and crest may vary depending upon the amount of cold working to be performed by such projection, the amount of clearance desired, and its proximity to the main shank. However, no projection has an overall thickness at any given distance from the screw axis *substantially* greater than the thickness of the thread in the main shank at the same distance from the screw axis. A projection may be slightly, say a few thousandths of an inch, thicker than the thread in the main shank where a slight clearance is desired in the main shank as well as in the work-entering portion, resulting in a minimum driving torque condition. This condition is shown in the screw of FIG. 1 where the projections extend onto the first thread convolution of the main shank so that the projections thereupon extend slightly beyond the flanks and crests of the threads in the main shank. * * * [Emphasis added.]

That statement indicates that clause (*g*) is applicable to the screw of FIGS. 1–3, which figures we have noted are also included in the 1960 Phipard application. While the above quotation is not included in the latter application, the description therein is consistent with the conclusion that the clause is supported.

The Board did not consider Kahn's contention relating to (C), clauses (*e*) and (*f*), on the merits. Rather, it stated:

> * * * his argument lacks specificity. We note that the 1960 application is similar to the interfering applications in regard to these limitations and our analysis convinces us that they are fairly supported there. Kahn's position on this point, although not clearly stated in his brief for Final Hearing, is that none of the three applications supports the count, and that it is therefore unpatentable to both parties. This argument is not ancillary to priority (Rule 258). In paper 11, for example, Kahn asserted that "there is absolutely no disclosure anywhere in the Kahn application that hints of this angular relationship."

The argument of Kahn on this point before us is that the clauses "involve precise geometrical relationships among the elements of the thread that are found no place in the Phipard 1960 application." That argument sheds no light on the indefiniteness referred to by the Board nor does it take issue with the Board's statement that his position is that all of the applications, including Kahn's do not support the clauses in question. **[2]** Since it is established that the matter of whether neither application in an interference supports the counts is a question of patentability not ancillary to priority, *Ray* v. *Kronmiller*, 35 CCPA 1085, 167 F.2d 518, 77 USPQ 389 (1948), there is no basis for finding error in the Board's treatment of Kahn's contentions regarding clauses (*e*) and (*f*).

[3] Lastly, Kahn's contention that count 3 is unpatentable over the Tinnerman patent, if interpreted to read on the 1960 Phipard application, in its context here, is plainly a contention of unpatentability over the prior art. The Board obviously treated it as such for it did not mention the patent in its decision and Kahn did not question that treatment in his request for reconsideration. We likewise may not consider the matter for the reason that patentability is not ancillary to priority. *Kleinman* v. *Steinbach*, 38 CCPA 924, 187 F.2d 743, 89 USPQ 151 (1951); *Glass* v. *De Roo*, 44 CCPA 723, 239 F.2d 402, 112 USPQ 62 (1956).

In view of the foregoing, Phipard's contention that his motion for judgment should have been granted becomes moot.

There remains for our further consideration Kahn's argument that the decision of the Board is void by reason of an *acting* examiner of interferences being included in the panel. Kahn points out that 35 U.S.C. 135 states:

> * * * The question of priority of invention shall be determined by a board of patent interferences (consisting of three examiners of interferences) * * *.

He further observes that there is no provision in the statute for *acting* examiners of interferences, although 35 U.S.C. 7 makes provision for patent examiners having certain specified qualifications to serve as an acting examiner-in-chief on the Board of Appeals. Kahn contends that those circumstances demonstrate that the participation of an acting board member here was illegal. We note that the decision of the Board was unanimous. We note further two examiners of interferences here were duly constituted members of the board and their votes alone were sufficient to determine the decision.

[4] Kahn's challenge to the constitution of the board thus is without either practical or legal significance. While 35 U.S.C. 3 [10] states that the Commissioner, assistant commissioners, and examiners-in-chief shall be appointed "by the President, by and with the advice and consent of the Senate," examiners of interferences are not so appointed. Rather, they fall within the provision of section 3 for "other officers and employees," reading:

> * * * The Secretary of Commerce, upon the nomination of the Commissioner in accordance with law, shall appoint all other officers and employees.

Thus, the present case does not involve any of the significant issues presented in connection with the designation of two acting examiners-in-chief on a panel of three members making up the Board of Appeals involved in *In re Wiechert*, 54 CCPA 957, 370 F.2d 927, 152 USPQ 247 (1967).

The decision is affirmed.

AFFIRMED.

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[10] Designated "Officers and employees."

U.S. Court of Customs and Patent Appeals

SWINGLINE, INC. *v.* I. B. KLEINERT RUBBER COMPANY

No. 7865. Decided July 18, 1968

[55 CCPA 1486; 399 F.2d 283; 158 USPQ 341]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—REMAND—TRADEMARK—OPPOSITION.

"It is true that this court will not act on the merits of an appeal [in a trademark opposition proceeding] on the stipulation of the parties. Here, however, the appellant advised the court on argument that all of the issues involved in the appeal had been rendered moot in view of the earlier agreement between the parties settling the entire controversy. A stipulation to this effect was already on file in this cause. We agree that the appeal is moot. This court, therefore, has no jurisdiction to pass upon the legal questions involved for lack of a justiciable issue. The appellant on argument left the disposition of the case entirely with the court. The question is a novel one for this court. We believe it clear, however, that the appropriate action in such cases is to vacate the judgment previously rendered and remand the case for such further action as is appropriate in the light of the settlement. This would effectively prevent the judgment below from becoming a precedent."

APPEAL from Patent Office. Opposition No. 42,297.

VACATED AND REMANDED.

I. Walton Bader, *Albert M. Zalkind* for appellant.

Francis D. Thomas, Jr., *Harvey W. Mortimer* for appellee.

Before WORLEY, *Chief Judge*, JUSTICE CLARK [1] and Judges RICH, SMITH, and KIRKPATRICK [2]

SMITH, *J.*, delivered the opinion of the court.

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[1] Associate Justice, retired, Supreme Court of the United States, sitting by designation.

[2] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

This appeal is from the decision of the Trademark Trial and Appeal Board,[3] dismissing appellant's opposition to appellee's application to register the trademark "Swingline" for dress shields composed of rubber and cotton and designed for dresses having cap sleeves with a V-shaped underarm.[4] Appellant's opposition was based upon its prior use and registration of the same mark on office cabinets and display cabinets; stapling machines, tackers and pliers; staples; electric stapling machines; binder clips, index tabs, rubber finger tips, paper fasteners, file fasteners and folders for binding and holding papers together; staple removers; and other like goods.[5] The Board concluded that simultaneous use of the mark in issue on the respective goods of the parties is not likely to cause confusion. This appeal followed.

After appellant had filed its brief in this court, the parties entered into a stipulation wherein the appellee consented to withdraw its application for registration with prejudice and agreed that the opposition should be sustained in all respects. Appellee further agreed not to utilize the mark on any goods whatsoever, except for a one-year period following the agreement, to permit disposal of its material bearing the contested mark.

Subject to appellee's compliance with the terms of the stipulation, appellant agreed to grant to appellee a full and complete release of any claims which it had or may have had against the appellee before the date of the stipulation for appellee's use of "Swingline."

On the basis of this stipulation, appellant moved in this court to dispose of the present appeal by an order drafted in accordance with the terms of the stipulation. The Patent Office Solicitor, although the Commissioner was not a party to the action, opposed this disposition of the appeal and argued that the decision of the Board could not be reversed by an agreement between the parties. This motion to dispose of the appeal was denied on the ground that certain of the contents of the proposed "Stipulation and Order" were outside the jurisdiction of the court.

[1] It is true that this court will not act on the merits of an appeal on the stipulation of the parties. Here, however, the appellant advised the court on argument that all of the issues involved in the appeal had been rendered moot in view of the earlier agreement between the parties settling the entire controversy. A stipulation to this effect was already on file in this cause. We agree that the appeal is moot. This court, therefore, has no jurisdiction to pass upon the legal questions involved for lack of a justiciable issue. The appellant on argument left the disposition of the case entirely with the court. The question is a novel one for this court. We believe it clear, however, that the appropriate action in such cases is to vacate the judgment previously rendered and remand the case for such further action as is appropriate in the light of the settlement. This would effectively prevent the judgment below from becoming a precedent.

It is therefore ordered that the judgment of the Trademark Trial and Appeal Board be vacated and this cause be, and the same is hereby, remanded to the Patent Office to permit the appellee to withdraw his application for registration with prejudice, and for any other and further proceedings as may be necessary in the premises.

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[3] Result reported, 147 USPQ 539 (TTAB 1965).

[4] Serial No. 137,916, filed February 14, 1962. Appellee alleged a date of first use of January 25, 1962.

[5] Appellant-opposer is the owner of a plurality of registrations for "Swingline" on the goods stated, as well as on other goods.

VACATED AND REMANDED.

RICH, *J.*, concurring:

Mr. Justice Clark,[6] Judge Smith, and I are in complete agreement that this court cannot act on the merits of the opposition which was decided by the Board and that the proper procedure is for this court to vacate the Board's decision, reported at 147 USPQ 539.

This concurring opinion is motivated by the dissenting opinions and its purpose is to answer some of the points they raise and to cite some of the authority which supports the action being taken by the majority.

The posture of this case is not the same as it was before the filing of the motion which we denied a year before the argument of the case in this court. Before that, it was an ordinary appeal on a controversial issue. It was a "case or controversy." The motion, however, called our attention to facts showing that the issue had become moot. This mootness is the salient fact underlying the action of the majority as stated for it in Judge Smith's opinion.

It has been suggested that the majority action is beyond our authority, unnecessary, and unwise and that we should decide the controversy, which is now moot, "on its merits." No authority has been cited to justify such action. I think none exists.

Authority to the contrary in support of the elementary principle that a United States court established under Article III of the Constitution is limited to deciding cases and controversies and that a moot question is not in this category is found in *California* v. *San Pablo & Tulare R.R.*, 149 U.S. 308 (1893), *St. Pierre* v. *United States*, 319 U.S. 41 (1943), *United States* v. *Munsingwear*, 340 U.S. 36 (1950), and in the recent case which became moot after the granting of certiorari to this court on the petition of the Patent Office, *In re Hofstetter*, 53 CCPA 1545, 362 F.2d 293, 150 USPQ 105 (1966), vacated, *Brenner* v. *Hofstetter*, 389 U.S. 5, 155 USPQ 289 (1967), appeal dismissed, *In re Hofstetter*, 55 CCPA —, — F.2d —, 155 USPQ 515 (1967). In *Hofstetter* the mootness resulted from an applicant abandoning a patent application while court review was pending and here it results from a stipulation to withdraw an application to register a trademark. The parallel is clear.

Authority for the statement that this court is an Article III court—giving rise to the obligation to act like one—is found in *Glidden* v. *Zdanok*, 370 U.S. 530 (1962). As such a court, we certainly have inherent authority to do what the law requires of us, namely, to vacate a decision of a lower tribunal in a matter which has become moot. According to the above decisions, we do not have the authority to decide that matter and it appears to me, for that reason, that it would be both unnecessary and unwise for us to do so. See S. A. Diamond, Federal Jurisdiction to Decide Moot Cases, 94 U. Pa. L. Rev. 125; Cases Moot on Appeal: A Limit on the Judicial Power, 103 U. Pa. L. Rev. 772; Disposition of Moot Cases by the United States Supreme Court, 23 U. Chi. L. Rev. 77.

In vacating the Board decision, it should be noticed that we are not doing so at the request of the parties or pursuant to their stipulation. Neither are *we* sustaining the opposition, notwithstanding the obvious *fact* that the opposer has prevailed over the applicant for registration. But it has done so through negotiation rather than litigation—the kind of resolution of a dispute we should do all within our power to encourage.

The parties wanted this court to give its official blessing to the terms of their stipulation but overlooked the fact that several of the matters in it—such as the release of damages, agreement not to use, and the allowance of time to appellee to dispose of goods—are entirely outside our jurisdiction. That is why we had to deny appellant's motion, as Judge Smith's opinion points out. All appellant wanted under the circumstances which existed after the settlement between the parties was somehow to get rid of the decision of the Board which had gone against it. But appellant misconceived the proper solution. As Judge Smith said, it left it to this court to decide. It should be clear now that appellant's proper course would have been to establish the mootness of the case and suggest the vacating of the Board decision.

It is noted from *Viber Co.* v. *Renner Co.*, 156 USPQ 160 (1967), that when the Trademark Trial and Appeal Board has jurisdiction of a case previously decided by it and is advised that it has become moot, it vacates its own prior decision. In a decision, reported at 153 USPQ 819, the Board had sustained an opposition by Viber to registration of a trademark. Upon the subsequent withdrawal of the opposition pursuant to an agreement between the parties, the Board vacated that decision.

Since jurisdiction of the present cause of action was in this court at the time it became moot and still is, it seems appropriate that we should vacate the only decision rendered in it as well as refuse to render any further decision on the merits.

WORLEY, *Chief Judge*, dissenting.

I am aware of no authority supporting the majority action in vacating the decision of the Trademark Trial and Appeal Board merely because the parties apparently desire such action.

It should be remembered that the Board, after full consideration on the merits, held *adversely* to appellant. After appeal to this court appellant filed a motion predicated on a stipulation and order. The stipulation reads:

> IT IS HEREBY STIPULATED, by and between the attorneys for the respective parties hereto, the *Commissioner of Patents consenting*, that the above-entitled proceeding be, and the same hereby is, terminated upon the following terms and conditions:
>
> 1. The appellee hereby withdraws its application for registration of the trademark "Swingline," Serial No. 137,916, filed February 14, 1962, with prejudice *and consents that Opposition No. 42,297 be in all respects sustained.*
>
> 2. The appellee further agrees that it will not, except as specifically set forth in this stipulation, utilize the trademark "Swingline" upon any goods whatsoever.
>
> 3. The appellant agrees, subject to compliance by the appellee with the terms and conditions of this stipulation, to grant to appellee a full and complete release of any claims that it has or may have against the appellee from the beginning of the world to the date of this stipulation with respect to the prior utilization of the trademark "Swingline" by appellee.
>
> 4. The appellant specifically grants the appellee a term of twelve (12) months from the date of this stipulation to utilize its present material in commerce bearing the trademark "Swingline." Appellee agrees that it will not, subsequent

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[6] Associate Justice, United States Supreme Court, sitting by designation in place of Almond, *J.*

> to the date of this stipulation, print or design, or cause to be printed or designed, any material bearing the trademark "Swingline."
>
> 5. *The terms and conditions of this stipulation may be specifically enforced by the appellant* against the appellee *in any court having jurisdiction of the parties.* [Emphasis supplied.]

The order which this court was asked to enforce reads:

> ORDERED, that Opposition No. 42,297 be in all respects sustained and that the application for registration of the trademark "Swingline," Serial No. 137,916 filed February 14, 1962, is withdrawn with prejudice, and it is further
>
> ORDERED, that I.B. Kleinert Rubber Company, the appellee herein, will not utilize the trademark "Swingline" upon any goods whatsoever except to the extent set forth in the annexed stipulation, and it is further
>
> ORDERED, that subject to the compliance by I. B. Kleinert Rubber Company with the terms and conditions of this stipulation, Swingline Inc. hereby grants unto said I. B. Kleinert Rubber Company a full and complete release of any and all claims that it has or may have against said company from the beginning of the world to the date of the annexed stipulation with respect to the prior utilization of the trademark "Swingline" by said corporation, and it is further
>
> ORDERED, that the Commissioner of Patents shall enter an appropriate order on its records in accordance with the order of this court.

In answer thereto the Commissioner of Patents challenged the propriety and legality of such action as follows:

> The Commissioner of Patents, through counsel, submits the following memorandum in connection with the Motion, Stipulation and Order, submitted by the parties in Opposition No. 42,297.
>
> The Trademark Trial and Appeal Board having concluded that "applicant's use of 'Swingline' is not likely to cause confusion or mistake or deception," dismissed the opposition. *The parties propose to overrule the Board by their stipulation and the proposed order they are requesting the Court to sign.*
>
> The Commissioner of Patents desires to point out that *there is no basis in the law for the order requested by the parties. The decision of the Trademark Trial and Appeal Board cannot be reversed by the agreement of the parties,* but only by a court of competent jurisdiction after hearing and decision on the points raised. The *appellee may withdraw its application* if it so desires, *but appellee cannot legally change the Board's decision by consenting that the opposition be in all respects sustained.* [Emphasis supplied.]

After full consideration this court unanimously and properly denied appellant's motion, the clerk advising the parties by letter to that effect.[7] Thus, since there is nothing else before the court, the present posture of the appeal is precisely as before, and, absent a motion by appellant to dismiss, should be decided on its merits as Congress has said we should do.[8]

Had appellant moved to dismiss its appeal here the adverse decision of the Board would have remained. However, during argument appellant's counsel frankly stated the purpose of the stipulation and order was to *remove* that decision as a precedent *against* his client in any future litigation involving the mark "Swingline." Thus, unhappily, the majority follows an unauthorized, unwise and unnecessary[9] procedure in ratifying an agreement between private parties to set aside a legal ruling of a tribunal created by Congress and charged with the responsibility it has properly discharged here.

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[7] * * * The court has today denied the motion of appellant to dispose of this appeal based on a stipulation and order filed by counsel for the appellant and appellee and attached to said motion. Certain of the contents of the proposed "Stipulation and Order" are deemed to be outside the jurisdiction of the court. Unless the parties file appropriate papers requesting dismissal, this appeal will proceed in due course. * * *

No papers requesting dismissal have been filed, nor did counsel make any such motion at oral argument. It should also be remembered that, at oral argument, counsel for appellant did not regard the appeal as "moot." Indeed, insofar as I am aware, appellee has not formally abandoned its application to register the mark "Swingline."

[8] Section 21(a)(4) of the Lanham Act reads: "(4) The court shall hear and determine such apeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal." * * *

[9] That there is no necessity for the majority action here is clearly evident from the action taken by the Trademark Trial and Appeal Board in *Viber Co.* v. *Renner Co.*, 156 USPQ 160 (1967).

KIRKPATRICK, *J.*, dissenting.

I agree that the appeal is moot and should be dismissed. That, however, is all that I feel that the court should do in this case.

I am aware that a number of appellate courts, including the Supreme Court, have in cases in which the cause has become moot,[10] reversed or vacated lower court judgments pursuant to a stipulation or at request of the losing party, but I cannot join with the majority in following that practice in the present case. I think that the judgments of trial and lower appellate courts and the final decisions of administrative tribunals rendered after a full hearing on the merits of an actual controversy should not be altered, reversed or vacated by a judgment of the court for the sole reason that the parties have agreed that the court should take such action.

In the present case, although court approval is really unnecessary, there is no reason why, if the parties desire it, this court should not approve the part of their agreement which provides for the withdrawal of the application for registration of the trademark. However, the after full hearing and in the exercise of its authority dismissed the appellant's opposition and under the majority's order the court now vacates that decision. The net practical effect between these parties of that action is that the opposition is sustained by a judicial act of this court for no other reason than that the attorneys desire that it should be.

Any review of the decisions of the Trademark Trial and Appeal Board resulting in nullifying a decision of the Board is properly taken only on the merits. As the cause is now moot, this court should not hear the appeal on the merits and has not done so.

It seems to me that the proper practice, as has been stated, is to dismiss the appeal leaving the parties as the court has found them. I therefore dissent.

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[10] See *Brenner* v. *Hofstetter*, 389 U.S. 5, 155 USPQ 289 (1967); *United States* v. *Munsingwear*, 340 U.S. 36 (1950).

U.S. Court of Customs and Patent Appeals

IN RE ROBERT W. ELLMS

No. 8034. Decided November 27, 1968

[56 CCPA —; 403 F.2d 286; 159 USPQ 647]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"MOLD AND CORE BLOWING MACHINE."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Mold and Core Blowing Machine" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 232,200.

AFFIRMED.

John W. Renner, *Oberlin*, *Maky*, *Donnelly & Renner* for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, and BALDWIN, *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 18–20 and 25–31 of application Serial No. 232,200, filed October 22, 1962, entitled "Mold and Core Blowing Machine." No claim has been allowed.

The invention is directed to the production of resin-bonded sand foundry articles such as molds and cores used in the manufacture of metal castings. In the art, such articles have been produced by blowing a thermosetting resin and sand mix into a core box having separable top and bottom sections, these sections being called the "cope" and "drag," respectively. The core box has patterned inner surfaces for forming the exterior surface of the blown article. In prior art processes, after the mold or core has been heat-cured, the cope is lifted off the drag, and the sand article is elevated to a position intermediate the cope and drag by means of pins projecting through the bottom of the drag. The mold or core is then removed from the blowing machine either manually or by means of a carriage having ejection rods which are moved under the product.

Appellant's process differs from that just described in that after the cope is removed, the drag is *inverted* and the product is then pushed or pulled downwardly out of the inverted drag onto a conveyor by which the product is removed from the blowing machine. Claim 18 is representative of the appealed claims, all of which are method claims:

> 18. The method of forming foundry cores which comprises the steps of assembling a core and drag to form a core box, filling such box with a sand-resin mix, heating such core box at least partially to harden such core, drawing the core from such cope, inverting such drag, and drawing such core from such drag to place the core on a conveyor.

The rejection is based on 35 U.S.C. 103, three United States patents being relied on:

Sutter, 2,856,653, Oct. 21, 1958.
Sutter, 2,867,017, Jan. 6, 1959.
Deakins et al., 2,956,319, Oct. 18, 1960.

The two Sutter patents disclose the prior art procedures described above and are relied on alternatively as the primary reference. Deakins discloses a procedure for removing *cast* metal articles from sand molds such as those which might be produced by the methods of Sutter and appellant. In Deakins' method, the drag containing the casting is merely turned over and the casting is allowed to drop onto a horizontal metal plate from which it is subsequently transported to a sand shake-out device where the casting's sand core and any sand adhering to the outside of the casting are removed.

The Examiner took the position that, in view of the teachings of Deakins, it would be obvious to modify the Sutter *method* to the extent of inverting the drag and then removing the mold or core downwardly onto a conveyor. We agree. Appellant, however, observes that if a sand article produced by the claimed method were allowed to drop from the inverted drag as the casting is allowed to drop in Deakins' method, "the article would in all probability be damaged beyond use." We think this observation, regardless of its truth, is of little consequence, for we agree with the Board that

> * * * it seems * * * elementary and a matter of common sense that if the drop is found to be injurious to the molded articles, the extent of the drop should be reduced and/or some cushioning means be employed * * *.

Appellant's only other argument is that the artisan of ordinary skill would not know how to modify the apparatus of either Sutter reference to provide inversion of the drag. We not only consider this to be merely an unsupported assertion, but also consider it to be irrelevant since no apparatus for providing inversion of the drag in the Sutter apparatus is necessary to render obvious appellant's claimed *process*.

[1] The decision of the Board is affirmed.

AFFIRMED.

Judge Smith participated in the hearing of this case but died before a decision was reached.

DEFENSIVE PUBLICATIONS

PUBLISHED JUNE 24, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

717,468

POLYOLEFIN COMPOSITIONS

Gordon Clay Newland and Gerald Ray Lappin, both of P.O. Box 511, Kingsport, Tenn. 37662, and John Ware Tamblyn, P.O. Box 92, Jonas Ridge, N.C. 28641

Continuation-in-part of application Ser. No. 323,139, Nov. 23, 1963. This application Mar. 29, 1968. Published June 24, 1969

Int. Cl. C08f *27/22, 45/00*
U.S. Cl. 260—94.9

No Drawing. 7 Pages Specification

Chelates such as nickel II/dodecyl benzoylacetate, nickel II/decyl acetoacetate, nickel II/ethyl benzoylacetate, nickel II/oleyl acetoacetate, manganese II/dodecyl acetoacetate, cobalt II/dodecyl acetoacetate, and zinc II/dodecyl acetoacetate promote the controlled oxidation of polymeric materials, particularly polyolefins containing from 1 to 8 carbon atoms, and make it possible to closely regulate the rate and degree of oxidation. The metal chelates are employed in catalytic amounts generally on the order of less than 5 percent and effectively catalyze the photooxidation and oxidation of the polymeric materials. The metal chelates provide catalytic versatility for the preparation of waxes and other applications such as agricultural mulching films. The polymeric materials include not only homopolymers but also copolymers obtained from the polymerization of at least two different polymers.

726,610

PROCESS FOR PREPARING UNSATURATED ALIPHATIC ALDEHYDES AND MONOCARBOXYLIC ACIDS

Howard S. Young and Edgar L. McDaniel, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 375,286, June 15, 1964. This application May 3, 1968. Published June 24, 1969

Int. Cl. C07c *27/12, 51/20;* **B01j** *11/32*
U.S. Cl. 260—604

No Drawing. 21 Pages Specification

Acrolein and acrylic acid or methacrolein and methacrylic acid are manufactured by contacting vaporized propylene or isobutylene with oxygen at an elevated temperature, e.g., about 300° C. to about 600° C., in the presence of a supported catalyst essentially consisting of a calcined mixture of (1) an oxide of arsenic and (2) a heteropoly acid or molybdenum containing cerium as the central atom, e.g., cerimolybdic acid. The catalyst can also contain an oxide of chromium, iron, or boron or mixtures thereof. Preferably the catalyst contains 1% to 20% by weight of the oxide of arsenic and 5% to 60% of the heteropoly acid.

788,691

KNIT FABRIC

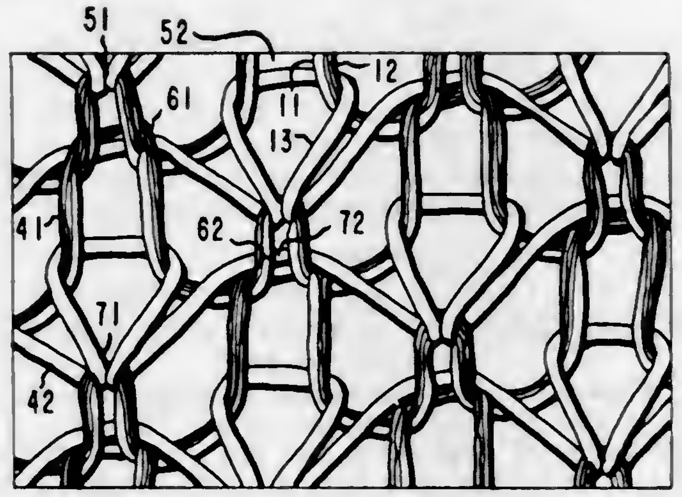
Raymond Joseph Elia, Wilmington, and James Otis Farmer, New Castle, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation of application Ser. No. 541,155, Apr. 8, 1966. This application Dec. 26, 1968. Published June 24, 1969

Int. Cl. D04b *1/18*
U.S. Cl. 66—169

1 Sheet Drawing. 11 Pages Specification

A knit-fabric structure in which a bare elastic yarn and a first inelastic yarn are knit together in one set of alternating courses and a second inelastic yarn of about the same denier as the first inelastic yarn is knit alone in the other set of alternating courses. The yarn (or yarns) in one set of alternate courses are plain-knit, and the yarn (or yarns) in the other set of alternate courses are in a knit-and-tuck arrangement. In successive courses containing tuck loops, the tuck loops are in alternate wales. Yarn exposed at the surface of the fabric is predominantly inelastic and the appearance and feel of the fabric approximate the appearance and feel of similar fabrics made only of inelastic yarns.



In knitting the structure, feeding of the bare elastic yarn and inelastic yarn which are knit together is controlled so that the elastic yarn is consistently plaited to the same side (preferably outside) of the inelastic yarn. This is accomplished by using a yarn feed finger having two yarn-guiding eyelets, and passing the yarn to be plaited to the inside through the eyelet which is closer to the needles.

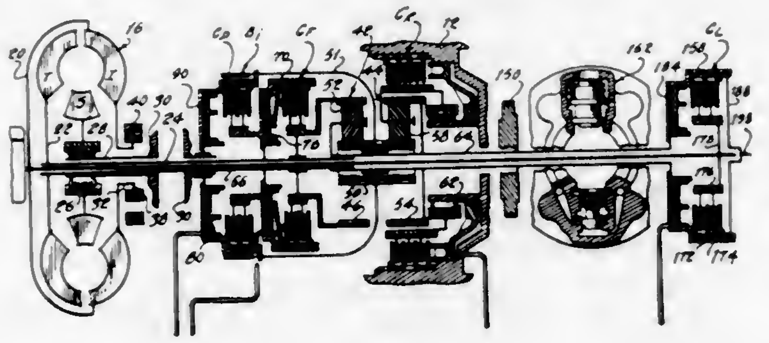
The structure is useful for ladies' sheer, form-fitting elastic stockings. For this purpose, nylon is the preferred inelastic yarn, and spandex is the preferred elastic yarn. Because of the knit-and-tuck arrangement in alternate courses, stockings of this structure exhibit multidirectional stretch, which enhances their form-fitting performance. The structure can also be used in other form-fitting garments, e.g. bathing suits. Where extreme sheerness is not required, covered spandex can also be used.

761,375
TORQUE CONVERTER TRANSMISSION WITH A BY-PASS CLUTCH

Norman T. General, Farmington, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Continuation of application Ser. No. 606,300, Dec. 30, 1966. This application July 22, 1968. Published June 24, 1969

Int. Cl. F16h *47/08*
U.S. Cl. 74—688
5 Sheets Drawing. 14 Pages Specification



A transmission mechanism having multiple speed ratios, including a direct drive ratio that is achieved by engaging a lock-up clutch in the tailshaft extension housing of the transmission. The clutch is connected to the engine driven impeller of the transmission by a torsion damper shaft.

781,692
HIGH REMOVAL ADDITIVE TYPE TOBACCO SMOKE FILTER

John R. Hatfield, William E. Morrell, and Kyle E. Morrison, all of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 674,754, Oct. 12, 1967, now abandoned. This application Nov. 29, 1968. Published June 24, 1969

Int. Cl. A24f *7/04, 13/04;* **B01d** *27/00*
U.S. Cl. 131—266
No Drawing. 16 Pages Specification

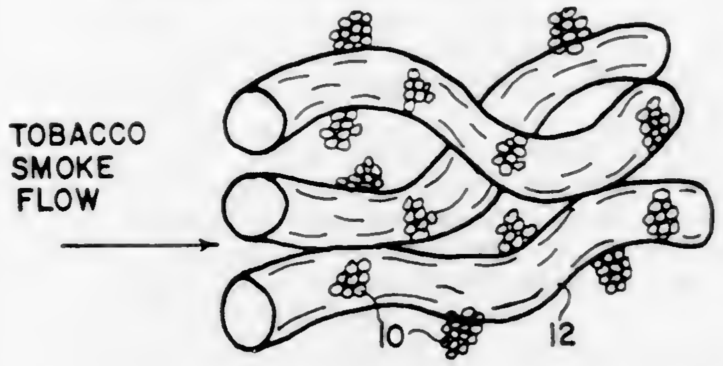
A tobacco smoke filter element containing aluminum silicate particles for removing a high amount (up to about 80 percent) of the total particulate matter found in the effluent stream of tobacco smoke. The effective particle size of the aluminum silicate additive is less than 5 microns and the effective pH of the particles is less than 7.5.

781,713
HIGH EFFICIENCY, ADDITIVE-TYPE TOBACCO SMOKE FILTER

George P. Touey and Cephas H. Sloan, both of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 678,296, Oct. 26, 1967. This application Dec. 4, 1968. Published June 24, 1969

Int. Cl. A24f *7/04, 13/04;* **B01d** *27/00*
U.S. Cl. 131—266
1 Sheet Drawing. 26 Pages Specification



A tobacco smoke filter element containing alumina hydrate particles of less than about two microns in size for removing a high amount (up to about 70 percent) of the total particulate matter found in the effluent stream of tobacco smoke.

727,699
SULFURIC ACID-POLY(VINYLAROMATIC SULFONIC ACID) GEL FOR DRY CHARGE LEAD-ACID STORAGE BATTERY

Harold H. Roth, Bay City, and Roy C. Kirk, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 8, 1968. Published June 24, 1969
Int. Cl. H01m *39/04*
U.S. Cl. 136—157
No Drawing. 8 Pages Specification

A water-soluble, high molecular weight, essentially linear poly(vinylaromatic sulfonate) resin equilibrated with 70–80% aqueous sulfuric acid yields a stable solid gel useful as a solid electrolyte for a dry charge lead-acid storage battery. The battery is activated by addition of water.

739,287
SYNTHETIC POLYESTER IN METHYLENE CHLORIDE SOLUTION STABILIZED WITH TETRAPHENYL TIN

John E. Berkowitch, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 24, 1968. Published June 24, 1969
Int. Cl. C08g *51/62*
U.S. Cl. 260—33.8
1 Sheet Drawing. 17 Pages Specification

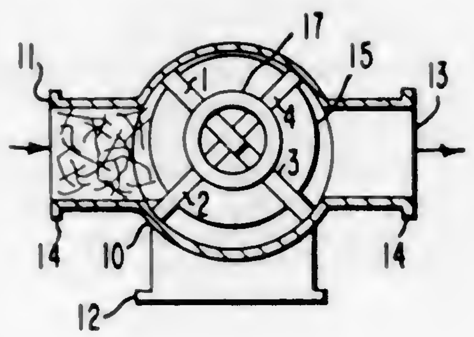
Solutions of synthetic polyesters such as polyethylene terephthalate in liquids comprising methylene chloride at elevated temperatures and pressures can be stabilized against degradation of the polymer by addition of tetraphenyl tin. Presence of tetraphenyl tin not only prevents decrease of molecular weight of the polymer, but frequently produces a molecular weight increase, as indicated by an increase in polymer relative viscosity. The solutions, which may also contain another halogenated hydrocarbon liquid in minor proportion, can be flash-extruded to produce ultra-microcellular structures. Presence of the additive reduces flow rate through the extrusion orifice and improves the physical properties of the extruded structures.

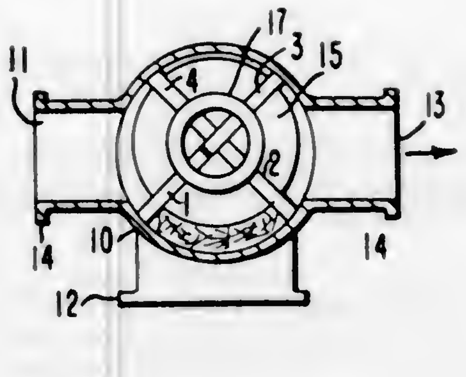
767,792
PROCESS FOR TRANSPORTING LIQUID DISPERSIONS

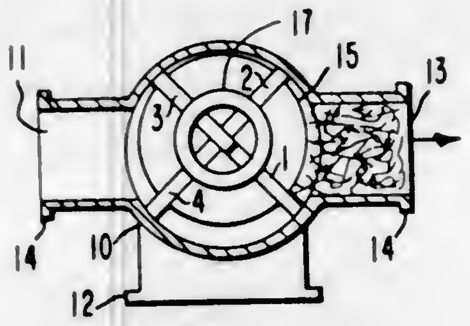
David Ross Colley, Wilmington, Del., and Arthur W. Etchells III, Philadelphia, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

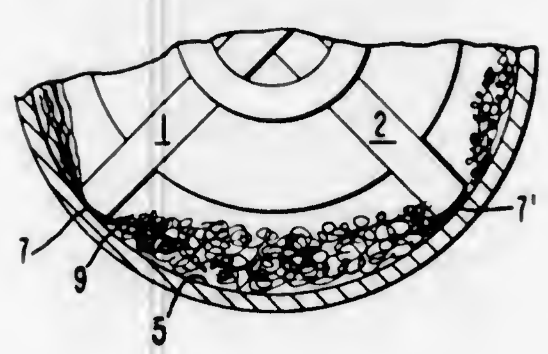
Filed Oct. 15, 1968. Published June 24, 1969
Int. Cl. F04c *1/00, 13/00*
U.S. Cl. 103—136
2 Sheets Drawing. 25 Pages Specification

A process for transporting liquid dispersions of buoyant resilient foamed staple fibers wherein the dispersion is positively displaced as discrete separated consecutive portions by rotating the portions through a housing from an inlet to an outlet between at least two radially movable rotatable blades. A portion of the foamed staple is squeezed between the blades and housing and the staple not squeezed entwines with the squeezed portions to overcome the effect of centrally directed centripetal forces and provide for positive transport of the buoyant staple from the inlet to the outlet.









782,442
PROCESS FOR PRODUCING MANGANESE DIOXIDE

Thomas H. Larkins, Jr., Howard S. Young, and George A. Akin, all of P.O. Box 511, Kingsport, Tenn. 37662

Filed Dec. 9, 1968. Published June 24, 1969
Int. Cl. C01g *45/02*
U.S. Cl. 23—145
No Drawing. 6 Pages Specification

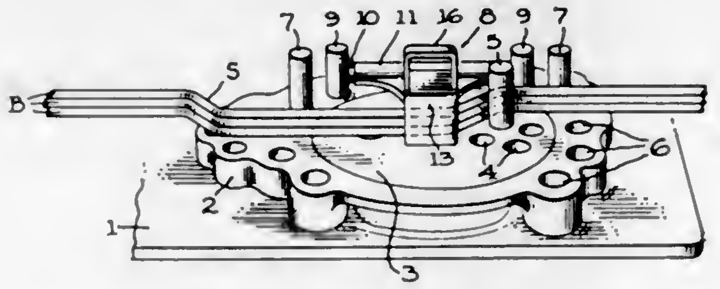
Manganese dioxide may be recovered from manganese sulfate by treating the manganese sulfate with calcium hydroxide to form manganese hydroxide, treating the manganese hydroxide with nitric acid to form manganese nitrate, and thermally decomposing the manganese nitrate to form manganese dioxide. The process is particularly suitable for producing manganese dioxide in its beta form.

792,223
ROTARY HEAD BAR BENDER

Garland W. Palmer, Grand Island, N.Y., assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Jan. 14, 1969. Published June 24, 1969
Int. Cl. B21d *7/24*
U.S. Cl. 72—219
1 Sheet Drawing. 10 Pages Specification

A bending head is adapted for rotatable movement within an opening in a stationary back-up table, both the head and table having openings for the reception of bending and back-up pins, respectively. Left or right hand hooks are formed in metal bars by the selective placement of the bending and back-up pins prior to rotation of the bending head in a clockwise or counterclockwise direction to deform the bars. Left or right hand slant bends are formed in the bars without the necessity of turning the bars, by means of a pivotal truss bend assembly having a bar block which is lowered over the bending head and stabilizes the bars while the head is rotated and the pins deform the bars.

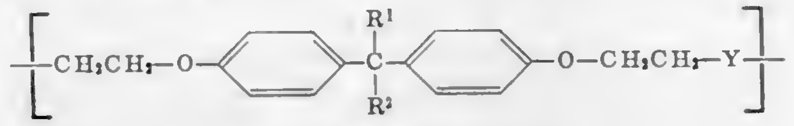


794,773
POLYESTERS AND POLYAMIDES PREPARED FROM DIESTER OR DIAMINE DERIVATIVES OF BISPHENOLS

Thomas M. Laakso and William F. Fowler, Jr., both ℅ Kodak Park Works, Rochester, N.Y. 14650

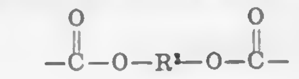
Filed Jan. 28, 1969. Published June 24, 1969
Int. Cl. G03g *5/06, 7/00*
U.S. Cl. 96—1.5
No Drawing. 39 Pages Specification

A polymeric material is disclosed which contains recurring units of



wherein Y can be a radical of the formula

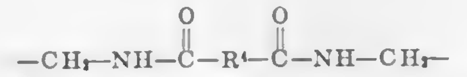
(a)



$$-\overset{\overset{O}{\|}}{C}-O-R^3-O-\overset{\overset{O}{\|}}{C}-$$

or

(b)



$$-CH_2-NH-\overset{\overset{O}{\|}}{C}-R^4-\overset{\overset{O}{\|}}{C}-NH-CH_2-$$

and wherein R^1 can be hydrogen or a lower alkyl radical, R^2 can be a lower alkyl radical or a substituted or unsubstituted aryl radical including polycyclic aryl radicals, and R^3 and R^4 can be an alkylene radical, a dialkylene substituted cycloalkane radical, an arylene radical or a dialkylene substituted aryl radical.

REISSUES

JUNE 24, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,610

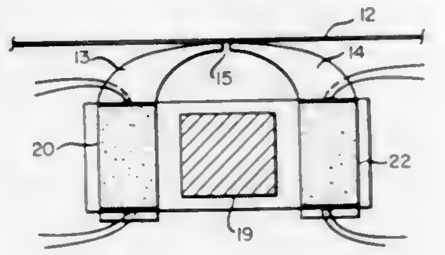
TRANSDUCER HAVING A MAGNETO-RESISTIVE BRIDGE CIRCUIT

Heinz A. de Koster, Stamford, Conn., assignor, by direct and mesne assignments, to Seggos Industries, Inc., Stamford, Conn., a corporation of Delaware

Original No. 3,274,575, dated Sept. 20, 1966, Ser. No. 299,333, Aug. 1, 1963. Application for reissue Feb. 26, 1968, Ser. No. 710,441

Int. Cl. G11b *5/30;* **H04r** *15/00*

U.S. Cl. 340--174.1 **24 Claims**



A head is provided for reading magnetic signals recorded on a moving tape or other type of record medium. The head, which in its preferred form comprises a magnetic flux bridge configuration containing four magnetoresistive elements, is sensitive to the absolute flux level rather than to the time rate of change. Accordingly, the output is independent of frequency of the recorded signal, and independent of the speed of tape transport. In addition, it provides unprecedented output levels. The four magnetoresistive elements of the flux bridge are connected into an electrical bridge configuration circuit in which all of the impedance changes caused by flux variations affect the electrical output additively.

26,611

WELDING ELECTRODES

Gerard E. Claussen, Phoenix, Ariz., assignor to Hobart Brothers Company, Troy, Ohio, a corporation of Ohio

Original No. 3,365,565, dated Jan. 23, 1968, Ser. No. 383,767, July 20, 1964. Application for reissue July 18, 1968, Ser. No. 753,806

Int. Cl. B23k *35/22*

U.S. Cl. 219—146 **5 Claims**

A small diameter cored wire electrode for use in a gas shielded environment for applying hard facings to cutting implements includes a mild steel sheath and a core containing a mixture of metallic powder including ferrochromium, ferrosilicon and a powder selected from the group consisting of manganese and ferromanganese. The small diameter of the electrode permits depositing hard facings on vertical, horizontal and overhead surfaces.

26,612

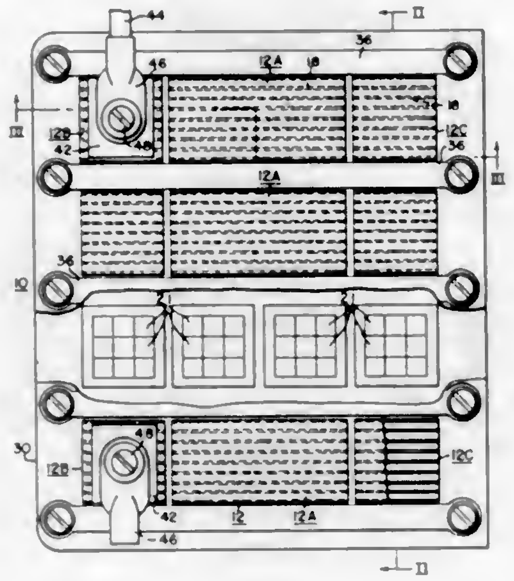
THERMOELECTRIC APPARATUS

Cecil J. Mole, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original No. 3,213,630, dated Oct. 26, 1965, Ser. No. 419,405, Dec. 18, 1964. Application for reissue Mar. 15, 1967, Ser. No. 672,941

Int. Cl. F25b *21/02*

U.S. Cl. 62—3 **8 Claims**



A direct transfer apparatus for the efficient dehumidification of air is provided wherein at least three electrically conducting heat transfer means are mounted in tandem and having layers of thermoelectric material disposed between and electrically and thermally coupled to adjacent ones of the heat transfer means to provide alternate heating and cooling in alternate adjacent heat transfer means. Conduit means form a flow path through the dehumidifier to cause air flow first past the cooled heat transfer means and then past the heated heat transfer means.

26,613

HIGH TENACITY RAYON YARN PRODUCTION

Geert Antema, Tietso Kuipers, and Johannes J. M. Mulderink, Arnhem, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware

No Drawing. Original No. 3,364,290, dated Jan. 16, 1968, Ser. No. 318,838, Oct. 25, 1963. Application for reissue May 14, 1968, Ser. No. 729,136

Claims priority, application Netherlands, Oct. 30, 1962

Int. Cl. D01f *3/28*

U.S. Cl. 264—197 **8 Claims**

Manufacture of high tenacity rayon yarns comprising the process of extruding a viscose containing a skin-producing modifier [and a cation-active compound which counteracts the occurrence of spinning faults] into a spin bath containing sulfuric acid, sodium sulfate and zinc sulfate, stretching the yarn in a hot dilute acid bath, adjusting the yarn to a pH of from 5 to 8.5, collecting the yarn in the form of a cake, unwinding the yarn from the cake, after-stretching and drying the yarn for a maximum of 20 minutes.

26,614

HOMOPOLYAMIDE OF RECURRING BIS(PARA-AMINOCYCLOHEXYL)METHANE AZELAMIDE UNITS

Filon Alexander Gadecki, Signal Mountain, Tenn., and Stanley B. Speck, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original No. 3,249,591, dated May 3, 1966, Ser. No. 199,261, June 1, 1962. Application for reissue May 2, 1968, Ser. No. 736,236

Int. Cl. C08g *20/20;* **D03d** *15/00*

U.S. Cl. 260—78 **4 Claims**

Filaments of poly[bis(para-aminocyclohexyl)methane azelamide], wherein at least 55% of the para-aminocyclohexyl methane units are of the trans-trans isomer, which filaments exhibit a nuclear magnetic resonance "loosening" factor of less than about 2.5, have low shrinkage and excellent silk-like resilience.

26,615

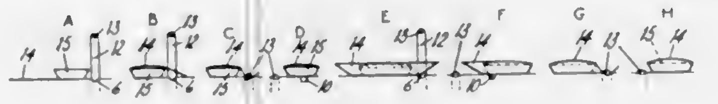
METHOD OF WRAPPING ARTICLES OR PACKAGES

Franklin M. Willbrandt, Battle Creek, Mich., assignor to Battle Creek Packaging Machines, Inc., Battle Creek, Mich.

Original No. 3,287,876, dated Nov. 29, 1966, Ser. No. 306,475, Sept. 4, 1963, which is a division of Ser. No. 101,543, Apr. 7, 1961, now Patent No. 3,112,589, dated Dec. 3, 1963. Application for reissue Sept. 13, 1968, Ser. No. 763,431

Int. Cl. B65b *11/48*

U.S. Cl. 53—31 **9 Claims**



A flat article support receives a wrapper sheet. An article to be wrapped is placed on the support and lapped over the leading edge of the sheet. The trailing portion of the sheet is folded forwardly over the top and down in front of the article. A holding bar is moved into restraining engagement with the overfolded portion of the sheet in front of, and below the article, while the article and the lapped portion of the sheet are moved manually forwardly on the support over the restrained portion of the sheet to move the overfolded end under the leading ends of the article and the sheet, and pull the overfolded end of the sheet out of engagement with the holding bar.

26,616

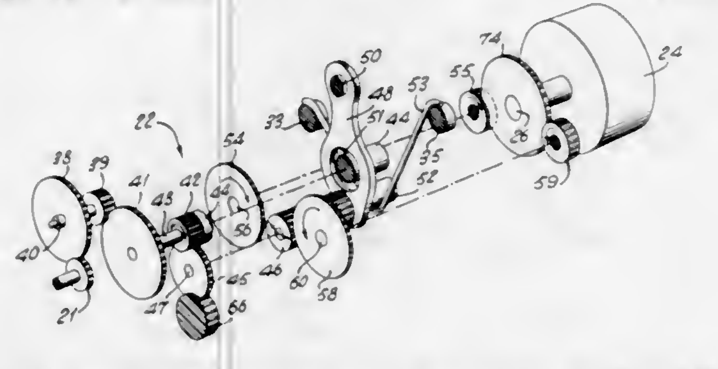
TORQUE ACTUATED REVERSIBLE GEAR REDUCTION ASSEMBLY

Patrick M. Tomaro, Jr., Maplewood, N.J., assignor, by mesne assignments, to Dale Electronics Inc., Columbus, Nebr., a corporation of Nebraska

Original No. 3,241,385, dated Mar. 22, 1966, Ser. No. 204,460, June 22, 1962. Application for reissue Dec. 28. 1967, Ser. No. 706,997

Int. Cl. F16h *3/34, 5/52*

U.S. Cl. 74—354 **9 Claims**



A simplified, miniaturized, motorized potentiometer in which the motor can be selectively disconnected from the assembly when manual rotation is desired. The motor is reversible and the gear train includes movable gears that are responsive to energization of the motor and are adapted to mesh with one of the two intermediate output gears depending upon the desired direction of rotation of the motor. Each of the intermediate gears are coupled to the output shaft and will cause the shaft to rotate in a different direction.

26,617

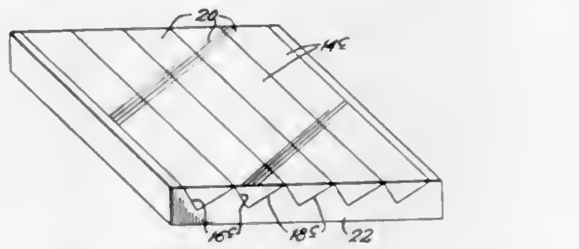
OPTICAL PRISM UNIT AND MANUFACTURE THEREOF

John J. J. Staunton, Oak Park, Ill., assignor, by mesne assignments, to Coleman Instruments Corporation, Maywood, Ill., a corporation of Delaware

Original No. 3,254,556, dated June 7, 1966, Ser. No. 113,469, May 29, 1961. Application for reissue Mar. 28, 1967, Ser. No. 637,029

Int. Cl. G02b *5/04*

U.S. Cl. 350—168 **7 Claims**



An optical prism unit for dispersing rays of light. Multiple light dispersing elements are mounted in a side by side arrangement. A beam of light may intersect the plurality of elements and be uniformly dispersed more effectively than with a single large prism. By translating and rotating the unit, the various optical elements are made to intersect the beam of light at different dispersive angles. The plurality of elements may comprise elements responsive to various wavelengths arranged in a specified order, such as in order of increasing wavelength responses.

26,618

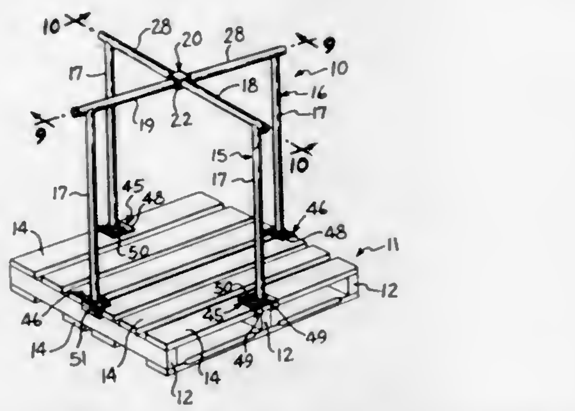
PALLET TIERING FRAME WITH WEDGE JOINT

Leroy F. Skubic, Long Beach, Ind., assignor to The Paltier Corporation, Michigan City, Ind., a corporation of Illinois

Original No. 3,249,072, dated May 3, 1966, Ser. No. 507,731, Nov. 15, 1965. Application for reissue Jan. 23, 1968, Ser. No. 702,139

Int. Cl. B65d *19/38*

U.S. Cl. 108—53 **5 Claims**



A pallet load supporting tiering frame comprising a pair of support members each having two legs secured together in spaced relation to the opposite ends of a crossbar of tubular construction, each of said crossbars being provided at the central portion thereof with an interlocking member, said interlocking members, when said support members are disposed in intersecting, angular relation, serving to secure the pair of support members together and prevent undesirable movement between said support members.

PATENTS

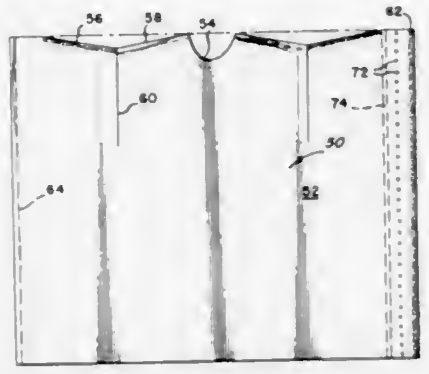
GRANTED JUNE 24, 1969

GENERAL AND MECHANICAL

3,451,062

DISPOSABLE EXAMINATION GOWN

Theodore Bradley, 147 El Dorado St.,
Monterey, Calif. 93940
Filed Mar. 16, 1966, Ser. No. 534,903
Int. Cl. A41d *9/00*
U.S. Cl. 2—114 2 Claims

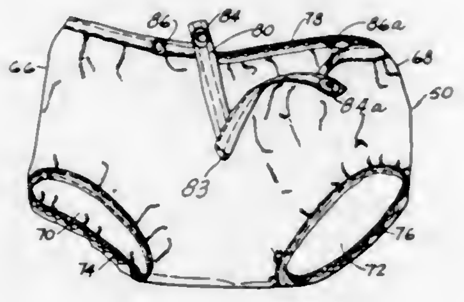


1. A disposable examination gown, comprising
(a) a single shet of disposable material having a top portion containing a cut-out neck area and two slits running downwardly from the top edge of said sheet defining arm openings as the outermost side portions of said sheet are folded inwardly,
(b) first means for separating and reattaching the ends of said outermost side portions including two sealing rows spaced from each other with perforations located therebetween, and
(c) second means for separating and reattaching adjacent selected portions of said top edge after said outermost side portions of said sheet are folded inwardly.

3,451,063

DIAPER COVER FOR INFANTS

Harold K. Dwork, Hillside, N.J.
(152 Sussex Ave., Newark, N.J. 07103)
Filed May 3, 1967, Ser. No. 635,759
Int. Cl. A41b *9/02, 9/12, 9/14*
U.S. Cl. 2—224 3 Claims

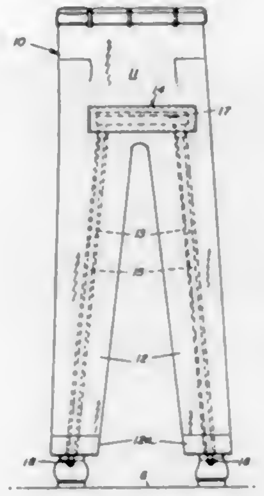


A garment for use as pants particularly useful as a diaper cover for infants formed from sheet material such as synthetic plastic. The garment advantageously has a ventilation opening and has a reinforcing strip of highly desirable construction attached to the garment in the area of the ventilation opening.

3,451,064

TROUSERS TYPE GARMENT WITH SEAT AND GROUND ENGAGING SUPPORT

Robert N. Dolan, 726 W. 16th St.,
New Cumberland, Pa. 17070
Filed Mar. 8, 1968, Ser. No. 711,576
Int. Cl. A47c *1/00;* **A41d** *27/00*
U.S. Cl. 2—227 36 Claims

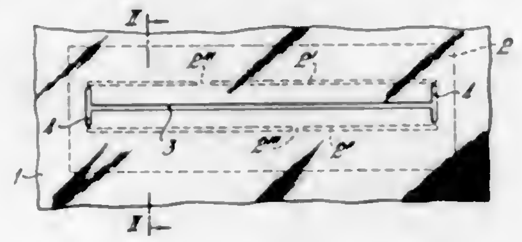


A garment of the trousers type has fabricated in the seat portion a transversely extending pocket that removably receives therein a seat member. Each of the legs of the trousers has along the length of the leg and preferably on the inside back portion a pocket that extends from the bottom of the trousers leg where it is open to adjacent the pocket in the seat where it is open. A support rod is received in each pocket in the trousers legs and is pivotally connected to the bottom of the transversely extending seat member. The wearer of the garment on bending his knees slightly forward causes the lower ends of the support rods to engage the ground or floor and the wearer applies his weight on the seat member which weight is transferred through the support rods to the ground.

3,451,065

PROCESS FOR MAKING A TURNOVER AT A FABRIC EDGE OR THE LIKE, AND ALSO ANCILLARY MEANS FOR CARRYING OUT THE PROCESS

Werner Augustin, Holsteinstrasse 8, Krefeld, Germany
Filed Apr. 20, 1967, Ser. No. 632,274
Int. Cl. A41d *27/20, 27/00*
U.S. Cl. 2—247 7 Claims

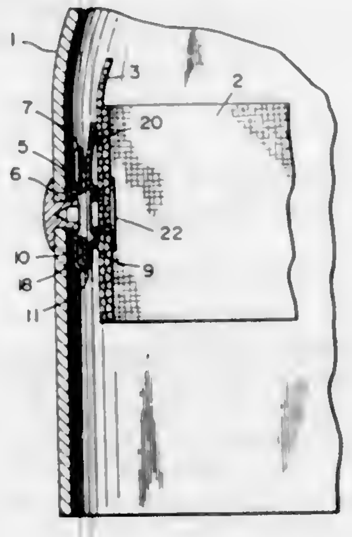


A method of reinforcing a pocket opening and mounting a pocket thereon using a strip of synthetic material with preformed cuts therein, adhering, said strip to the garment fabric, cutting the fabric, turning the formed flaps on the back of the fabric and sewing the pocket edges to the flaps; and the reinforcing strip therefor.

3,451,066

DETACHABLE HELMET LINER SUSPENSION HARNESS

Stuart T. Shears, Belmont, and Harold S. van Buren, Jr., Lexington, Mass., assignors, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Oct. 19, 1967, Ser. No. 676,486
Int. Cl. A42b *1/08;* **A44b** *11/04*
U.S. Cl. 2—3 9 Claims

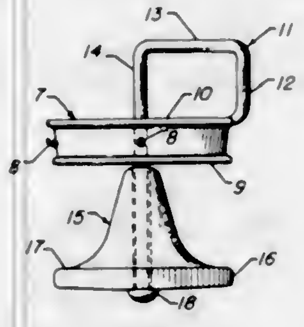


A detachable suspension harness for a helmet liner or safety hat. A plurality of snap-acting safety clips connected to the harness are releasably engageable with a plurality of headed studs mounted on the inside of the shell. Each of the clips includes a backing plate attached to the harness and a bifurcated portion overlying the backing plate and connected thereto through a reversely bent bite. The bifurcations define and open-ended, contoured, stud shank receiving slot and cooperate with the backing plate and the bite to define a stud head receiving chamber having an entrance constricted by bosses depending from the bifurcations toward the backing plate. When the clips are pressed onto the studs, the bifurcated portion snaps in both a lateral and axial direction and the stud heads are captured in the chamber between the bite and the bosses.

3,451,067

HEART VALVE

Daniel Lazo Jordan, 6400 N. Tahoma,
Chicago, Ill. 60646
Filed June 16, 1966, Ser. No. 557,956
Int. Cl. A67f *1/22;* **F16k** *15/06, 29/00*
U.S. Cl. 3—1 10 Claims

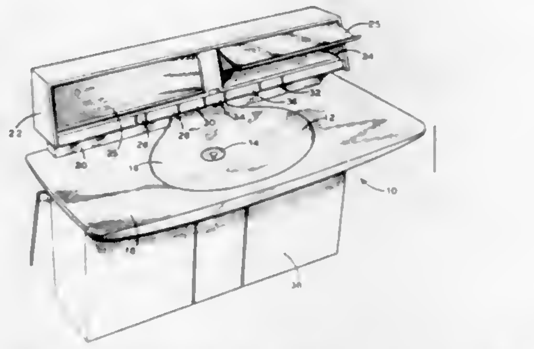


An artificial heart valve comprising a ring and a tapered check slidably mounted on a guide rod which is axially disposed through the center of the ring opening. The guide rod is one leg of a cantilevered U-shaped or curved rod, the fixed end of which is attached to the ring. The design minimizes stroke length, permits low resistance to blood flow, and affords positive seating.

3,451,068

LAVATORY UNIT

Gerard D. Phillips, Jr., Prospect, Ky., assignor to American Standard Inc., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,875
Int. Cl. A47k *1/04*
U.S. Cl. 4—166 6 Claims

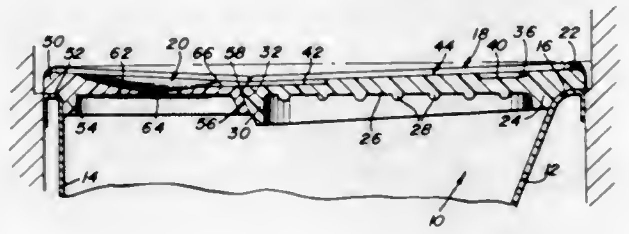


A lavatory unit comprising at least one sump section, the sump section having walls, the upper periphery of the walls forming a ledge; a raised section, the raised section having walls extending upwardly with respect to the ledge; a console member having a plurality of compartments adapted to house lavatory accessories in concealed fashion; a single control valve incorporated in the console, and a vertically rotating spout.

3,451,069

BATHTUB COVER

Cornelius P. Cronin, Sr., 710 McClelland St.,
Monaca, Pa. 15061
Filed Feb. 28, 1968, Ser. No. 709,045
Int. Cl. A47k *3/00*
U.S. Cl. 4—173 9 Claims



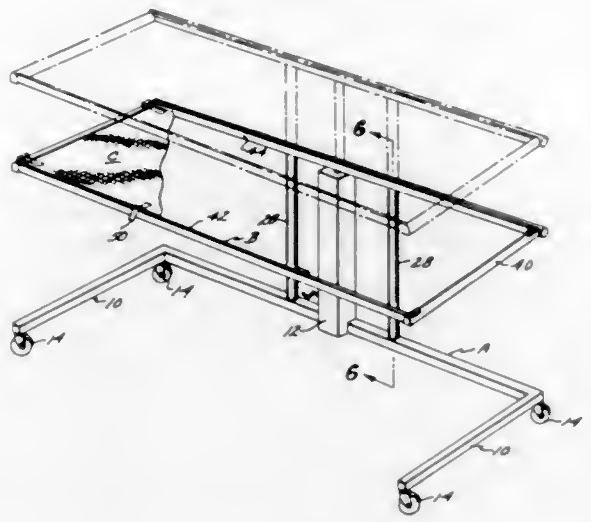
This bathtub cover could, if desired, be made in one piece but preferably comprises a pair of plastic head and foot sections having abutting transverse ends separably connected by a firm tongue and groove joint. It is advocated for use whenever the tub is not being used for bathing and serves to guard against persons, particularly unwary youngsters and elderly and infirm persons, from falling on or into the tub. This cover can be used to conceal clothes while being soaked, used as a shelf for stacking towels, linens, miscellaneous bottles and containers while cleaning a nearby cabinet, the medicine chest, and for similar purposes when storage space is at a premium. It can be used as a seat. Also the half-sections can be individually used while taking a foot bath, even as a table and in other ways. Note too, the well-like sump for trapping and draining water from a leaky showerhead or spigot.

3,451,070

PATIENT TRANSPORTING AND LIFTING DEVICE

Harry A. Danielson, 2021 N. Central,
Phoenix, Ariz. 85004
Continuation-in-part of application Ser. No. 402,397, Oct. 8, 1964. This application Jan. 16, 1967, Ser. No. 614,382
Int. Cl. A61g *7/10*
U.S. Cl. 5—83 2 Claims

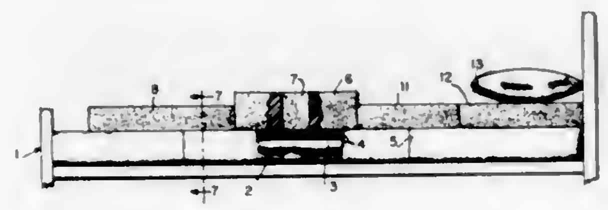
A movable apparatus on which a patient may be supported in a substantially prone, horizontal position for transportation from a bed to a predetermined location and thereafter being adapted to be used in either raising or



lowering the patient, as well as moving the patient horizontally, all without the necessity of changing the patient's initial supported position.

3,451,071
MEANS FOR REMOVING PRESSURE FROM PRESSURE SORES

Julia G. Whiteley, Fairfax County, Va.
(6346 Lakewood Drive, Falls Church, Va. 22041)
Filed Aug. 3, 1967, Ser. No. 658,198
Int. Cl. A47c *27/00;* **A61g** *7/04*
U.S. Cl. 5—91 **4 Claims**

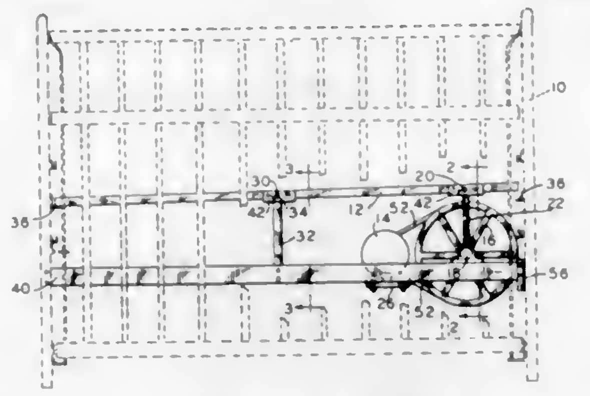


An invalid bed pad for a person having a trochanteric pressure sore on each hip and comprising two mutually abutting sections independently movable longitudinally, each section comprising a decubitus pad with an aperture therein slightly larger than the respective pressure sore and a plurality of closely spaced ancillary pads sufficient to substantially cover the bed when the sections and decubitus pads thereof are mutually abutting, the thickness of each decubitus pad being sufficient to prevent contact of the pressure sore with the bed when the person is reposing in either side position with the sore aligned with the respective aperture, all pads being composed of porous hypoalergenic resilient material such as polyurethane foam or the like.

3,451,072
OSCILLATING BABY BED

James D. Cogdell, 4227 E. Young Place,
Tulsa, Okla. 74115
Filed Sept. 7, 1967, Ser. No. 666,107
Int. Cl. A47d *9/02, 9/04*
U.S. Cl. 5—109 **6 Claims**

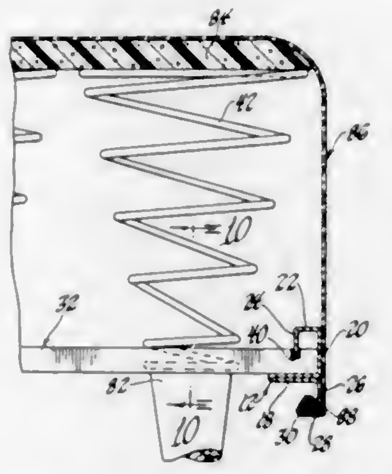
An oscillating baby bed having a stationary main frame and a mattress frame or bed spring pivotally mounted intermediate its longitudinal ends above the main frame, a crank shaft having an eccentric portion thereon rotatably mounted on the main frame below the bed spring, a motor mounted on the main frame and driving the crank shaft and an arm pivotally connected at its upper end to the bed spring and at its lower end having a portion received around the eccentric portion of



the crank shaft; rotation of the motor will cause an oscillation of the bed spring around its central pivotal connection.

3,451,073
BOX SPRING BED ASSEMBLY

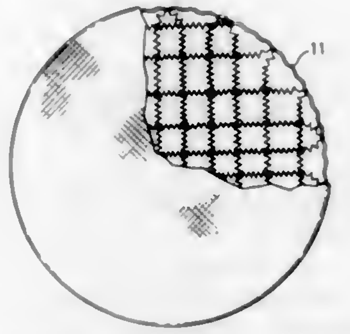
Zygmunt M. Surletta, Detroit, Mich., Karl F. Ockershauser, High Point, N.C., and Jerry P. Koziatek, Hinckley, Ohio, assignors to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,610
Int. Cl. A47c *17/00, 17/86, 23/00*
U.S. Cl. 5—230 **15 Claims**



A bed assembly including; side members, end members, corner pieces interconnecting the side and end members, a plurality of cross members connected between the side members by a flange and groove arrangement, the cross members being shaped to retain a plurality of springs.

3,451,074
VENTILATING SPACER

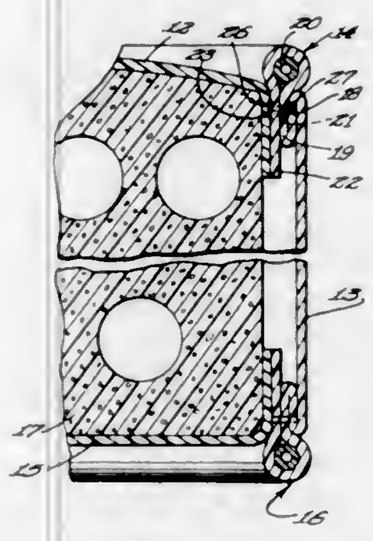
Samuel P. Crane, 23 Pine Drive, Great Neck, N.Y. 11021, and Stephen D. Kent, 567 Liberty St., Newburgh, N.Y. 12550
Filed Feb. 15, 1965, Ser. No. 433,262
Int. Cl. A47c *23/00, 25/00*
U.S. Cl. 5—347 **1 Claim**



1. A spring structure comprising a sinuously convoluted peripheral frame consisting only of an elongated wire member in the general outline of a geometric figure having a plurality of inwardly extending troughs therein separated by a crest between each pair of adjacent troughs and means securing the ends of said member together to close the frame, and two mutually perpendicular and substantially coplanar sets of sections of a coiled wire spring wrapped backwards and forwards in zig-zag formation around and across the frame and tensioned, each set including one-half turn bent portions, each portion being common to and joining the ends of adjacent sections of the same set of sections, each of said one-half bent portions being looped over the member at the junction of the half turn portion with a trough of the member thereby to position the ends of adjacent sections joined by said portion relatively to the frame, the middle sections of each set of sections being closer together than the marginal sections of the set thereby to provide a greater density of coils at the central area of the spring structure than at the marginal area thereof.

3,451,075
METHOD AND APPARATUS FOR HEAT SEALING SEAT CUSHION COVERS

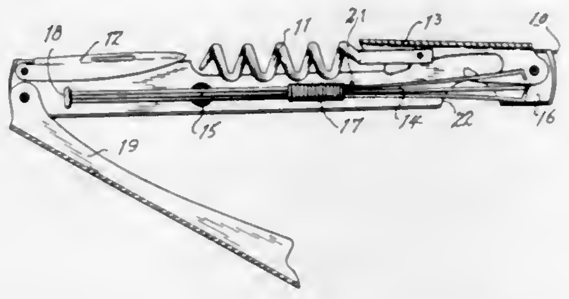
Joseph H. Woodard, Owosso, Mich., assignor to Lee L. Woodard Sons, Inc., Owosso, Mich., a corporation of Michigan
Filed Aug. 30, 1967, Ser. No. 664,548
Int. Cl. A47c *3/00, 27/00*
U.S. Cl. 5—360 **10 Claims**



The invention is directed to a method and apparatus of forming seat cushion covers by heat-sealably securing the panels of heat-sealable material together at the peripheral surfaces thereof while simultaneously forming a welt between the panels of material. The seat cushion cover has a folded over portion which is wrapped about a flexible cord to form the welt, and the folded over portion is sewn together to confine the welt in position. The folded over portion is then heat-sealably secured to another panel of heat-sealable material forming the seat cushion. The apparatus used to form the seat cushion cover includes a base plate for receiving a flat panel of material which forms the top of the seat cushion and a four-sided container having open opposite ends. A plurality of resilient finger tabs are secured to the four-sided container and have a gripping portion to engage the material placed therein and hold the material in contact with a heat transfer edge of the container. The four-sided container includes a plurality of bosses which engage releasable clamp means secured to the base plate for securably positioning the container in position over the flat piece of material. Spring clips may be provided within the interior of the container to hold the material placed therein in an upright position against the interior walls thereof during the heat sealing operation.

3,451,076
SUBMERGED CORK RECOVERY DEVICE

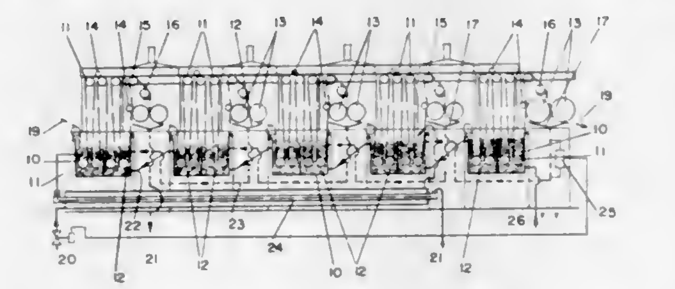
Avery Verne Deaver, 928 Bradley Drive,
Colma, Calif. 95613
Filed Oct. 10, 1966, Ser. No. 585,518
Int. Cl. B26b *11/00;* **B25f** *1/00*
U.S. Cl. 7—11 **6 Claims**



A combined tool for bartenders and the like having the usual cork screw, bottle cap lifter, a knife blade, with the improved features of means for recovering a submerged cork from a wine bottle, the latter means consisting of a plurality of flexible outwardly biased prongs having upset ends for engagement with a submerged cork when in use, together with a fulcrum bar to provide leverage. The flexible cork recovery prongs are supported within the back of the tool with a swivel joint so that when not in use these prongs will be concealed within the body of the tool.

3,451,077
PROCESS AND APPARATUS FOR THE WET TREATMENT OF LENGTHS OF TEXTILE MATERIALS AND THE LIKE

Christian August Meier-Windhorst, Hamburg, Alfred Schraud, Maschen, near Hamburg, and Helmut Vogeler, Harmstorf, Kreis Harburg, Germany, assignors to Dr. Artos Ing. Meier-Windhorst K.G., Hamburg, Germany, a corporation of Germany
Filed Apr. 14, 1967, Ser. No. 631,059
Claims priority, application Germany, Apr. 14, 1966,
A 52,160
Int. Cl. D06c *1/00;* **D06f** *31/00*
U.S. Cl. 8—151 **2 Claims**

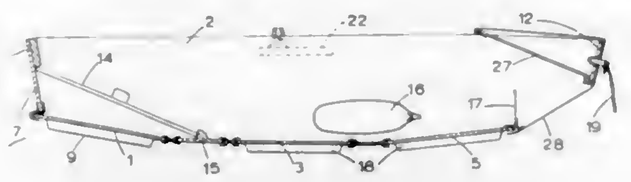


A length of textile material is washed or otherwise wet treated by being passed consecutively through several baths and by being squeezed after its passage through each bath, the squeezing being carried out in two stages to initially remove the liquid film carried by the fabric and then removing the liquid located in the fabric. The removed liquid is directed into the bath from which the fabric has just emerged to prevent it from being mixed with other baths.

3,451,078
INFLATABLE BOATS

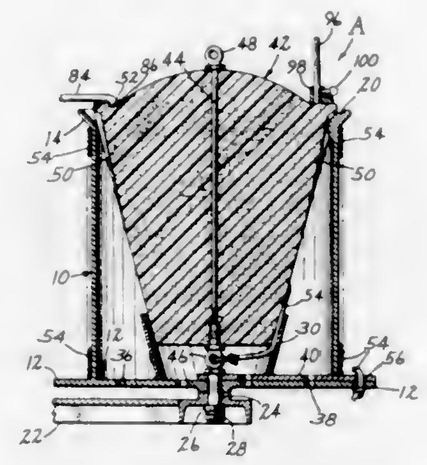
David V. Edwards, Hawthorn Road,
Ridgelea, Godalming, England
Filed Jan. 30, 1967, Ser. No. 612,494
Claims priority, application Great Britain, Jan. 31, 1966,
4,215/66
Int. Cl. B63b *7/00*
U.S. Cl. 9—2 **9 Claims**

A foldable inflatable boat is constructed having a bow and sides formed from a single inflatable hull member, or having sides and optionally bow formed from separate inflatable hull members. The bottom of the boat is formed from at least two boards, hingedly connected to one another and to the inflatable hull member or members by means of waterproof joints.



3,451,079
RELEASABLE FLOAT FOR LOCATING AND RAISING SUNKEN OBJECTS

William E. Hagan, Rte. 1, Box 99,
Two Harbors, Minn. 55616
Filed July 18, 1967, Ser. No. 654,150
Int. Cl. B63b *21/52;* **B63g** *8/34;* **A01k** *93/00*
U.S. Cl. 9—9 **9 Claims**



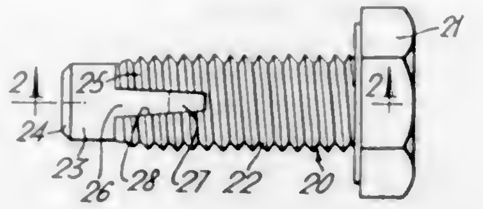
The invention includes a drum open at its upper end and rotatably mounted on a base support and on which a line is wound. The line is connected at one end to the support and at the other end to the lower end of a float positioned axially within the drum. The line passes from the drum through recess means formed in the upper wall of the float downwardly to the lower end of the float. The support is connected to an object to be retrieved.

A restraining arm is carried by the support which releasably holds the float within the drum. When the device is submerged, water enters through the recess means of the float and displaces the air in the drum. As a result the float becomes buoyant, and in rising from the drum the float releases the restraining arm to an open locked position. The line is drawn off the rotating drum as the float rises and until the object comes to rest on the bottom.

3,451,080
SCREWS

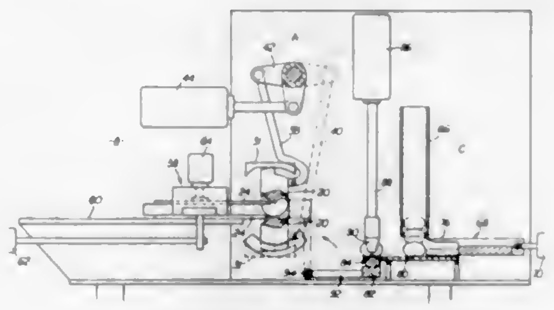
Alan H. McIntyre and William A. Beards, Staffordshire, England, assignors to Glynwed Screws & Fastenings Limited, Midland Works, Darlaston, South Staffordshire, England, a British company
Filed Nov. 23, 1966, Ser. No. 596,645
Claims priority, application Great Britain, Nov. 23, 1965, 49,618/65; Mar. 9, 1966, 10,259/66; Mar. 23, 1966, 12,770/66
Int. Cl. B23g *1/00;* **F16b** *35/00*
U.S. Cl. 10—10 **24 Claims**

In making a paint-removing screw the end of a blank is extruded to form a tapered portion terminating in a spigot. At least one groove is extruded in at least the tapered portion. The grooved blank is thread-rolled so that the main portion of the blank and the tapered portion are threaded, but the spigot is not threaded, being too thin. A paint removing edge is formed along the groove or each groove by the thread-rolling process. The extrusion process or processes may be effected while a head is being formed.



3,451,081
BOOK-BINDING MACHINES

Roger Liouville, Colombes, France, assignor to James Burn & Co., Limited, London, England, a British company
Filed Jan. 3, 1968, Ser. No. 695,484
Int. Cl. B42c *19/00*
U.S. Cl. 11—1 **12 Claims**

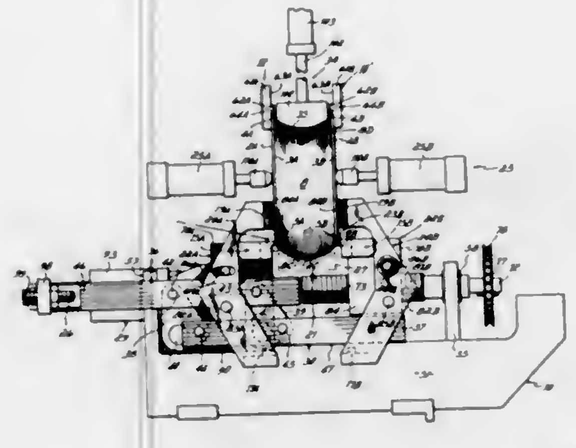


A machine for binding packets of perforated sheets or "books" with wire binding elements of the kind having a series of curved prongs on which the sheets are impaled before the prongs are closed to ring shape by bringing their points into the vicinity of their roots in which the prongs are brought from the open to the closed position by a pair of jaws which are segments of cylinders of approximately the diameter of the prongs in the closed position subtending an angle of more than 90° and which effect the closing by being rotated in opposition directions away from the fore-edge of the book to be bound about axes disposed on the fore-edge side of the axes of the said cylinders.

3,451,082
METHOD AND APPARATUS FOR PROPERLY POSITIONING A BOOK WITHIN A CASE

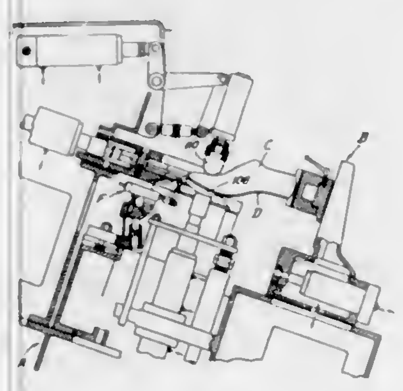
Ernest J. Sarring, Fort Thomas, Ky., assignor to Crawley Machinery Co., Newport, Ky., a corporation of Ohio
Filed Jan. 23, 1968, Ser. No. 699,876
Int. Cl. B42c *11/04*
U.S. Cl. 11—3 **15 Claims**

A method for squarely positioning a book between the boards of a case including the steps of gripping the ends of the case between which is sandwiched a book having its end sheets freshly glued, advancing the encased book toward a stationary abutment to bring the front edges of the boards into contact with a locating surface, and maintaining the front board edges in contact with the locating surface while urging the front of the encased book toward the case back to eliminate any anti-parallelism between the front edges of the book end sheets and the front edges of the boards and thereby squarely position the book within the case. Apparatus for practicing the foregoing method, including an abutment having a locating surface thereon engageable with the front edges of the boards, a board holder for positioning and holding the boards with their front edges in contact with the abutment locating surface, and a ram having a book front engaging surface disposed parallel to the abutment locating surface and movable away from the abutment toward the back of the book for positioning the book squarely within the case with the front book edges parallel to the front board edges.



3,451,083
DEVICE FOR LASTING SHOE UPPERS

Gaetano Pedretti, Vigevano, Pavia, Italy
Filed Apr. 25, 1967, Ser. No. 633,503
Int. Cl. A23d *21/00*
U.S. Cl. 12—11.3 **13 Claims**

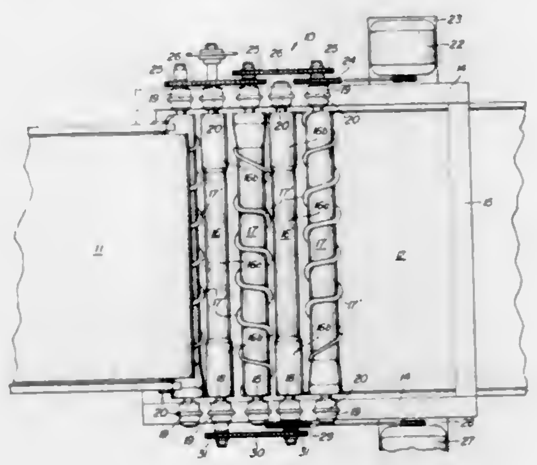


A lasting machine including pivotally mounted nippers which are movable in a first direction towards a last and which are further movable in a direction perpendicular to the first direction if resistance is met at the last to ensure proper conformance of the shoe vamp to the shape of the last. Further provided is a number of pivotally mounted shapers (which may be heated) which are movable horizontally towards the last to further ensure proper stretching and adherence of the shoe vamp and to eliminate wrinkling thereof. The shapers are also movable in a vertical direction and operate in conjunction with the nippers.

3,451,084
ROLL SCREEN FOR CLEANING ROOT CROPS

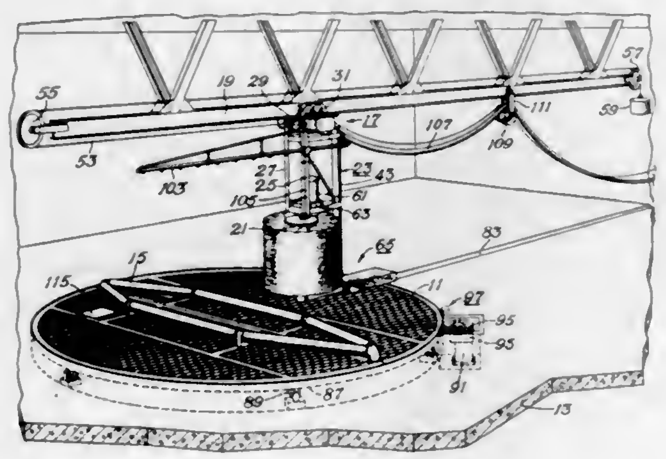
Joseph M. Silver, Ogden, Utah, assignor to Ogden Iron Works Company, Ogden, Utah, a corporation of Utah
Filed Apr. 25, 1967, Ser. No. 633,613
Int. Cl. A23n *13/00, 15/06;* **B07c** *5/04*
U.S. Cl. 15—3.11 **10 Claims**

A roll screen especially useful on beet pilers, or the like, for cleaning beets or other agricultural root crops. Alternate smooth and scrolled screening rolls extend transversely of the direction of travel of the beets along the screen from feed end to discharge end thereof and serve to spread the beets and accompanying trash transversely across the screen but longitudinally along the rolls making up the screen. Special cones at the ends of the rolls kick trash off the screen and tend to prevent roll damage due to solid material becoming wedged between the rolls. The spacing between rolls, the variable diameter of the smooth rolls, and the variable size and pitch of the scrolls on the scrolled rolls result in better dispersion of beets and trash longitudinally along the rolls, more effective cleaning of the smooth rolls, and improved trash removal.



3,451,085
VEHICLE WASH SYSTEMS

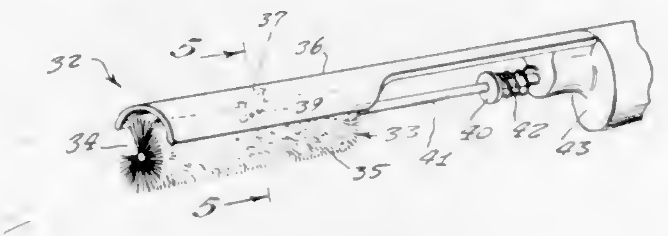
Robert H. Hay, Rte. 1, Box 609, Irving, Tex. 75060
Filed May 8, 1967, Ser. No. 636,899
Int. Cl. A46b *13/02;* **B60s** *3/00*
U.S. Cl. 15—21 **10 Claims**



Following is disclosed a vehicle wash system in which a vehicle is positioned radially across a turntable. During rotation of the turntable, a reciprocal brush moves into engagement with the vehicle to cleanse its side and end surfaces. A weight secured to a cable supported by pulleys and thereby connected to the front of an overhead carriage to which the brush is supported urges the brush against the vehicle with a selected force. To minimize possible damage from excessive force between vehicle and brush, a sensing element communicates with the brush to energize a motor supported in the overhead carriage to retract the brush from the vehicle when the force between brush and vehicle exceeds a selected value. The sensing element disclosed has a pivotable arm that communicates on either of its sides with electrical switches, either of which may close a circuit to energize the motor. Once the forces diminish below the selected value, the sensing arm returns to a central position, opening the circuit to stop the motor. One end of the arm extends into a groove located beneath the brush, and is rotated slightly by the groove if the brush moves laterally relative to the groove. To advance the brush forward from an inactive or "stored" position toward an active or "wash" position, the electric motor in the overhead carriage is rotated in a reversed direction from that described above. When the brush engages the vehicle the brush swings slightly rearward and actuates a switch which opens the circuit to de-energize the motor and stop forward movement of the brush. The brush remains in this position until signaled to move forward or backward in response to sensed change in brush angular orientation, which is a function of the force between brush and vehicle.

3,451,086
ROTARY TOOTHBRUSH

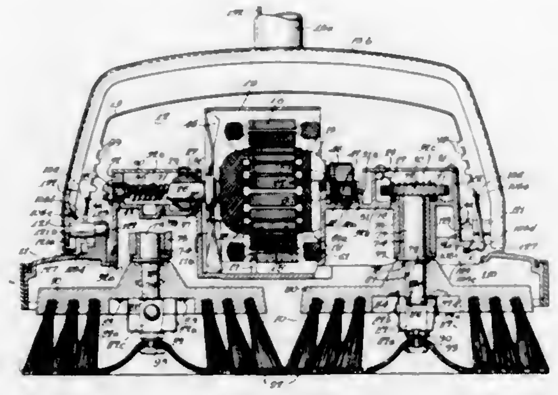
Elbert B. Burgett, 2809 N. 3rd St.,
Flagstaff, Ariz. 86001
Filed Feb. 27, 1967, Ser. No. 618,774
Int. Cl. A46b *13/02;* **F16h** *21/26*
U.S. Cl. 15—23 1 Claim



An improved motor powered rotary tooth brush with protection for the tongue and other sensitive mouth tissues, having a combined rotary and reciprocating axial movement for more effective cleansing action. A cylindrical brush is provided with a bare portion extending axially on a brush shaft. An abutment carried by a brush shield engages the brush and cooperates with the bare portion to cause the brush to reciprocate as it rotates.

3,451,087
FLOOR CONDITIONING

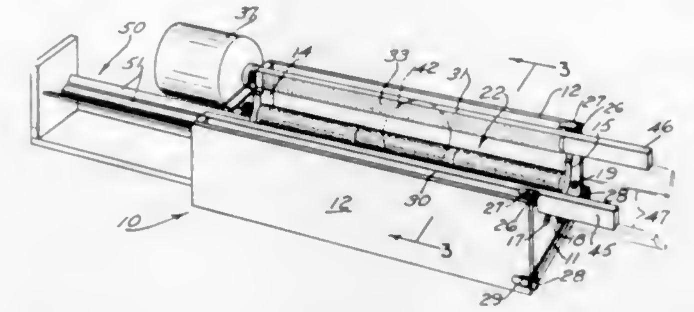
Ivar Jepson, South Duxbury, Mass., and Alfred F. Ernstberger, Wheaton, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Application Aug. 28, 1962, Ser. No. 219,848, now Patent No. 3,349,266, dated Oct. 24, 1967, which is a division of application Ser. No. 756,710, Aug. 22, 1958, now Patent No. 3,068,503, dated Dec. 18, 1962. Divided and this application June 15, 1967, Ser. No. 646,378
Int. Cl. A47l *11/16;* **H02h** *5/04*
U.S. Cl. 15—49 11 Claims



A floor conditioner having a motor supporting frame, a pair of horizontally spaced vertical spindles rotatably mounted on the frame and a pair of disc brushes secured to the lower ends of the spindles below the frame. A plurality of supporting projections formed integrally on the frame to support a motor field. An inverted U-shaped shroud overlying the motor field and having the ends of its legs secured to the frame. A horizontally disposed armature extending through the motor field and having its ends rotatably supported by journal bearings.

3,451,088
CLEANING DEVICE FOR BOWLING BALLS OR OTHER SPHERICAL OBJECTS

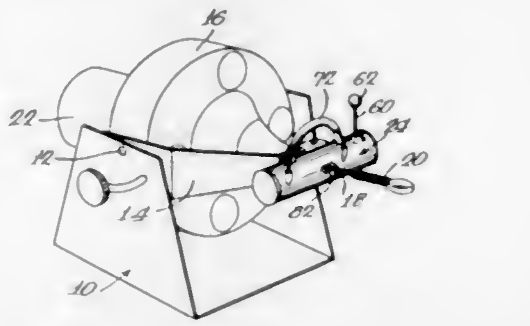
Franz Germann, 31A Ashurst Ave.,
Middletown, R.I. 02840
Filed Dec. 27, 1966, Ser. No. 604,884
Int. Cl. B08b *1/04, 1/02*
U.S. Cl. 15—97 4 Claims



A cleaning device for a spherical object having a longitudinal trough through which the object passes. The trough is formed by a plurality of longitudinal cylindrical members upon which the object rests and which are driven so as to rotate the object and speed up its passage through the trough. Each of the cylindrical members has a buffing surface formed as a sleeve which may be easily removed and replaced as it becomes soiled with the dirt removed from the spherical object.

3,451,089
CONDUIT CLEANING APPARATUS

Arthur B. Carlson and Donald J. Kettleborough, Mendota, and Lucian L. Schreiber, Peru, Ill., assignors to Conco Inc., a corporation of Illinois
Filed Nov. 6, 1967, Ser. No. 680,758
Int. Cl. B08b *9/02;* **B65h** *51/26, 23/16*
U.S. Cl. 15—104.3 17 Claims

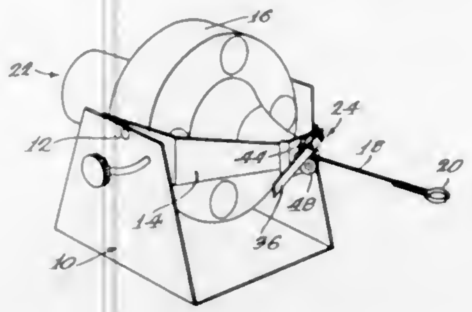


A conduit cleaning apparatus of the cable type including a tool adapted to be rotatably and longitudinally moved through a drain tile or the like, for cleaning the same, a supply of cable connected to the tool and contained within a drum, a drive means for rotating the drum and thus the cable, means for feeding the cable including a pair of rollers engaging the periphery of the cable and having their axes of rotation disposable at angles to the longitudinal axis of the cable and means for adjusting the axis of rotation of the rollers to thereby adjust and change the direction and/or the rate of feed of the cable and to provide a positive neutral position.

3,451,090
CONDUIT CLEANING APPARATUS

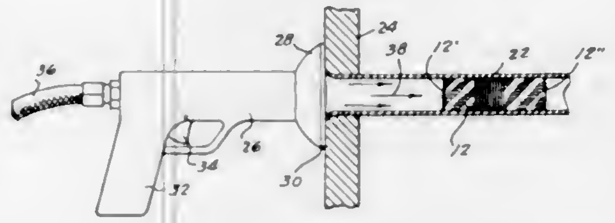
Roy F. Lo Presti and Charles T. Ogden, Chicago, Ill., assignors, by mesne assignments, to Conco Inc., Mendota, Ill., a corporation of Illinois
Filed Nov. 6, 1967, Ser. No. 680,759
Int. Cl. F28g *3/12;* **B08b** *9/02*
U.S. Cl. 15—104.3 11 Claims

A conduit cleaning apparatus of the cable type including a tool adapted to be rotatably and longitudinally moved through a drain tile sewer or the like to clean the same, a supply of cable connected to the tool and contained within a drum, a drive means for rotating the drum and thus the cable, and means for feeding the cable including a pair of rollers engaging the periphery of the cable and having their axes of rotation disposed at an angle to the longitudinal axis of the cable.



3,451,091
DEVICE FOR CLEANING PIPES AND TUBES

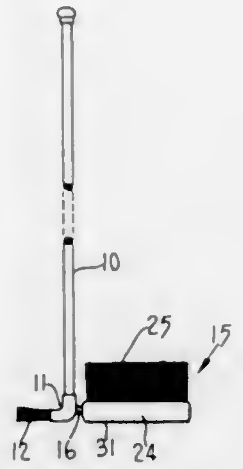
James W. Wallace, 320 Morningside Drive, Baywood Village, Palm Harbor, Fla. 33563
Filed Feb. 23, 1968, Ser. No. 707,581
Int. Cl. B08b *9/04, 1/00*
U.S. Cl. 15—104.06 4 Claims



A plug to be forced through a tubular passage to clean the same, said plug comprising a predetermined length of rope formed of conventionally twisted fibers of biodegradable organic material, said length being centrally bound by a wrapping of similar material, and having a ratio of length to diameter sufficient to permit such length to pass through curved sections of such tubular passage.

3,451,092
SWIVELLING SHOE BRUSH COMBINATION

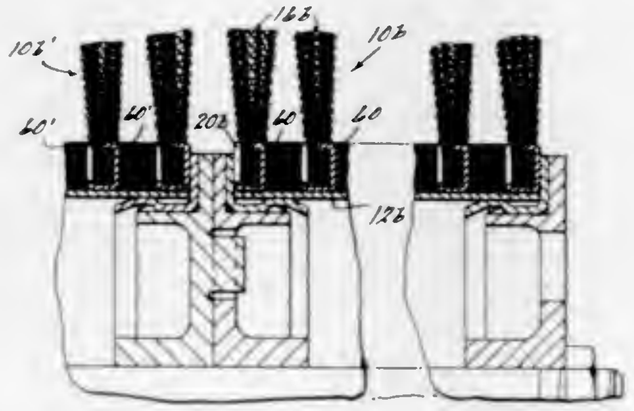
Alexander Szopo, 346 Sudan St., New Brunswick, N.J.
Filed Feb. 1, 1968, Ser. No. 702,287
Int. Cl. A47l *23/04*
U.S. Cl. 15—106 6 Claims



A brush combination suitable for cleaning shoes comprises a long handle from the lower portion of which projects laterally a pin on to which is hingeably attached a brush mounting plate. A stop plate attached to the top of the pin serves to stop the plate from making a complete revolution around the pin. An elongated brush body has an end opening into which the mounting plate is inserted with the pin and stop. The plate is anchored into the hole end and is positioned so that the pin is disposed off-center with respect to the central axis of the brush body, so that when the brush body is pulled back on the floor, it rolls around the pin until the bristles are disposed upwardly for cleaning the soles of shoes, in which case the stop prevents the brush body from rotating farther. When the handle is lifted, the brush body rotates back to the bristle-downward position—enabling its use as a broom, since it is prevented from rotating farther again by the stop. Another shorter brush may be mounted in laterally-extending position on the handle oppositely disposed from the longer brush to clean the sides of the soles.

3,451,093
CARTRIDGE WORK WHEEL

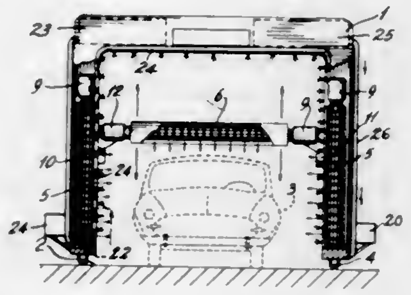
Howard J. McAleer, Detroit, Mich., assignor to Formax Manufacturing Corporation, Detroit, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 304,336, Aug. 26, 1963. This application Oct. 23, 1965, Ser. No. 511,271
Int. Cl. B05c *1/00*
U.S. Cl. 15—230.1 8 Claims



A work wheel having a plurality of packets each including a plurality of work members with the packets circumferentially fixed to a thin gauged tube member and spaced from each other.

3,451,094
AUTOMATIC INSTALLATION FOR THE CONSECUTIVE WASHING AND DRYING OF CARS

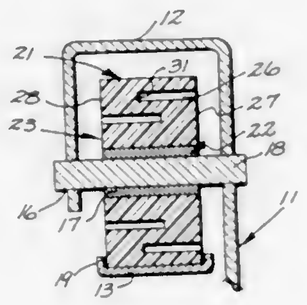
Fermin Espada Kywi, Calle Provenza 326,
Barcelona, Spain
Filed Aug. 10, 1967, Ser. No. 659,802
Int. Cl. B60s *3/06*
U.S. Cl. 15—302 2 Claims



An installation for washing and drying cars in which a structure movable on rails is generally U-shaped and travels over the car, which is stationary, to wash and dry the latter. This structure is provided with the necessary sprinkling pipes and piping arrangement for sprinkling the car with water both for washing and for rinsing. Turboventilator units are provided on the upright branches of the U and an additional horizontal turboventilator unit is provided that stands spaced between the upright branches of the U. This bridge operates with a photoelectric system so that it follows the contour of the car as the movable structure is displaced over the car.

3,451,095
CUSHIONED ROLLER

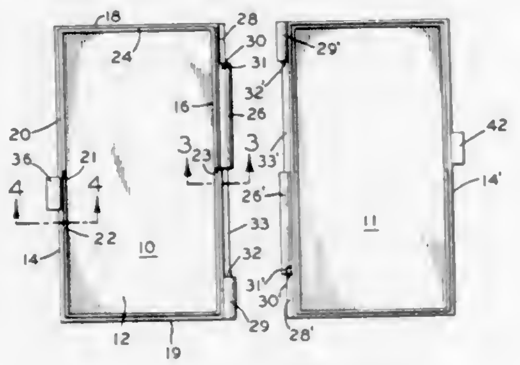
Henry Kiefer, Plainsville, Ohio, assignor to Eagle-Picher Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed July 17, 1967, Ser. No. 653,853
Int. Cl. E05d *13/02*
U.S. Cl. 16—107 10 Claims



A roller comprising a tread portion, a hub portion, and a disc portion between the tread and the hub portions, the disc portion being substantially solid and having at least one groove disposed inwardly from each side of the disc and extending parallel to the axis of the roller past the midplane of the roller but not extending to the opposite side of the disc.

3,451,096
COVERED BOX WITH HINGE STRUCTURE

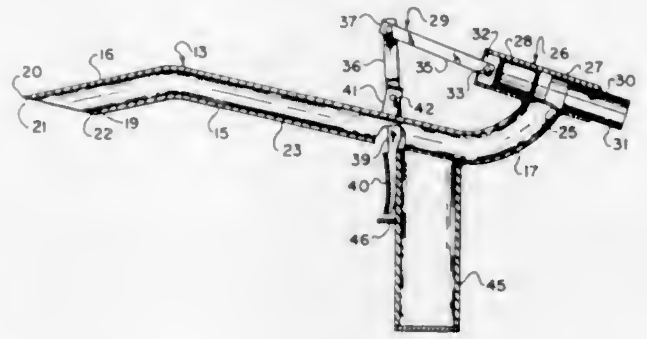
Joseph Leshin, New York, N.Y., assignor to Calumet Manufacturing Co., Inc., New York, N.Y., a corporation of New York
Filed Nov. 24, 1965, Ser. No. 509,482
Int. Cl. E05d *3/02*
U.S. Cl. 16—171 8 Claims



A hinge structure for a molded box and cover of like contour and having long and short hinge knuckles formed along one edge of the box and cover, one of the knuckles having a hinge pin and the other having a socket axially aligned with the hinge pin and wherein the hinge parts can be assembled and disassembled *only* when the box and cover are in one angular position.

3,451,097
VISCERA REMOVER

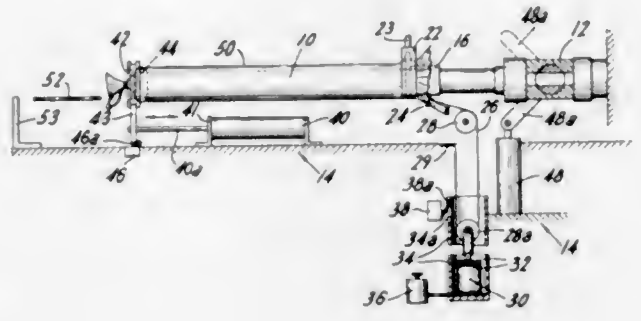
Billy F. Knight, Morristown, Tenn., assignor to Gainesville Machine Company, Gainesville, Ga., a corporation of Georgia
Filed Jan. 25, 1967, Ser. No. 611,680
Int. Cl. A22b *3/08;* **A22c** *21/06*
U.S. Cl. 17—11 5 Claims



A method and apparatus for removing the viscera of chickens, turkeys, and other edible fowls by exerting a vacuum in the cavity of an edible fowl to remove the viscera therefrom, especially the lungs and other organs located within the deeper portion of the fowl cavity.

3,451,098
CONSTANT PRESSURE FILLING APPARATUS

Michael J. Myles, Downers Grove, Vytautas Kupcikevicius, Chicago, and John P. Spellman, Oak Lawn, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,566
Int. Cl. A22c *11/02, 11/12*
U.S. Cl. 17—35 6 Claims



A stuffing tube for stuffing food emulsion into a food casing is equipped with means for automatically sheathing a food casing over the stuffing tube and for controlling the stuffing pressure of the food emulsion as it is stuffed in the food casing. The stuffing tube is also provided with means to control expansion of the food casing as it is being stuffed and for preventing food emulsion from backing up onto the stuffing tube after stuffing of the food casing has been completed.

3,451,099
TRIMMING TONGUES

Ernest Bonami, Western Springs, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 29, 1966, Ser. No. 605,794
Int. Cl. A22c *17/00*
U.S. Cl. 17—52 6 Claims

Beef tongues are mechanically trimmed while retained against displacement from a generally horizontal position by first cutting transversely to separate the gullet and

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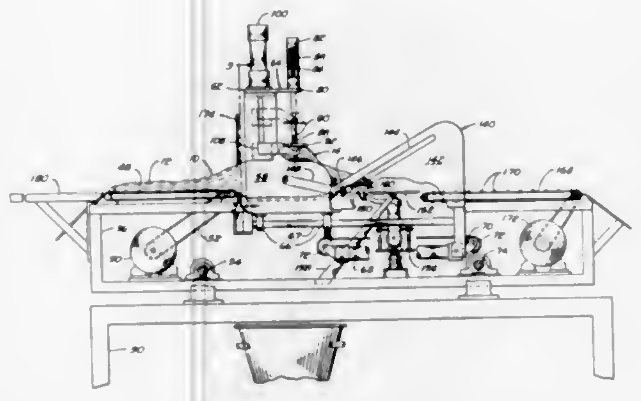
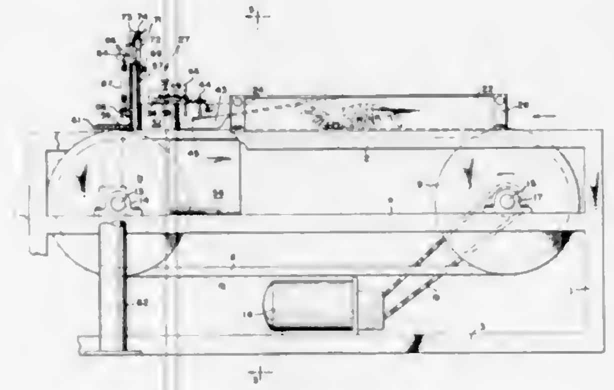
mouth portions and then moving the latter forwardly while severing a layer of fat from the underside. Apparatus includes terminal delivery and discharge belts with



retaining clamp reciprocable therebetween and a cross-rotating fat severing knife. All of the latter being supported for transverse reciprocation relative to a vertical separating knife.

3,451,100
SHRIMP DEHEADING DEVICE

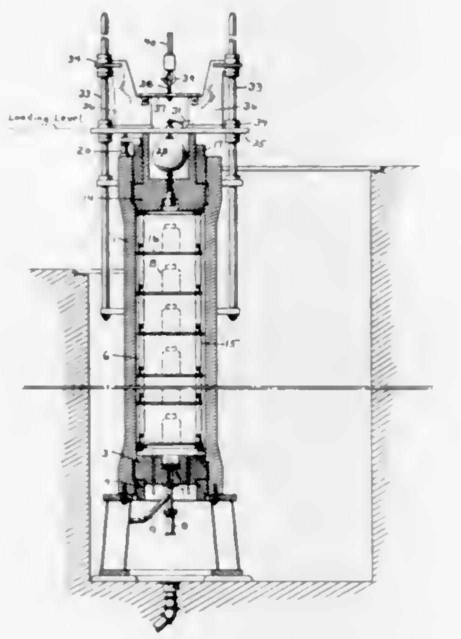
Robert E. Lee, Blaine, Wash., assignor of one-half to Eythor G. Westman, Blaine, Wash.
Filed Apr. 28, 1967, Ser. No. 634,623
Int. Cl. A22c *29/00*
U.S. Cl. 17—71 10 Claims



A shrimp deheading device in which the whole shrimps are conveyed on a narrow belt conveyor within a trough and into a restricted throat. The head or tail is cleanly and rapidly severed and removed from the belt by a reciprocating cutter head which moves across the belt when triggered by switch means actuated by movement of the shrimp to the cutting station. Return movement of the cutter head serves to release the remaining portion of the shrimp and to actuate a water jet for ejecting it from the belt. More particularly, the invention relates to an improved device for separating the head from the shrimp body in a rapid and efficient manner without damage to the edible body portion. The present invention contemplates a device which is sufficiently rapid and efficient in its operation to be suitable for commercial use. The problem of conveying the shrimps, holding and cutting, and then distributing or segregating the parts becomes quite difficult because of the irregularity in size and shape. Conveying techniques developed in the past have included grasping the shrimps by their feelers, roll conveying, water currents etc. The different cutting techniques used range from high velocity fluid jets and differential squeeze rolls to circular knives and the like. These methods often result in damage to the edible portion of the shrimp and are generally unsatisfactory.

3,451,101
AUTOMATICALLY OPERATING AIR VENT FOR ISOSTATIC MOULDING PRESS

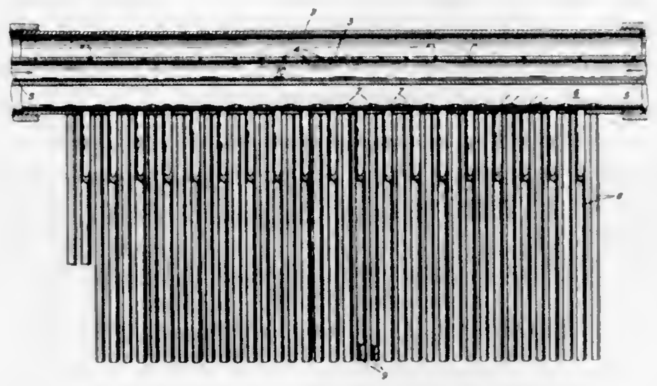
Arnold G. Bowles, Warren, Pa., assignor to National Forge Company, Irvine, Pa., a corporation of Delaware
Filed July 5, 1967, Ser. No. 651,213
Int. Cl. B29c *3/06*
U.S. Cl. 18—5 5 Claims



An isostatic moulding press of the so-called "wet bag" type is comprised of a vertically arranged pressure chamber into which is lowered a multi-level support structure on which are placed a plurality of elastomeric bags containing granular or powdered material to be moulded by high-level isostatic pressure exerted on a liquid which fills the chamber. The support structure for the bags depends from an upper end plug which closes off the top of the chamber and a vent valve is incorporated in this plug. After the pressure chamber has been completely filled with the liquid to be pressurized, excess liquid flows through the then open vent valve into a reservoir containing a float which is coupled to the valve in such manner that the valve closes after the float has been raised by the liquid. The float action also serves to close a switch which is connected into a signalling circuit to signal that the vent valve has been closed and the chamber is now ready for pressurization.

3,451,102
CATALYST EXTRUSION HEADER AND PROCESS OF EXTRUSION

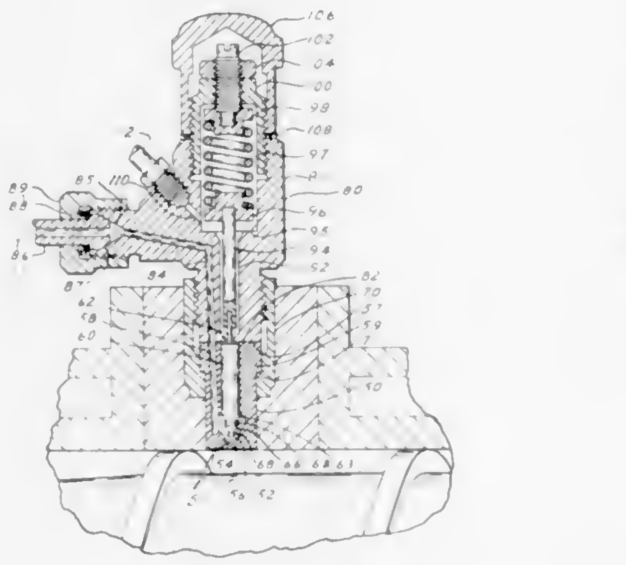
Nicholas Chomitz, Michigan City, Ind., John Francis Lindsley, Glenbrook, Conn., and Charles D. Price, Fort Worth, Tex., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Nov. 10, 1965, Ser. No. 507,099
Int. Cl. B29f *3/01;* **A21c** *11/16;* **B28b** *3/20*
U.S. Cl. 18—12 6 Claims



An extrusion header where the extrudate is extruded at a uniform pressure. The header consists of an outer tube closed at both ends and an inner tube extending through the ends of the outer tube with linear perforations extending from end to end of both tubes, but the perforations of the outer tube are orientated at 120 to 180° from the perforations of the inner tube. Further, the perforations are irregularly spaced such that for any extrudate, starting from the outer end of tubes and working toward the center; the spacing of the perforations will be a function of the pressure drop for the given extrudate and at the center of the tube the pressure is nearly zero. Connected to the outer perforations, one extrusion tube is sealed to each perforation.

3,451,103
EXTRUSION APPARATUS

Ardashus A. Aykanian, Wilbraham, and Edgar E. Hardy, Longmeadow, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application June 2, 1961, Ser. No. 114,352. Divided and this application Feb. 5, 1964, Ser. No. 342,679
Int. Cl. B29d *23/04, 27/02*
U.S. Cl. 18—12 **3 Claims**

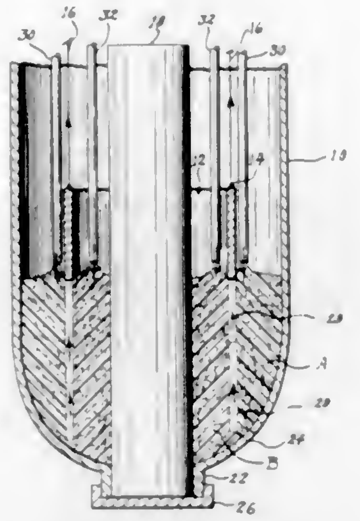


1. In combination in screw extruder (1) an elongated chamber having associated therewith a die affixed to the discharge end thereof and means for feeding resin into the rearward zone of the chamber, (2) a screw mounted within said chamber and adapted to advance resin through the chamber, which screw has a root diameter which uniformly increases and reaches a maximum just prior to means for injecting liquid into the chamber, and (3) means for injecting liquid into the chamber through the chamber wall; said liquid injection means including (a) a fluid delivery nozzle whose face is substantially integral with the chamber wall, (b) an orifice in the face of said nozzle and (c) means for sealing said orifice when liquid is not being injected into the chamber.

3,451,104
APPARATUS FOR THE SIMULTANEOUS CASTING OF MULTIPROPELLANT SOLID FUEL ROCKET MOTORS

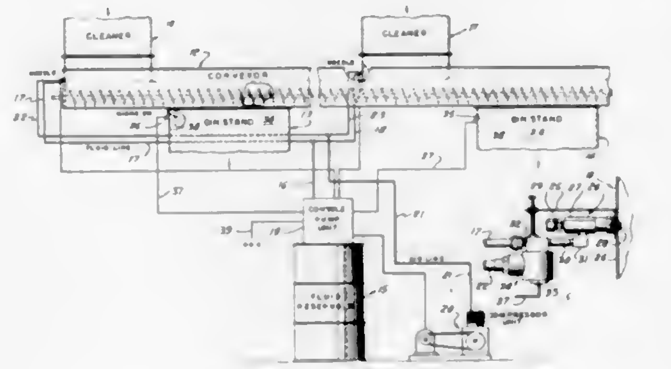
Wilbur C. Andrepont, 44823 N. 5th St. E., Lancaster, Calif. 93534
Filed Sept. 23, 1966, Ser. No. 582,212
Int. Cl. C06b *21/02;* **B29c** *5/00*
U.S. Cl. 18—26 **3 Claims**

An apparatus for the simultaneous casting of an uncured, multipropellant, solid rocket fuel. The apparatus comprises a mandrel means positioned within and extending along the central longitudinal axis of a rocket motor case together with baffle means positioned within said motor case for separating the individual propellants of a multipropellant fuel.



3,451,105
APPARATUS FOR TREATING COTTON FIBERS

James E. Nayfa, 1209 Levee St., Dallas, Tex. 75207
Filed Feb. 23, 1967, Ser. No. 618,075
Int. Cl. D01b *3/04*
U.S. Cl. 19—66 **3 Claims**

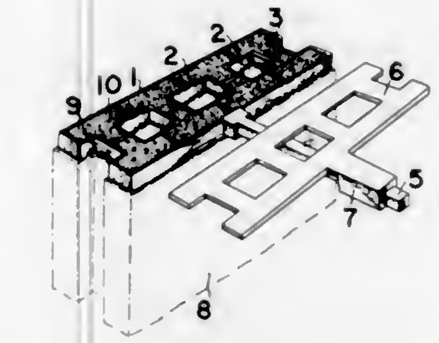


The invention, in summary, is designed to prevent deterioration of cotton fibers during the ginning process and to preserve the staple and luster thereof. The inventive concept comprises the provision of a method of treating seed cotton prior to introduction to the ginning process, and apparatus for carrying out the method which consists of a pressurized flow of a cationic treating compound and valved means for automatically spraying the cotton with predetermined quantities thereof in its movement through the cleaning devices, and prior to its admission to the gin stands.

3,451,106
MORTAR APPLICATOR FOR BUILDING BLOCK MASONRY

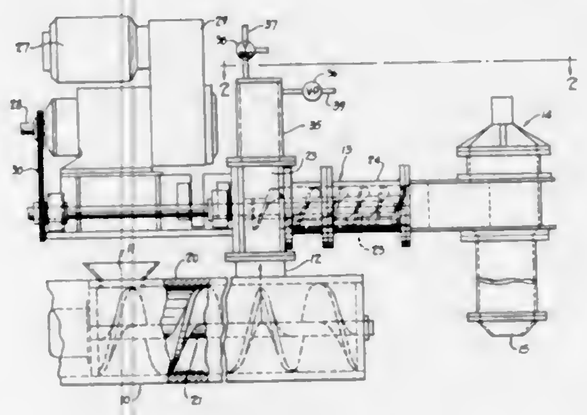
Yuji Tochiori, 57 Johana-machi, Higashitonami-gun, Toyama-ken, Japan
Filed May 26, 1967, Ser. No. 641,616
Int. Cl. B28b *7/18, 13/04, 13/02*
U.S. Cl. 25—1 **2 Claims**

A mortar applicator for building block masonry comprising a body having walls formed into inner frames and an outer frame of desired configurations and height, and binding means securing the inner and outer frames together. A handle abuts the central portion of one side of the body and a bottom plate is provided adjacent the lower ends of the inner and outer frames for closing the bottom of the body. A sleeve extends from one side of the bottom plate and is slidably mounted on the handle.



3,451,107
PUG MILL APPARATUS

Howard B. Cummings, New Castle, Pa., assignor, by mesne assignments, to Interpace Corporation, Parsippany, N.J., a corporation of Delaware
Continuation of applications Ser. No. 83,557, Jan. 18, 1961, and Ser. No. 215,106, Aug. 6, 1962. This application Oct. 27, 1966, Ser. No. 589,917
Int. Cl. B28b *3/20*
U.S. Cl. 25—11 **16 Claims**

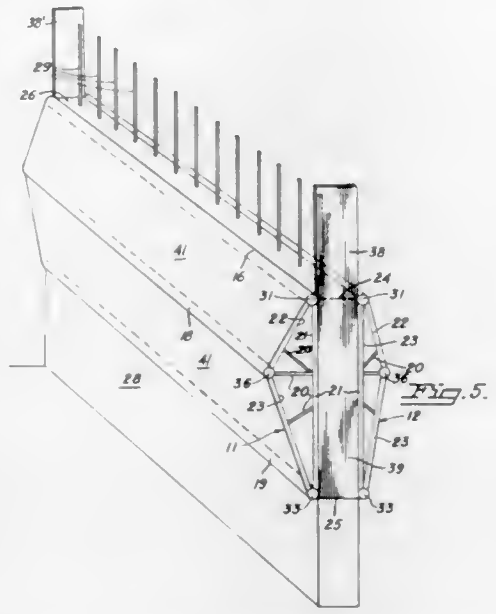


Pug mill to deliver cut bats of clay free of air and laminations. At a vacuum box between first and second stage augers, clay extrusions from the first stage are smeared to release air bubbles too small or too deeply embedded to burst out under the vacuum alone; residual air in vacuum box which might otherwise be occluded in second stage may be scavenged by steam. Between the outlet of the second stage auger and a nozzle extruding clay into rods from which bats of clay are cut, the clay enters an expansible chamber in which any laminae in the clay are folded. Intermittent pulses imparted by contraction of chamber's volume causes clay strata at interfaces of folded laminae to slip under pressure with respect to each other and thereby delaminate.

3,451,108
MOVABLE CONCRETE FORM WITH A PAIR OF ENDLESS FLEXIBLE MATS

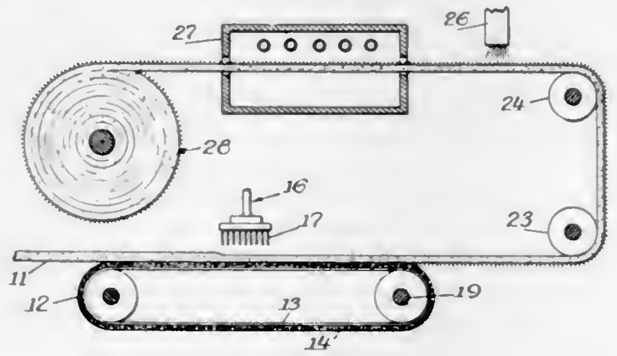
Lennart R. Andersson, Belmont, Calif. (℅ Edward A. Hume, 690 Marshall Court, Redwood City, Calif. 94063)
Filed Jan. 18, 1966, Ser. No. 521,315
Int. Cl. B28b *7/24*
U.S. Cl. 25—131 **2 Claims**

The disclosure comprises a pair of triangular-shaped form structures each consisting of tubular rods connected together to define a relatively long base, a short side and a long side, ties connecting said form structures together with said bases confronting each other and defining a space therebetween in which concrete may be poured and allowed to set, roller means rotatably mounted on said tubular rods at each angle of said triangular-shaped form structures, a pair of endless flexible mats overlying said form structures and said roller means and movable relative thereto to effect a smoothing of the outer surface of a concrete wall progressively cast and erected in said space between said mats, means defining end walls to contain concrete between said mats, and means for progressively moving said form structures.



3,451,109
METHOD OF MAKING NON-WOVEN FIBROUS WEB

Joseph J. Klein, Beverly Hills, Calif., assignor to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 712,312, Dec. 27, 1967. This application Nov. 18, 1968, Ser. No. 794,458
Int. Cl. D04h *18/00*
U.S. Cl. 28—72.2 **10 Claims**

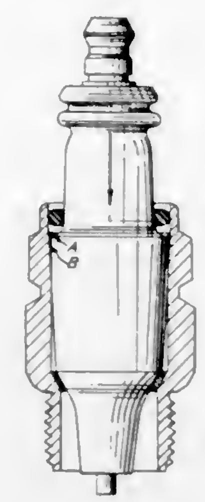


A non-woven material having a divided pile-like surface is achieved by needling a portion of the fibers of the non-woven material into a sheet of flexible foam and then peeling the foam away to leave the pile-like surface.

3,451,110
SPARK PLUG

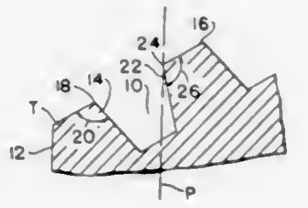
Stewart V. Bray, Allen Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,580
Int. Cl. H01t *13/16;* **F23g** *3/01*
U.S. Cl. 29—25.12 **5 Claims**

Insulators for spark plugs are pressed into steel shells to produce a radial interference fit between the insulator and the shell. The interference deforms the steel shell and, because of the resulting intimate contact, improves heat flow from the insulator through the shell to the engine. After assembly, the upper lip of the shell is rolled over a sealing ring which can be made of silicone rubber.



3,451,111
GEAR SHAVING CUTTER AND THE METHOD OF USING THE SAME

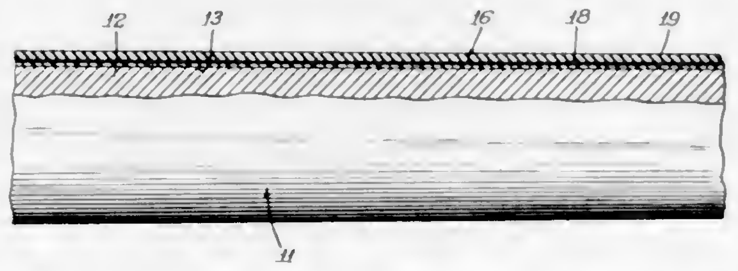
David W. Daniel, Birmingham, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Aug. 8, 1966, Ser. No. 570,967
Int. Cl. B23f *19/06, 21/28;* B26d *1/12*
U.S. Cl. 29—103 5 Claims



A gear shaving cutter for plunge shaving having teeth gashed parallel to the plane of rotation with gashes having side walls intersecting the flanks to provide substantially equal obtuse included angle cutting edges at each side of each gash, and characterized in that the profile at the coast side of its teeth is lower than the profile at the driver-driven side thereof.

3,451,112
RUBBER COVERED STEEL MILL ROLLERS

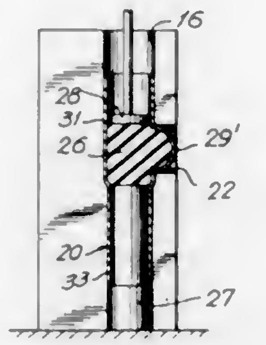
Yale Karmell, Chicago, and Kermit K. Geiger, Carpentersville, Ill., assignors to Samuel Bingham Company, Franklin Park, Ill., a corporation of Illinois
Filed Dec. 7, 1966, Ser. No. 599,825
Int. Cl. B60b *7/04, 5/00;* B21b *31/08*
U.S. Cl. 29—130 7 Claims



Steel mill roller with steel core having a finished protective coating of hard acid-resistant fibrous glass reinforced polyester resin, and an outer cover comprising a preformed fibrous glass reinforced resin lined rubber sleeve or tube.

3,451,113
T-FITTINGS AND METHOD OF MAKING SAME

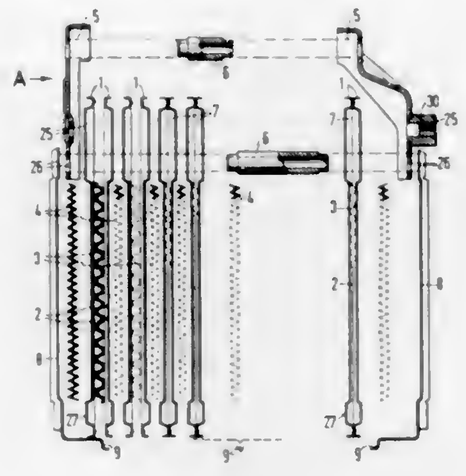
Robert Stuart Holden, 24 Coleman Road, Glastonbury, Conn. 06033
Filed July 27, 1967, Ser. No. 656,434
Int. Cl. F16l *41/02*
U.S. Cl. 29—157 2 Claims



A unitary branched T-fitting is formed from a length of tubular metal stock by confining a brass tube confined within a set of dies having a transverse cavity where it is desired to form the T-connection. An elastomeric core is introduced into the tube and pressure is exerted upon it to force the tube wall material to flow and bulge outwardly into the cavity in the dies. A hemispherical bulge is thus formed, and an appropriately shaped opening is cut in the bulge. A ball is pulled through the opening to expand and pull the bulge into the desired cylindrical T-connection or integral with the original tube.

3,451,114
MANUFACTURE OF A HIGHLY EFFICIENT ALUMINIUM RADIATOR

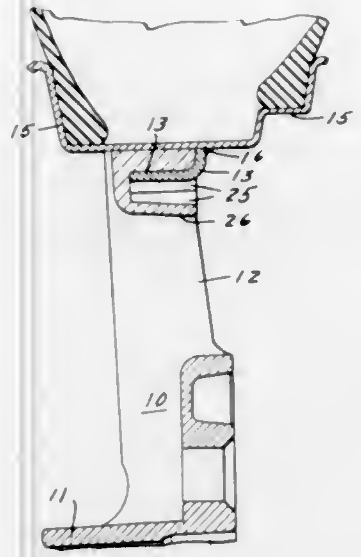
Hans Werneke, 14 Grabsener Landstrasse, Marienwerder, Hannover, Germany
Filed Dec. 7, 1964, Ser. No. 416,428
Claims priority, application Germany, Dec. 10, 1963, V 25,009
Int. Cl. B21d *53/00;* B23p *15/26*
U.S. Cl. 29—157.3 2 Claims



A method for manufacturing fluid oil radiators for power vehicles in which a plurality of solder plated aluminum parts are assembled into a packet sprayed with a liquid flux on the packet and centrifugally removing excess flux and heating the packet to the temperature of the solder effecting melting degree by the circulation of heated air and finally removing the flux by vaporization.

3,451,115
PROCESS FOR MAKING AUTOMOBILE WHEELS

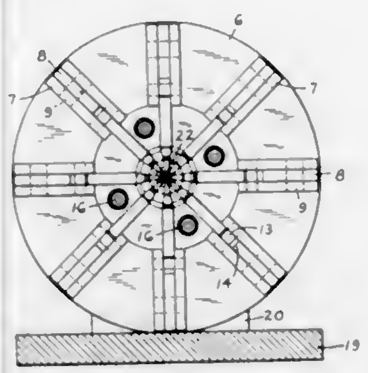
Max S. Frank, West Los Angeles, Calif., assignor, by mesne assignments, to Roy E. Richter, South Gate, Calif.
Original application Sept. 24, 1965, Ser. No. 489,993, now Patent No. 3,361,484, dated Jan. 2, 1968. Divided and this application Dec. 7, 1967, Ser. No. 714,376
Int. Cl. B21f *39/00;* B21k *1/34;* B60b *1/00*
U.S. Cl. 29—159.03 11 Claims



A method of making automobile wheels in which a ferrous tire rim is welded to a non-ferrous central section. A continuous ring of ferrous material is incorporated into the central section at the time it is molded. The tire rim is then welded to the ring around the entire periphery of the wheel section. The wheel has a plurality of radial spokes with open areas between them through which portions of the inner periphery of the central section of the wheel are exposed. A smooth finish is maintained on these exposed portions by placing a heated portion of the mold between the reinforcing member and such exposed portions, so that there is no chilling of the metal in such areas when the wheel section is cast. Locator pads and pins are provided to hold the ring in place within the mold when the central section is cast.

3,451,116
MACHINE FOR CRIMPING A FERRULE TO A HYPODERMIC NEEDLE

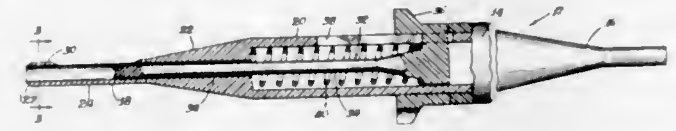
Walter A. Shields, Jamaica, N.Y.
(38—09 24th St., Long Island City, N.Y. 11101)
Filed Sept. 27, 1966, Ser. No. 582,409
Int. Cl. B23p *19/04*
U.S. Cl. 29—200 12 Claims



A machine for crimping a ferrule to a hypodermic needle and particularly to a head carrying radially disposed crimping jaws yieldingly spaced from each other and from the vertical center of the head, and a mandrel adapted to be positioned in vertical alignment with and spaced below the space between the jaws, said mandrel carrying a ferrule having a hypodermic needle loosely engaged therein, movement of the hypodermic needle into the space between the jaws moving the jaws toward each other and into crimping position.

3,451,117
ELECTRICAL CONNECTOR TOOL

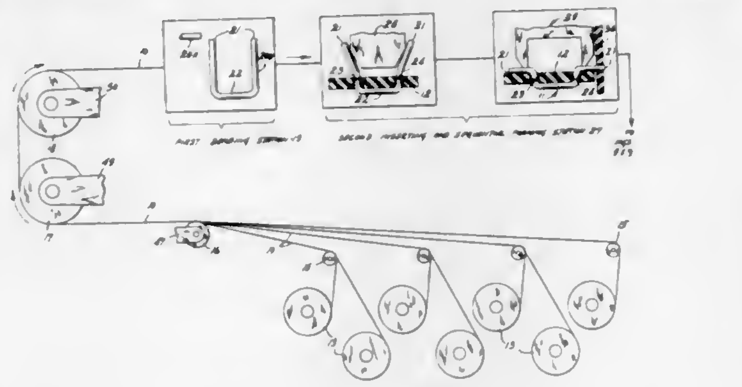
John K. Cameron, Hillside, Ill., assignor to Amphenol Corporation, Broadview, Ill., a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,550
Int. Cl. H01r *3/00*
U.S. Cl. 29—203 5 Claims



A contact removal tool for electrical connectors having a tubular plastic probe with a tangential slot to permit the tube walls to overlap as the probe is inserted in a restricted aperture and to thereafter resiliently expand to properly release an internal contact retention clip.

3,451,118
APPARATUS FOR FABRICATING CONNECTORS

John A. Badini, Bronx, N.Y., and Walter R. Scherb, Jr., Bridgewater Township, Somerset County, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 20, 1967, Ser. No. 624,260
Int. Cl. H01r *43/00*
U.S. Cl. 29—203 8 Claims

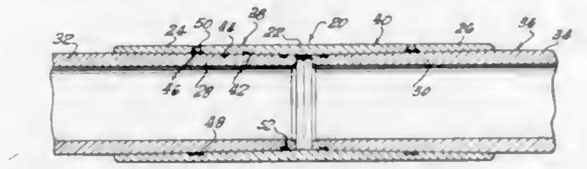


A fabricating apparatus includes a first station which both produces a segment of a wire conductor having a predetermined length and bends such segment into a U-shape, the connecting portion of the U having a length substantially equal to the distance between a pair of holes in an article. A second station of the apparatus next inserts the U-shaped segment into the holes with the ends of the segment protruding beyond the article, and finally forms sequentially the protruding segment ends to clinch the segment to the article and to extend one of the protruding ends beyond the periphery of the article. The apparatus includes a shuttle selectively movable between the first and second stations, which shuttle comprises facilities for aiding in the bending, inserting and forming of the segment.

3,451,119
METHOD OF AND APPARATUS FOR MAKING UP AND BREAKING FRICTION-TYPE ROD AND TUBING JOINTS

Clarence J. Coberly, San Marino, and Francis Barton Brown, La Crescenta, Calif., assignors to Kobe, Inc., Huntington Park, Calif., a corporation of California
Continuation-in-part of application Ser. No. 104,564, Apr. 21, 1961. This application Nov. 22, 1963, Ser. No. 325,707
Int. Cl. B23p *11/02;* F16d *55/00*
U.S. Cl. 29—446 12 Claims

A method of and apparatus for making up and/or breaking tapered friction-type rod or tubing joints. Each joint includes an outer tubular member and an inner member respectively having complementary, inner and outer tapered surfaces pressurally interengageable along an interface therebetween, one of these members being an end portion of a tubing or rod. The outer tubular member of the joint has a port therethrough opening on its inner tapered surface approximately at the axial midpoint thereof. The method and apparatus provide for injecting fluid through the port in the outer tubular member into a central region of the interface between the tapered surfaces under high pressure suffiicient to stress the materials of the inner and outer members in the central region to values close to, but less than, their respective yield points, whereby to expand the outer member and contract the inner member in the central region to permit relative axial movement of the members resulting in insertion of the inner member into the outer tubular member. The axial length of the tapered surface is in pressural inter-engagement with each other is so related to the engagement pressure between the surfaces and the effective coefficient of friction therebetween as to produce a frictional resistance to relative bodily displacement of the surfaces sufficiently high to develop a joint strength at least nearly equal to the yield strength of the tubings or rods interconnected by the joint. The apparatus includes a system of relatively movable jaws for inserting the inner member into the outer tubular member while an injection means engageable with the outer tubular member around the port therein injects a fluid through the port into the central region of the interface between the tapered surfaces under the desired high pressure mentioned.



3,451,120

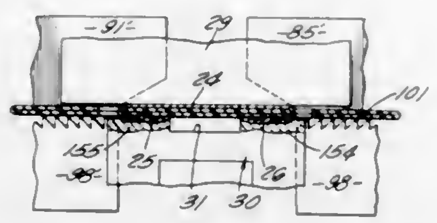
METHOD AND APPARATUS FOR MAKING AUTOMATIC CLOSURE FOR SQUEEZE CONTAINERS

Albert M. Herzig, 9465 Wilshire Blvd. 90212, and Benjamin David Menkin, 11408 Francis Place 90066, both of Los Angeles, Calif.

Filed Mar. 17, 1966, Ser. No. 535,111

Int. Cl. B23p *11/02;* **B65d** *39/00*

U.S. Cl. 29—446 **10 Claims**



1. The method of making a tube closure comprising forming a flattened neck of resilient material having contiguous lip portions separable from each other to provide a discharge opening, stretching said neck laterally and securing a rigid member across the neck to hold it in stretched condition whereby the said contiguous lip portions serve as an openable discharge, the said lip portions being capable of being flexed apart by fluid pressure.

9. Apparatus for making an automatic container closure neck, formed from a flattened sleeve of flexible resilient material, the sides of the sleeve being heat sealed together leaving an onsealed neck, comprising means for laterally stretching the material of said sleeve adjacent the neck, and means for securing a rigid member to areas at opposite sides of said stretched neck portion of said sleeve stretched condition.

3,451,121

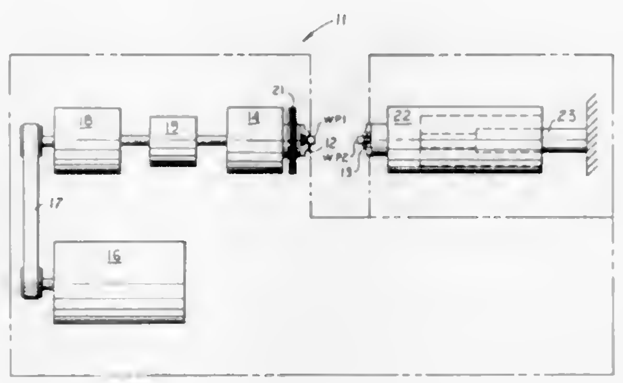
METHOD OF INERTIA WELDING WHEREIN AN INCREASED AXIAL FORCE IS APPLIED IMMEDIATELY UPON ROTATION STOPPAGE

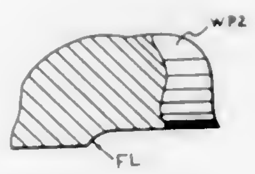
Ralph W. Yocum, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Aug. 23, 1965, Ser. No. 481,711

Int. Cl. B23k *27/00*

U.S. Cl. 29—470.3 **1 Claim**





This disclosure relates to an improved method of inertia welding wherein an increased axial force is applied immediately after rotation has stopped to bulge out the sharp angle produced between the flash and the welded parts and thereby reduce the tendency of the flash to act as a notch-type stress raiser.

3,451,122

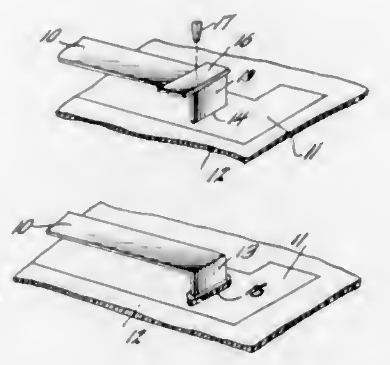
METHODS OF MAKING SOLDERED CONNECTIONS

Donald C. Kuhns, Wescosville, and David W. Ports, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 11, 1964, Ser. No. 374,317

Int. Cl. B23k *1/00;* **H01r** *43/00*

U.S. Cl. 29—475 **7 Claims**



1. A method of securing an elongated member to a heat sensitive surface which comprises,
  bending a section of the elongated member,
  abutting an end of the bent section of said member against the heat sensitive surface,
  placing bonding material on said elongated member and spaced from said surface, and then
  heating the bonding material to flow the bonding material along the bent section and then into engagement with the heat sensitive surface to form a fillet about the junction of the abutting end of the member and the heat sensitive surface, whereby the bonding material is heated at a point on said elongated member remote from said surface to prevent damage to the heat sensitive surface.

3,451,123

METHOD FOR CONTINUOUSLY ROLLING WIRE BILLETS INTO WIRE OR RODLIKE MATERIAL

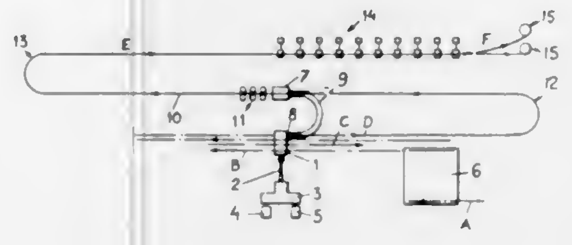
Per Sven Engelbrekt Fredriksson and Olof Alvar Granström, Vasteras, Sweden, assignors to AB Svenska Metallverken, Vasteras, Sweden

Filed Jan. 31, 1967, Ser. No. 612,920

Claims priority, application Sweden, Feb. 1, 1966, 1,261/66

Int. Cl. B21b *15/00*

U.S. Cl. 29—475 **1 Claim**



A method for producing continuous lengths of rod or wirelike material from a number of separate starting billets. The billets are rolled in succession down to bendable dimensions and passed back through stationary joining means wherein the tail end of a preceding shape is joined to the leading end of a following shape and during which the following shape extends into a wide loop, supported by specially arranged planes.

3,451,124

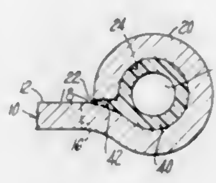
METHOD OF MAKING A HINGE ASSEMBLY

William A. Steiner, Manchester, and John S. Parsons, West Hartford, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Aug. 7, 1964, Ser. No. 388,043

Int. Cl. B23k *19/00;* **B23p** *17/00*

U.S. Cl. 29—527.1 **6 Claims**



A hinge assembly is made by forming a hinge leaf with at least one knuckle attached. A moldable plastic material is then formed in place to form a sleeve bearing that conforms to the internal irregularities of the knuckle.

3,451,125

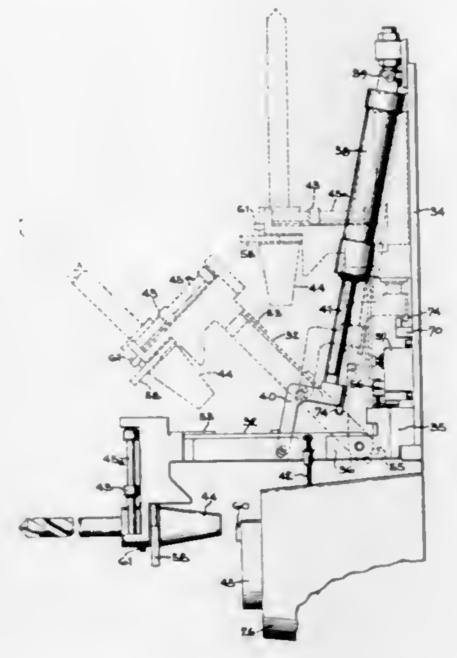
AUTOMATIC TOOL CHANGER

Robert Lehmkuhl, Cincinnati, Ohio, assignor to The Carlton Machine Tool Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 18, 1967, Ser. No. 674,042

Int. Cl. B23q *1/08, 3/157*

U.S. Cl. 29—568 **12 Claims**



A machine tool having a plurality of rotary cutting tools, each of which is carried by an arm, and the arm and tool are movable individually from a storage position and are engaged with the spindle by movement of the spindle to an operable position to unite with the tool.

3,451,126

METHOD OF MAKING A WOVEN FIBER CIRCUIT ELEMENT

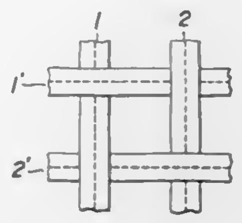
Keita Yamamoto, Tokyo, Japan, assignor to Rikagaku Kenkyusho, Yamato-machi, Kitaadachi-gun, Saitama-ken, Japan, a corporation of Japan

Filed Aug. 4, 1965, Ser. No. 477,279

Claims priority, application Japan, Aug. 8, 1968, 39/45,180

Int. Cl. B01j *17/00;* **H01l** *7/00*

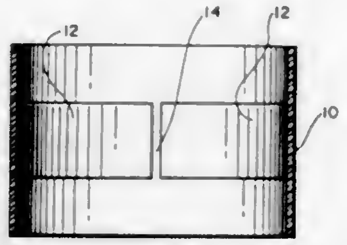
U.S. Cl. 29—576 **3 Claims**



This invention relates to a circuit element composed of organic or inorganic glass fibers each having a metallic core wherein said fibers having metallic cores and glass layers of the same or different kinds are woven to form junction regions of compounds separated from the glass phase formed by bonding of the glass layers, or thin crystalline layers or thin surface films thereof, an energy barrier against electrons and holes being formed in said junction regions, whereby non-linear voltage-current characteristics can be realized to give the performance characteristics of transistors or diodes of various types.

3,451,127
METHOD OF MAKING RADOME WITH AN INTEGRAL ANTENNA

Darnley M. Howard and Irving Mathis, College Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 17, 1963, Ser. No. 288,570
Int. Cl. H01p *11/00;* **C23b** *5/44*
U.S. Cl. 29—600 **5 Claims**

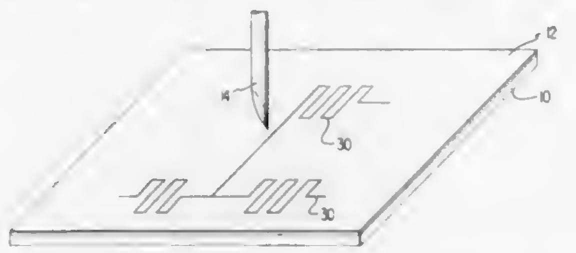


1. A method of making a radome with an integral antenna having characteristics wherein electrical continuity and satisfactory adhesion is assured, loss of sensitivity is minimized, and microphonics due to relative motion between the antenna and radome is eliminated comprising:

(a) forming a hollow radome from a heat stable, water repellent silicone glass-plastic laminate,
(b) roughening a portion of the inside surface of said radome in a desired antenna pattern,
(c) applying a preliminary thin coating of conductive material on said roughened surface in the desired antenna pattern,
(d) burnishing said conductive material into the pores of the roughened surface of said radome to insure electrical continuity and satisfactory adhesion,
(e) applying a suitable antenna metal in desired thickness onto said burnished preliminary thin conductive coating,
(f) burnishing said antenna metal.

3,451,128
METHOD OF MAKING FINE LINE PATTERNS USING A FERROMAGNETIC ELEMENT

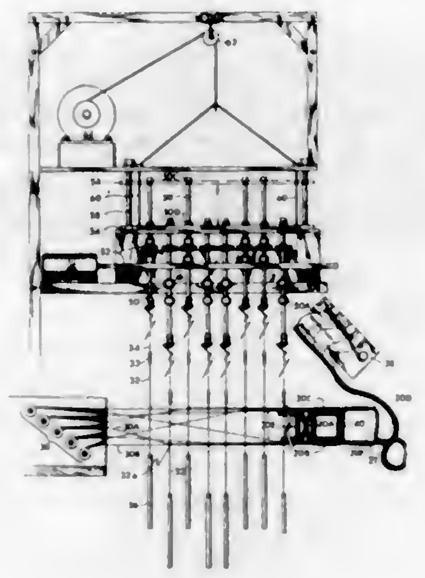
Leonard J. Reed, Poughkeepsie, and John R. Morrison, Wappingers, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1964, Ser. No. 422,359
Int. Cl. H01f *7/06;* **C23b** *5/48*
U.S. Cl. 29—604 **6 Claims**



Articles characterized by fine line patterns, such as printed circuit connections, are formed by initially tracing the fine line pattern on the surface of a high rententivity ferromagnetic material in the form of a line pattern of magnetic flux. An insulating material placed over the ferromagnetic surface and exposed to magnetic particles results in a fine line of magnetic particles, corresponding to the line pattern of magnetic flux, being formed on the insulating material. The line pattern of magnetic particles may be plated to further improve the conductive properties. The extremely narrow cross-section of the external flux used to create the original line pattern of magnetic flux enables the production of articles having lines which are extremely thin.

3,451,129
PROCESS FOR MANUFACTURING DIGITAL COMPUTER MEMORIES

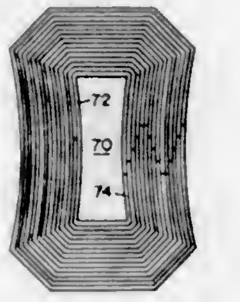
Ramon L. Alonso, Cambridge, Robert E. Oleksiak, Bedford, and William B. Turner, Lexington, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Jan. 5, 1966, Ser. No. 518,951
Int. Cl. H01f *7/06;* **H01s** *5/00;* **H01r**
U.S. Cl. 29—604 **10 Claims**



Process of manufacturing a braid-like harness of conductive address wires for use in a wired-in digital computer memory of the type generally referred to as a "braid memory." A variant Jacquard loom is employed for segregating a single bunch of address wires into two groups corresponding to two different logic states, Ones and Zeros, according to a desired logical pattern. A temporary separator is inserted between the two wire groups to maintain their separation. The groups are then recombined by operation of the loom mechanism into a single bunch. A single braid-like loop is thus completed. The aforementioned manipulative steps are repeated until the desired number of braids in the harness is achieved.

3,451,130
METHOD OF MAKING A MAGNETIC CORE STRUCTURE FOR INDUCTIVE APPARATUS

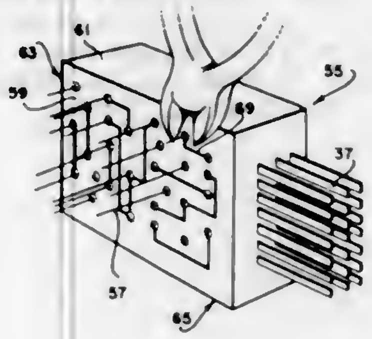
Belvin B. Ellis, Pulaski, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Oct. 10, 1963, Ser. No. 315,300, now abandoned. Divided and this application Mar. 18, 1966, Ser. No. 535,422
Int. Cl. H01f *7/06*
U.S. Cl. 29—605 **9 Claims**



Methods of making a magnetic core for electrical inductive apparatus, which include the steps of providing a plurality of turns of metallic laminations, shaping the turns to provide a magnetic core structure having a plurality of outer corners, with a plurality of spaced discrete bends at each of its outer corners, and stress annealing the magnetic core after shaping.

3,451,131
METHOD FOR MAKING AN ENCAPSULATED ELECTRICAL CIRCUIT MODULE ASSEMBLY

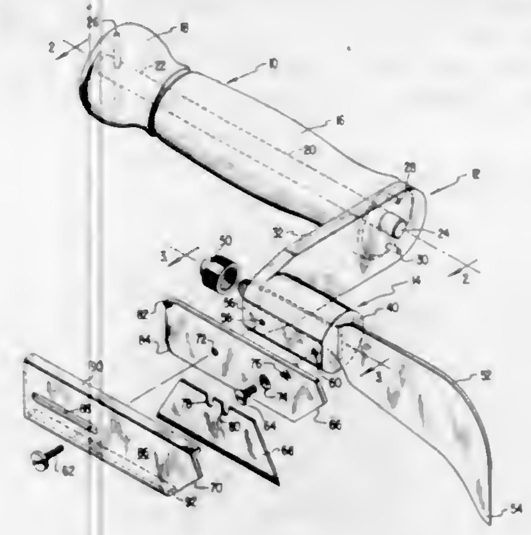
Rolf J. Gruenstein, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Original application Apr. 10, 1964, Ser. No. 358,824. Divided and this application June 27, 1966, Ser. No. 574,479
Int. Cl. H01b *13/00;* **H05k** *3/00, 3/28*
U.S. Cl. 29—624 **5 Claims**



The method for making an electrical circuit module having discrete or integrated circuit components which are embedded in casting hardenable resin material to form a unitary circuit packaged arrangement with wiring patterns in grooves formed in the surface of the module to interconnect the leads of components. The wiring pattern interconnections are electrical conductors deposited in one or more of the grooves of surfaces of the module which are formed by tool plates which hold the electrical components while the grooves are being formed during the process.

3,451,132
OFFSET BLADE CARPET AND LINOLEUM KNIFE

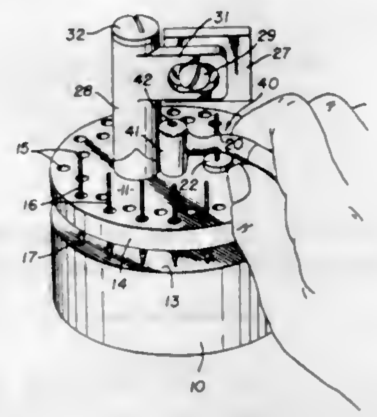
Roy H. Mulkins, 418 Hawthorne St., Kelso, Wash. 98626
Filed May 26, 1967, Ser. No. 641,529
Int. Cl. B26b *5/00, 9/02, 3/08*
U.S. Cl. 30—317 **6 Claims**



A carpet and linoleum knife which includes a handle having two grip portions one of which is rotatable relative to the other and a bolt for securing an offset member to the end of the handle, the offset member having a boss extending parallel to the axis of the handle, which boss includes a passageway for receiving the end of a linoleum knife, a utility blade mounting means secured to the side of the boss, said mounting means including a slidable shield for selectively exposing and covering the utility blade is disclosed.

3,451,133
DISPENSING HOLDER FOR DENTAL BURS

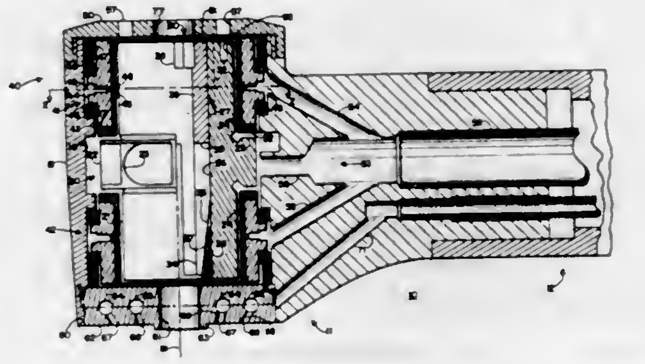
David B. Hathaway, 2637 Bryden Road 43209, and Irvin E. Henry, 1145 Northwest Blvd., Apt. C 43212, both of Columbus, Ohio
Filed Sept. 7, 1967, Ser. No. 666,172
Int. Cl. A61c *3/04*
U.S. Cl. 32—22 **5 Claims**



A dispensing holder for dental burs and similar drill-rotated instruments providing means for facilitating the insertion and extraction of such instruments in and from the driving chuck of a dental handpiece by a one hand operation, and for collecting and retaining used instruments separate and apart from unused, sterile instruments.

3,451,134
DENTAL HANDPIECE

Goffe J. Erickson and Stanley J. Korzenowski, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,710
Int. Cl. A61c *1/08;* **F01d** *15/06*
U.S. Cl. 32—28 **6 Claims**

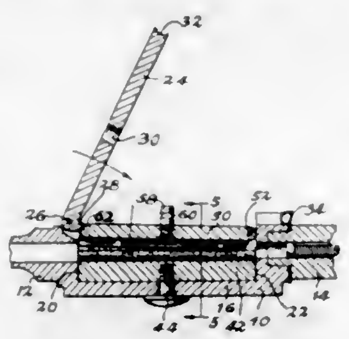


This application discloses a fluid driven, gas bearing dental handpiece capable of extremely high speed operation. A cooling manifold in the handpiece provides fluid to the dental tool. Bearing contamination is eliminated by having a projection on the manifold. Both liquid and gas are utilized in the cooling operation.

3,451,135
AMALGAM CARRIER AND EJECTOR

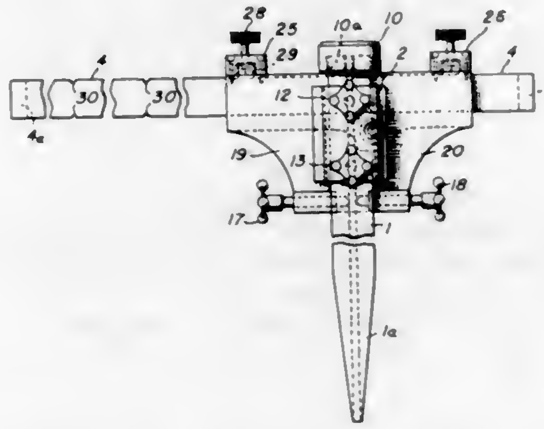
Edward B. Moller, 127 Hickory St., Falconer, N.Y. 14733
Filed Mar. 15, 1967, Ser. No. 623,259
Int. Cl. A61c *5/06*
U.S. Cl. 32—60 **6 Claims**

A preloaded dental amalgam carrier and ejector having an amalgam container in which an end pivoted cover is provided at its free end with a cam surface adapted to be acted upon by a cooperating cam portion of an end pivoted compartment top wall which acts both as a lever to insure closing of the cover and also as a retaining wall to hold the cover closed during use of the ejector.



3,451,136
METHOD OF AND MEANS FOR DETERMINING LINE AND GRADE OF SEWER PIPES AND THE LIKE

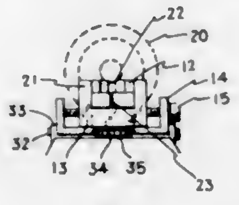
Anthony J. Shuttle, Jr., 839 Rydal Road,
Jenkintown, Pa. 19046
Filed Feb. 10, 1967, Ser. No. 615,193
Int. Cl. G01c *15/00*
U.S. Cl. 33—1 **4 Claims**



Apparatus for locating an imaginary flow-line in a trench to facilitate the placing of pipes in the construction of underground pipe lines or the like, comprising an upstanding support, a body movable thereon carrying a bar slidable on and projecting from the body adapted when the body is disposed adjacent the trench to extend thereover, said body having an indexing point for measurement therefrom downwardly to a point in the trench coincident with the flow-line, and a method of utilizing said apparatus.

3,451,137
GUN SIGHT

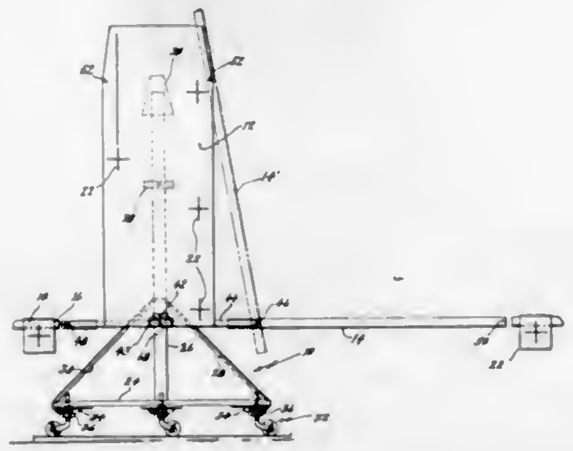
Rudy J. Hart, Anaheim, Calif. (18 W. 275 Buckingham Lane, Villa Park, Ill. 60181)
Filed Nov. 2, 1967, Ser. No. 680,192
Int. Cl. F41g *1/16*
U.S. Cl. 33—47 **7 Claims**



The invention comprises the combination of a firearm to be aimed at a distant target by eye-sighting with the sighting means that comprises a first sight means carried by said member having target orienting means and an aperture light transmitting means to transmit a confined beam of light with second sight means carried by the firearm and positioned in the line of sight between said first sight means and the eye of the sighter and having means cooperative with said light transmitting means to indicate to the sighter the alignment of the first and second sight means.

3,451,138
PORTABLE BORESIGHT BOARD

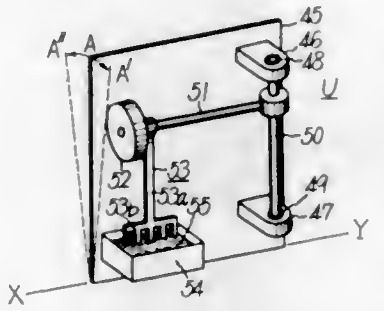
John H. Arnold, South Bend, Ind.
(6 Bayou Woods Court, Fort Walton Beach, Fla. 32548)
Filed June 17, 1966, Ser. No. 559,354
Int. Cl. G01c *15/06*
U.S. Cl. 33—74 **1 Claim**



A portable boresight board for light and medium calibre weapons including a vertically adjustable center panel mounted on a movable base member, and a pair of hinged arms located on either side of the center panel having slidably mounted panels thereon.

3,451,139
GYROCOMPASS

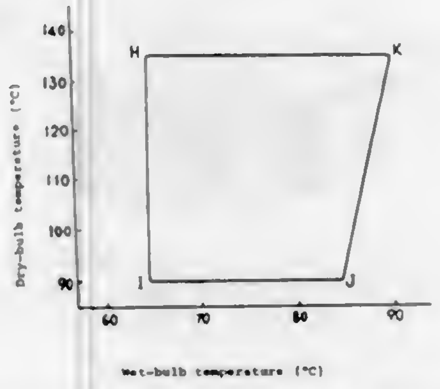
Shin-ichi Kawada, Yokohama-shi, Japan, assignor to Kabushikikaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan
Original application June 18, 1964, Ser. No. 376,020, now Patent No. 3,321,841, dated May 30, 1967. Divided and this application Mar. 30, 1967, Ser. No. 627,143
Claims priority, application Japan, June 19, 1963, 38/32,220
Int. Cl. G01c *19/38*
U.S. Cl. 33—226 **4 Claims**



A gyrocompass having an integral torque generator rotatably mounted on a conventional gyro in accordance with movement of the gyro, said integral generator including a vertical shaft rotatable around its axis, a support arm provided with a weight and a damper means so as to produce a torque with respect to time for eliminating errors such, for example, a latitudinal error caused by the earth rotation and an error caused by mass unbalance of a gyro about the horizontal axis thereof according to change of temperature and/or the like.

3,451,140
PRODUCTION OF ACRYLIC SYNTHETIC FIBERS

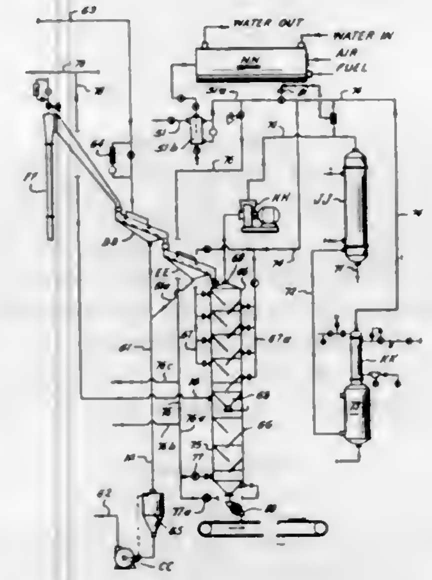
Kazumi Nakagawa, Saidaiji, Nobuhiro Tsutsui, Okayama, and Takehiko Sumi, Saidaiji, Japan, assignors to Japan Exlan Company Limited, Osaka, Japan
Filed Aug. 16, 1967, Ser. No. 661,025
Claims priority, application Japan, Aug. 27, 1966, 41/56,606
Int. Cl. F26b *21/10, 21/08*
U.S. Cl. 34—12 **5 Claims**



Fibers of acrylonitrile polymer are produced by spinning a solution, in the concentrated aqueous solution of a thiocyanate, of an acrylonitrile homopolymer or of an acrylonitrile copolymer of at least 91% by weight of acrylonitrile, the balance being at least one monomer copolymerizable with acrylonitrile, into an aqueous coagulating bath to form filaments, washing the latter with water and then stretching the filaments to obtain swollen gel filaments containing at least 40% by weight of water, relaxing the gel filaments in non-tensioned state in a wet medium (hot water or steam) at 60° to 100° C., and then drying the relaxed filament under correlated temperature and humidity conditions defined by the line H—I—J—K of FIG. 1 of the drawings.

3,451,141
RICE DESOLVENTIZING APPARATUS AND METHOD

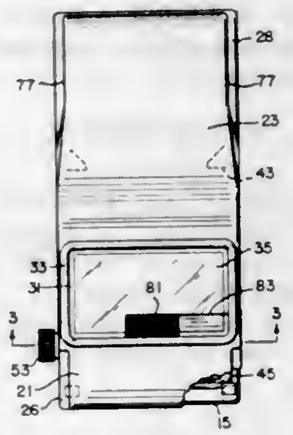
Truman B. Wayne, P.O. Box 13086, Houston, Tex. 77019
Original application Feb. 24, 1966, Ser. No. 529,814. Divided and this application Nov. 13, 1967, Ser. No. 682,264
Int. Cl. F26b *3/14, 17/14*
U.S. Cl. 34—36 **9 Claims**



Apparatus and method for desolventizing solvent extracted milled rice. The apparatus contemplates two towers or columns, one of which is above the other, and through which the solvent extracted milled rice is flowed or cascaded by gravity force and therein contacted with a desolventizing gaseous medium to remove the solvent therefrom. The apparatus and method avoids the use of rotors and the like which have heretofore been used and which unnecessarily break the relatively fragile milled rice grains.

3,451,142
TEACHING MACHINE

Raymond H. Hartjen, Rochester, N.Y., assignor, by mesne assignments, to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
Filed Mar. 13, 1961, Ser. No. 95,102
Int. Cl. G09b *3/00, 7/00*
U.S. Cl. 35—9 **15 Claims**

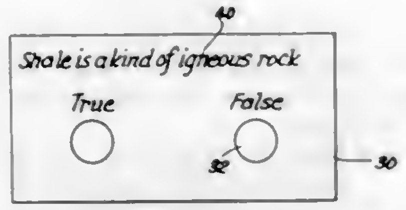


1. A teaching machine comprising a casing having an upper casing section and a lower casing section, an opening in a top wall of said upper section, a support plate beneath said opening and spaced slightly below said opening, a mask member interchangeably mounted in said opening, and being partially cut away to provide a writing window said mask member including a transparent portion and an opaque portion, means in said lower casing section for holding a supply of program paper, feeding means in said casing for feeding successive portions of said program paper from supply position to a position overlying said support plate and underlying said mask member and through the space between said support plate and said mask member, the opaque portion of and the writing window in said mask member being disposed at the entering edge of said space and being aligned laterally and together occupying less than the full width of said mask member, said opaque portion and said writing window being of the same height measured in the direction of feed of the program paper, but being both of less height, so measured, than said mask member whereby a part of the program paper in said space will be visible through a part of the transparent portion of said mask member while another part of the program paper will be concealed by said opaque portion, and a third part of the program paper will be accessible through said writing window for writing thereupon, and whereby the concealed part of the paper will not be visible through a transparent part of the mask member until the laterally aligned part of the program paper has been fed beyond the writing window and manual operating means for turning said feed roller means to feed said program paper only in a forward direction from said supply position thereof to said viewing position thereof, while preventing movement of said feed roller means in a reverse direction.

3,451,143
SPIRIT DUPLICATION WITH VISIBLE AND CONCEALED IMAGES

Richard Edward Thomas, Chicago, Robert T. Florence, Park Ridge, and Clarence J. Shoemaker, Elmhurst, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed Aug. 24, 1966, Ser. No. 574,743
Int. Cl. G09b *3/06;* **B41m** *5/12, 5/22*
U.S. Cl. 35—9 **4 Claims**

There is disclosed a multiple choice examination system wherein the test copy sheet has boxes thereon to be checked by the person under examination. The box representing the correct answer has a colorless color forming reactant within its area. The checking is done with a marking material containing another color forming reactant which forms a colored reaction product with the reactant within the box.



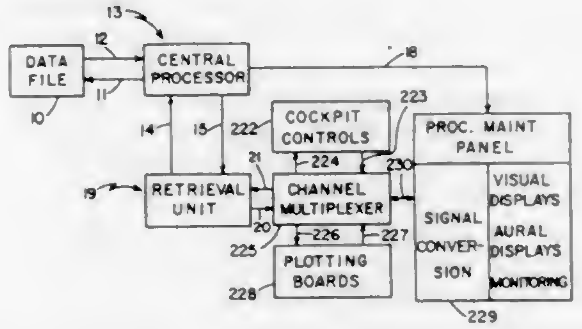
3,451,144
FLIGHT SIMULATOR

Stanley K. Chao, Lexington, and James E. Kearns, Westwood, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Oct. 18, 1963, Ser. No. 317,197

Int. Cl. G09b *9/08*

U.S. Cl. 35—10.2 **5 Claims**



1. A simulator system wherein data concerning a substantial geographical area is required for a simulation exercise but at any instant of time only data relative to a sub-area of said geographical area is needed, comprising: first data storage means arranged to store data concerning all of said geographical area in a plurality of data blocks corresponding to sub-areas of said geographical area bounded by latitudinal and longitudinal boundaries, each of said data blocks having a unique ientifying number, a retrieval unit including second data storage means arranged to store in an array of rows and columns blocks of data concerning those sub-areas which at any instant of time are needed for the simulation exercise; a central processor; means connecting said central processor to said first data storage means and to said retrieval unit; and means operative in response to the progress of the simulation exercise for providing to said retrieval unit a signal indicative that a new sub-area of coverage has come within the requirements of the simulation exercise, said retrieval unit in combination with said first data storage means and said central processor being operative in response to said signal to cause data blocks representing the new area of coverage to be transferred to said second data storage means from said first data storage means.

3,451,145
CONTROLS FOR AVIATION TRAINERS

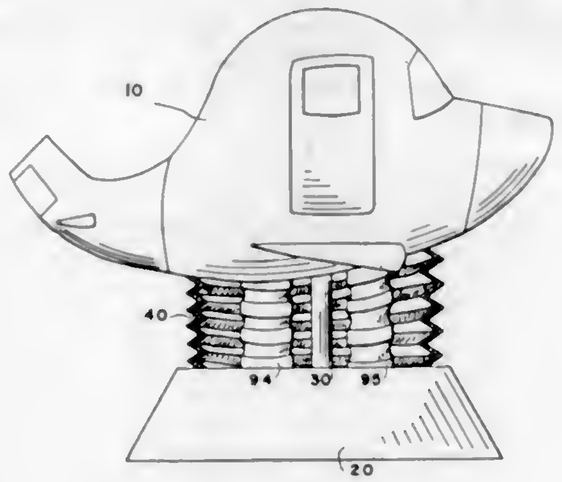
Harley E. Holt, Arlington, Va., and George R. Quick, Silver Spring, Md., assignors to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Dec. 1, 1966, Ser. No. 593,368

Int. Cl. G09b *9/08*

U.S. Cl. 35—12 **3 Claims**

In prior art motion systems for simulated aircraft, fluid pressures and vacuums have been used to produce the desired motion. Some of these systems have been unable to perform some functions which can be considered necessary. This invention modifies a popular fluid system for producing motion in aircraft trainers to provide that system with the automatic landing capability that the system did not have before.



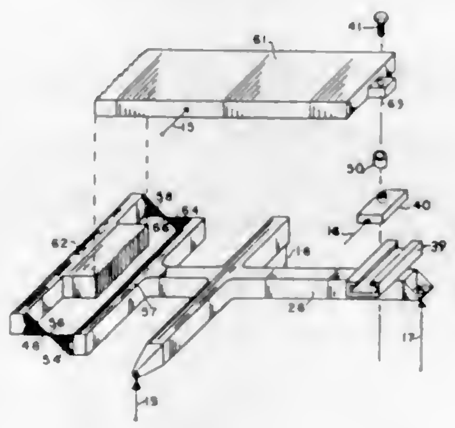
3,451,146
MECHANICAL MOTION SYSTEM

Edward G. Pancoe, Chenango Forks, and Robert L. Smith, Binghamton, N.Y., assignors to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Dec. 9, 1966, Ser. No. 600,436

Int. Cl. G09b *9/08*

U.S. Cl. 35—12 **17 Claims**



A motion system of the type commonly used to impart motion cues in vehicle simulators for training purposes. Apparatus is disclosed in which the student station is fixedly mounted on a carrier which is movable both laterally and rotationally in a novel manner with respect to a base which may in turn be mounted for movement in a number of degrees of freedom. In the disclosed embodiment, a total of five (two translational and three rotational) degrees of freedom may be independently achieved.

3,451,147
TRAINING SYSTEM FOR THE OPERATION OF INDUSTRIAL PLANTS

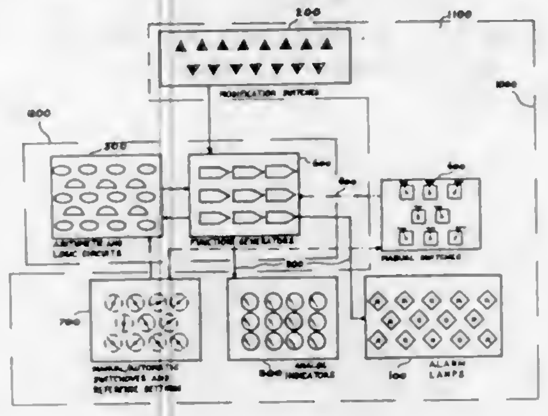
Heinrike Mehlig and Christian Walter, Leipzig, Germany, assignors to Institut fur Energetik, Leipzig, Germany, a corporation of Germany

Filed May 31, 1966, Ser. No. 554,087

Int. Cl. G09b *25/02*

U.S. Cl. 35—13 **6 Claims**

System for the training of personnel in the operation of a power plant with switches settable in part by an instructor and in part by a trainee to symbolize specific operating conditions at a plant simulated thereby, these switches controlling logical circuitry for the selective establishment and maintenance of simulated abnormal conditions to be corrected by the trainee.



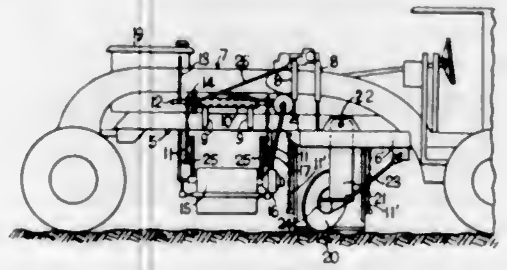
3,451,148
PLURAL LATERAL CONVEYOR ATTACHMENT FOR ROAD GRADER

Elmer R. Funk, 737 Oakdale, Russell, Kans. 67665

Filed Aug. 31, 1966, Ser. No. 576,417

Int. Cl. E02f *5/22, 9/00*

U.S. Cl. 37—110 **4 Claims**



This attachment includes a rectangular main frame for securement to the underside of any high arched frame type of road grader, two subframes extending transversely to the main frame, each subframe supporting both a disc for cutting of earth and a laterally extending conveyor for the movement of the earth cut by said disc. The conveyor is supported in part by a pair of arms that extend upward and outward from the side of the main frame and manually adjustable chains extending from the outer end of said arms to the sides of the conveyor.

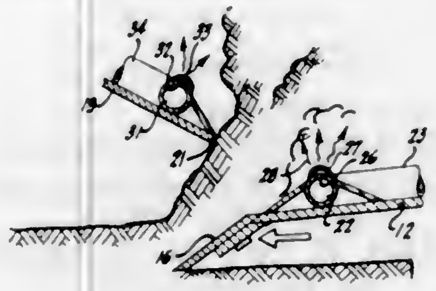
3,451,149
EARTH MOVER WITH GAS EJECTING MEANS COOPERATING WITH DIGGING EDGE

Robert J. Munsch, Glendora, Calif., assignor to Munsch Research and Development Corporation, a corporation of California

Filed Dec. 10, 1965, Ser. No. 513,056

Int. Cl. E02f *3/76*

U.S. Cl. 37—141 **2 Claims**



As an earth moving machine advances over the ground, a lower cutting edge on the machine cuts into the ground and the dislodged earth moves upwardly and rearwardly past the edge and onto a bowl or blade. Accumulation of the earth on the bowl or blade results in greatly increased power requirements. By injecting gas upwardly into the earth adjacent the cutting edge the power required to advance the machine over the ground is markedly reduced. Gas injection is made continuous or pulsating depending on the nature of the earth being moved.

3,451,150
GRAB-BUCKET

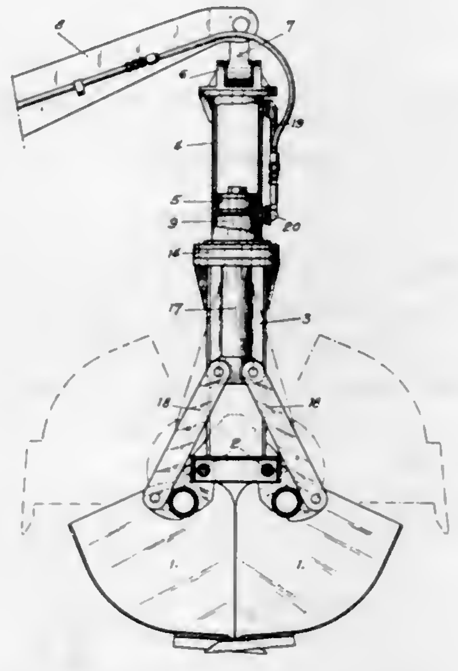
Maurice Pitaval, St. Chamond, France, assignor to Societe Anonyme dite: Auxitra, Paris, France, a French company

Filed Oct. 19, 1965, Ser. No. 497,978

Claims priority, application France, Mar. 1, 1965, 3,192

Int. Cl. B66c *3/02*

U.S. Cl. 37—186 **5 Claims**



A hydraulically actuated grab-bucket which may be rotated about its vertical axis without twisting the hydraulic conduits supplying it with fluid. The bucket has a hydraulic cylinder to which a support means is rotatably connected. The piston rod extends downwardly and each of a pair of bucket shells are pivotally connected either to the rod or the support means. Each of a pair of links which is pivotally conneced at one end to one of the shells is pivotally connected at the other end to the other of the support means or piston rod.

3,451,151
BUCKET EJECTOR ASSEMBLY FOR AN EXCAVATING GRAB

Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, Oise, France, a French society

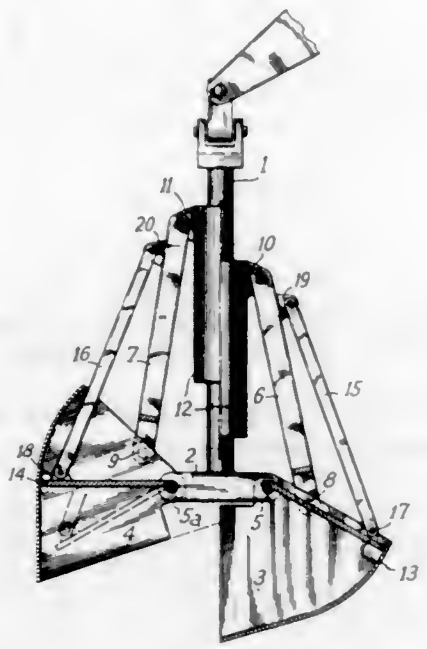
Filed Oct. 31, 1967, Ser. No. 679,491

Claims priority, application France, Nov. 7, 1966, 82,773

Int. Cl. B66c *3/02;* **E21b** *31/04, 33/132*

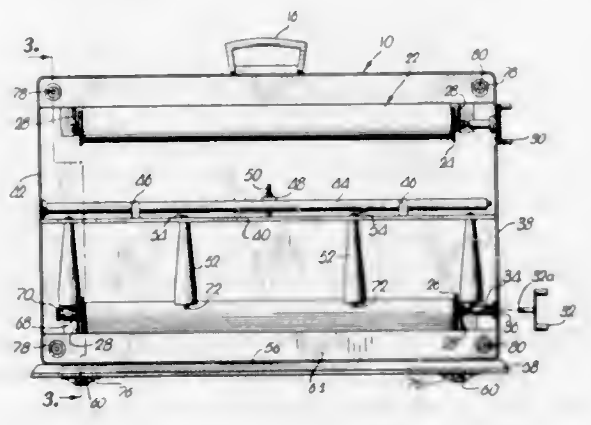
U.S. Cl. 37—187 **2 Claims**

A bucket assembly for an earth working machine comprising two bucket halves mounted on a spreader fixed to a ram and pivotally operated by connecting arms fixed to the ram. Each of the bucket halves being provided with an ejector member automatically operated by second connecting arms fixed to the ram to eject the contents of the bucket as the bucket halves are pivoted into the open position.



3,451,152
VISUAL AID INSTRUCTIONAL KIT

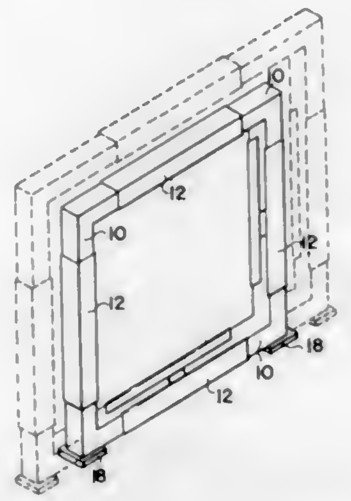
John G. White, 5604 E. 101st St.,
Kansas City, Mo. 64137
Filed Apr. 18, 1967, Ser. No. 631,678
Int. Cl. G09f *11/24;* **A47b** *91/00*
U.S. Cl. 40—86 **7 Claims**



A portable case houses a scroll having a paper medium which is advanced across the front surface of the case through the use of cranks that operate the rolls of the scroll. Written material on the scroll may be displayed by placing the case on a supporting surface such as a table, or the case may be mounted on a stand to provide a self-supporting display device. When it is desired to compose on the scroll, these same legs are attached to the case in a manner to form a composing table with the front surface of the case presenting the tabletop. Alternatively, a pair of additional, shorter legs may be utilized in conjunction with the case to support the latter at an inclination when the case, with legs attached, is placed on an existing table or other supporting surface. All of the various leg components are completely detachable and are stored within the case except when in actual use, thus providing an assembly which is entirely self-contained.

3,451,153
ADJUSTABLE FRAMING DEVICE

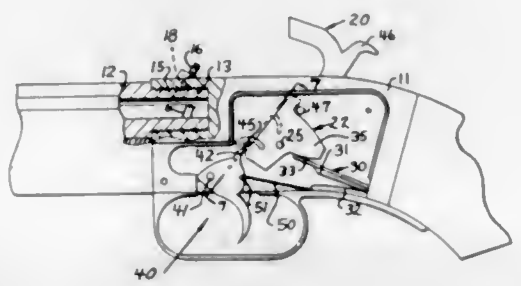
John A. Dohanyos, 2711 Vestry Ave.,
Cleveland, Ohio 44113
Filed May 8, 1967, Ser. No. 636,702
Int. Cl. G09f *1/12;* **E04c** *2/38*
U.S. Cl. 40—155 **10 Claims**



An adjustable framing device having angled corner members and straight central members. Each central member telescopingly engages two corner members, one at each end. Either the central members or the corner members or both have raised projections which slidingly engage a surface of the opposite member to allow intended adjustment but prevent unintended change in size.

3,451,154
SAFETY FOR FIREARMS

Ralph O. Goble, Morristown, Ind. 46161
Filed Aug. 21, 1967, Ser. No. 662,010
Int. Cl. F41c *17/00, 11/02*
U.S. Cl. 42—70 **4 Claims**

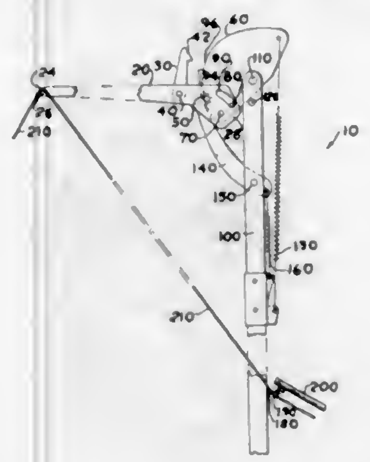


A muzzle loading firearm including a threadedly mounted barrel with an externally octagonal configuration for barrel replacement. A safety lever locks the striker of the firearm in either cocked position or striking position and is mounted on a fixed shaft with a cam groove therein against which a safety spring bears to retain the safety lever in operating or nonoperating position.

3,451,155
FISHING LINE CONTROL APPARATUS

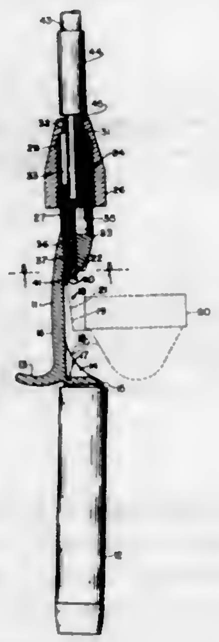
Andrei Huliew, 39 Johnny Bush Ave.,
Somerset, N.J. 08873
Filed Oct. 27, 1967, Ser. No. 678,615
Int. Cl. A01k *91/00*
U.S. Cl. 43—15 **7 Claims**

An apparatus for snapping a fishing line toward a fisherman when a fish takes the line comprising an elongated arm for supporting the fishing line, the arm being pivotally coupled to a plate and a ground rod to be supported in the ground while waiting for a fish to bite. The elongated arm carries a pin which is adapted to be set into a cocked position with respect to the plate and a locking arm coupled to the ground rod. Pulling on the line by a fish moves the elongated arm and its pin against the locking arm which is disengaged thereby, and the elongated arm and fishing line are caused to snap back due to the pulling action of a strong spring coupled between the ground rod and the plate.



3,451,156
FISHING ROD HANDLE

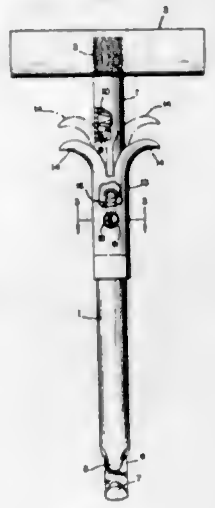
Richard D. Barnes, Santa Ana, Calif., assignor to The Conolon Corporation, a corporation of California
Filed July 5, 1966, Ser. No. 562,575
Int. Cl. A01k *87/06, 87/00*
U.S. Cl. 43—22 **3 Claims**



A fishing rod handle having a unitary chuck mounted on the front portion of the handle and which cooperates with a collet located in a bore within the handle's front portion to secure both the rod and the reel to the handle. The collet has a hollow cylindrical forward portion for receiving a fishing rod and also has a spline which slidably cooperates with a groove in the bore. The collet's rearward portion has a tang of non-circular cross-section extending rearwardly and off-center from the bore and is slidably received in a passage of similar cross-section joining the bore and the handle's reel seat portion.

3,451,157
FISHHOOK REMOVER

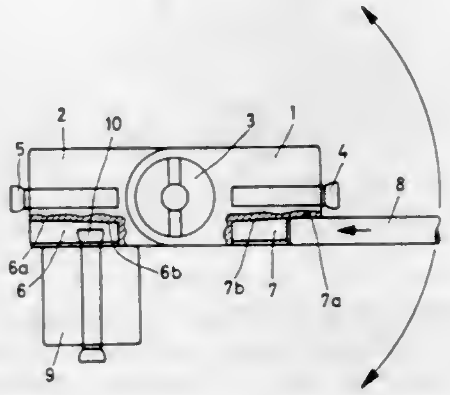
William F. Jones, 2800 SE. 92nd Ave.,
Portland, Oreg. 97266
Filed Nov. 23, 1966, Ser. No. 596,691
Int. Cl. A01k *97/00*
U.S. Cl. 43—53.5 **1 Claim**



A device for removing a fishhook from the mouth of a fish includes a main tubular member having a crosswise handle secured at one of its ends. Interiorly of the tubular member is a slidable rod which is operable by a manually operable sleeve carried exteriorly on said tubular member and which upon movement of the sleeve causes hook engaging elements on said tubular member and said rod to close about the fishhook to be removed.

3,451,158
TOY CONSTRUCTION KIT WITH SELECTIVE ROTATABLE AND NON-ROTATABLE CONNECTION OF COMPONENTS

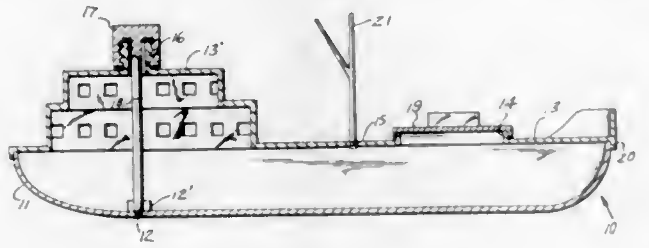
Artur Fischer, 133 Gruenmettstetterstrasse,
7241 Tumlingen, Germany
Filed Nov. 15, 1966, Ser. No. 594,435
Claims priority, application Germany, Nov. 24, 1965,
F 47,743
Int. Cl. A63h *33/06;* **F16b** *7/00*
U.S. Cl. 46—16 **6 Claims**



In a toy construction kit, a male element has a cylindrical end portion of constant diameter. A female element has a passage bounded by a concave inner surface extending over more than 180° of arc. The passage consists of two large longitudinally adjacent portions one of which is of constant diameter and the other of which decreases in direction away from the one portion. When the end portion of the male element is inserted into the passage, the elements have freedom of relative movement only if the end portion is located in the aforementioned one portion of the passage.

3,451,159
TOY BOAT HAVING ADJUSTABLE SINKING MEANS

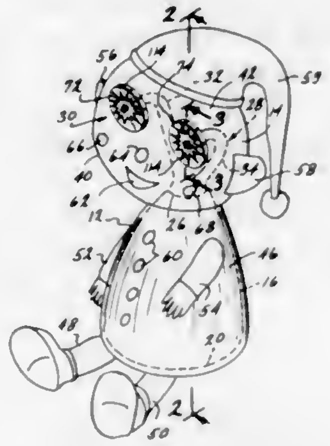
Joran B. Springfors, Hantverkaregatan 19 og[1],
Malmo, Sweden
Filed Oct. 31, 1966, Ser. No. 590,743
Int. Cl. A63h *23/02*
U.S. Cl. 46—93 4 Claims



An adjustably sinkable toy boat including a hollow hull, an opening through the bottom of the hull adjustably closable by a vertical plug having an upper portion threadingly engaging a superstructure of the hull, and the plug having a convenient rotatable control knob at its upper end.

3,451,160
FLUID-ACTUATED ANIMATED FIGURE TOY

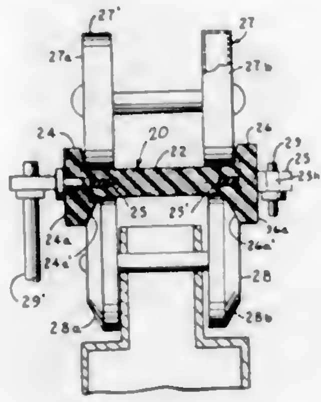
John W. Ryan, Los Angeles, Joseph Kossoff, Hawthorne, and Jack E. Hartman, Torrance, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Jan. 23, 1967, Ser. No. 611,048
Int. Cl. A63h *11/00, 3/40*
U.S. Cl. 46—135 7 Claims



The body of a plush-type figure toy is made from a hollow, compressible member provided with bifurcated conduits leading into the head of the toy and having outlets positioned adjacent the toy's eyes. The head is made from a suitable stuffing material and the head and the body are covered with a cover member to which legs and arms may be attached. The outlets are attached to rotatably mounted disks having reaction jets provided thereon in fluid communication with the compressible body so that the disks will rotate when the body is compressed. The disks simulate eyes which may be suitably decorated to enhance their appearance when they are rotated.

3,451,161
TOY TRACK AND VEHICLE THEREFOR

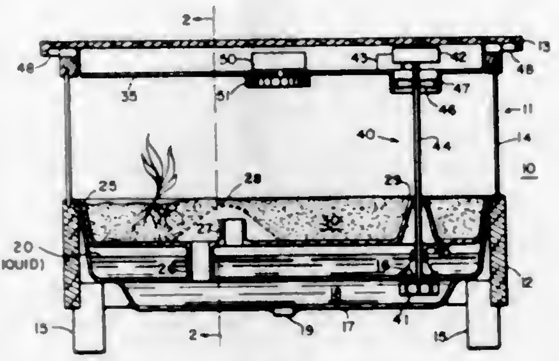
Jerome H. Lemelson, 85 Rector St.,
Metuchen, N.J. 08840
Division of application Ser. No. 347,532, Feb. 26, 1964, now Patent No. 3,308,575, dated Mar. 14, 1967. Continuation of application Ser. No. 834,875, Aug. 19, 1959. This application May 4, 1967, Ser. No. 636,136
Int. Cl. A63h *33/26, 19/00*
U.S. Cl. 46—241 6 Claims



This disclosure is directed to a toy guideway or track and vehicle for riding thereover. The track is made of a plastic material of such state and configuration wherein the track is not normally self supporting. Self support means are provided to support the track in a desired manner to define a trackway of particular configuration, and the track is provided with guide means for directing a toy vehicle thereover.

3,451,162
HYDROPONIC APPARATUS

Robert F. Rasmussen, Brooklyn Center, Minn., assignor to The Technicraft Corporation, Minneapolis, Minn., a corporation of Minnesota
Continuation-in-part of application Ser. No. 509,043, Nov. 22, 1965. This application Feb. 14, 1967, Ser. No. 628,194
Int. Cl. A01g *31/00, 27/00*
U.S. Cl. 47—1.2 7 Claims

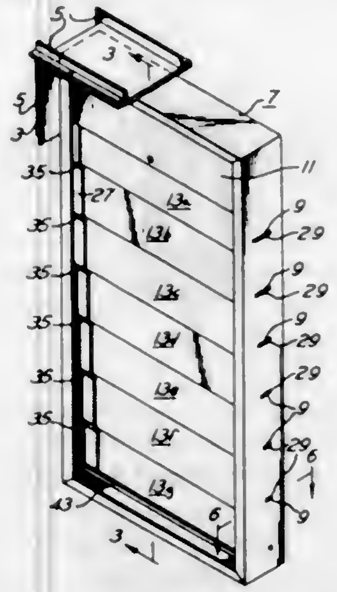


This application discloses a hydroponic apparatus for growing plants wherein the roots are periodically flooded with a nutrient solution. Radiation means are provided in the hydroponic apparatus. The plant's growing cycle is automatically controlled by controlling thie amount of the frequency of the nourishment and the radiation and the plant.

3,451,163
FIRE SHIELD DAMPER DEVICE

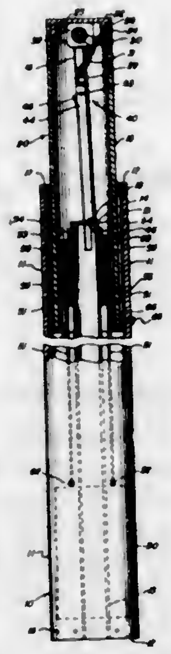
Carl A. Malissa, Philadelphia, Pa., assignor to Airstream Products, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1967, Ser. No. 612,585
Int. Cl. E05f *15/20*
U.S. Cl. 49—7 10 Claims

A fire shield damper device has a plurality of blades slidable in tracks along the sides of a passageway or opening and normally retained at the upper end of the passageway in aligned relation behind each other to be released in response to melting of a fuse for sliding down along their respective tracks into successive, interlocked relation across the entire passageway to thereby close off the passageway.



3,451,164
VEHICLE PARKING DEVICE

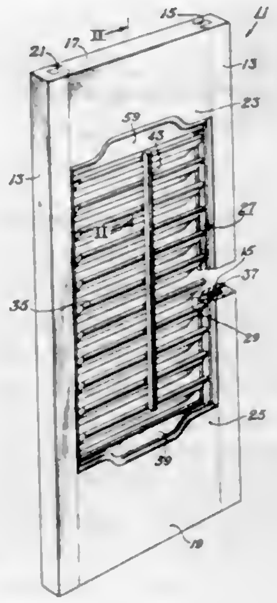
Clark F. Kappelman, 10 S. Pennsylvania St.,
Denver, Colo. 80209
Filed July 1, 1968, Ser. No. 741,587
Int. Cl. E01f *13/00;* **E05b** *65/00*
U.S. Cl. 49—35 12 Claims



A vehicle parking device designed to prevent unauthorized removal of a vehicle from a parking area and to prevent unauthorized occupancy of the parking area by a vehicle. The device comprises a lower housing member stationarily mounted in the earth or concrete of the area with its upper end slightly above ground level, and an upper vehicle obstructing member telescopically movable in the stationary member into and out of vehicle obstructing position. Key actuated mechanism in the movable member unlocks the movable member for automatic raising thereof into locked vehicle obstructing position. Unlocking of the mechanism when the movable member is in raised position permits manual depression of the movable member and automatic locking in the lowered unobstructing position.

3,451,165
DECORATIVE SHUTTERS AND METHODS OF ASSEMBLY

Roy J. O'Hair, 2313 58th St., Lubbock, Tex. 79412
Filed Nov. 2, 1967, Ser. No. 680,180
Int. Cl. E06b *9/02*
U.S. Cl. 49—87 10 Claims



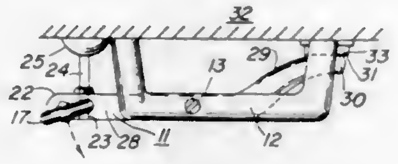
A shutter which accommodates a wide variety of interchangeable decorative insert panels through utilization of a construction having a frame with side stiles and top and bottom rails, the side stiles having vertical slots formed along the length of their inner edges. Into at least one of these slots is inserted a compressible element such as a resilient strip. A decorative insert such as a panel of plastic, glass or tiltable louvers may be inserted into the frame by compressing the resilient strip. Also disclosed is an apparatus and method of constructing a tiltable louver panel such that the louvers are individually removable after assembly. The utilization of the above-mentioned compressible element enables the use of louver retaining strips which may be spread sufficiently to remove one or all of the individual louvers. A method for assembling the louver retaining strips, louvers, and a tilt rod for controlling angular orientation of the louvers is disclosed wherein hooks and eyes on the louvers and tilt rod are staggered to enable rapid and convenient assembly, and simultaneously, the prevention of inadvertent disengagement of one of the louvers.

3,451,166
MINERAL LUBRICATING OIL CONTAINING SULFURIZED ALKYLATED ARYL AMINE

Jerome Panzer, Roselle Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,686
Int. Cl. C10m *1/38, 1/34, 1/08*
U.S. Cl. 252—47.5 7 Claims

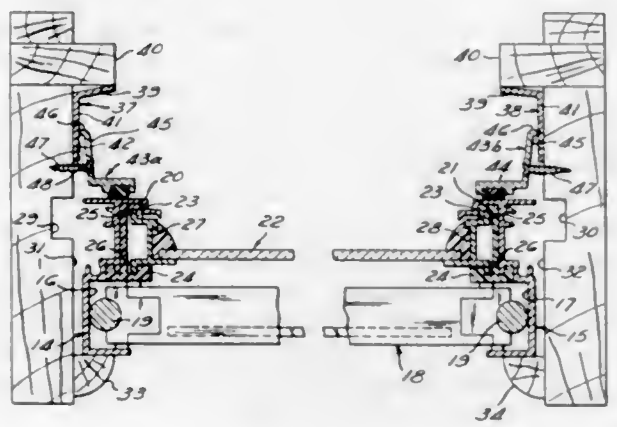
Novel chemical compounds are prepared by reacting primary or secondary aryl amines, for example, C-alkyl phenyl diamines, C-alkyl diphenyl amines, C-alkyl N-phenyl phenylene diamines, C-alkyl anilines, C-alkyl toluidines or C-alkyl xylidines, wherein the alkyl group is attached to the aryl nucleus and contains from 6 to 250 carbon atoms, with a halide of sulfur, wherein the sulfurization is carried out at a temperature between about 80° and 300° F. for between about 30 minutes and about 24 hours. These novel sulfurized dispersants are particularly useful in mineral lubricating oil compositions when used in an amount ranging between about 0.05 and about 10.0 wt. percent. They impart antioxidant and sludge dispersant properties to the lubricating oils.

3,451,167
OPERATOR MEANS FOR AUTOMOBILE DOORS HAVING PUSHBUTTON LATCHES
Joseph J. Ivko, 403 Los Olas Drive,
Crown Point, Ind. 46307
Filed Mar. 22, 1968, Ser. No. 715,264
Int. Cl. E05f *11/38, 11/54;* **E05b** *1/00*
U.S. Cl. 49—279 **10 Claims**



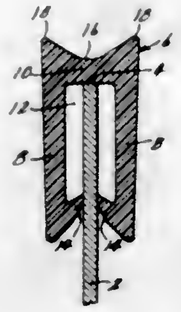
Operator means to enable the opening of automobile doors having pushbutton door latches by persons wearing unilateral or bilateral prosthetic hands. The operator, which permits such persons to readily unlatch and open such vehicle doors, includes a first member for easy engagement by the hook of a prosthetic hand and a second member, operatively associated with the first member and strategically located with respect to the door latch so as to transmit a simple pulling force upon the first member into a pushing action upon the door latch thereafter into a pulling action upon the unlatched-door whereupon such a person may readily unlatch and open such a vehicle door.

3,451,168
PREASSEMBLED WINDOW UNIT
Charles P. Pengelly, Dover, Ohio, assignor to Alsco, Inc., Akron, Ohio, a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,216
Int. Cl. E05d *13/00, 15/16*
U.S. Cl. 49—457 **5 Claims**



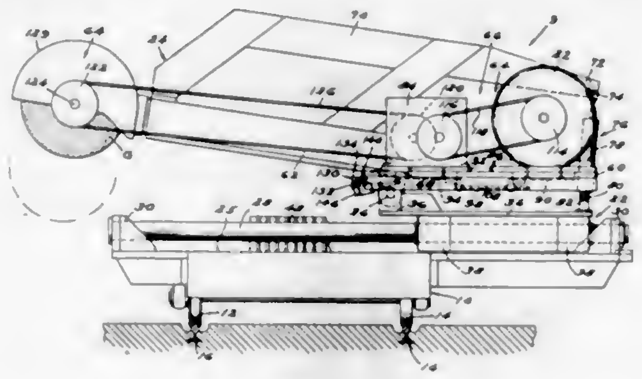
A window unit having side jamb members which are mounted against blind stops within a window opening by camming members which press the jamb members against the blind stops as the camming members are affixed to side members of the window opening. The jamb members are spaced from the side members of the window opening to permit expansion and/or contraction of the side members without affecting the alignment of the jambs. There is provided an interconnection between the jambs and a sash unit so that the sash unit retains the jambs in their pre-aligned condition.

3,451,169
EDGE PROTECTOR
Harmon W. Arnold and George E. Bell, Carthage, Mo., assignors to Flex-O-Lators, Inc., Carthage, Mo., a corporation of Missouri
Filed Mar. 20, 1967, Ser. No. 624,500
Int. Cl. E06b *1/00, 1/02, 1/04*
U.S. Cl. 49—462 **5 Claims**



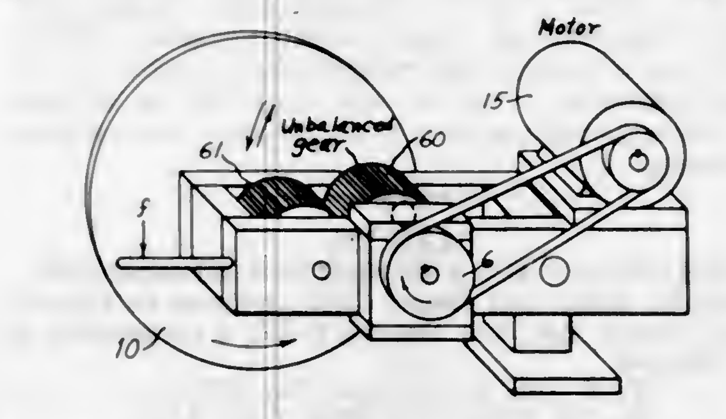
A protector adapted to be applied over the edges of glass, metal or other sheet materials, and operable to prevent the sharp edges of said materials from scratching, cutting or otherwise damaging other articles with which they may come in contact. It consists of a generally U-shaped channel the legs of which are resiliently biased toward each other to grip the edge portion of the sheet material to hold the protector in place. A particular feature is the formation of the external surface of the base connecting portion of the channel with a transversely concave configuration, whereby external blows thereon will have no tendency to release the grip of the protector on the material, and whereby the shock-absorbing properties of the protector are enhanced.

3,451,170
BILLET GRINDER
Arthur C. Reppenhagen, Owosso, Mich., assignor to MWA Company, Owosso, Mich., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,829
Int. Cl. B24b *7/00, 9/00, 21/00*
U.S. Cl. 51—35 **6 Claims**



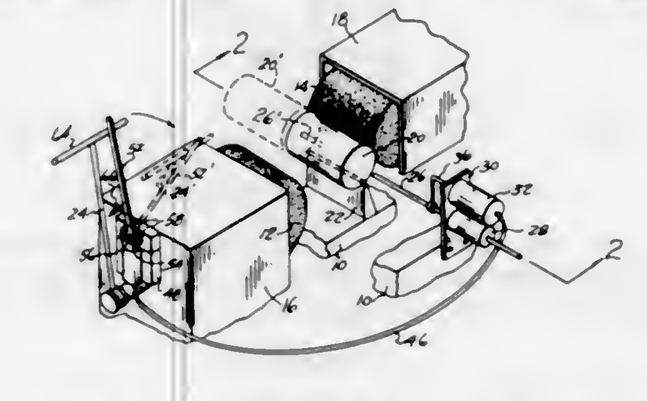
A machine for removing metal from a workpiece comprising a carriage, a saddle on the carriage movable transversely of the carriage path, a grinding unit including a base pivoted on the saddle for vertical swinging movement, a boom on the base extending outwardly therefrom in the direction of saddle movement, a grinding wheel on the outer end of the boom, power mechanism on the base having a flexible linear member for transmitting rotation to the grinding wheel, and means for moving the power mechanism in opposite directions to tension and untension the belt.

3,451,171
VIBRATORY GRINDING MACHINE
Loring Coes, Jr., Princeton, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Nov. 29, 1966, Ser. No. 597,598
Int. Cl. B24b *47/02*
U.S. Cl. 51—99 **8 Claims**



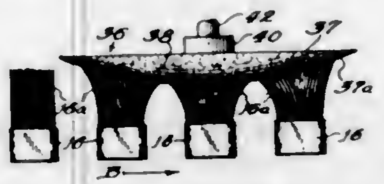
A machine for grinding wheels, and particularly to methods and machines for providing intermittent pressure contact between a grinding wheel and a workpiece. In a particular embodiment of the invention, intermittent or vibratory pressure is applied to successive positions on the cutting surface of a grinding wheel in grinding contact with a workpiece by mounting a drive member or a gear having a given number of teeth on the wheel spindle for driving or meshing with a driven member or gear with an unbalanced weight distribution and having a different number of teeth from the number on the driver gear.

3,451,172
CENTERLESS GRINDER WORKPIECE EJECTOR
Edward W. Marley, Dearborn, Mich., assignor to Ferro Equipment Company, Detroit, Mich., a corporation of Michigan
Filed Sept. 12, 1966, Ser. No. 578,714
Int. Cl. B24b *5/18, 47/14*
U.S. Cl. 51—103 **5 Claims**



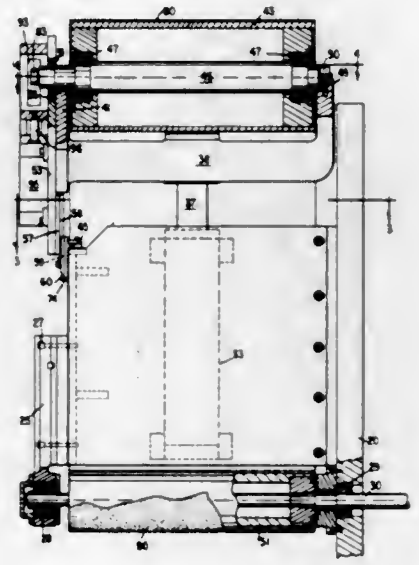
A centerless grinder workpiece ejector hydrostatically operated by a control handle which displaces a piston in a master cylinder connected to a hydraulic cylinder, wherein the fluid displaced by the master cylinder displaces a slave piston connected to an ejector rod. The control handle may be actuated by the grinder infeed lever, or it may be actuated independently therefrom.

3,451,173
ABRASIVE ELEMENT FOR FINISHING PAINT BRUSHES OR THE LIKE
Harold J. Hazelton, Batavia, Ill., assignor to Carlson Tool & Machine Co., a corporation of Illinois
Filed Feb. 17, 1966, Ser. No. 528,122
Int. Cl. B24b *7/00, 9/00, 1/00*
U.S. Cl. 51—110 **8 Claims**



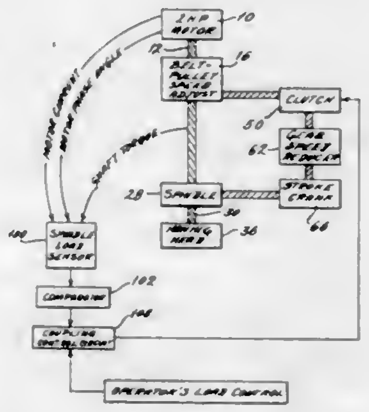
A brush finishing apparatus comprising an abrasively coated convex disc mounted for rotation about a central axis, and a method of finishing brushes comprising the steps of providing a convex abrasive disc, rotating that disc about a central axis, and feeding brushes in a linear path through the axis of the disc so that the bristles of the brushes engage the abrasive surface of the disc.

3,451,174
ENDLESS BELT ABRADING MACHINE
Robert L. Schaller, Camillus, N.Y., assignor to Sundstrand Corporation, a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,147
Int. Cl. B24b *21/00, 23/06, 25/00*
U.S. Cl. 51—148 **4 Claims**



A belt abrading machine in which the idler pulley is journalled on a support carried by a yoke. The support is pivotally attached at one end to one leg of the yoke and there is means carried by the opposite leg of the yoke for moving the support about its pivotal mounting to effect transverse movement of the belt on the pulley. The yoke is also adjustable about its mounting axis for initial tracking of the belt, and there is means for locking the yoke in such adjusted position.

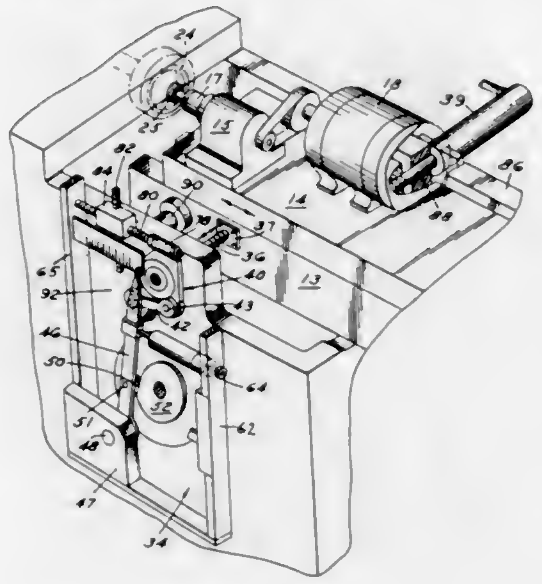
3,451,175
HONING MACHINES
Joseph Sunnen, 400 S. Warson Road, Clayton, Mo. 63105, and August Sunnen, Jr., Ladue, Mo.; said August Sunnen, Jr., assignor to said Joseph Sunnen
Filed Feb. 9, 1966, Ser. No. 526,223
Int. Cl. B24b *49/00, 51/00, 7/00*
U.S. Cl. 51—165 **10 Claims**



An improvement for use on honing and other devices and machines which have work engaging members which travel rotationally and axially relative to a work surface such as a cylindrical work surface to bring the work surface to a desired condition including means to continuously sense and respond to the energy required to be applied to the work engaging member during operation thereof, and other means operatively connected to the energy sensitive means to vary the amount of work done on various parts of the work surface by the work engaging member in a way that varies with the energy sensed in order to equalize the energy sensed at all places of the work engaging member on the work surface.

3,451,176
MACHINE TOOL FEEDING MECHANISM

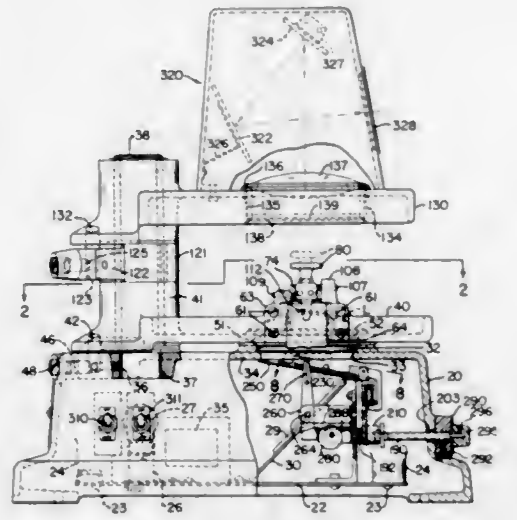
Gordon E. Lillie, Upper Meadows, Vt., assignor to Bryant Chucking Grinder
Filed Oct. 31, 1966, Ser. No. 590,591
Int. Cl. B24b *49/08, 51/00*
U.S. Cl. 51—165 **19 Claims**



An inverted feed mechanism which controls the infeed of a machine tool, such as a grinding wheel, by means of a radially receding cam. The cam follower rolls on the cam surface, rotating a feed nut threaded on a feed screw, thus moving the wheel toward the workpiece. The wheel may be retracted from the workpiece at any time by retracting the cam follower from the cam, and may be replaced at the same point when desired.

3,451,177
LENS BLOCKER

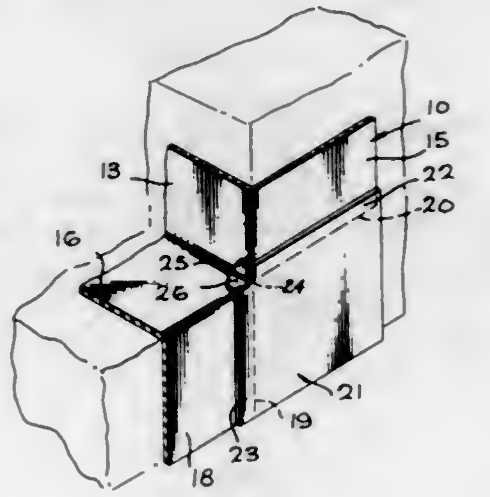
Lloyd A. Buckminster, Geneva, and William A. Washburn, Phelps, N.Y., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 26, 1966, Ser. No. 523,211
Int. Cl. B24b *19/00*
U.S. Cl. 51—277 **19 Claims**



Two vertically spaced turrets are independently pivotable on a base about a common vertical axis. The lower turret carries two, graduated, transparent discs, each having pins for supporting thereon a lens blank, and each being registrable selectively through an opening in the base with adjustable lens blank locating means. A lamp projects superimposed images of the locating means, and the registering disc and lens blank, onto an image-receiving screen carried by the upper turret, so that a lens blank may be adjusted on its support pins in accordance with a prescription. Two molds are movable into registry with the discs to engage and clamp the blanks thereon after each blank has been located properly. The upper turret carries a container for a measured supply of molten blocking material which can be swung into operative registry with the two molds selectively, whereby one blank can be adjusted and blocked while the block of a previously blocked blank is cooling.

3,451,178
SEALING DEVICE FOR SHOWER THRESHOLD

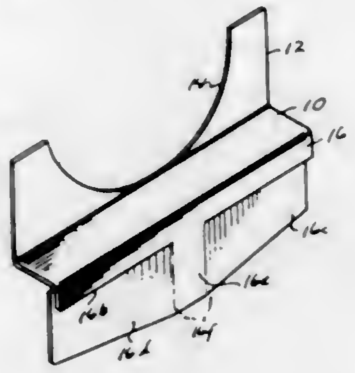
Edwin W. Beale, San Diego, Calif., assignor to Compotite Shower Pan, Los Angeles, Calif., a corporation of California
Filed Aug. 1, 1967, Ser. No. 657,672
Int. Cl. E06b *1/04;* **E04b** *7/00, 5/00*
U.S. Cl. 52—210 **2 Claims**



A seal for the door jamb of a stall shower having an attached panel to cover the entire area of the joint of the threshold with the remainder of the framing.

3,451,179
SCREED SUPPORT

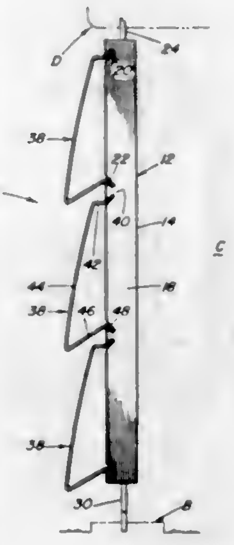
Norbert A. Kendzia, 4021 NE. 31st Ave., Lighthouse Point, Fla. 33064
Filed May 4, 1967, Ser. No. 636,045
Int. Cl. E04c *5/16;* **E04b** *1/16, 5/32*
U.S. Cl. 52—370 **3 Claims**



A body of sheet metal is bent to form a horizontally extending portion for seating engagement with the top of a stake driven into the ground. At one edge of the horizontal portion is provided an upwardly extending portion formed to provide a seat for a screed pipe or rod. This seat extends down to the horizontal portion so that the screed pipe rests on the horizontal portion which in turn rests on top of the stake. At the other edge is a downwardly extending portion which is cut horizontally to provide a pair of wings that are bent around the stake to hold the support in position on the stake.

3,451,180
SKIRTING FOR BELOW DWELLING

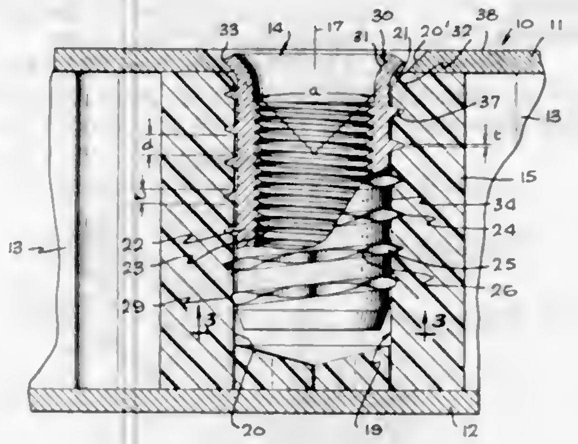
Francis L. Struben, Baltimore, Md., assignor to Silver Top Manufacturing Company, Inc., White Marsh, Md., a corporation of Maryland
Filed Dec. 12, 1967, Ser. No. 689,852
Int. Cl. E06b *3/54;* **E04b** *5/52, 1/34*
U.S. Cl. 52—478 **3 Claims**



A shutter arrangement is provided which makes use of resilient slats. These slats clip into slotted angle posts with the latter being heightwise adjustable and spring-biased.

3,451,181
HONEYCOMB STRUCTURES CONTAINING THREADED INSERTS

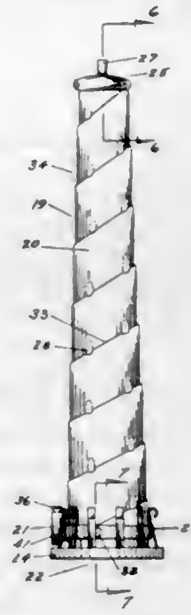
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Filed Aug. 29, 1967, Ser. No. 664,063
Int. Cl. E04b *2/28;* **E04c** *2/36;* **F16b** *35/00*
U.S. Cl. 52—617 **8 Claims**



An assembly including a honeycomb structure having two skins and an intermediate honeycomb core, with a resinous plastic material filled in between the skins at a predetermined location, and with a threaded fastener screwed into the plastic material. The fastener has self tapping and self locking external threads, and has a flange at one end of the threads flaring outwardly to an increased diameter and received within an opening in one of the skins, in close proximity to an edge of the skin which forms that opening, to restrain the fastener against transverse movements relative to the honeycomb structure. The fastener is formed from stock of externally non-circular shape, giving to the external threads a corresponding non-circular peripheral configuration, and with the flange initially being formed at a reduced diameter, and then being deformed radially outwardly to an increased diameter.

3,451,182
COLLAPSIBLE POLES

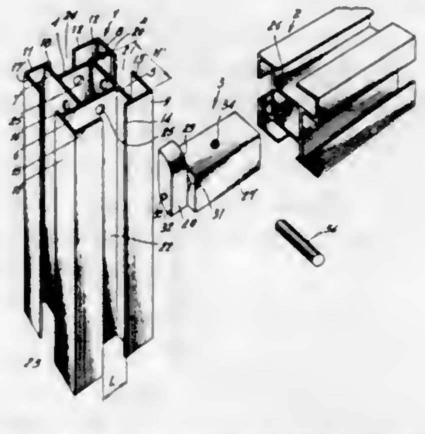
Lawrence Edward Lodrick, 21124 John Road, Hazel Park, Mich. 48030
Filed Oct. 4, 1965, Ser. No. 492,785
Int. Cl. E04h *12/18;* **E04g** *25/08;* **H01q** *1/10*
U.S. Cl. 52—632 **3 Claims**



A collapsible pole comprises a spirally wound element which collapses by telescoping action into a compact package for storage, and which may be readily erected. The pole may be locked in its extended positon by a series of protrusions spaced along the element which bear against the upper edge of the next lower and outer loop. Alternatively, a lock can be achieved by a threaded element at the top of the pole which exerts an outward and an unwinding force against the inside of the top innermost loop to thereby enhance the frictional force between adjacent loops of the pole.

3,451,183
METAL FRAME FOR PARTITIONS AND SIMILAR CONSTRUCTIONS

Jean P. Lespagnol, Bouches-du-Rhone, France, and Ghislain Leurent, Mouscron, Belgium, assignors to Societe Industrielle de Transformation des Plastiques Societe à responsabilite, limitee, Tourcoing, Nord, France, a company
Filed Nov. 19, 1965, Ser. No. 508,737
Claims priority, application France, Nov. 25, 1964, 20,780; Mar. 16, 1965, 9,421
Int. Cl. E04b *2/62, 2/72;* **F16b** *1/00*
U.S. Cl. 52—656 **10 Claims**

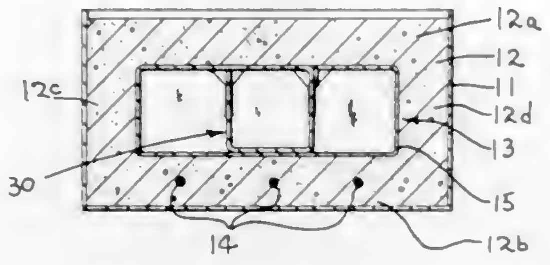


A metal frame for partitions has tubular uprights with hooking profiles. Cross beams are connected to the uprights by the turning of connecting members having a body, a head and a groove between the body and the head. Then the connecting members and the cross beams are locked by pins or the like.

3,451,184

TUBULAR VOID FORM AND VOIDED BEAM OF CEMENTITIOUS MATERIAL INCORPORATING SAME

John D. Stewart, Sylvania, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Jan. 16, 1967, Ser. No. 609,637
Int. Cl. E04c *3/34*
U.S. Cl. 52—722 **8 Claims**

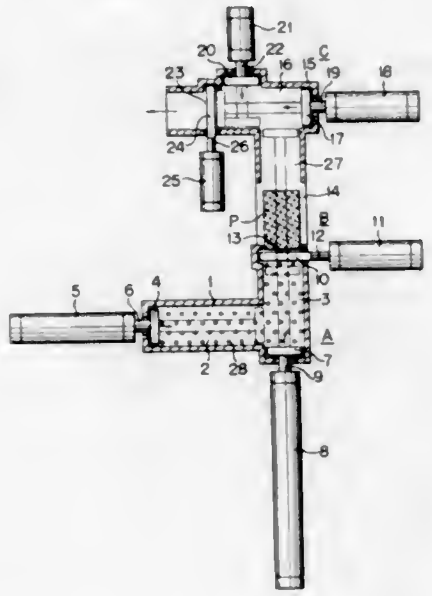


This application discloses the construction of a tubular article of generally rectangular cross-section from a unitary sheet of relatively rigid and inexpensive material, such as corrugated fibreboard or other grade of paperboard, which has utility as a void form in the production of internally voided beams of cementitious material, such as concrete. The tubular void form comprises an outer wrapper which can be readily manually formed into a self-locking tubular configuration having an internally disposed, longitudinally extending, U-shaped reinforcing rib. The reinforcing rib comprises a multiplicity of spaced, transversely extending slots into which are fitted transversely extending, plate-like reinforcing elements which are located internally of the completed void form. A void form of the foregoing type is strong and rigid, being well-suited to support an overlying layer of freshly poured concrete, and can be assembled in a relatively short time without the need for expensive assembly equipment.

3,451,185

METHOD OF REFUSE DISPOSAL

Kunitoshi Tezuka, Tokyo, Japan, assignor to Tezuka Kosan Kabushiki Kaisha, Tokyo, Japan
Filed Aug. 3, 1966, Ser. No. 569,987
Claims priority, application Japan, Feb. 4, 1966, 41/6,151
Int. Cl. B65b *55/00, 63/02*
U.S. Cl. 53—22 **17 Claims**

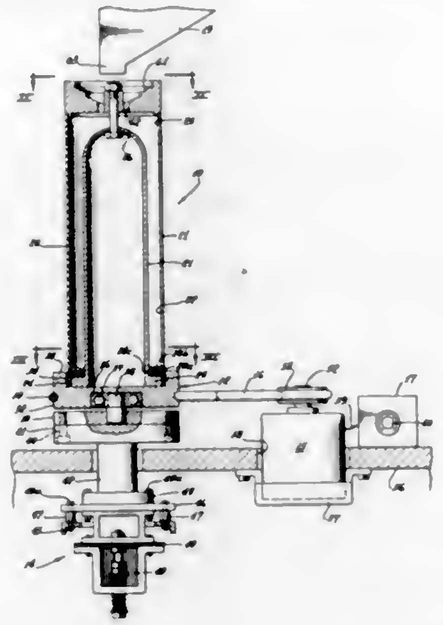


Method of refuse disposal, particularly of garbage, trash, waste and the like, by solidifying batches of the refuse, reducing thereby its volume and increasing its apparent specific gravity, so as to form substantially solid refuse blocks of predetermined shape, and applying a cover to the solidified refuse blocks.

3,451,186

METHOD AND APPARATUS FOR PACKAGING SMALL DISCRETE POLYGONAL OBJECTS

George V. Shutt, Glendora, Calif., assignor to B. H. Hadley, Claremont, Calif.
Filed Sept. 10, 1965, Ser. No. 486,438
Int. Cl. B65b *63/02, 1/20, 13/20*
U.S. Cl. 53—24 **7 Claims**

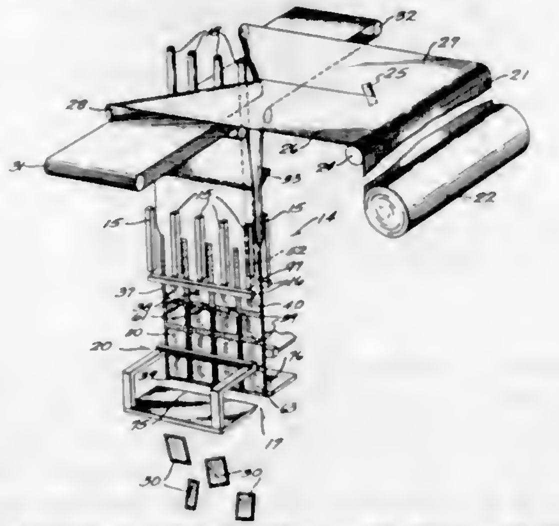


A method and apparatus for packaging and arranging small discrete polygonal objects in a container while imparting a vertical vibration to the container and unidirectionally spinning the container about a vertical axis while simultaneously depositing the small discrete polygonal objects into the container so that the objects are arranged in a plurality of vertically stacked concentric layers of discrete polygonal objects.

3,451,187

PACKAGING MACHINE

James M. Massey, Appleton, and Robert C. Pitts, Sr., Neenah, Wis., assignors to Medalist Industries, Inc., Oshkosh, Wis., a corporation of Wisconsin
Filed Sept. 27, 1966, Ser. No. 582,388
Int. Cl. B65b *43/06, 51/26, 61/06*
U.S. Cl. 53—29 **8 Claims**

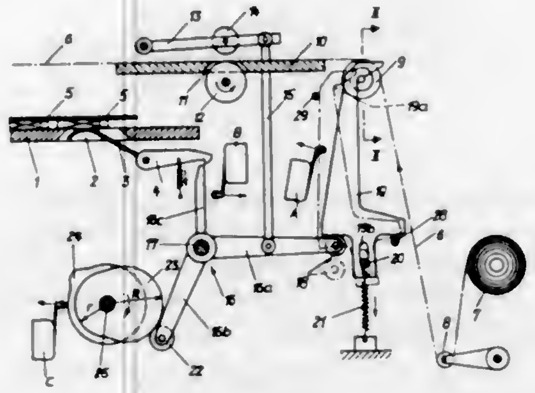


A packaging machine for producing and filling four side seal packages is provided with vertically movable knives to slice the rows of packages into longitudinally extending package strings. During upstroke of the longitudinally severing knives, relatively movable brake jaws clamp on the longitudinal strings below the cutters to hold the strings during the slicing operation. The longitudinal severing knives are mounted on a bracket which depends from the heat seal unit which includes longitudinal or vertical and horizontal or transverse heat sealing bars, which unit is movable vertically upward to move the cutters during the cutting operation.

3,451,188

APPARATUS FOR AUTOMATICALLY CONTROLLING THE FEED OF A MATERIAL STRIP TO A PROCESSING MACHINE

Pierre Luginbühl and Albert Moser, Neuhausen am Rheinfall, Switzerland, assignors to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Aug. 5, 1966, Ser. No. 570,563
Claims priority, application Switzerland, Aug. 6, 1965, 11,074/65
Int. Cl. B65b *57/12*
U.S. Cl. 53—73 **4 Claims**

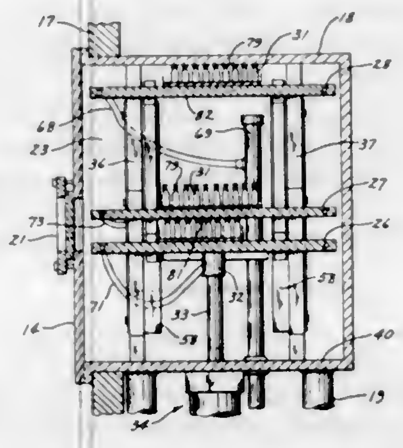


An apparatus for automatically controlling the feed of an enveloping-material strip to a packaging machine in which a rotating three-armed lever periodically executes a pivotal movement so that one arm of said lever controls a strip advancing mechanism, while a first switch closes an electric circuit which releases a pivotal actuating lever simultaneously with the advance of said strip by said advancing mechanism, and a second switch is opened by the three-armed lever during its pivotal movement and a third switch is opened by the drive device for the three-armed lever. All three switches are arranged in parallel and when the first switch is closed and drives the motor of the packaging machine, the other two switches are open.

3,451,189

DESICCATOR APPARATUS INCLUDING IMPROVED VACUUM BOTTLE CAPPING ARRANGEMENT

Everett R. Taggart, 5176 SE. 40th St., Des Moines, Iowa 50320
Filed Apr. 14, 1967, Ser. No. 631,011
Int. Cl. B65b *31/02, 55/00*
U.S. Cl. 53—112 **7 Claims**

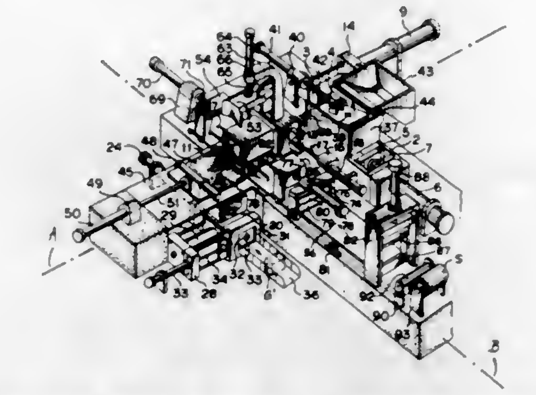


This invention relates generally to an apparatus for preserving a substance for future use, using a lyophilization process commonly called freeze-drying, and particularly to the mechanical arrangement within a chamber for expeditiously capping vacuum bottles resting on plates in the chamber.

3,451,190

DEVICE FOR REFUSE DISPOSAL

Kunitoshi Tezuka, Tokyo, Japan, assignor to Tezuka Kosan Kabushiki Kaisha, Tokyo, Japan
Filed Aug. 3, 1966, Ser. No. 569,991
Claims priority, application Japan, Feb. 23, 1966, 41/10,471
Int. Cl. B65b *1/24, 11/48;* **B30b** *9/06*
U.S. Cl. 53—124 **19 Claims**

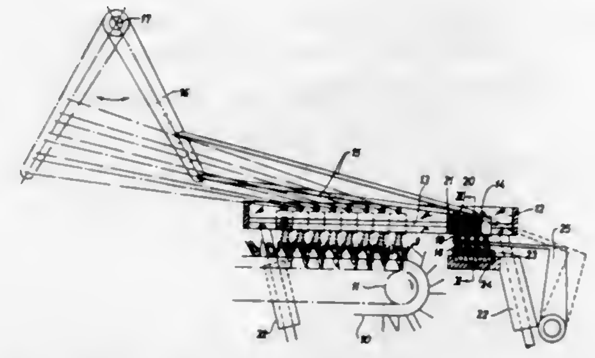


Device for refuse disposal by compression applied to the refuse, particularly of garbage, trash, waste and the like, comprising means for compressing the refuse into substantially solid refuse blocks of predetermined shape, and wrapping means for applying a cover to the solidified refuse blocks.

3,451,191

DEVICE FOR USE IN CONNECTION WITH A FISH-CANNING MACHINE

Jan Bergh Eriksen, Stavanger, Norway, assignor to Trio Fabrikker A/S De Forenede Norske Laase-Og Beslagfabriker, Stavanger, Norway
Filed Mar. 3, 1965, Ser. No. 436,795
Int. Cl. B65b *35/56*
U.S. Cl. 53—142 **4 Claims**



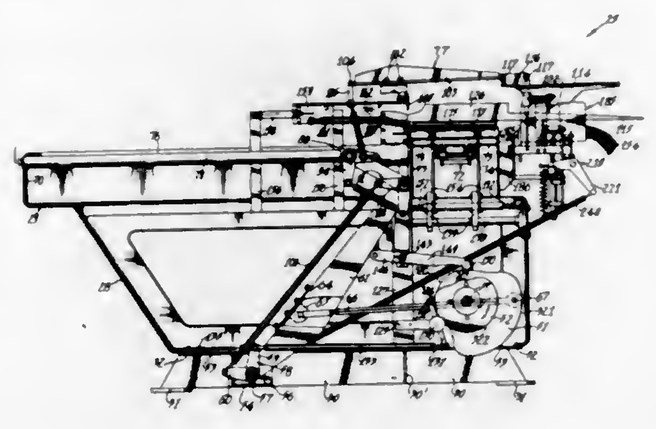
Fish that lie alternately head and tail to each other along an endless belt conveyor are transferred to a can by means of a transfer device comprising three horizontal parallel interconnected rails, with several fish-gripping devices in tandem between one adjacent pair of rails and several more fish-gripping devices in tandem between the other pair of adjacent rails, the fish-gripping devices in the two rows being in staggered relationship with each other so that all of them pick up fish adjacent the fish's head. The rails are raised and lowered while the gripping devices are slid along them by links pivoted to a vertically swinging arm.

3,451,192

BREAD BAGGER

Jere F. Irwin, Yakima, Wash., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 14, 1964, Ser. No. 396,430
Int. Cl. B65b *5/04*
U.S. Cl. 53—190 **33 Claims**

Apparatus for bagging a product comprising a plurality of opposed members mounted for movement between first and second positions, means on one of said members for receiving and supporting a product, means for effecting relative expansible-contractible movement between said opposed members, means mounted adjacent said opposed members for supporting a bag, operating means for moving said opposed members toward said first position into said bag, expanding said opposed members within said bag to grip and support the same, and moving said opposed members and the bag held thereby toward said second position, and blockade means mounted between said first and second position for effecting relative movement between a product held by said receiving and supporting means and said bag as the opposed members move relative to the blockade means toward said second position, the bag thus being drawn over said product by said opposed members.



3,451,193

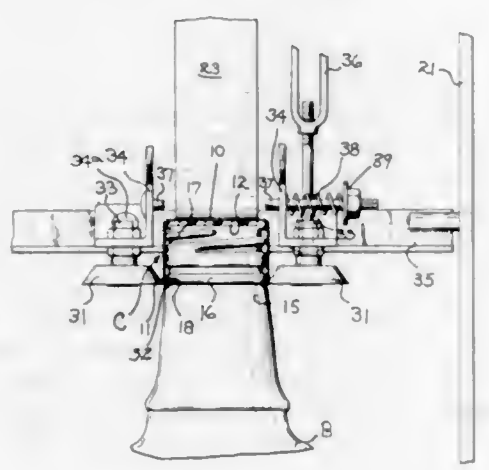
APPARATUS FOR SECURING CLOSURE CAPS TO BOTTLES

Arthur W. Renner, Summit, N.J., assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed July 5, 1966, Ser. No. 562,658

Int. Cl. B65b *7/28*

U.S. Cl. 53—334 **5 Claims**



Temporarily closing newly formed bottles with plain deformable skirted closure caps which serve initially as dust caps until removed to permit filling the bottles with a product, such caps then being reapplied to the bottles as permanent closures; the apparatus for initially applying the caps or "dust-covers" including a cushioned top pressure roll for holding the caps firmly on the bottle necks while opposed crimping rolls turn in diametrically opposed portions of the free edge of the skirt to grasp a protuberance on the bottle neck.

3,451,194

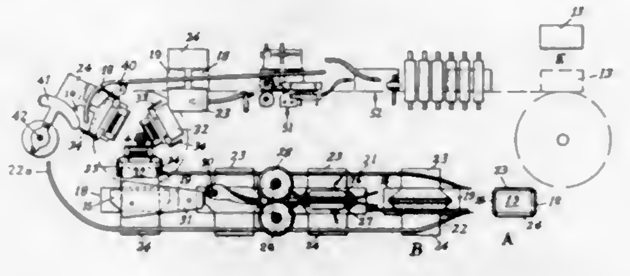
FLAP FOLDING MEANS FOR PACKAGING APPARATUS

Robert W. Nerenberg, Middletown, and James H. Shiverdecker, Trenton, Ohio, assignors, by mesne assignments, to The Bergstein Packaging Trust, a trust

Filed May 9, 1966, Ser. No. 548,607

Int. Cl. B65b *7/20;* **B31b** *1/02, 1/76*

U.S. Cl. 53—374 **2 Claims**



Improvements in the flap folding mechanism of packaging apparatus comprising flap folding fingers extending from a folding plate, and adapted to move with the container to be folded while engaging and folding upwardly a pair of opposing flaps of said container.

3,451,195

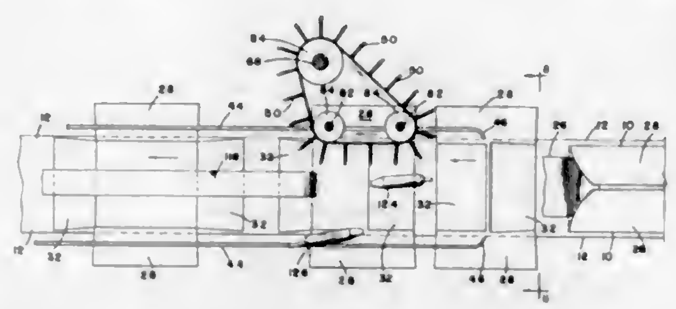
CASE FLAP-OPENING MACHINE

William F. Roth and Thomas E. Fissel, Hanover, Pa., assignors to Chisholm-Ryder Company of Pennsylvania, Hanover, Pa., a corporation of Pennsylvania

Filed Aug. 24, 1966, Ser. No. 574,763

Int. Cl. B65b *43/39, 43/54*

U.S. Cl. 53—382 **12 Claims**



A flap-opening mechanism for unfolding the side and end flaps of cases or cartons and hold the same in such unfolded positions as the cases are moved along a path on a conveyor, regardless of whether the flaps are on the bottom or top of the case, and comprising means to first open the outer flaps, which usually are connected to the sides of the case, and then open first the leading inner flap by engaging one side edge thereof with fingers moving in the same direction as the cases but at a greater speed, maintain said leading flap unfolded, and then stop the movement of said fingers at a position to engage the side edge of the trailing flap and cam it to open position as the case is advanced past the finger, followed by holding said trailing flap in said open position.

3,451,196

GAS PURIFICATION

Thomas J. Webster, Ashford, Middlesex, England, assignor to The British Oxygen Company Limited, a British company

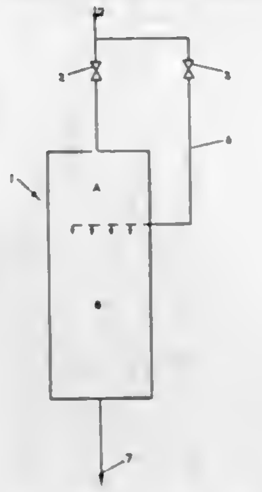
Filed July 26, 1966, Ser. No. 567,937

Claims priority, application Great Britain, Aug. 24, 1965, 36,366/65

Int. Cl. B01j *1/22;* **B01d** *53/04*

U.S. Cl. 55—74 **6 Claims**

Gas purification apparatus comprises an adsorber unit having a first inlet at one end and an outlet at the other end, and provided with a second inlet intermediate the ends of the unit. A bypass line connects the first inlet to the second inlet and valve means is provided to direct the gas either into the first inlet or through the bypass line into the second inlet. Gas is fed into the adsorbent bed from the inlet to the outlet, thereby establishing a concentration of retained impurity which progressively increases from the inlet to the outlet. When the impurity content of the effluent gas attains an acceptable low level the gas is directed, by way of the valve means, into the second inlet so as to bypass that part of the bed wherein the bulk of the impurities are retained.



3,451,197

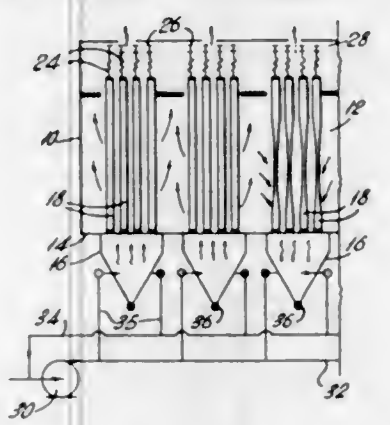
BAGHOUSE APPARATUS

Wade E. Ballard, Rolling Hills, Calif., assignor to Slick Corporation, New York, N.Y., a corporation of Delaware

Filed May 2, 1967, Ser. No. 635,608

Int. Cl. B01d *29/24*

U.S. Cl. 55—341 **2 Claims**



A baghouse for cleaning dust-laden gases in which vertically elongated tubular filter bags are each formed by a number of releasably connected vertically aligned sections which are individually replaceable when damaged from within the bag or filter chamber. The bag section connecting means also serve to oppose the collapse of the bags when the gas flow through the bags is reversed for cleaning purposes.

3,451,198

MEANS FOR SEPARATING A LIQUID, SUCH AS OIL, FROM A COMPRESSED GAS

Rolf Ingemar Axelsson, Norrkoping, Sweden, assignor to Stal Refrigeration Aktiebolag, Norrkoping, Sweden, a corporation of Sweden

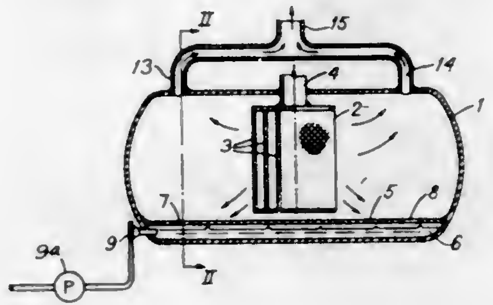
Filed Sept. 29, 1967, Ser. No. 671,758

Claims priority, application Sweden, Oct. 11, 1966, 13,707/66

Int. Cl. B01d *19/00, 21/02*

U.S. Cl. 55—430 **1 Claim**

Means for separating a liquid, such as oil, from compressed gas, consisting of an elongated, horizontal tank or container having a central inlet for the gas and oil and having a separator within it; the separator being centrally arranged in the container and consisting of one or more layers of mesh or foraminous material for separating the oil from the gas as the gas flows through it and is deflected toward the opposite ends of the container. The oil flows down to the bottom of the container into a chamber thereat and located either within the container or externally thereof and from which the collected oil can be suctionally removed. The gas flowing upwardly in the container emerges therefrom through outlets provided in the top of the container adjacent to the opposite ends of the container.



3,451,199

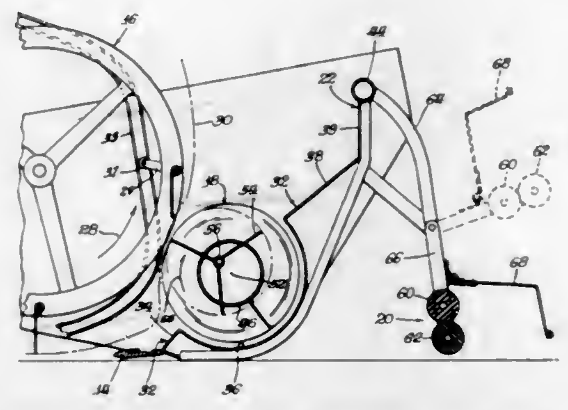
WINDROWER

Herbert W. Molzahn, Hamilton, Ontario, Canada, assignor to International Harvester Company, a corporation of Delaware

Filed Mar. 2, 1966, Ser. No. 531,186

Int. Cl. A01d *43/00*

U.S. Cl. 56—23 **6 Claims**



A self-propelled windrower having a harvester platform for cutting a crop and conveying the crop through a crop discharge area onto the ground in a windrow. A reel and an auger are mounted on the platform in peripherally upwardly converging relation for lifting the cut crop upwardly therebetween and for depositing the crop onto the upper portion of the auger. The reel includes tines which are resilient to accommodate the crop moving upwardly between the reel and the auger and effective to spring rearwardly above the auger to cast the crop onto the upper portion of the auger. The auger includes pick-up fingers for insuring positive flow of the crop over the auger into the discharge area.

3,451,200

COTTON HARVESTER WITH FLOATING GATHERER

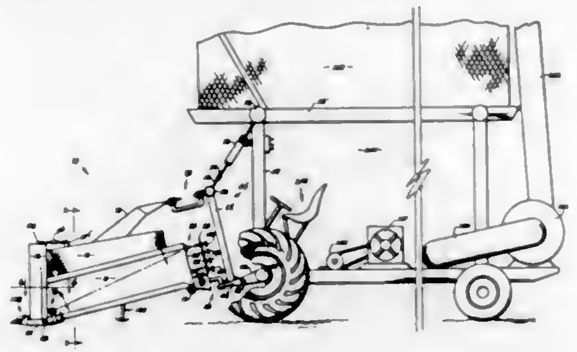
Howard L. Phares, Lubbock, Tex., assignor to Phares & Wilkins Manufacturing Company, Lubbock, Tex., a copartnership

Filed Jan. 3, 1966, Ser. No. 518,242

Int. Cl. A01d *45/18*

U.S. Cl. 56—33 **7 Claims**

A cotton stripper has the gathering unit mounted in front of the supporting vehicle. The back of the gathering unit is mounted to the front of the supporting vehicle by a parallel-motion linkage and is free to move or float laterally. Therefore, the gathering unit can stay on the row even though the propelling unit is not precisely aligned with the row of cotton to be harvested.



3,451,201

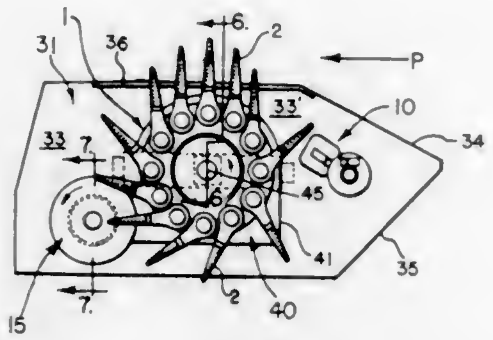
COTTON PICKER HOUSING STRUCTURE

Emil J. Grichnik, Memphis, Tenn., assignor to International Harvester Company, a corporation of Delaware

Filed Aug. 12, 1965, Ser. No. 479,117

Int. Cl. A01d *45/18*

U.S. Cl. 56—44 **3 Claims**



A cotton harvester having picker drums with rotatable picking spindles vertically mounted thereon, said drum mounted in a housing having a lower recessed portion receiving the lower portion of said picker drum to position said drum to pick cotton from the lowermost portion of the cotton plants, the recessed portion being partially enclosed defining a shielding facing the plants and opening facing the furrow to permit egress of trash accumulated therein, the recessed portion having therebeneath downwardly extending runners disposed substantially parallel to the direction of traverse to provide adequate ground clearances for said housing during picking operations.

3,451,202

FRUIT PICKING APPARATUS

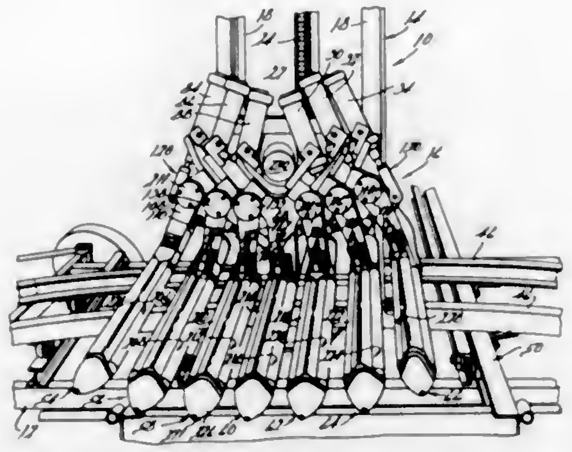
Ernest E. Murray, 6765 Meadow Lake, Birmingham, Mich. 48010

Filed Dec. 6, 1966, Ser. No. 599,437

Int. Cl. A01g *19/00*

U.S. Cl. 56—328 **30 Claims**

1. A fruit picker for picking fruit such as oranges or the like from a tree comprising: finger means defining a comb-like structure for combing through the branches of a tree and comprising at least one pair of finger subassemblies for removing the fruit from the tree and actuating means for supporting said finger subassemblies and selectively actuable for moving said finger subassemblies towards each other to a closed position and away from each other to an open position, removal means including roller means on said finger subassemblies for removing the fruit in said closed position and facilitating combing through the tree in said open position.



3,451,203

MACHINE FOR MAKING ELECTRICAL CABLE

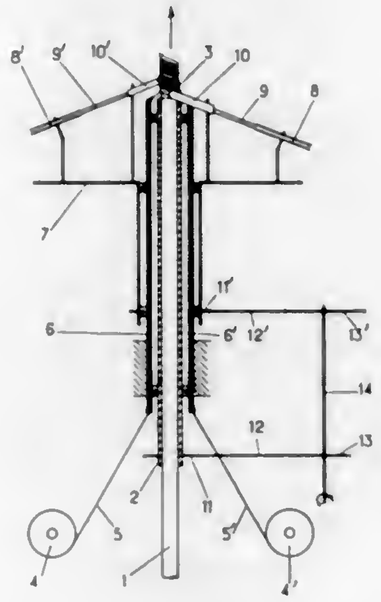
Yvan Eyraud, Lyon, France, assignor to Compagnie Generale d'Electricite, Paris, France

Filed May 10, 1967, Ser. No. 637,535

Claims priority, application France, May 10, 1966, 61,001

Int. Cl. H02b *13/08, 7/18*

U.S. Cl. 57—6 **10 Claims**



A machine for the production of "meander" type electric cables, comprising means for applying a plurality of wires along the core of a cable moving longitudinally through a tubular guide having a finger at the exit thereof for distorting the wires into a meander disposition, and means for subsequently winding on the cable two tapes, the first of which holds the wires on the core on both sides of the finger, and the other one of which lays on the cable the undulation remaining on the wires when the finger has become disengaged therefrom.

3,451,204

PROCESS AND APPARATUS FOR MAKING PAPER COVERED ELECTRICAL CABLE CONDUCTORS

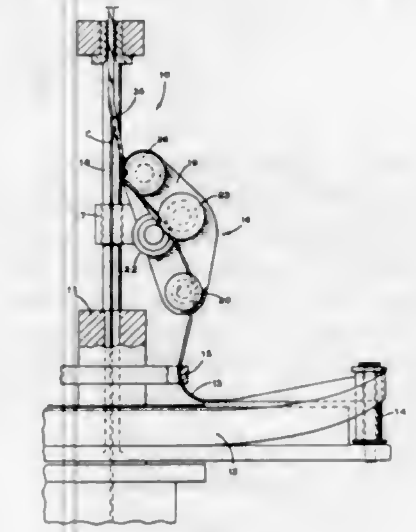
Christoph Cramer, Osnabruck, Gunter Kluge, Hesepe, and Ernst Woitke, Osnabruck, Germany, assignors to Kabel- und Metallwerke Gutehoffnungshutte Aktiengesellschaft, Hannover, Germany, a corporation of Germany

Filed Mar. 29, 1968, Ser. No. 717,144

Claims priority, application Germany, Apr. 1, 1967, K 61,878

Int. Cl. D02g *3/36, 3/08*

U.S. Cl. 57—18 **10 Claims**



A method and apparatus for preparing paper strip insulation for application to conductors used to make up electric cables and the like comprising folding said paper strip, pressing and then combining with said conductors.

3,451,205

APPARATUS AND METHOD FOR UNWINDING A FILAMENTARY MATERIAL

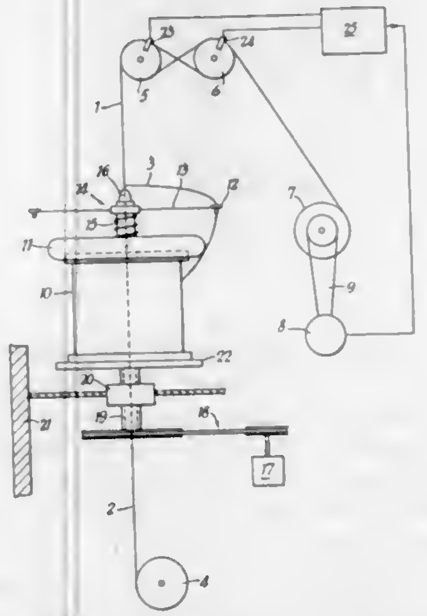
George William Toomey, Essex, England, assignor to Electrothermal Engineering Limited, London, England, a British company

Filed Oct. 26, 1967, Ser. No. 678,243

Claims priority, application Great Britain, Oct. 28, 1966, 48,570/66

Int. Cl. D01h *7/34;* **B65h** *49/06*

U.S. Cl. 57—18 **25 Claims**



An apparatus for unwinding a filamentary material from a reel of the material and which comprises, disposed coaxially with the reel, a rotationally balanced member rotatable relatively to the reel and resiliently carrying, at a radial extremity of the member, guide means for guiding the material after it has left the reel, and a smoothly convex guiding surface continuous about the axis of the reel and disposed between said member and the reel to maintain the material free of the reel rims.

3,451,206

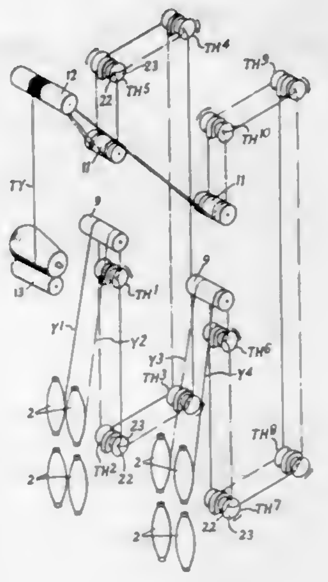
MACHINES FOR IMPARTING TWIST TO YARNS

Alexander W. P. Mackintosh, 64 Main St., Evington, Leicester, England

Filed Jan. 26, 1967, Ser. No. 611,920

Int. Cl. D01h *7/46*

U.S. Cl. 57—34 **13 Claims**



A yarn-twisting machine comprising a plurality of yarn twisting heads and heaters for setting the twist in a yarn running through these heads. Each head has a small central opening with trumpet-shaped ends for the passage of yarn, and the heads are arranged in the machine to guide the yarn in a labyrinth path through the heaters within a compact space and with extended heating zones, and to provide it with an uninterrupted increase in twist.

3,451,207

DEVICE FOR HANDLING AN END OF YARN OR ROVING

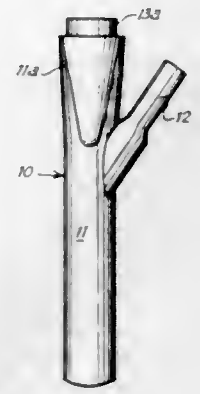
John Beverley Sharp, Mirfield, Yorkshire, England, assignor to Wool Industries Research Association, a company of Great Britain, Northern Ireland and the Isle of Man

Filed Sept. 26, 1966, Ser. No. 581,999

Claims priority, application Great Britain, Oct. 27, 1965, 45,415/65; Feb. 1, 1966, 4,390/66

Int. Cl. D01h *7/68*

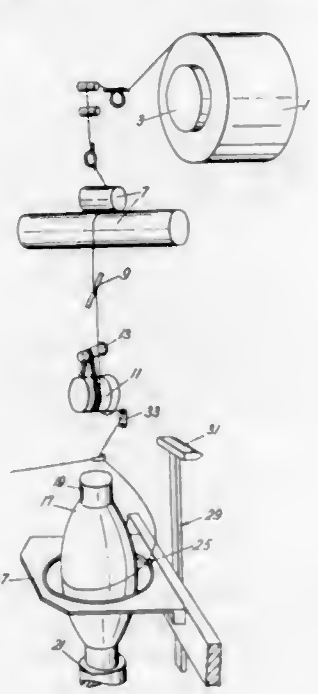
U.S. Cl. 57—34 **9 Claims**



Yarn end, such as that emerging from the front rollers of a cap spinning frame, is gathered by the suction end of an air current, is twisted by the air current as the latter follows a spiral path, and is delivered such as to a spinning bobbin, by the high pressure end of the air current. Air current may be created in a tube open at both ends by introducing an angled and off-center air jet into the tube near one of its ends through an injection tube inclined to the axis of the open-ended tube.

3,451,208
COLLECTION OF YARNS BY OVER-END WINDING

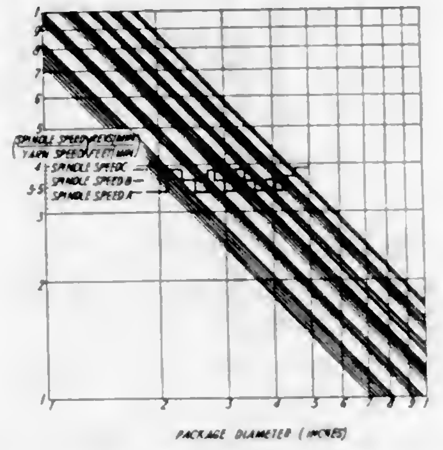
Alan Conway Jones, Pontypool, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed July 11, 1967, Ser. No. 652,483
Claims priority, application Great Britain, Aug. 4, 1966, 34,980/66
Int. Cl. B65h *54/04, 77/00;* **D01h** *13/10*
U.S. Cl. 57—156 **6 Claims**



Patterning in yarn packages wound with ring tilt by ring-spindle apparatus is reduced by "scrambling" yarn delivery speed, and hence causing fluctuations in traveller velocity.

3,451,209
OVER-END WINDING OF YARN

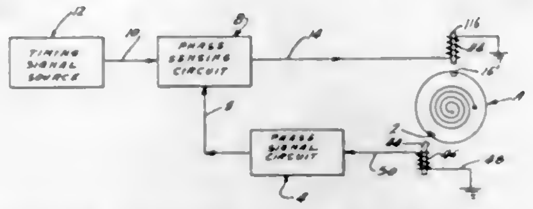
Douglas Chisholm Bisset, Alan Keith Dunnell, Clive Williams Hooper, and Kenneth Andrew Key, Pontypool, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Aug. 21, 1967, Ser. No. 661,859
Claims priority, application Great Britain, Sept. 1, 1966, 39,113/66
Int. Cl. D02g; DO1h *13/00;* **B65h** *53/12*
U.S. Cl. 57—156 **4 Claims**



Regions of patterning in a yarn package, due to e.g. ring-tilt, are avoided by shifting between at least 3 spindle speed values during the winding cycle.

3,451,210
SYSTEM FOR MAINTAINING OSCILLATIONS IN AN ELECTRIC TIMING MECHANISM HAVING AN OSCILLATORY ELEMENT

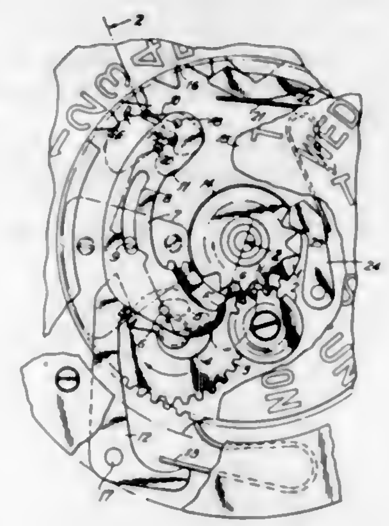
Leo L. Helterline, Jr., Westport, and Gerald R. Wootton, Thomaston, Conn., assignors to Benrus Corporation, a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,222
Int. Cl. G04c *13/02, 13/10*
U.S. Cl. 58—26 **23 Claims**



An electrically driven timing mechanism comprises a cyclically oscillatory element and a source of substantially cyclic timing signals, the phase relationship between the timing signals and the movement of the oscillatory element being sensed and the operative magnitude of the driving force applied to the oscillatory element being modified in accordance with that sensing, thereby to maintain the oscillations of the element in timed relation to the timing signals.

3,451,211
CALENDAR WATCHES

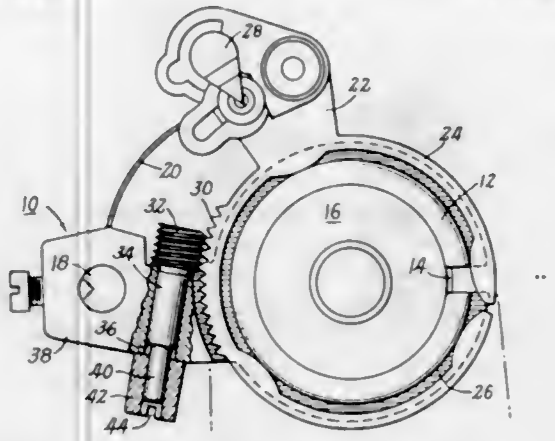
Yasuichi Nakagawa, Tokyo, Japan, assignor to Kabushiki Kaisha Daini Seikosha
Filed Sept. 13, 1967, Ser. No. 667,453
Claims priority, application Japan, Nov. 30, 1966, 78,013
Int. Cl. G04b *19/24*
U.S. Cl. 58—58 **7 Claims**



Calendar watches capable of indicating the day of the week as well as the day of the month. The calendar watch has a date indicating means for indicating the day of the month and an advancing means which coacts with the date indicating means for substantially instaneously advancing the latter from one date to the next. The date indicating means and the advancing means coact with each other to provide for the date indicating means the possibility of correctional movement without interfering with the operation of the advancing means, so that not only is the date indicating means instantaneously advanced from one date to the next but in addition it is possible to correct the date without interfering with the advancing means. The watch also includes a day indicating means for indicating the day of the week, and the same advancing means which coacts with the date indicating means coacts with the day indicating means for substantially instantaneously advancing the latter from one day of the week to the next day of the week simultaneously with the advance of the date indicating means from one day of the month to the next day of the month.

3,451,212
REGULATOR DEVICE FOR WATCH MOVEMENT

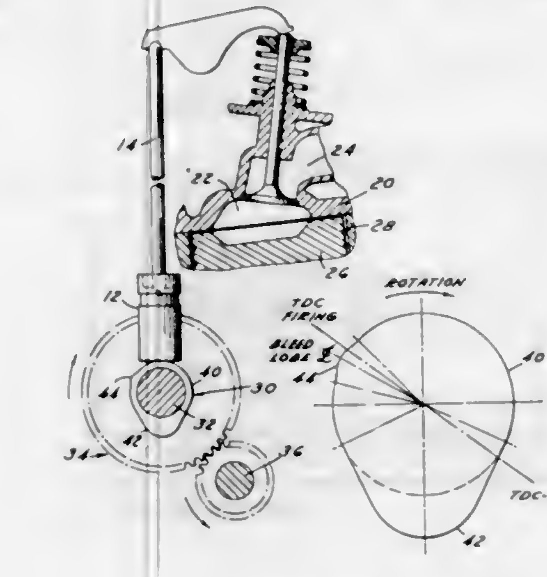
Fritz Marti, La Chaux-de-Fonds, Switzerland, assignor to Portescap Le. Porte-Echappement Universal S.A., La Chaux-de-Fonds, Switzerland
Filed Oct. 17, 1967, Ser. No. 675,848
Claims priority, application Switzerland, Oct. 21, 1966, 15,412/66
Int. Cl. G04b *17/14*
U.S. Cl. 58—109 **5 Claims**



A regulator device for a watch movement providing for the independent adjustment of the beat-setting and the active length of the balance spring. The adjustments are made by a stud-holder that is movable relative to the balance wheel bridge and an angularly adjustable key-holder regulator that has its drive screw mounted in the movable stud-holder.

3,451,213
ENGINE EXHAUST VALVE CAM

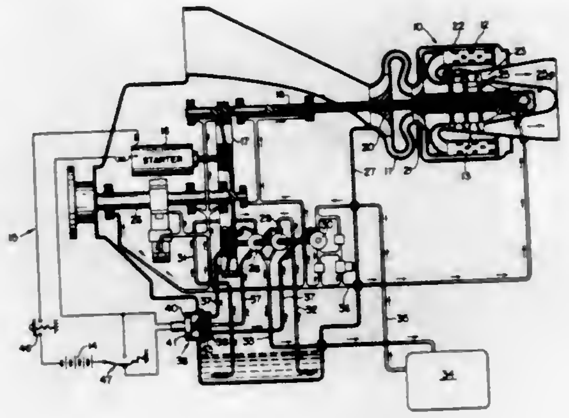
Charles R. Lang, Inkster, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,067
Int. Cl. F02b *75/10;* **F01l** *1/08*
U.S. Cl. 60—29 **9 Claims**



An internal combustion engine exhaust valve cam having a principal lobe opening the exhaust valve in the normal manner during the engine exhaust stroke, and a secondary lobe spaced from the principal lobe such as to momentarily open the exhaust valve at the beginning of the engine power stroke to bleed a portion of the burning charge into the exhaust system to reduce the emission of smog producing elements into the atmosphere.

3,451,214
COLD ENGINE START FACILITATING APPARATUS

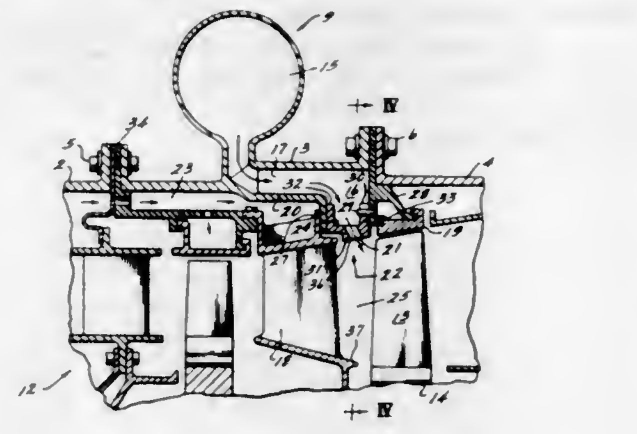
Curtis E. Bradley, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 15, 1967, Ser. No. 623,312
Int. Cl. F02c *7/26, 7/06;* **F16n** *29/00*
U.S. Cl. 60—39.14 **8 Claims**



Valve means is provided on an engine to connect the engine-driven lubricating pump inlet with a region provided with fluid at low viscosity, thus reducing the torque required to drive the pump during starting. When the engine starts, the valve immediately disconnects the pump inlet from the low viscosity fluid region.

3,451,215
FLUID IMPINGEMENT STARTING MEANS

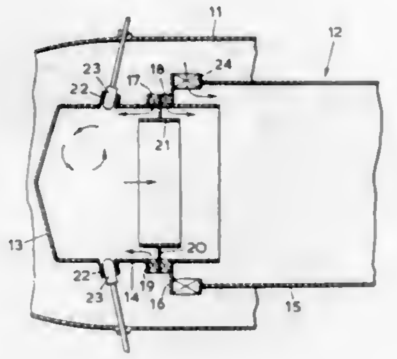
Samuel Rothrock Barr, Swampscott, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 3, 1967, Ser. No. 628,005
Int. Cl. F02c *7/20, 7/26;* **F01d** *5/00*
U.S. Cl. 60—39.14 **6 Claims**



A fluid impingement starting means in which a starter nozzle ring member is mounted in an engine casing upstream of a bladed rotor in a zone of relatively constant pressure. Small nozzle openings in the ring direct starter fluid streams to impinge upon the rotor blades of the engine to initiate engine starting. Radially elongated slots are provided at intervals along the circumference of a radially extending sidewall of the ring. Axially extending pins that project from a removable support member in the engine casing are cooperatively associated with the elongated slots. The removability of the support member permits the axial assembly to and disassembly from the engine of the ring member while the pin and slot arrangement allows the ring member to expand radially, during engine operation when high temperatures occur, without disturbing its position relative to the axial centerline of the engine.

3,451,216
COMBUSTION EQUIPMENT

Gordon Thomas Harding, Whetstone, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Apr. 28, 1967, Ser. No. 634,762
Claims priority, application Great Britain, Apr. 28, 1966, 18,655/66
Int. Cl. F02c *7/04;* **F23c** *7/00;* **F23m** *9/00*
U.S. Cl. 60—39.65 1 Claim

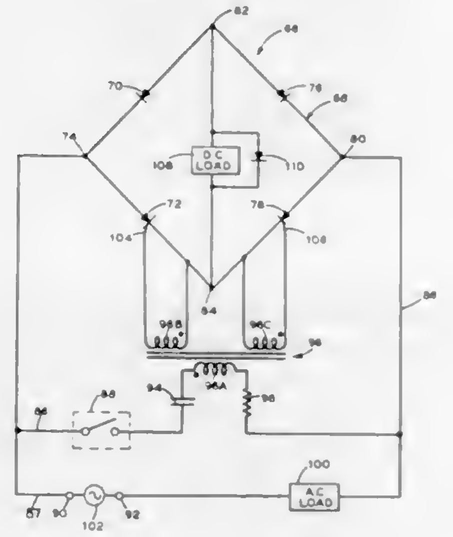


Combustion equipment, e.g. for a gas turbine engine, having a flame tube of which the upstream end is closed and which has air inlet ports between the upstream and downstream ends of the flame tube, through which primary air is introduced in the direction towards the closed upstream end of the flame tube, the direction of flow at the periphery of the frame tube being towards the upstream end, and the direction of flow in the centre of the flame tube being towards the downstream end.

The primary air may also flow transversely over a face of the burner before the air takes part in combustion with the injected fuel, thereby keeping the burner face free of carbon.

3,451,217
FLUID CONTROL SYSTEM

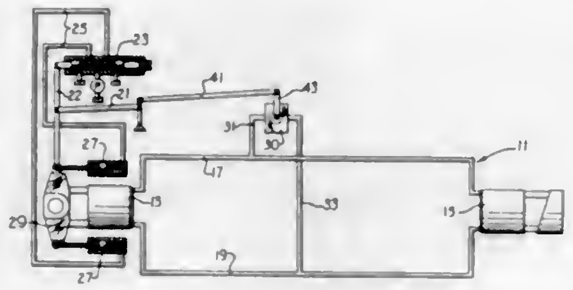
Frederic R. Quinn, Red Hook, N.Y., assignor to Zyrotron Industries, Inc., South Hackensack, N.J.
Filed Jan. 10, 1968, Ser. No. 696,880
Int. Cl. F15b *15/18, 21/02*
U.S. Cl. 60—52 17 Claims



A fluid control system for a fluid operated device including an AC operated fuel pump which is connected to the device by a conduit and a DC operated solenoid valve for controlling the flow of the fluid through the conduit. A silicon controlled rectifier controlled full wave rectifier bridge is provided for connecting the pump with an AC source of energy and for supplying the rectified current to the valve when gated. Gating means mounted on the device is adapted to selectively render the silicon controlled rectifier conductive when operated to provide a compact and economic system for controlling the operation of the device.

3,451,218
COMPENSATOR VALVE FOR HYDROSTATIC TRANSMISSION

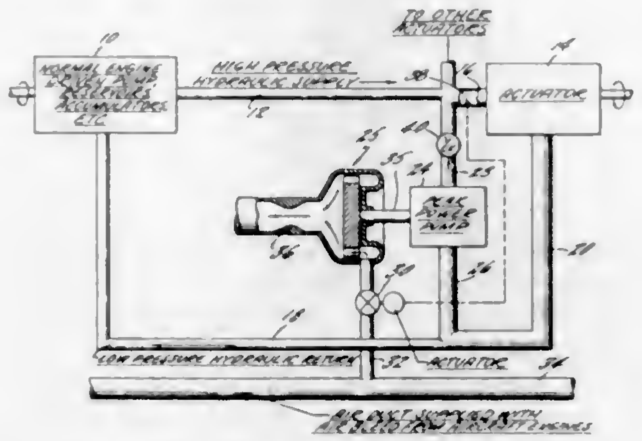
Arthur F. Grant, East Cleveland, Ohio, assignor, by mesne assignments, to Towmotor Corporation, a corporation of Ohio
Filed Sept. 1, 1967, Ser. No. 665,076
Int. Cl. F16h *39/46*
U.S. Cl. 60—52 3 Claims



In hydrostatic transmission wherein power flow is transmitted by fluid pressure between pump and motor units connected in a fluid loop, roughness of the transmission may be avoided during changes in pump displacement by incorporating a variable compensator valve in the loop which bleeds pressurized fluid from the high pressure side of the loop to the low pressure side of the loop in certain pump displacement ranges, thereby smoothing transmission operation.

3,451,219
HYDRAULIC TRANSMISSION SYSTEM

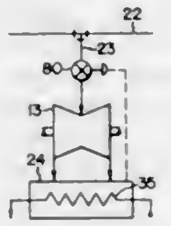
George C. Rannenberg, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,874
Int. Cl. F15b *13/09*
U.S. Cl. 60—52 7 Claims


TO OTHER ACTUATORS
NORMAL ENGINE DRIVEN PUMP, RESERVOIRS, ACCUMULATORS, ETC.
HIGH PRESSURE HYDRAULIC SUPPLY
ACTUATOR
PEAK POWER PUMP
LOW PRESSURE HYDRAULIC RETURN
ACTUATOR
10
12
14
16
18
24
25
26
35
36
32
34

The size of hydraulic transmission lines in a hydraulic actuating system utilizing engine driven pumps is reduced by incorporating a separate peak power pump mounted in close proximity to the hydraulic actuators, and utilizing air bleed from the engines of an aircraft for driving the pump. The size of the engine driven pumps is also reduced, since the pumps as well as the transmission lines may be sized for normal loads rather than peak loads.

3,451,220
CLOSED-CYCLE TURBINE POWER PLANT AND DISTILLATION PLANT

Vincent P. Buscemi, Forest Hills, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 28, 1966, Ser. No. 561,279
Int. Cl. F02b *41/10;* **F01k** *7/16;* **B01d** *3/02*
U.S. Cl. 60—73 14 Claims



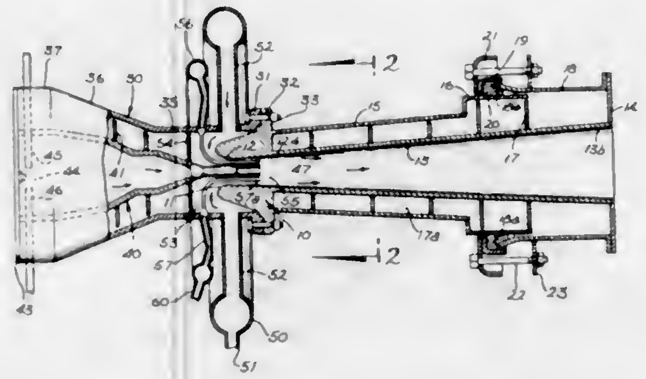
A combined closed-cycle condensable vapor motivated turbine power plant for generating electrical power and a liquid distillation plant for desalinating sea water, wherein the brine or feed liquid heater for the distillation plant is energized by exhaust steam from a back pressure turbine. The back pressure turbine is connected in tandem with one or more condensing turbines and the back pressure turbine and condensing turbines are fed motive vapor in parallel by a common conduit, thereby providing flexibility in control of the electrical and water production rates for varying demand.

The control includes an arrangement for controlling the pressure of the heating vapor admitted to the brine heater regardless of load demand on the turbines, during periods in which water distillation requirements are constant, and in which the hot exhaust vapor supply from the back pressure turbine to the brine heater may be diverted during no load requirements on the distillation plant.

The invention provides a combined plant of large output capability in which the hot vapor for motivating the turbines and the brine heater may be advantageously generated by a single nuclear reactor.

3,451,221
SUPERSONIC COMBUSTION NOZZLE

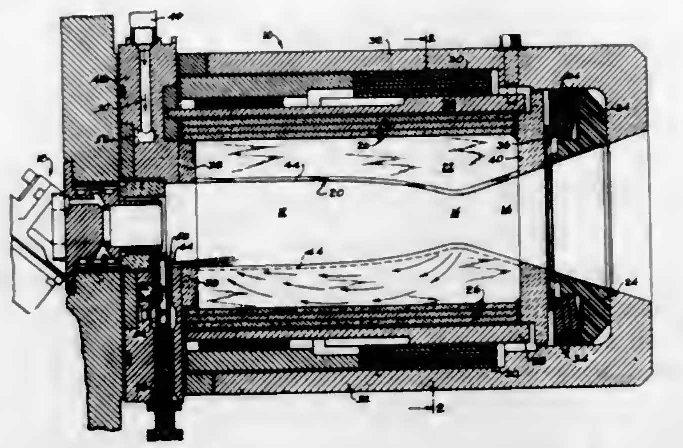
Rollin O. Boe, Canoga Park, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed July 26, 1966, Ser. No. 568,029
Int. Cl. F02g *3/00;* **F02k** *9/00, 1/00*
U.S. Cl. 60—258 14 Claims



A convergent-divergent supersonic combustion nozzle in which high pressure oxidizer is introduced subsonically to the convergent portion for expansion to supersonic velocity and fuel is introduced in the vicinity of the throat parallel to the oxidizer flow for supersonic combustion therewith in the divergent portion. The fuel and oxidizer may be hypergolic, or combustion may be initiated by electric or pilot burner means.

3,451,222
SPRAY-COOLED ROCKET ENGINE

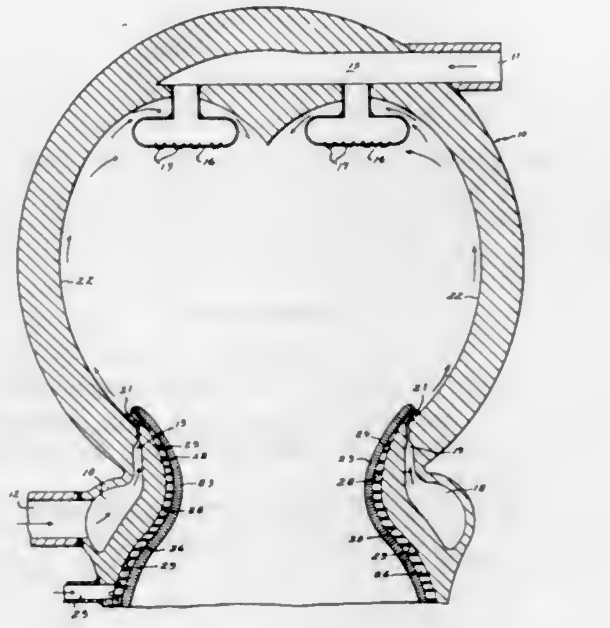
George S. Kelley, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,209
Int. Cl. F02k *9/02;* **F02g** *5/00;* **F02c** *7/16*
U.S. Cl. 60—258 5 Claims



A radially innermost layer of a liquid fuel rocket engine is made of a material which is highly thermally conductive at least in axial and radial directions. The radially inner surface of the layer defines the combustion chamber, nozzle, and nozzle throat portions of the engine and serves as a heat sink. A liquid combustible for the rocket engine, such as liquid fuel, is discharged onto a part of the surface of the combustion chamber thereby cooling that surface part and causing heat to be conducted away from and significantly cooling the nozzle throat portion.

3,451,223
ROCKET ENGINE CHAMBER COOLING AND INJECTION SYSTEM

Howard Vern Main, 27190 Jerome St., Boron, Calif. 93516
Filed Dec. 6, 1966, Ser. No. 600,004
Int. Cl. F02k *9/02, 11/04*
U.S. Cl. 60—258 2 Claims

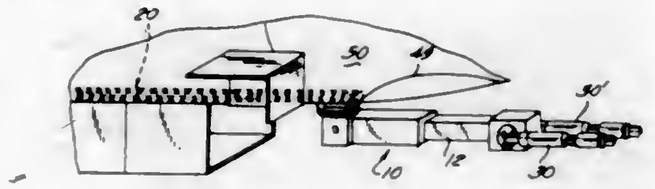


This invention relates to a cooling and injection system for a rocket engine chamber wherein fuel or oxidizer-rich gases discharged from the low pressure ratio gas generator; or liquid or gaseous propellants directly from the run tanks; are ducted into the throat region of the main rocket engine chamber and are injected tangentially to the chamber wall which has a somewhat spherical shape.

3,451,224
STOWABLE UNDERWATER MANIPULATOR

Raymond L. Colechia, Mystic, and Vincent T. Malcolm, Jr., Old Saybrook, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed June 20, 1967, Ser. No. 647,508
Int. Cl. B63c *11/00;* **B25j** *3/00;* **B63g** *8/00*
U.S. Cl. 61—69 **4 Claims**

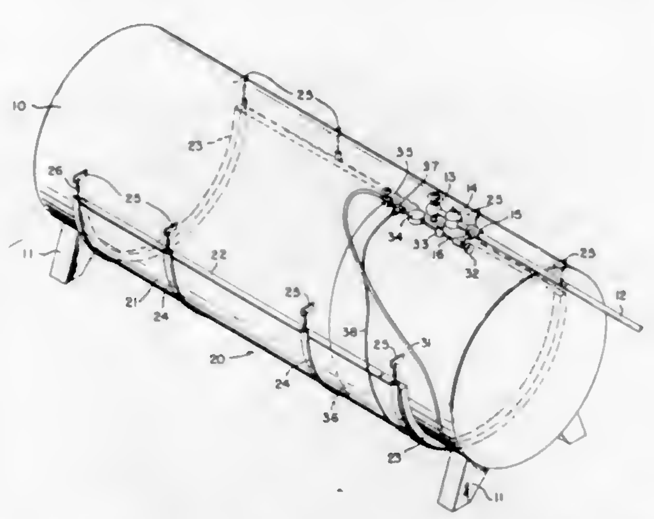


A remotely-controlled mechanical manipulator for a submersible marine vessel in the form of a pair of articulated arm members, with associated gripping hands, connected to a common, extensible, tool-carrying T-section which is mounted on the bottom of the vessel. When not in use, or when the vessel is resting on the marine floor, the manipulator is retractable into a protective compartment.

3,451,225
WATER-JACKET WARMER FOR STATIONARY FUEL TANK

Daryl G. Hill, 523 N. 24th Ave., and Roderick C. Robert, 521 N. 24th Ave., both of Yakima, Wash. 98101

Filed Feb. 8, 1968, Ser. No. 704,066
Int. Cl. F17c *7/02, 13/10*
U.S. Cl. 62—50 **5 Claims**

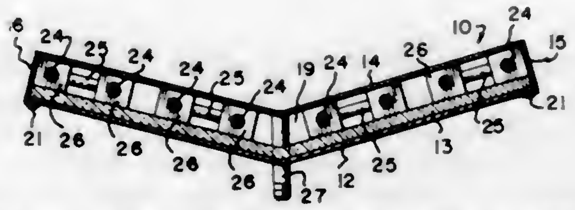


A water-jacket warmer for propane or other like fuel supply tank strapped to the underside of the tank, controlled thermostatically by the temperature of the water within the jacket and fueled from the tank.

3,451,226
DRIP PAN HAVING DEFROSTING MEANS

William F. Shriver, Waynesboro, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania

Filed Nov. 29, 1967, Ser. No. 686,456
Int. Cl. F25b *47/00*
U.S. Cl. 62—275 **13 Claims**

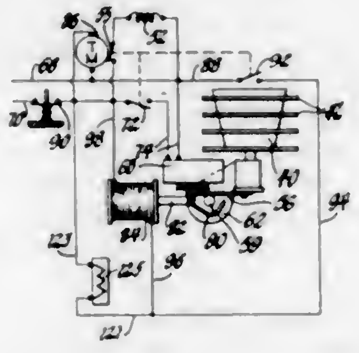


A drip pan for a refrigerating evaporator comprising a trough to receive ice and water from the evaporator upon defrosting of the latter and walls associated with the trough to define a relatively fluid tight chamber. A tube bank, having extended surface elements, is disposed in said chamber so that the extended surface elements are in abutment against the trough. The tube bank is connected to receive a heated fluid for flow of such fluid therethrough.

3,451,227
ICE MAKER WITH OSCILLATING MOVEMENT DURING FREEZING

James W. Jacobs and Victor A. Williamitis, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 25, 1967, Ser. No. 677,907
Int. Cl. F25c *1/18, 1/10*
U.S. Cl. 62—345 **2 Claims**

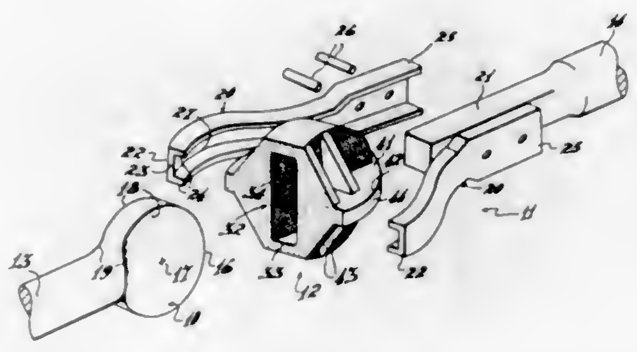


In the preferred form, this liquid freezer has a cup-shaped mold provided beneath it with a coaxial shaft rotatable within a bearing. A drive shaft is connected by a crank and connecting rod with a crank on the coaxial shaft for oscillating the mold during freezing of the liquid. The bearing is pivoted upon a second bearing perpendicular to the axis of the drive shaft or movement from the upright freezing position to an inverted position in which the frozen liquid is ejected into a bin.

3,451,228
UNIVERSAL COUPLING

John W. Henley, Willoughby, Ohio, assignor to Eagle-Picher Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Nov. 6, 1967, Ser. No. 680,738
Int. Cl. F16d *3/22*
U.S. Cl. 64—16 **7 Claims**

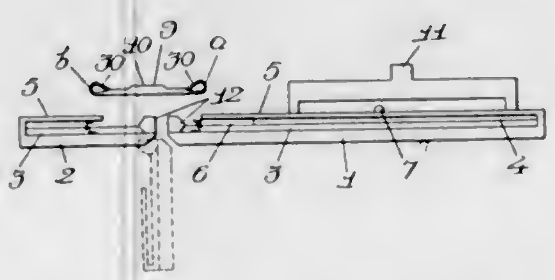


A universal coupling for a pair of rotatable shafts, having a flat semicircular end or spade at the end of one shaft which is received in a flat first socket for rotation in a first plane defined by the socket, and a second semicircular end or spade provided integrally with the socket and which is received in a second socket at the end of the other shaft for rotation in a second plane perpendicular to the first plane.

3,451,229
FLATBED KNITTING MACHINE

Sakae Matsui, % Kamekichi Okada, 372 Kasuga Ichikumi, Kasuga-cho, Tsukushi-gun, Fukuoka Prefecture, Japan

Continuation-in-part of application Ser. No. 427,445, Jan. 22, 1965. This application Jan. 3, 1968, Ser. No. 695,478
Claims priority, application Japan, Mar. 23, 1964, 39/15,758
Int. Cl. D04b *7/06, 7/04*
U.S. Cl. 66—63 **6 Claims**



The disclosure relates to a flat bed knitting machine which is preferably manually operated. The knitting machine includes a main needle bed provided with a plurality of parallel slots extending longitudinally thereof and each receiving a double-hooked knitting needle for reciprocation therealong. A supplementary or auxiliary needle bed is also provided and formed with parallel longitudinally extending needle slots each aligned with the slots of the main needle bed. This auxiliary needle bed may either be positioned in coplanar relation with the main needle bed or may be swung downwardly into an inoperative position. A carriage is arranged to be reciprocated laterally of the main needle bed and carries cams, on its under surface, cooperable with butts on needle operating jacks.

These jacks are reciprocable in alignment with, but above, the needle slots in the needle beds, and upwardly projecting rails or guides are positioned intermediate the slots to serve as guides for the jacks. Each jack includes a relatively elongated substantially rectangular cross section stem having a butt projecting upwardly therefrom at one end and its opposite end edge formed as a concave recess to engage the hooked end of a needle. A spring hook extends along one longitudinal edge of each jack, being secured to the stem of the jack adjacent its rear end. The forward end of each hook includes a bent hooked portion which is normally biased to extend through the hook of the latch-type needle. However, a formed stitch moving along the needle stem may engage this hook, and is angled rearwardly relative to the jack, and bias the hooked end out of the needle hook so that the formed stitch may pass over the closed latch of the needle and be dropped off.

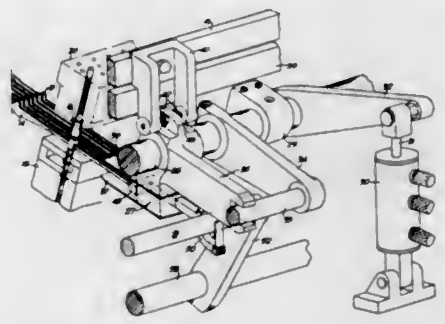
The laterally reciprocable carriage has cams thereon utilized for plain knitting, other cams utilized for purl knitting, and selectively positionable cams which are used for rib knitting.

3,451,230
FLAT TWIN BED KNITTING MACHINES

Brian Arthur Monk, Mansfield, England, assignor to S. A. Monk (Sutton-in-Ashfield) Limited, Sutton-in-Ashfield, Nottinghamshire, England, a corporation of the United Kingdom

Filed Mar. 6, 1967, Ser. No. 620,720
Claims priority, application Great Britain, Mar. 15, 1966, 11,276/66
Int. Cl. D04b *7/04, 15/70*
U.S. Cl. 66—64 **11 Claims**

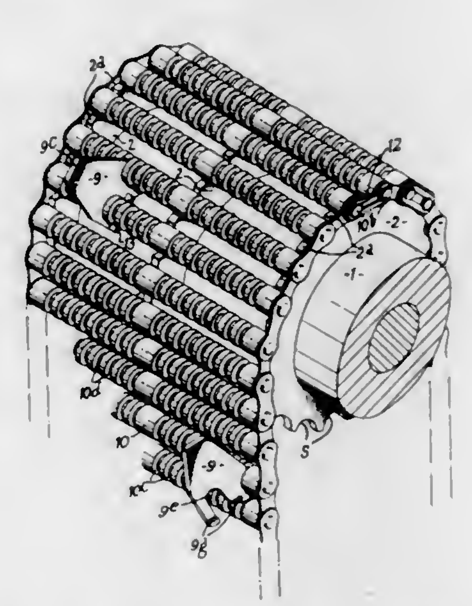
A flat bed knitting machine having needle selection means for patterning purposes, wherein a secondary needle selection mechanism is provided to override the main selection means to produce a plain border on a patterned garment piece, the mechanism comprising longitudinally and angularly adjustable blade elements which co-act with the needle actuating means.



3,451,231
PATTERNING MECHANISMS FOR WARP KNITTING MACHINES

Wilfred Bolton, Leicester, England, assignor to Swanwarp Machines Limited, Leicester, England, a British company

Filed Jan. 24, 1967, Ser. No. 611,280
Claims priority, application Great Britain, Jan. 28, 1966, 4,049/66
Int. Cl. D04b *21/06*
U.S. Cl. 66—156 **15 Claims**



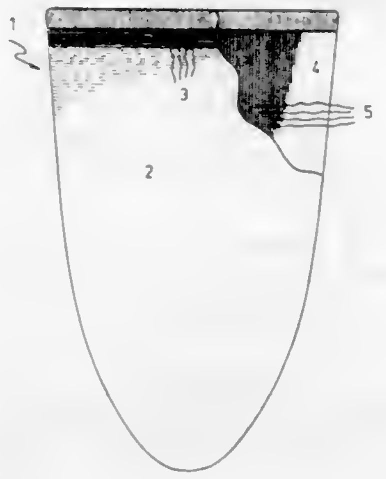
A patterning chain furnished with planar studs selectively acting upon jacks in a mechanism controlling the run-in of selected warp ends in a warp knitting machine. The chain comprises parallel spaced pins adjacent pairs of which are connected at their ends by links, each pin having therein axially spaced annular grooves in line with the selector jacks. Each pattern stud, retained on a pin by a spring clip, has therein two recesses enabling it to be fitted upon aligned grooved portions of two adjacent transverse pins.

3,451,232
KNITTED PROTECTIVE ARTICLE FOR WEARING IN A PROSTHESIS OR ORTHOPEDIC APPLIANCE AND METHOD OF MAKING THE SAME

David Belzidsky, 191 Rue Saint Charles, Paris, France

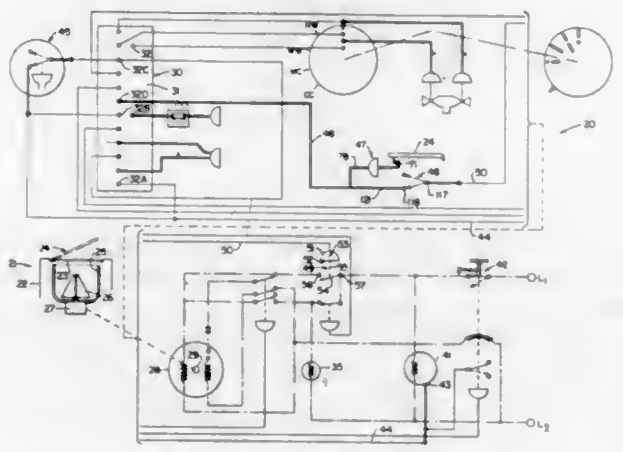
Filed Apr. 5, 1967, Ser. No. 628,688
Claims priority, application France, Apr. 8, 1966, 56,969
Int. Cl. A41; D04b *9/46*
U.S. Cl. 66—171 **6 Claims**

A method and apparatus for making a protective article for wearing with a prosthesis or orthopedic appliance. The article comprises plated knitting having at least two different kinds of thread material, such as woolen and synthetic fiber. The method comprises the steps of arranging the knitting operation on a double needle bed or circular knitting machine with one kind of thread on an inner side normally forming the back side of the knitting and with the other kind of thread on an outer side normally forming the front of the knitting, and after the knitting operation turning the article over so that the knitting is arranged with the front forming the inside of the finished article and the back part of the knitting forming the outside of the article.



3,451,233
WASHING MACHINE HAVING DOOR LATCH CONTROL MEANS

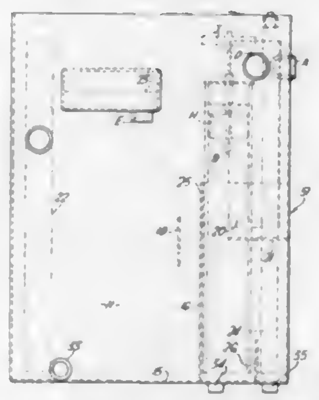
Harvey J. Shopsky, Latrobe, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,034
Int. Cl. D06f *33/10, 37/28, 37/42*
U.S. Cl. 68—12 13 Claims



This disclosure relates to a pneumatic control system for a washing machine or the like wherein the washing compartment cannot be spun unless the door or lid means for the machine is in its closed position, the pneumatic control system positively moving a latch member to its latching position to hold the door means in its closed position before pneumatically operating the mechanism for spinning the washing compartment. The actuator means that moves the latch member to its latching position has means for delaying movement of the latch member to its unlatching position after the pneumatic signal to the actuator has been terminated by automatic or manual means, such delaying means comprising a suction cup means on the flexible diaphragm of the pneumatically operated actuator and an accumulator in combination therewith.

3,451,234
LIQUID SEPARATORS

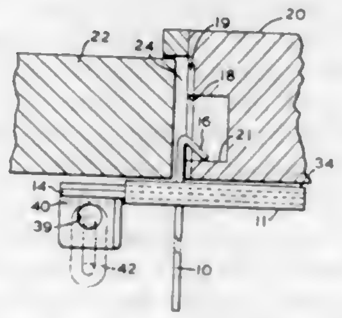
James Palmer, Leatherhead, England, assignor to Neil & Spencer Limited, Leatherhead, England, a British company
Filed Aug. 9, 1967, Ser. No. 659,492
Claims priority, application Great Britain, Aug. 11, 1966, 36,082/66
Int. Cl. D06f *43/08*
U.S. Cl. 68—18 4 Claims



A separator for recovering solvent from a dry cleaning machine. The separator includes a tank having an inlet for a mixture of solvent and water from the machine, a partition dividing the tank into two sections wherein liquid from one section can overflow the partition to the other section. On one side of the partition there is a restricted outlet for solvent and a float for detecting the solvent level and on the other side of the partition there is an unrestricted solvent outlet and a water outlet which determines the maximum water level.

3,451,235
PORTABLE AUXILIARY LOCK

Richard I. N. Weingart, P.O. Box 1526, Nassau, Bahamas
Continuation-in-part of applications Ser. No. 552,553, May 24, 1966, and Ser. No. 615,650, Feb. 13, 1967. This application June 13, 1967, Ser. No. 645,778
Int. Cl. E05b *73/00*
U.S. Cl. 70—14 7 Claims

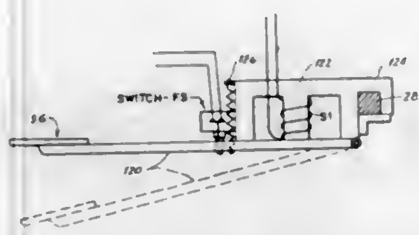


A lock having a locking bar with spaced slots extending over a portion of its length and an abutment to be inserted behind a portion of one of the members to be locked, and a guard plate which has an opening to receive the bar, and be secured thereto, the plate engaging the outside of the members, and a locking plate, carried in sliding relation, by the guard plate, and with a finger which engages one of said slots to lock the plate to the locking bar.

3,451,236
CONTROL FOR PRESS BRAKE

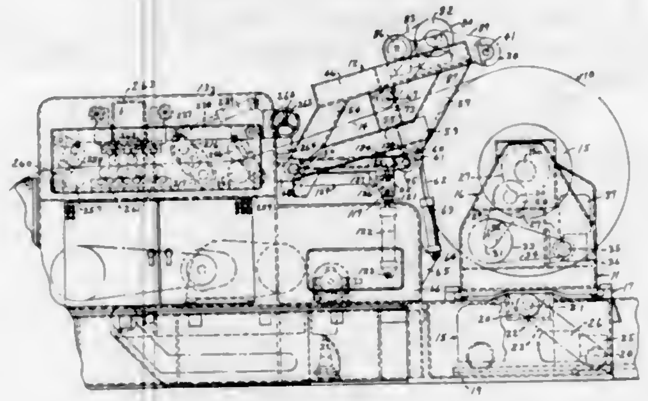
Alexander Fowler and Evelyn R. Fowler, both of 334 Westover Road, Stamford, Conn. 06902
Filed Aug. 22, 1967, Ser. No. 662,422
Int. Cl. B30b *15/16;* **B21j** *7/22;* **B21d** *37/02*
U.S. Cl. 72—25 14 Claims

A control is provided for a press brake having a continuously running driving shaft, a driven shaft running intermittently, a bed, a ram, and a friction clutch engageable to cause said shafts to move said ram toward said bed and back again. There is an up limit switch for non-repeat, and a treadle linkage to variably engage the clutch when slippage is wanted. The treadle linkage includes an electromagnet on one part and an armature on an adjacent part so related that the linkage is mechanically operative only when the magnet coil is energized. The coil is deenergized by operation of said limit switch. In preferred form a preset limit switch is available to take effect when the die reaches the work, and it too deenergizes the coil.



3,451,237
STRIP STOCK PROCESSING MACHINE

Berlyn E. Baringer and Marvin A. Hole, Livonia, and John A. Huber, Birmingham, Mich., assignors to Coilfeed Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Apr. 22, 1964, Ser. No. 361,779
Int. Cl. B21c *47/00*
U.S. Cl. 72—40 15 Claims

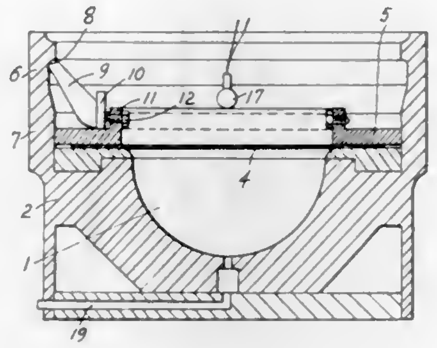


A device for unwinding coiled sheet metal strip stock comprising means to rotatably support the coil, peeler means operative to pick up the free end of the coiled strip, and threading means to automatically guide the strip into brushing and straightening means.

3,451,238
DEVICE FOR THE DEFORMATION OF SHEET METAL PLATES BY MEANS OF SHOCK WAVES

Paul Nemitz, Kiel-Pries, Germany, assignor to Atlas-Mak Maschinenbau GmbH., Kiel-Friedrichsort, Germany, a firm
Filed Oct. 13, 1967, Ser. No. 675,098
Claims priority, application Germany, Nov. 15, 1966, A 54,077
Int. Cl. B21d *26/08*
U.S. Cl. 72—56 10 Claims

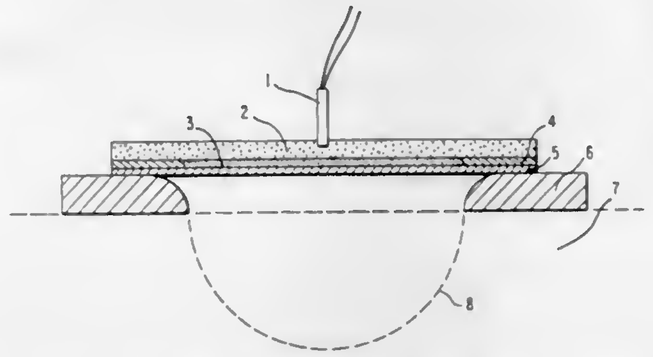
A device for the deformation of sheet metal plates is provided, wherein a mold body having a mold impression formed therein is associated with clamping means for a sheet metal plate to be deformed. In operation, the clamping means are acted upon by the shock waves of explosive deformation forces acting above the sheet metal plate and the mold impression. The higher the deformation forces are the higher will be the clamping forces with



which the clamping means press the sheet metal plate against the mold body to hold the sheet metal plate in its adjusted position.

3,451,239
METHOD AND APPARATUS FOR DEEP-DRAWING SHEET METAL PLATES

Peter Riegelmayer, Wasserscheide, Kreis Siegen, and Helmut Türk, Burbach, Kreis Siegen, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed Oct. 4, 1965, Ser. No. 492,589
Claims priority, application Germany, Oct. 13, 1964, D 45,619
Int. Cl. B21j *5/04*
U.S. Cl. 72—56 12 Claims

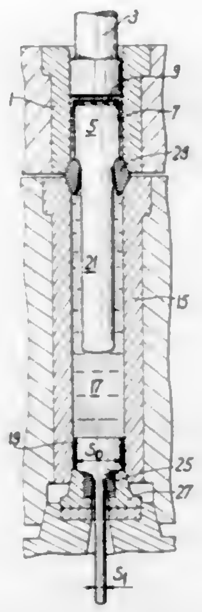


A method and an apparatus for the free expansion explosive forming of sheet metal wherein the explosive is nonuniformly areally distributed over the surface of the sheet metal to form a correspondingly nonuniformly shaped product.

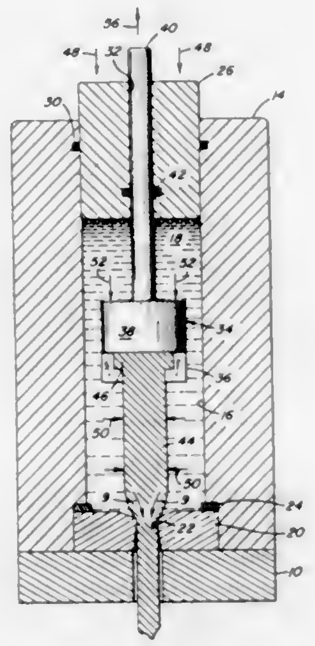
3,451,240
METHODS OF SHAPING METALS UNDER HIGH HYDROSTATIC PRESSURE

Charles Sauve, Versailles, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Oct. 19, 1966, Ser. No. 587,868
Claims priority, application France, Oct. 25, 1965, 36,138
Int. Cl. B21d *22/10, 25/18;* **B21c** *23/02*
U.S. Cl. 72—60 7 Claims

The metal to be shaped by extrusion under high hydrostatic pressure is placed in the pressure chamber blocking the opening in the shaping die and is covered with a liquid lubricant. A second metal is placed in the receiving container blocking the opening of the extrusion die and is covered by a second liquid lubricant which fills the receiving container. High hydrostatic pressure created in the pressure chamber by force applied to the first liquid lubricant, upon inward movement of the sliding ram, extrudes the metal in the pressure chamber through the shaping die and into the receiving container. The pressure created in the second liquid lubricant by the penetration thereinto of the shaped metal body exiting from the shaping die is sufficient to extrude the second metal out of the receiving container through the extrusion die.

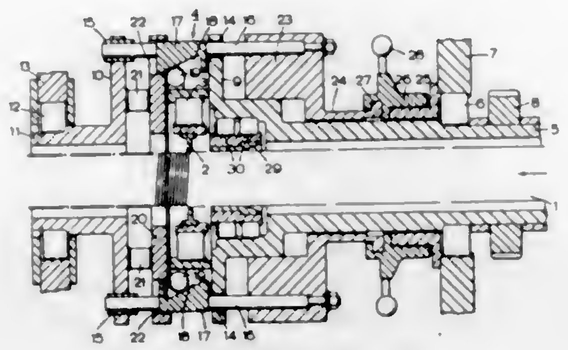


3,451,241
METHODS OF HYDROSTATIC EXTRUSION
Francis Joseph Fuchs, Jr., Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,577
Int. Cl. B21c *23/21, 33/00, 31/00*
U.S. Cl. 72—60 **13 Claims**



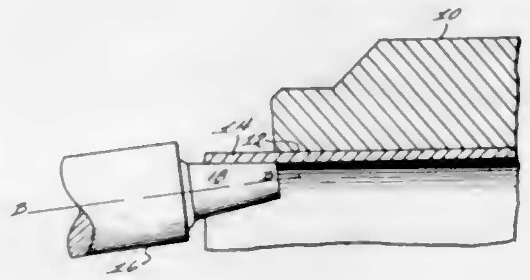
Method of extruding solid plastic material by subjecting only the sides of the material to high hydrostatic pressure sufficiently great to cause the material to increase in ductility, and by extruding the increasingly ductile material by the aforesaid high hydrostatic pressure. The end of a billet of solid plastic material is restrained to substantially neutralize any longitudinal forces acting on the billet and to substantially eliminate contact force between the billet and the die.

3,451,242
APPARATUS FOR DEFORMING TUBING
Vincent Tobia, Chandlers Ford, Hampshire, England, assignor to Pirelli General Cable Works Limited
Filed Aug. 25, 1966, Ser. No. 575,121
Claims priority, application Great Britain, Oct. 27, 1965, 45,529/65
Int. Cl. B21b *13/20;* **B21d** *3/02*
U.S. Cl. 72—77 **13 Claims**



Apparatus for deforming, e.g., corrugating, tubing having a deforming tool mounted in an annular rotatable member surrounding the tubing and rotatable about an axis which is eccentric with respect to the axis of the tubing, the latter being advanced axially. The eccentricity of the annular member is adjustable during rotation of the annular member by means of a cam inclined to the tubing axis.

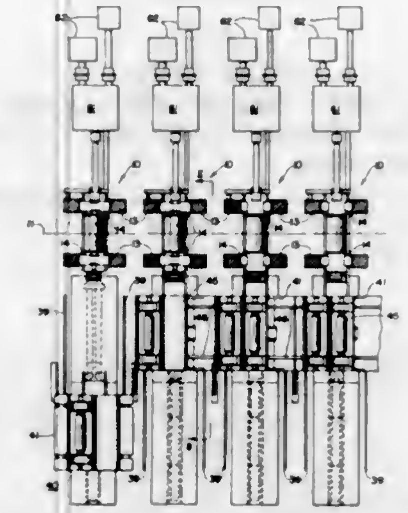
3,451,243
PROCESS FOR FORMING SERRATED FLANGED PIPE
Jay S. Gallinger, Wilmington, Del., assignor to Galaxie Manufacturing Co., Wilmington, Del., a company of Delaware
Filed Aug. 3, 1966, Ser. No. 569,881
Int. Cl. B21b *23/00, 19/08, 17/00*
U.S. Cl. 72—124 **9 Claims**



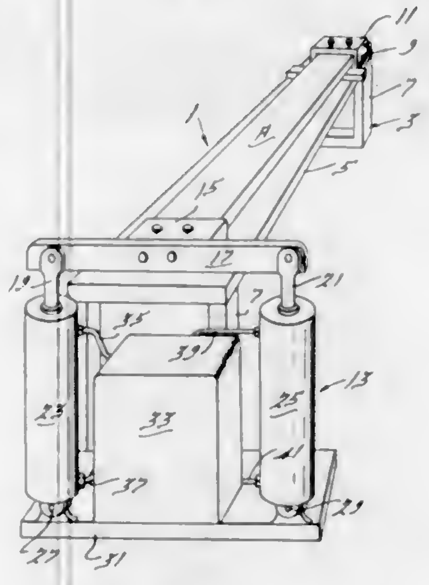
A process for forming serrations on a face of a pipe flange involves the steps of forming a flange on the end of a pipe with a smooth surfaced forming means, replacing the flange forming means with a serrated forming means, and finish forming the flange with the serrated forming means to produce a flanged pipe having concentric serrations formed in the flange face.

3,451,244
AUTOMATIC WORK ROLL CHANGERS
William L. Stover and Andrew J. Petros, Oakdale, Pa., assignors to Mesta Machine Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1967, Ser. No. 611,959
Int. Cl. B21b *31/10*
U.S. Cl. 72—239 **2 Claims**

This invention relates to automatic work roll changers for rolling mills having a mill housing with end frames on opposite sides of a pass line, each end framing having a window adapted to receive the chocks of a pair of work rolls on roll carrier means movable on rails extending transversely of the pass line and vertically movable in said windows, a track adjacent the housing parallel to the pass line having a buggy movable thereon and provided with side by side railways each adapted to receive a roll carrier means and rolls thereon and means driving each of the buggy means and roll carrier means.



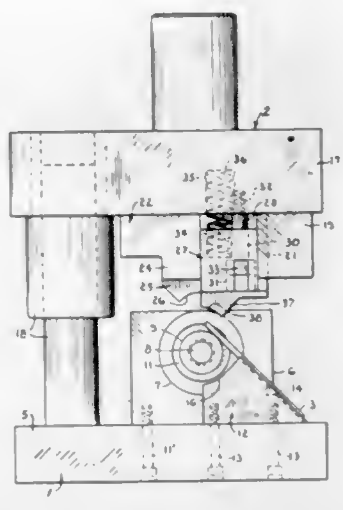
3,451,245
TORSION STRAIGHTENER
Marvin R. Scott, Detroit, Mich., assignor to Detroit Flame Hardening Company
Filed Oct. 7, 1966, Ser. No. 585,038
Int. Cl. B21d *11/14*
U.S. Cl. 72—299 **1 Claim**



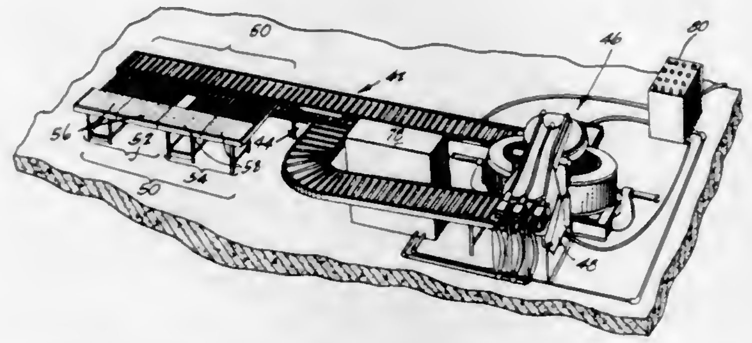
The disclosure straightens angularly twisted parts by applying a couple of equally and oppositely acting forces to one end of the part.

3,451,246
MACHINE AND METHOD FOR FORMING STRIP MATERIAL
Robert L. Miller, 808 N. Washington, and John Shewan, R.R. 7, both of Valparaiso, Ind. 46383
Filed Jan. 15, 1965, Ser. No. 425,740
Int. Cl. B21d *11/04*
U.S. Cl. 72—304 **12 Claims**

The invention is primarily directed to a machine and/or method whereby a strip of metal may be successively overstressed from one end to the other between a pair of relatively movable mating dies to define a substantially true annulus.



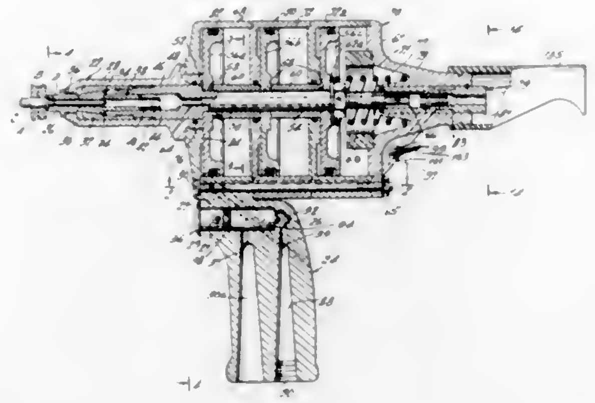
3,451,247
APPARATUS FOR FORMING SHEET METAL
Kenneth L. Miltenberger, Lakewood, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Apr. 12, 1967, Ser. No. 630,452
Int. Cl. B21d *45/00, 43/18, 43/00*
U.S. Cl. 72—346 **12 Claims**



Confined rubber type press, openable at front and back. Conveyor system between reload stations and press. Transfer mechanism pushes processed pallets out rear of press and reloaded pallets in front simultaneously. Pallets are coded and recognition system automatically diverts each pallet from return conveyor to correct reload table. All reload stations independently connected to the straight through conveyor system to allow transfer to conveyor at random with no delay for slow reloading.

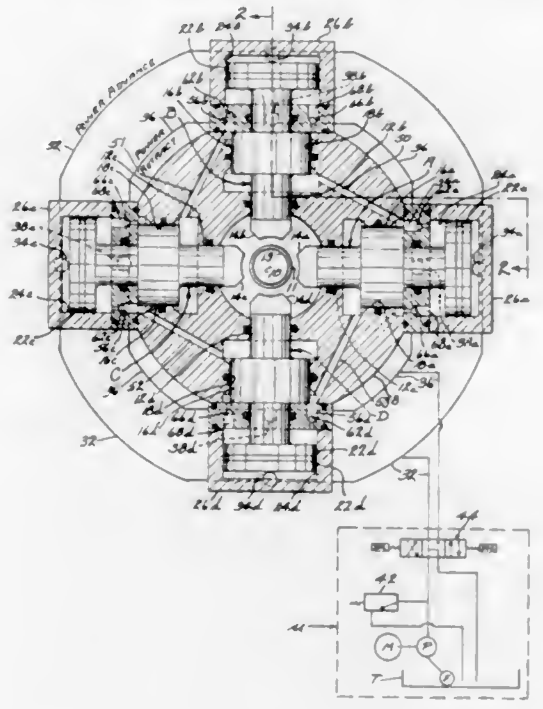
3,451,248
RIVET SETTING TOOL
Walter Bell, Monroe, N.Y., assignor to Star Expansion Industries Corporation, Mountainville, N.Y., a corporation of Delaware
Filed Jan. 26, 1967, Ser. No. 611,956
Int. Cl. B21j *15/10*
U.S. Cl. 72—391 **8 Claims**

This disclosure is directed to a new and unique tool for upsetting blind rivets. More particularly, it is directed to a rivet setting tool which is pneumatically operated and relates to new and improved means for assembling tools of varying power capacity wherein the pneumatic means is also operable to retain the rivets in position and to eject the severed rivet mandrel stems therefrom automatically utlizing a common source of pneumatic power. The disclosure includes the provision of modular structure for the tool whereby its power capacity may be varied in direct proportion to the number of cylinder units employed and provision is made for an integrated vacuum arrangement whereby severed rivet stems are withdrawn and ejected from the tool by means utilizing the same power source as that used for operating the tool.



3,451,249
FORMING MACHINE

Wilfred J. Sharon, 25280 Chatworth Drive,
Euclid, Ohio 44117
Filed Oct. 10, 1966, Ser. No. 585,399
Int. Cl. B21d *31/00, 41/00;* B21j *7/16*
U.S. Cl. 72—402 21 Claims

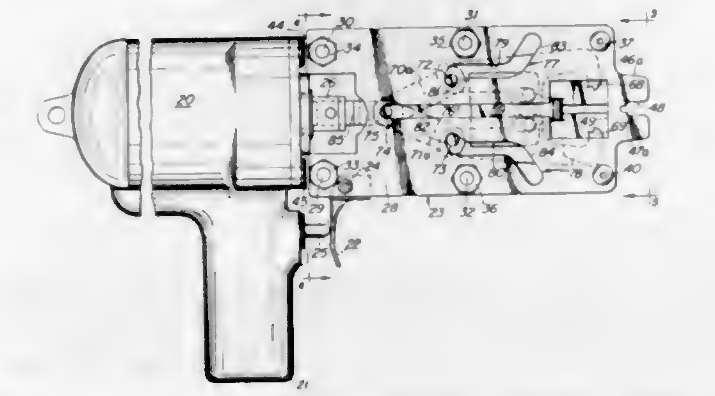


A rotary compression forming machine including a plurality of radially mounted preconfigured segmental dies mounted for reciprocation in unison to a common central point at which is disposed a workpiece to be formed. A suitable actuating means is provided for effecting an applied load to the dies for reciprocating the same in unison to and away from the workpiece in the form of synchronized hydraulic piston-cylinder power mechanisms on each of the dies.

Coacting hydraulic equalizing means are also provided on the dies for equally balancing the applied load between all of the dies when they contact and form the workpiece, such equalizing means including a hydraulic piston-cylinder control mechanism on each die with the control piston thereof being directly secured to the die, and including hydraulic conduit means containing pressurized hydraulic fluid, said conduit means including conduits connecting the bottom side of each control cylinder with the top side of the next adjacent control cylinder, in series around the circle in a closed circuit, whereby the hydraulic fluid is pressure fed from the bottom of each control piston to the top side of the next adjacent control piston in series around the circle in a closed circuit to equalize linear displacement of the dies and to equally balance the applied load between the dies.

3,451,250
CLIP GUN

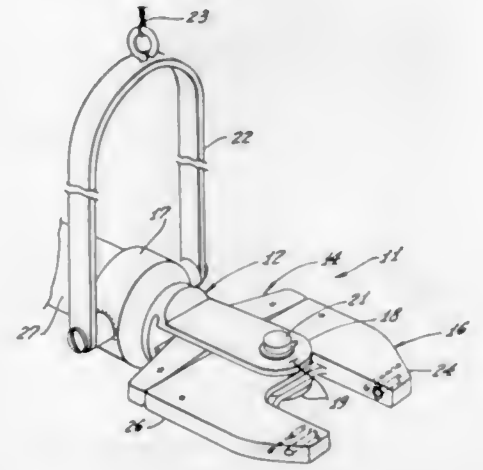
Robert E. Rolf, 2606 Madelyn SW. 49509, and Harold H. Bolt, 2140 Kinney Ave. NW. 49504, both of Grand Rapids, Mich.
Filed Mar. 13, 1967, Ser. No. 622,591
Int. Cl. B21j *7/16;* B21d *31/00, 41/00*
U.S. Cl. 72—403 5 Claims



A device for installing securing clips around a group of wires, and having a moving anvil carrying bending levers that fold clips supported by the anvil, in which the pivot axes of the levers are movable with respect to the anvil, and the clips are compressed between the anvil and portions of the levers as a final step in the installation operation.

3,451,251
COMPRESSION TOOL

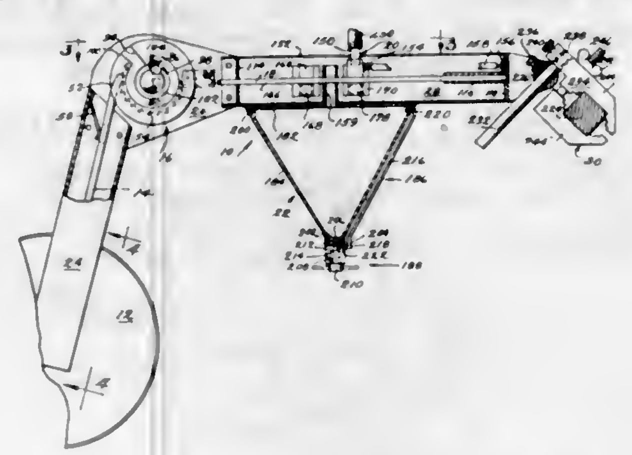
Richard C. Bahl, Agoura, and Miles J. Zeller, Hermosa Beach, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Oct. 20, 1967, Ser. No. 676,768
Int. Cl. B21d *7/06;* B21j *9/18*
U.S. Cl. 72—407 3 Claims



Apparatus adapted to effect a compression or squeezing operation, the apparatus including a minimum number of components and for this reason is highly efficient in operation and free of malfunctioning tendencies. Power for the initial actuation of the apparatus originates with a fluid source. This fluid source provides a linear force, acting through a yoke member, to convert it into a pair of mechanical forces or moments acting to urge a pair of opposed and aligned jaw members toward each other to effect the compression or squeezing operation referred to above.

3,451,252
CALIBRATOR FOR AGRICULTURAL SPRAYERS

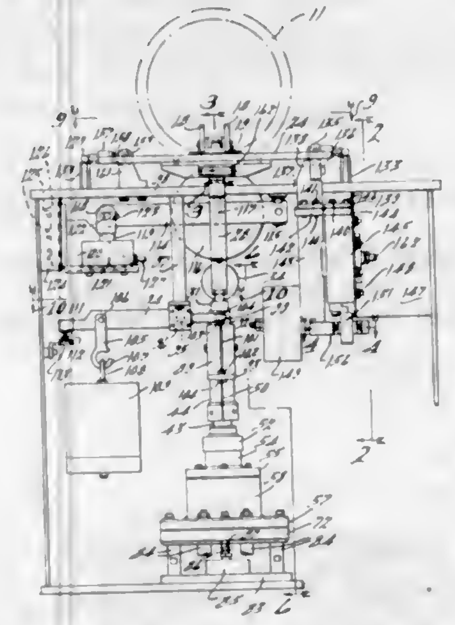
Donelson B. Horton, Madison, and Harvey T. Downing, Huntsville, Ala., assignors to John Blue Company, a division of Subscription Television, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,728
Int. Cl. G01c *25/00*
U.S. Cl. 73—1 15 Claims



The calibrator comprises a calibrated receiver, an intake coupling adapted to be connected to a supply line of the equipment being calibrated and a control means responsive to the movement of the calibrator for controlling the period of discharge from the intake coupling into the receiver whereby the discharge from the supply line for a specific distance can be measured. The control means comprises a ground engaging wheel, a cam member which is driven by the wheel and a cocking lever rod having the intake coupling mounted thereon. The cam is provided with first, second and third cam surfaces which are engaged by a cleat on the spring-loaded cocking lever with the position of the cocking lever and consequently, the intake coupling mounted on the cocking lever being determined by the cam face engaged by the cleat.

3,451,253
BRAKE LINING TESTING MACHINE

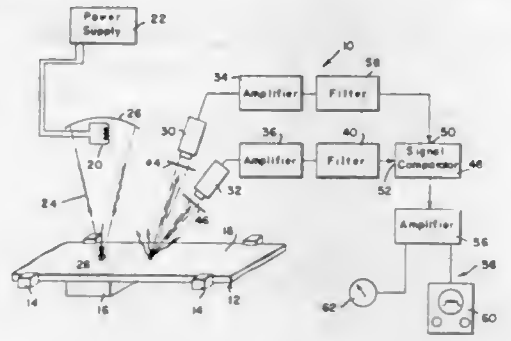
Manfred R. Happold, Farmington, Mich., assignor to Link Engineering Company, a corporation of Michigan
Filed Aug. 17, 1967, Ser. No. 661,414
Int. Cl. G01n *3/56*
U.S. Cl. 73—9 8 Claims



The invention relates to a mechanism for applying a load to a sample of brake lining to be tested through flexible means which eliminates any binding in the load applying elements so that the applied pressure can be accurately measured. The structure compares the frictional force occurring between the sample and rotating brake drum with known loads which urges the sample against the brake drum surface. An accurate chart can be plotted between the applied loads and the resulting frictional forces.

3,451,254
NONDESTRUCTIVE TESTER

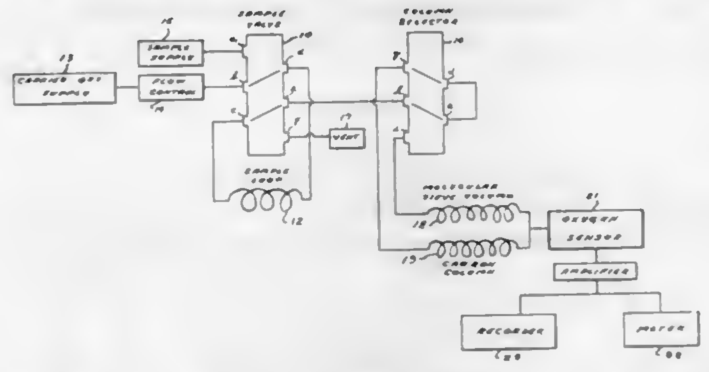
Dale R. Maley, Boulder, Colo., assignor to Automation Industries Inc., Los Angeles, Calif., a corporation of California
Filed July 26, 1965, Ser. No. 474,661
Int. Cl. G01n *25/00*
U.S. Cl. 73—15 12 Claims



A nondestructive testing system is disclosed wherein an infrared pickup scans a workpiece to indicate the presence of defects by sensing variations in surface temperature caused by defects. The pickup includes means for detecting radiations in two different frequency bands whereby variations in the emissivity of the surface do not materially affect the indications.

3,451,255
GAS ANALYSIS APPARATUS

James R. Neville, 213 Tuttle Road, San Antonio, Tex. 78209, and Kenneth G. Ikels, 242 S. Sycamore, New Braunfels, Tex. 78130
Filed Apr. 7, 1966, Ser. No. 541,037
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 5 Claims

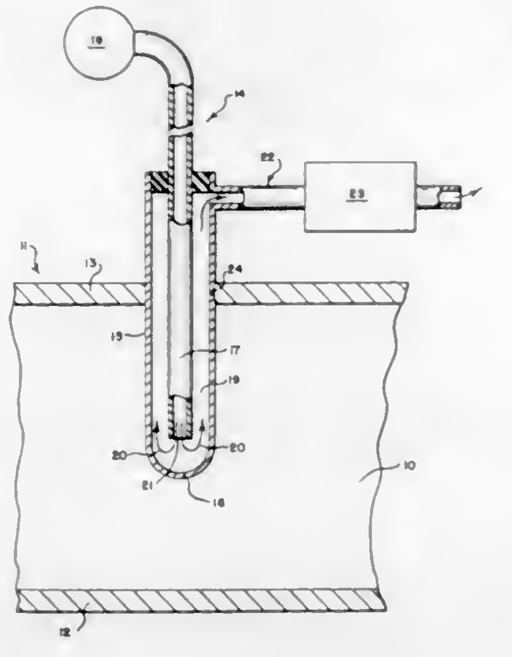


A sample of a gas to be tested is separated into its constituents by passing it through a column of absorbent material. Oxygen or an oxygen mixture is used as the carrier gas. An oxygen sensor is used to measure the diluting effect of the constituent gases on the carrier gas. The output of the oxygen sensor is applied to an indicator and a recorder.

3,451,256
APPARATUS FOR THE DETERMINATION OF CARBON IN A FLUID

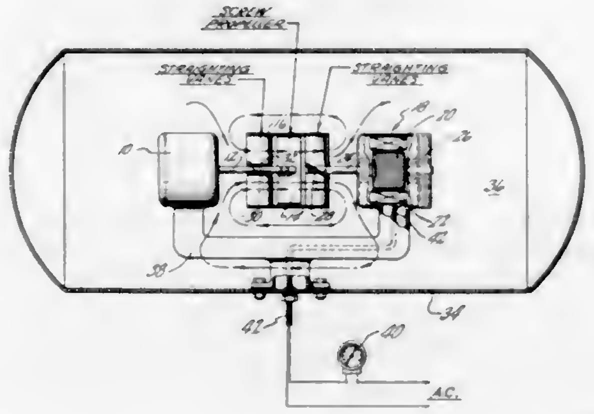
Morris Kolodney, River Edge, N.J., assignor to United Nuclear Corporation, Elmsford, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 422,762, Dec. 31, 1964. This application Nov. 8, 1967, Ser. No. 681,073
Int. Cl. G01n *31/00*
U.S. Cl. 73—23 12 Claims

The carbon content in a fluid, e.g. molten metal or carburizing gas, is measured by immersing thereinto a thin-walled ferrous or nickel metal tube having a closed end and introducing a stream of decarburizing gas which preferably is a mixture of hydrogen, water vapor and an inert gaseous carrier into the closed end of the tube. The decarburizing gas contacts and sweeps the interior of the tube and reacts with the carbon permeated therethrough. The decarburizing gas is then removed from the tube and its composition is analyzed to determine the content of carbon in the molten metal.



3,451,257
SUPERCRITICAL STORED MASS SENSOR

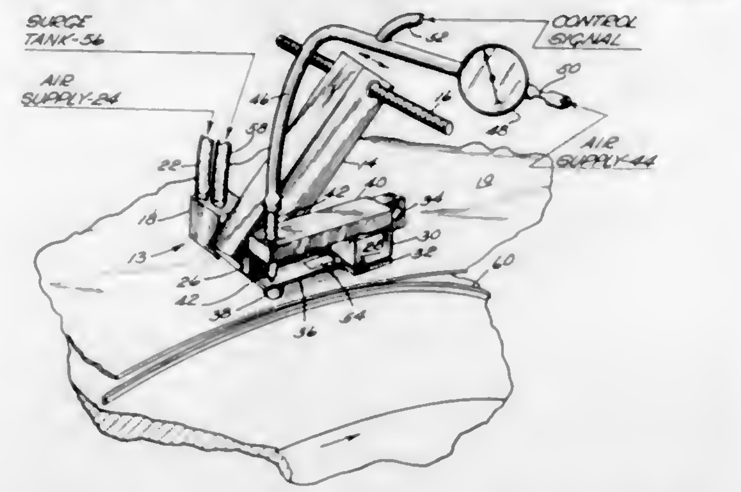
David C. Jennings, Windsor Locks, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,940
Int. Cl. G01n *9/34*
U.S. Cl. 73—32 **2 Claims**



Apparatus for determining the mass content of a body of stored supercritical fluid includes a tank of known volume on which a duct is supported in the fluid. A shaft fixed to one end of the duct in the longitudinal axis of the latter is journalled in bearings supported by the tank. A constant speed motor supported by the tank has a shaft which is extended into the duct at the other end of the duct and has a screw propeller on its extended end located adjacent the midpoint of the duct. Straightening vanes are secured to the duct internally thereof at each of its ends upstream and downstream of the propeller and a torsion spring acts to bias the duct against the rotational effect of the fluid stream on the duct. An angle sensor has a magnetic core rotatable with the duct which gives a measure of the torque exerted on the duct by the fluid and hence a measure of the density of the fluid.

3,451,258
TRAVERSING CROSS MACHINE PROFILE SCANNER

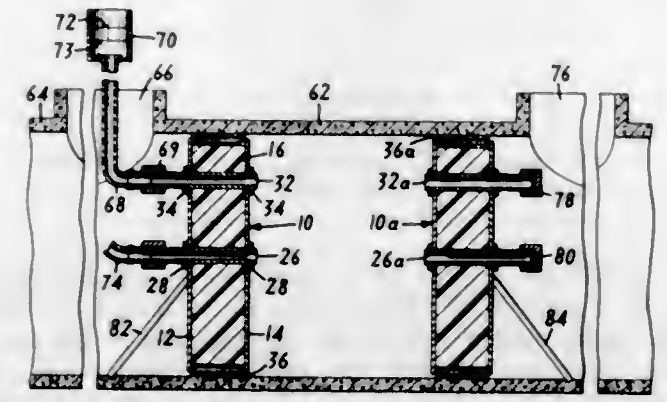
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 29, 1967, Ser. No. 664,162
Int. Cl. G01b *13/04*
U.S. Cl. 73—37.7 **12 Claims**



A profile scanner for use in measuring the thickness of a traveling paper web. The scanner includes a rotatable back-up roll constructed of material having a magnetic attraction for supporting a traveling paper web. A magnetic member is resiliently mounted on a support member and the magnetic member is positioned a fixed distance from the surface of the paper web on the back-up roll so as to provide a fixed flux gap between the back-up roll and the magnetic member. The thickness of the paper web passing between the back-up roll and the magnetic member affects the magnetic field between the magnet and the back-up roll. Variation in web thickness causes corresponding variation in the magnetic field which, in turn, causes fluctuation of the resilient support member. The fluctuation of the resilient support member is used to control the amount of air flow from a nozzle which, in turn, generates control signals within the air passage connected to the nozzle. The control signal generated by variations in thickness of the paper web can be used to control the stock flow onto the forming wire of a paper making machine.

3,451,259
APPARATUS AND METHODS FOR TESTING CONDUITS

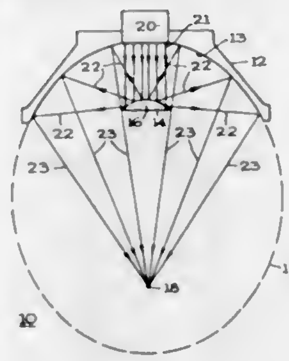
Carrell S. McNulty, 35 Beulah Road, New Britain, Pa. 18901
Filed July 28, 1967, Ser. No. 656,919
Int. Cl. G01m *3/08*
U.S. Cl. 73—40.5 **9 Claims**



This invention describes apparatus and methods for testing a portion of a conduit by blocking each end of the passageway of the conduit portion with a disc. Each of the discs has a plurality of pluggable openings therethrough which provide access to the passageway for any equipment required during the testing. Infiltration, exfiltration or air pressure tests may be run by (a) properly positioning the discs within the conduit, (b) plugging the appropriate openings through the discs, and (c) connecting any equipment appropriate for the particular test desired to the passageway of the conduit through any unplugged disc openings.

3,451,260
APPARATUS FOR ULTRASONIC SCANNING USING AN ELLIPTIC REFLECTING SYSTEM

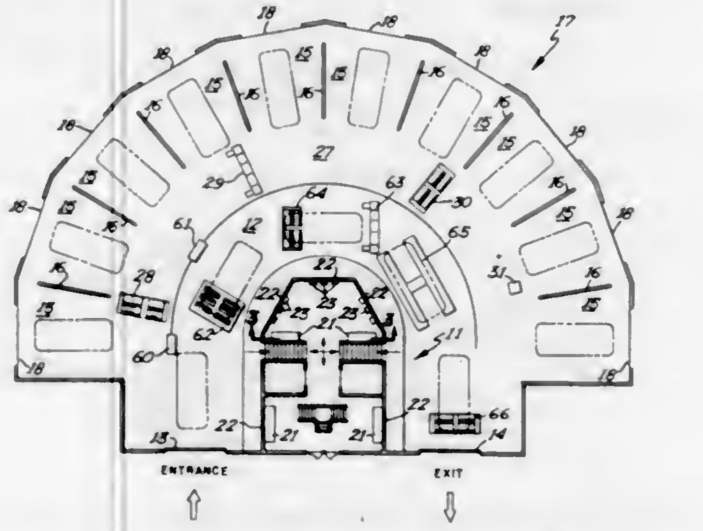
Frederick L. Thurstone, Winston-Salem, N.C., assignor to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare
Filed Mar. 23, 1966, Ser. No. 536,744
Int. Cl. G01n *9/24*
U.S. Cl. 73—67.9 **4 Claims**



An ultrasonic scanning system for ultrasonic scanning of an acoustical interface for biologic tissue utilizing a reflector formed from a portion of an ellipsoid with a transducer for transmitting and receiving located on the major axis of the ellipsoid. A second reflector diverges the plane wave front from the transducer back toward the first reflector for converting the plane wave front to a spherical wave front. Pulse generating means are connected to the transducer and also through a delay to a gate which connects to a display tube having linear motion means connection with the transducer.

3,451,261
AUTOMOBILE DIAGNOSTIC CENTER

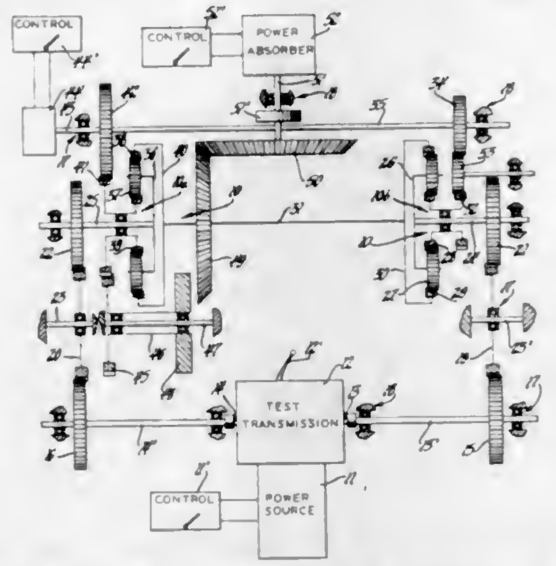
Dick M. Olsen, Mound, Minn., assignor to Marquette Corporation, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,691
Int. Cl. G01m *15/00*
U.S. Cl. 73—117.2 **16 Claims**



Automobile diagnostic center employing a circular roadway surrounding a central interior structure in which diagnostic stations are disposed along the circular roadway and there are radial repair stalls outside of the circular roadway into which vehicles can be driven from the circular roadway. The circular roadway may extend for only 180 degrees or it may extend substantially 360 degrees.

3,451,262
CROSS DRIVE TRANSMISSION DYNAMOMETER

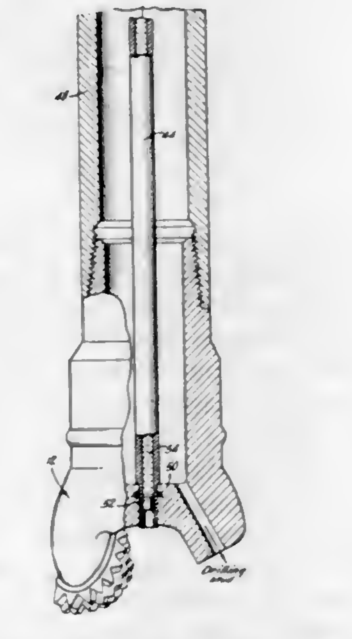
William T. McPeek, Danville, and Arthur E. Lynch, Brownsburg, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,822
Int. Cl. G01m *13/02*
U.S. Cl. 73—118 **15 Claims**



An extra-vehicular method of and apparatus for testing steering transmissions having dual output drive is disclosed wherein the power delivered by the transmission output shafts is apportioned, by means of differential gearing, between propulsion and steer power absorbing devices which are controlled to respectively simulate propulsion and steering power requirements and the inertia characteristics normally experienced in the operation of a vehicle.

3,451,263
LOGGING WHILE DRILLING SYSTEM

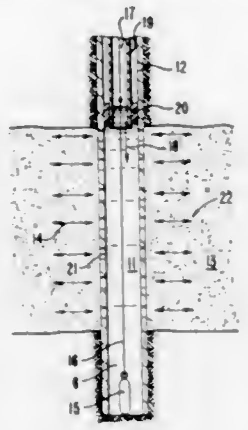
Albert P. Richter, Jr., and James D. Bruner, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,566
Int. Cl. E21b *29/00*
U.S. Cl. 73—152 **3 Claims**



Apparatus for continuously measuring the surge pressure developed when a drill string having a drill bit at the end thereof is run into an earth borehole filled with drilling mud. Incorporated in the drill bit per se is a pressure sensing element which actuates a remotely located pressure transducer. Electrical signals representative of the surge pressure are transmitted from the pressure transducer to a transducer signal pocessing circuitry unit and then to a recording unit, said units being incorporated in the drill string above the drill bit.

3,451,264
PROCESS FOR DETERMINING THE INJECTION PROFILE OF A CASED WELL

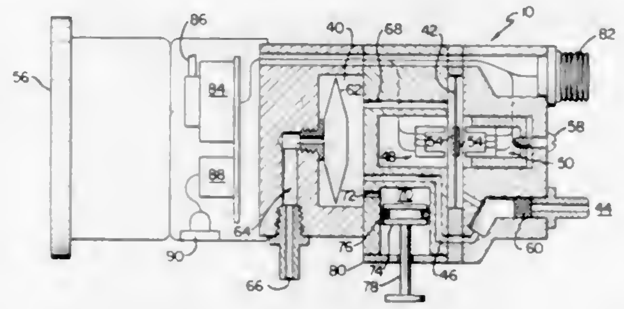
Ross L. Kastor, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 21, 1967, Ser. No. 647,820
Int. Cl. E21b *47/10, 47/00*
U.S. Cl. 73—155 5 Claims



The injection profile of a cased well is determined by injecting a corrodent fluid down through the cased well bore, into the earth formations surrounding the well, inserting a corrodible strand of material into the well and measuring the rate of corrosion of the strand over a period of time.

3,451,265
FAST RESPONSE APPARATUS FOR MEASURING RATE OF CHANGE OF PRESSURE

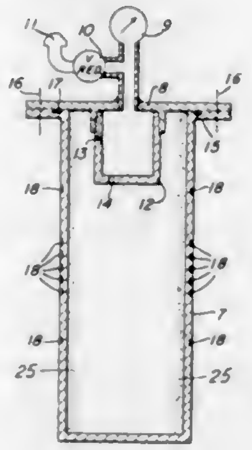
Richard H. Ball, Boulder, Colo.
(2040 Kohler Drive, Denver, Colo. 80202)
Filed Oct. 4, 1967, Ser. No. 672,841
Int. Cl. G01c *21/00*
U.S. Cl. 73—179 16 Claims



A fast response apparatus for measuring the rate of change of a pressure, and for measuring the difference in the rate of change of two different pressures. The apparatus includes a pressure responsive diaphragm member, means for effecting flow between opposite sides of said pressure responsive diaphragm member directly proportional to the difference in pressures existing on opposite sides thereof, and variable inductive means for sensing movement of said diahragm member and generating an electrical signal in response thereto. The apparatus also includes a fast responsive means for sensing the rate of a change of a second pressure. The apparatus also includes means for varying the gain ratio of said apparatus through the use of a variable volume chamber. The means for effecting flow directly proportional to the difference between pressures existing on opposite sides of the pressure responsive diaphragm member may include a laminar flow restrictor means or a flow effecting means having a Reynolds number of approximately 2000 or less. The diaphragm member is formed from a flexible material in film form. A preferred material for use in making the diaphragm member is a material having a stretch modulus of elasticity of approximately 1,000,000 p.s.i. or less.

3,451,266
VAPOR PRESSURE GAUGE AND CALORIMETER FOR HIGH TEMPERATURES

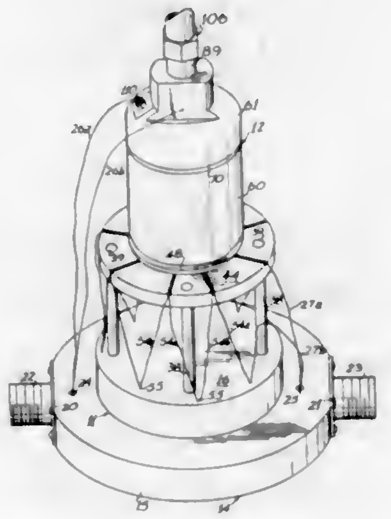
George M. Grover, Los Alamos, N. Mex., and Claus A. Busse, Laveno, Varese, and Josef Bohdansky, Taino, Varese, Italy, assignors, by direct and mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 3, 1965, Ser. No. 511,563
Claims priority, application Germany, Feb. 15, 1965, E 28,694
Int. Cl. G01k *17/02*
U.S. Cl. 73—190 3 Claims



A device that utilizes a heat tube in measuring heat flow and vapor pressure. The heat tube consists of a tube and a capillary wick saturated with a wetting liquid. Attached to the condenser end of the heat tube is a source of measuring gas, a regulating valve and a pressure gauge. A scale to locate the temperature jump surface may be included along the length of the heat tube.

3,451,267
CALORIMETER

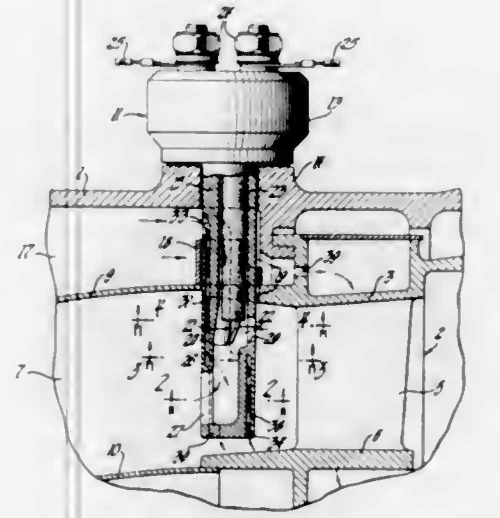
Richard G. Wiegert, 410 Seminola St., and James R. Gentry, 313 Silver Bluff Road, both of Aiken, S.C. 29801
Filed Feb. 7, 1966, Ser. No. 525,462
Int. Cl. G01k *17/00*
U.S. Cl. 73—191 4 Claims



The present invention relates to a calorimeter which is a device for measuring the heat energy released from various compositions upon ignition. The device includes (1) a bomb member for housing the compositions to be analyzed and having means therein for producing ignition and introducing oxygen for supporting combustion; (2) a support means for mounting said bomb within a heat retaining shield; and (3) heat sensing means in the form of a plurality of thermocouples in contact with said bomb for measuring the amount of heat energy released during combustion. The apparatus and method utilized in the present invention employs the introduction and presence of oxygen within the bomb at 30 atmospheres, which is approximately 4,350 p.s.i.g.

3,451,268
COOLED THERMOCOUPLE

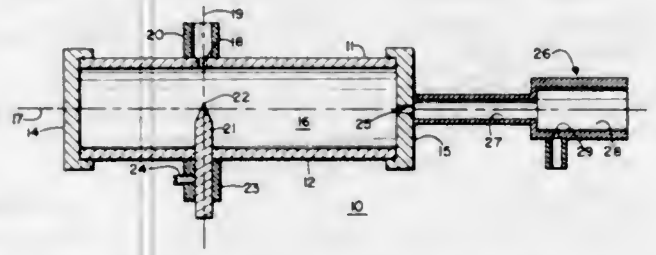
Jay D. Meador, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,464
Int. Cl. G01k *1/08*
U.S. Cl. 73—343 4 Claims



A thermocouple measures motive fluid temperature in the inlet of a gas turbine. The thermocouple junctions are mounted in a through gas passage within the body of the thermocouple. The body is double-walled and circulates cooling air from the combustion chamber jacket of the engine within the body wall into the motive fluid duct, the cooling fluid being particularly circulated through the portions of the wall subject to direct impingement by the stream of motive fluid.

3,451,269
FLUID TEMPERATURE RESPONSIVE APPARATUS

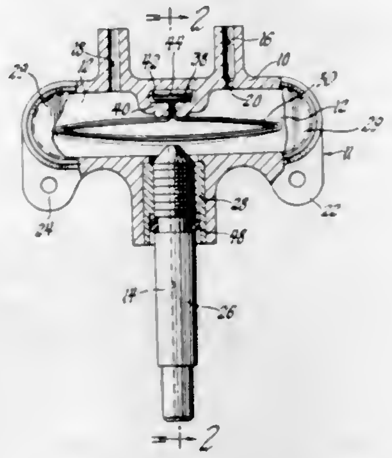
Jerome L. Johnson, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,159
Int. Cl. G01k *1/08*
U.S. Cl. 73—346 12 Claims



A low-cost pure fluid temperature sensor which produces an oscillating signal whose frequency is a unique function of the temperature of the fluid therein. The temperature sensor comprises a cylindrical chamber within which a splitter element is provided. An inlet port in the chamber wall is located such that a stream of fluid introduced into the chamber through the inlet port impinges on the splitter. The stream oscillates about the splitter at a frequency which is a function of the geometry of the chamber and the acoustic properties of the fluid.

3,451,270
THERMOSTATIC VACUUM VALVE AND BIMETAL ELEMENT THEREIN

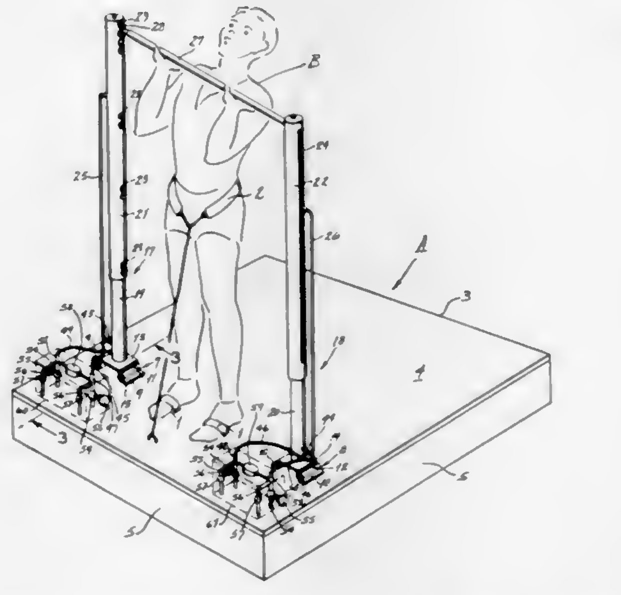
Robert E. Resseguie, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,135
Int. Cl. G01k *5/62*
U.S. Cl. 73—363.5 3 Claims



An elongated bimetal element in elliptical form especially adapted for sensitive thermostatic control of a vacuum valve. An enclosed chamber which is part of a vacuum flow path, has a port therein acting as a vent port. The bimetal element, which is located inside the chamber, modulates the vent port opening as a function of temperature control the vacuum established.

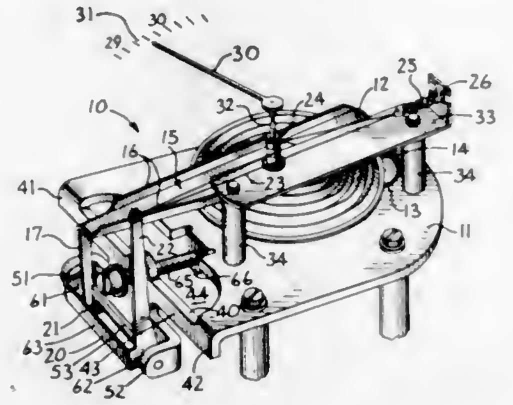
3,451,271
HYDRAULICALLY CONTROLLED EXERCISING AND WEIGHT LIFTING DEVICE

David E. Knoblauch, 9187 Arrow Drive, Affton, Mo. 63123
Filed June 30, 1966, Ser. No. 561,971
Int. Cl. G01l *5/02*
U.S. Cl. 73—379 3 Claims



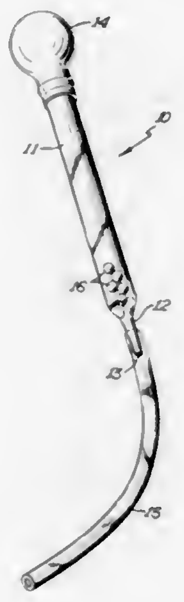
A multi-functional exercising and weight lifting device comprising a pair of hydraulically controlled extendable members pivotally mounted to a base, each extendable member formed having a piston and rod slidable within a hydraulic cylinder or tube, with a sleeve rigidly fastened to the end of said rod slidable externally upon the cylinder. A cross bar or individual handgrips connect at select levels to the sleeves to provide structure that the party exercising may firmly grasp. Hydraulic valve controls and reservoirs connect with each extendable member, and upon adjustment, regulate the amount of force that must be exerted to extend or contract the extendable members, and thereby define the capacity of physical exercise that may be undertaken.

3,451,272
BAROMETER MOVEMENT
Hubertus G. Frey, Peru, and Edward F. Cielaszyk, Oglesby, Ill., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Sept. 18, 1967, Ser. No. 668,351
Int. Cl. G01l *7/12*
U.S. Cl. 73—387 **13 Claims**



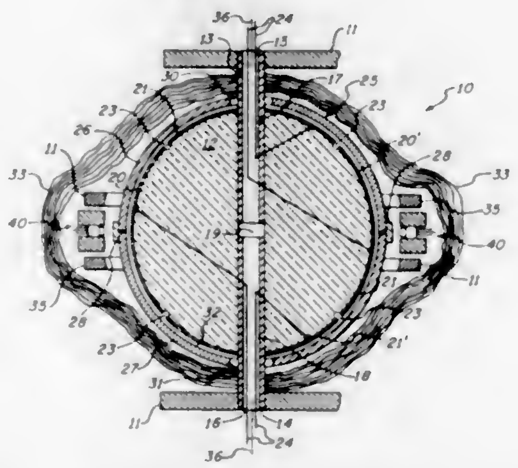
A barometer movement having a bellows mounted in a U-shaped spring and a single amplifying lever for transmitting movement of the bellows to the indicating means and with provision for varying the amplification ratio.

3,451,273
SPECIFIC GRAVITY TESTER DEVICE
Thomas B. Ludlow, 1515 Edgewater Ave., St. Paul, Minn. 55112
Filed Jan. 17, 1968, Ser. No. 698,569
Int. Cl. G01k *3/00*
U.S. Cl. 73—440 **6 Claims**



A device for measuring the specific gravity of liquid solutions, such as antifreeze, and including a transparent tubular chamber having an opening in one end and having a flexible bulb secured to the other end for causing fluid to be drawn through the opening. A plurality of indicator balls each being formed of polyolefin and filler materials. The amount of polyolefin and filler material by weight in each indicator ball being such that the specific gravity of the ball will be substantially the same as the specific gravity of the liquid being tested. Each ball also having substantially the same thermal expansion and contraction characteristics as the specific strength solution to be tested. The specific gravity of each ball being different from the specific gravities of every other ball whereby a wide range of different strength solutions may be tested.

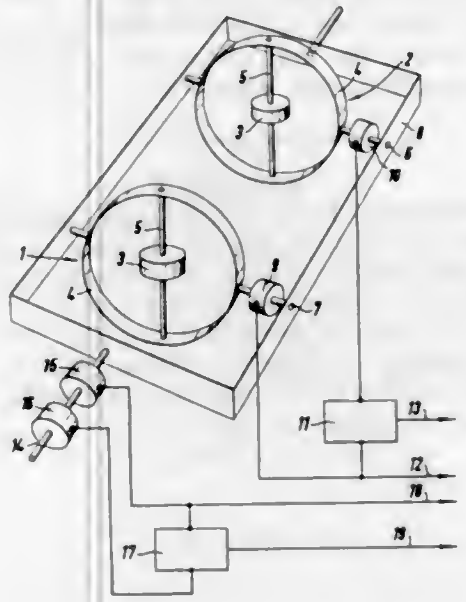
3,451,274
ELECTROSTATICALLY SUPPORTED INERTIAL DEVICE
Duane W. Davies Sunnyvale, and Dale R. Ingwerson, Santa Clara, Calif., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Aug. 27, 1962, Ser. No. 219,654
Int. Cl. G01c *19/02*
U.S. Cl. 74—5 **9 Claims**



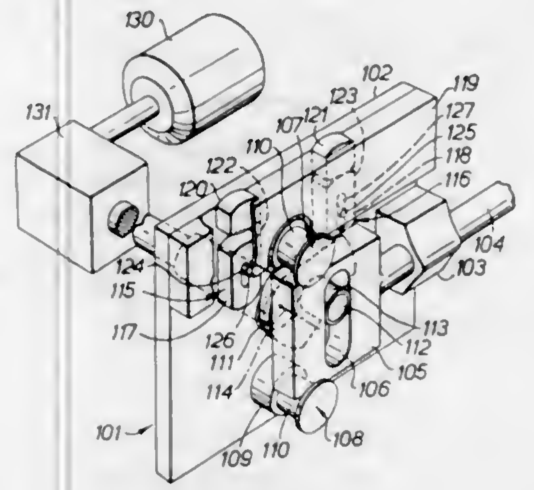
6. An electrostatically supported gyroscope comprising
(a) a substantially spherical stator,
(b) a plurality of conductive semi-spherical plates mounted on said stator and defining the spherical surface thereof,
(c) means connected to each of said plates on the interior side thereof and extending exteriorly of said sphere for providing a potential to each of said plates,
(d) and a rotor comprising a hollow metallic spherical shell surrounding said spherical stator,
(e) said rotor and said semi-spherical plates cooperatively forming a plurality of capacitors whereby said rotor is electrostatically supported.

3,451,275
SELF-MONITORED GYRO-SYSTEM
Roy Atkin, Lewisham, England, assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed June 14, 1967, Ser. No. 645,960
Claims priority, application Great Britain, June 17, 1966, 27,234/66
Int. Cl. G01c *19/02*
U.S. Cl. 74—5.34 **5 Claims**

A monitored gyroscope system having a main and a monitoring gyrowheel each mounted in its own inner gimbal and a common outer gimbal. Each wheel can give a signal when its inner gimbal pivots abouts its own axis but movement of either inner gimbal about the pivotal axis of the common outer gimbal will be communicated to the other inner gimbal. In a refinement each wheel has a first inner and a first outer gimbal servoed together and a second inner and a second and common outer gimbal, also servoed together. The two first outer gimbals are mechanically linked. Signals and servoing are done by synchros and servomotors.

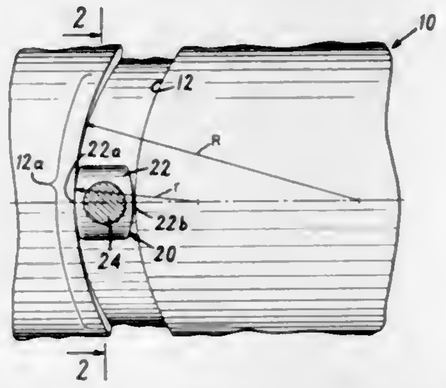


3,451,276
ACTUATOR MECHANISMS
Roy Sidney Wadlow, Steyning, Sussex, and Francis Ian Victor Walker, West Chiltington, Sussex, England, assignors to F. G. Miles Engineering Limited, Shoreham-by-Sea, Sussex, England, a corporation of Great Britain
Filed Nov. 16, 1966, Ser. No. 594,791
Claims priority, application Great Britain, Sept. 20, 1966, 42,021/66
Int. Cl. F16h *21/28*
U.S. Cl. 74—50 **9 Claims**



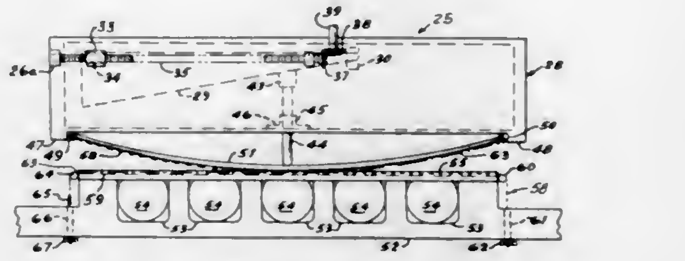
An eccentric pin mounted on a rotating cam engages a slot in a thrust ram to convert rotary motion to translational motion and maximum thrust at the initial and end portions of the stroke by the coincidence of the top and bottom dead center positions of the pin with these positions of the thrust ram, respectively. The cam's rotational movement is arrested slightly past the top and bottom dead center positions of the pin by stops that are displaced slightly more than 180° to accurately limit the stroke and to isolate the primary driving means from external loads applied to the thrust ram in its fully extended and retracted positions. The pin lies on the thrust ram's longitudinal stroke axis at both the fully retracted and extended thrust ram positions to eliminate twisting of the thrust ram.

3,451,277
CAM MECHANISM
John P. Kieronski, Whitinsville, Mass., assignor to Whitin Machine Works, Inc., Whitinsville, Mass., a corporation of Massachusetts
Filed June 19, 1967, Ser. No. 647,023
Int. Cl. F16h *25/12, 25/16*
U.S. Cl. 74—57 **3 Claims**



A low stress cam follower for use particularly with drum scroll cam mechanisms has a following surface engageable with the guiding surface in the groove of the drum which is curved in a manner such that the radii of curvature of all points of the following surface are within a range of values between a minimum value which is substantially greater than one-half the width of the cam groove and a maximum value not greater, and preferably somewhat less than the radius of any point along the cam groove. The aforementioned critical limits on the instantaneous radius of points on the following surface of the cam follower provide for significantly reducing contact stresses in the follower as it is guided through the reversal points of the cam groove.

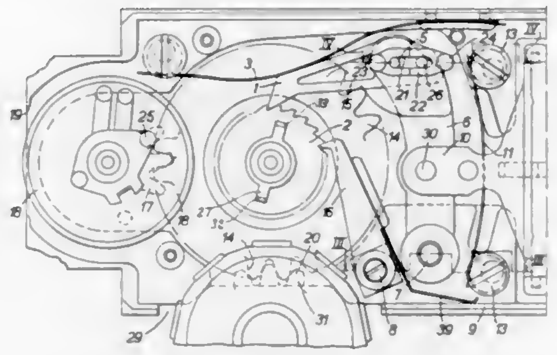
3,451,278
APPARATUS FOR SIMULATING THE PURE ROLLING BETWEEN PITCH CIRCLES OF TWO MATING MEMBERS
Bruce S. Bonino, Marlton, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey
Original application July 26, 1963, Ser. No. 297,836, now Patent No. 3,315,265, dated Apr. 18, 1967. Divided and this application Mar. 15, 1967, Ser. No. 655,683
Int. Cl. F16h *25/16*
U.S. Cl. 74—57 **11 Claims**



An apparatus for simulating the pure rolling between pitch circles of two mating members comprising a carriage having mounted on it an adjustable arc having a center corresponding to the center of one of the members. The carriage is movable along a bar having a rolling surface determined from the center of the other mating member. One end of the arc and one end of the bar remote from said one end of the arc are connected by an inextensible flexible member.

3,451,279
PAWL AND RATCHET STEPPING MECHANISMS

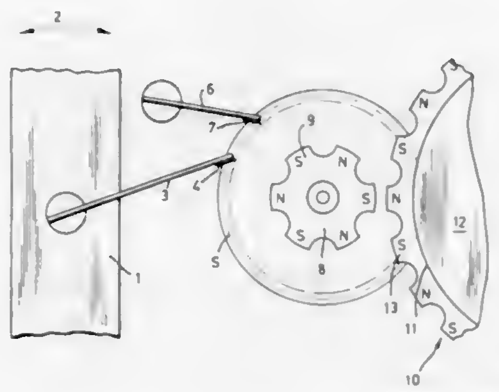
Manfred Huber and Norbert Klimek, London, England, assignors to English Numbering Machine Limited, Enfield, Middlesex, England, a British company
Filed July 10, 1967, Ser. No. 652,279
Claims priority, application Great Britain, July 20, 1966, 32,698/66
Int. Cl. F16h *27/02, 31/00;* **H01h** *19/14*
U.S. Cl. 74—128 5 Claims



The invention discloses a pawl and ratchet mechanism, especially for stepping a number wheel of a counting device. A ratchet wheel of the mechanism is in engagement with an electromagnetically operable pawl for stepping the ratchet wheel round and with a second pawl for preventing back movement. Rigidly rotatable with the ratchet wheel is a toothed wheel which is engaged by a projection for preventing the toothed wheel and therewith the ratchet wheel from overshooting its position on performing a stepping movement, the toothed wheel meshing with a gear wheel of a number wheel of the counting device for indicating a number counted, and with a further gear wheel of a type wheel for printing the number counted. A printed circuit cooperating with a wiper rotatable with the toothed wheel and thus with the number wheel and type wheel, and reciprocatable switching means are provided for automatically resetting the counting device.

3,451,280
DEVICE FOR TRANSFORMING THE MOVEMENT FOR AN ELECTRONIC WATCH

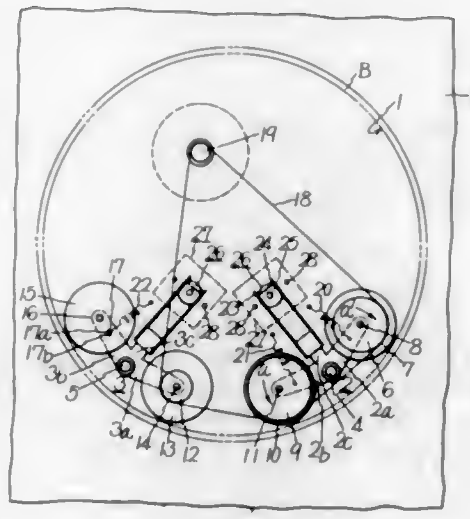
Max Hetzel, Neuchatel, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland, a company
Filed Apr. 4, 1966, Ser. No. 539,852
Claims priority, application Switzerland, July 29, 1965, 10,667/65
Int. Cl. F16h *27/02;* **G04c** *5/00*
U.S. Cl. 74—142 6 Claims



This disclosure concerns a device for transforming oscillatory movement of a resonator for an electronic watch into a continuous rotatory movement in which a click is rigid with the resonator driving the ratchet wheel, there being a first magnetized wheel adapted to be rotated by the ratchet wheel and a second magnetized wheel adapted to be rotated magnetically by the first magnetized wheel, the first and second magnetized wheels being mechanically separated from each other so that one of the magnetized wheels can rotate independently of the other magnetized wheel, the first wheel having a lesser moment of inertia than the ratchet wheel but a greater thickness.

3,451,281
TURNTABLE DRIVING APPARATUS

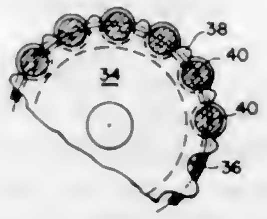
Hitoshi Matsuda, Tokyo, Japan, assignor to Nippon Columbia Kabushikikaisha (Nippon Columbia Co., Ltd.), Tokyo, Japan, a corporation of Japan
Filed Apr. 4, 1967, Ser. No. 628,391
Claims priority, application Japan, Apr. 12, 1966 (utility model), 41/33,246; Aug. 23, 1966, (utility model), 41/79,606
Int. Cl. F16h *15/00*
U.S. Cl. 74—190 8 Claims



A turntable driving apparatus having a plurality of sets of pulleys and idlers rotated by a common driving shaft through a common belt, a brake and means for selectively engaging one of the idlers with a turntable so as to rotate it at a desired speed or stop its rotation.

3,451,282
TRANSMISSION BELT

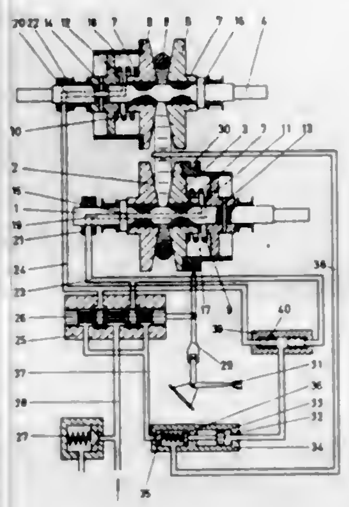
Bernard S. Appleton, 926 Midway, Woodmere, N.Y. 11598
Filed July 21, 1966, Ser. No. 566,960
Int. Cl. F16b *7/00*
U.S. Cl. 74—229 7 Claims



A transmission belt for use in combination with sprocket wheels comprising an elongated flexible body portion with cylindrical transmission pins adapted to match the root area between sprocket wheel teeth. The pins are made of a plastic material and have a diameter substantially equal to twice the radius of the root of the sprocket wheel with which it is used in combination. The pins are adapted to register with said roots of said sprocket wheel.

3,451,283
INFINITELY VARIABLE CONE PULLEY TRANSMISSION

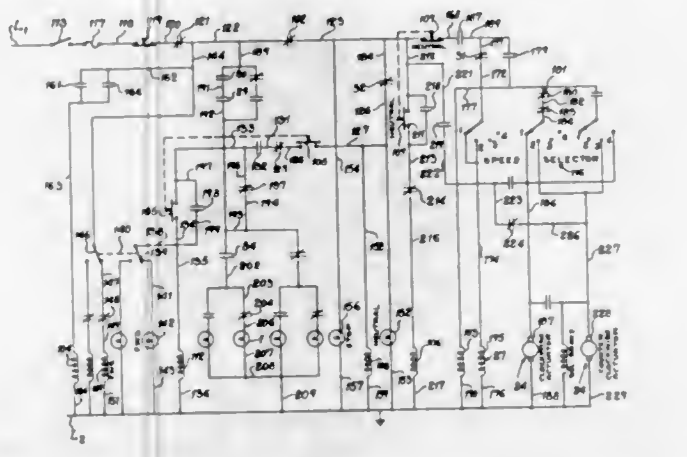
Manfred Rattunde, Bad Homburg vor der Hohe, Germany, assignor to Reimers Getriebe A.G., Zug, Switzerland
Filed Aug. 16, 1967, Ser. No. 661,065
Int. Cl. F16h *55/56*
U.S. Cl. 74—230.17 8 Claims



An infinitely variable cone pulley transmission wherein the axially movable conical disks of each pulley are pressed by hydraulic force against the belt or chain and this force is also controlled by hydraulic means.

3,451,284
TRANSMISSION CONTROL APPARATUS

Albert A. Sackler and Raymond J. Enyeart, Westport, Conn., assignors to Condec Corporation, Stamford, Conn., a corporation of New York
Filed Mar. 30, 1967, Ser. No. 627,131
Int. Cl. F16h *3/38*
U.S. Cl. 74—339 14 Claims

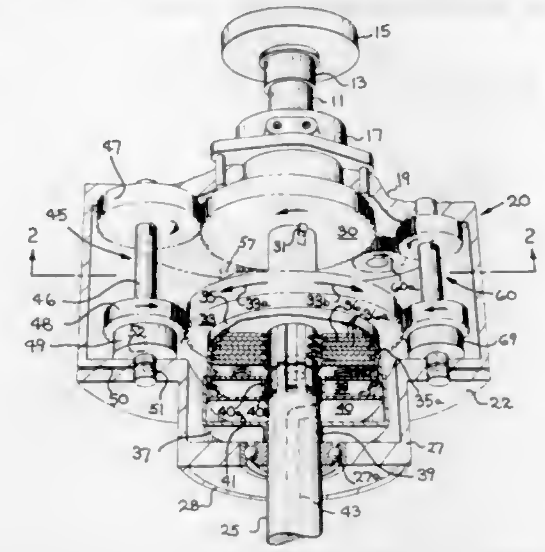


A mechanism for shifting gears from a remote location of a transmission having four speeds with speed positions arranged in an H pattern including an electric actuator for controlling linear motion of a gear shifter along legs of the H pattern and a solenoid for controlling motion of the gear shifter along the crossbar of the H pattern.

3,451,285
TRANSMISSION CONSTRUCTION

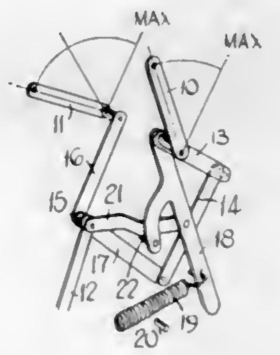
George H. Snyder, 534 Ogden Ave., Toledo, Ohio 43609
Filed July 25, 1967, Ser. No. 655,872
Int. Cl. F16h *3/08*
U.S. Cl. 74—364 21 Claims

A transmission for transferring the rotation of an input shaft induced by a prime mover to an output shaft connected to the item to be driven; the transmission including a pair of gears on the input shaft, one fixed and one freely rotatable; a countershaft assembly inclusive of a countershaft and end mounted gears, one of which is controlled by a clutch for transferring the rotation of the input shaft to the free-wheeling gear and a modified clutch arrangement carried by the rotatable gear, providing individually clutch actuated gear trains, one of which extends through the countershaft assembly and the other of which operates directly from the input shaft to the output shaft.



3,451,286
LINKAGES

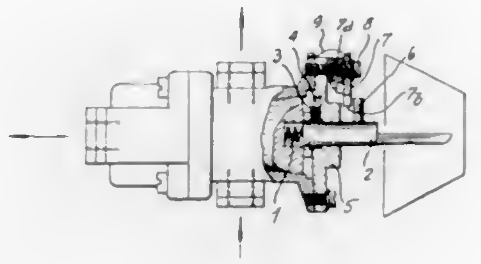
Joseph Lewis Bloom, Baie D'Urfe, Quebec, Canada, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Nov. 30, 1967, Ser. No. 687,063
Int. Cl. G05g *13/00*
U.S. Cl. 74—479 1 Claim



A linkage comprising a first angularly movable input member, an angularly movable output member, a second longitudinally movable input member and a system of interconnected links, connecting the first input member with the output member, the second input member being connected with the links, through a further pair of links and a spring loaded lever, the second input member being capable of occupying a position in which angular movement of the first input member results in corresponding angular movement of the output member, the proportional movement between them depending upon the position of the second input member, and said second input member being capable of occupying a position in which angular movement of the first input member results in no movement of the output member.

3,451,287
ROTATING VALVES, PARTICULARLY FOR GAS, TO TWO OPERATIVE POSITIONS LOCATED ON EACH SIDE OF A CLOSED POSITION

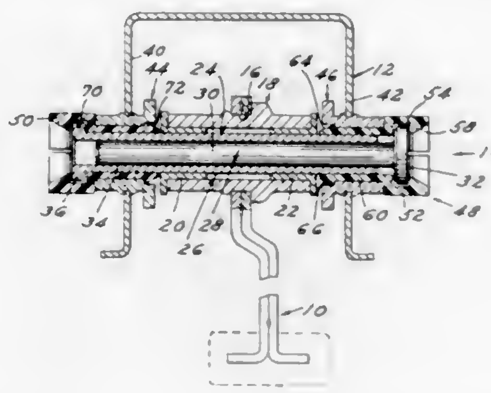
Francois Riviere, Montrouge, France, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 26, 1967, Ser. No. 648,709
Claims priority, application France, July 1, 1966, 67,803
Int. Cl. G05g *11/00*
U.S. Cl. 74—483 **10 Claims**



An operator for gas-cock, that is manually moved between first and second operative positions from an off position located therebetween. In order to prevent direct movement from the first operative position to the second operative position, a block device is actuated by a pin on the operator drive shaft during movement thereof from one operative position to block movement of the drive shaft to the other operative position.

3,451,288
REDUNDANT SUPPORT FOR BRAKE PEDAL

David W. Barton, Birmingham, and Richard G. Russell, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,134
Int. Cl. G05g *1/14*
U.S. Cl. 74—512 **9 Claims**

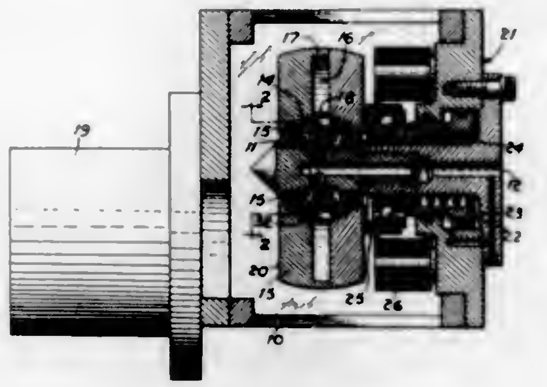


A pivot support for a motor vehicle brake pedal having concentric first and second pivot pins. A pair of flexible retainers engages the ends of the pivot pins and by means of a snap action connects the pins to a support member.

3,451,289
PNEUMATIC GYROSCOPE

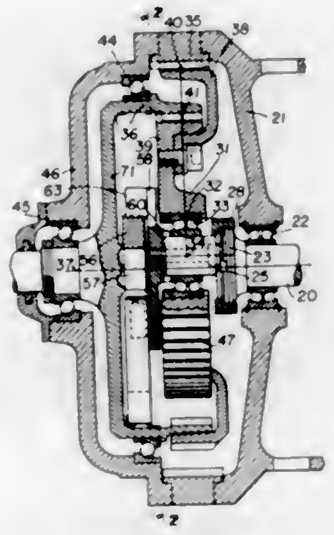
Thomas Rhys Edmonds, Woodland Hills, and Richard C. Turnblade and Gerald B. Speen, Northridge, Calif., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 4, 1966, Ser. No. 531,708
Int. Cl. G01c *19/24*
U.S. Cl. 74—5.12 **10 Claims**

A pneumatically operated gyroscope having a gas bearing supporting the rotor on a fixed support. The gas bearing is in the form of a blanket of gas having a predetermined minimum pressure. A portion of the body of gas which forms the gas bearing is channeled to the periphery of the rotor and exhausted through appropriate ports to effect rotation thereof. Additionally, gas emanating from such exhaust ports is utilized in conjunction with a pneumatic pickoff device to signal misalignment of the rotor in relation to an appropriate reference plane. Locking of the rotor against rotation is effected by mechanical means in response to a drop in pressure in the gas bearing below a predetermined minimum. Gas pressure in the gas bearing above a predetermined minimum retains the rotor in unlocked condition.



3,451,290
GEAR DRIVE WITH AXIALLY OVERLAPPING GEARS

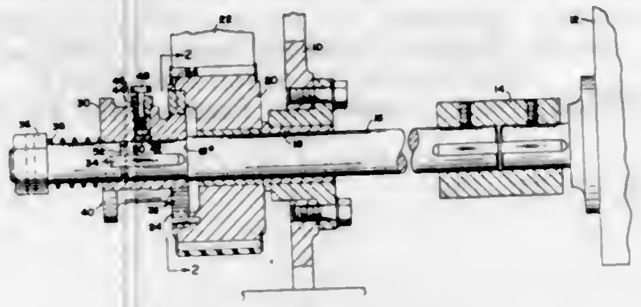
Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester, N.Y. 14620)
Filed Apr. 3, 1967, Ser. No. 627,782
Int. Cl. F16h *1/32*
U.S. Cl. 74—804 **11 Claims**



Gear drives of the invention comprise two coaxial internal gears one inside the other, and two external gears meshing with the internal gears and slightly smaller than these. The external gears are rigid with each other. The drives are compact and in a planetary drive can attain high transmission ratios in a single step, but have large loads on the gear teeth and on the high-speed bearings. The invention lowers the load on these bearings, and it raises the strength of the gear teeth by providing a self-adjustment of the external gears, so that the tooth load does not shift lengthwise of the teeth, regardless of deflection, and always keeps centered near the middle of the intermeshing teeth.

3,451,291
MANUAL INDEXING MECHANISM FOR DIAL FEEDS

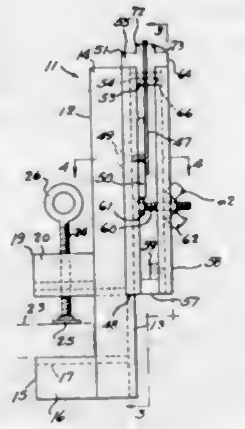
Robert G. Suntheimer, Hastings, Mich., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 20, 1968, Ser. No. 706,956
Int. Cl. B23q *17/02*
U.S. Cl. 74—813 **10 Claims**



A manual indexing mechanism for a dial feed mechanism which is operative to disconnect the dial feed from the press drive. The mechanism includes timing means which assure the proper timed relationship when the dial feed is re-connected to the press drive.

3,451,292
SAW BLADE CLAMP

George H. Goode, 1524 Crestwood Blvd., Lake Worth, Fla. 33460
Filed Dec. 23, 1966, Ser. No. 604,237
Int. Cl. B23d *63/12*
U.S. Cl. 76—78 **6 Claims**

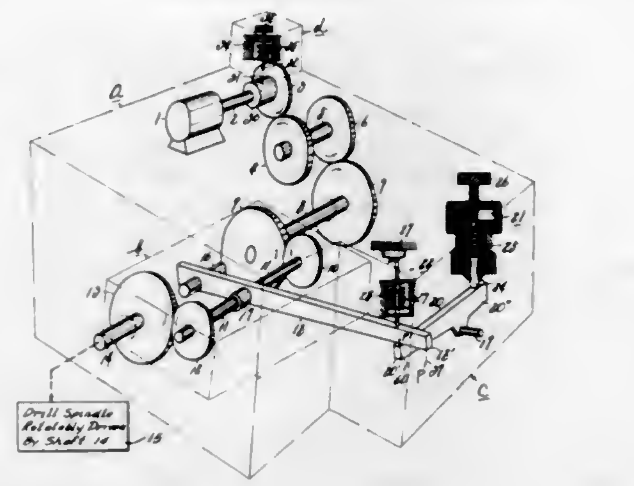


A clamping vise for clamping and holding a handsaw blade in position to be sharpened, the vise having a main supporting bracket portion provided with a screw clamp engageable with the edge of a workbench or table and having a clamping arm pivotally-engageable on the main bracket and secured thereto by a bolt and nut, the main bracket and the clamping arm having opposing clamping shoe elements between which a saw blade may be clampingly-received.

3,451,293
DEEP HOLE DRILLING MACHINE

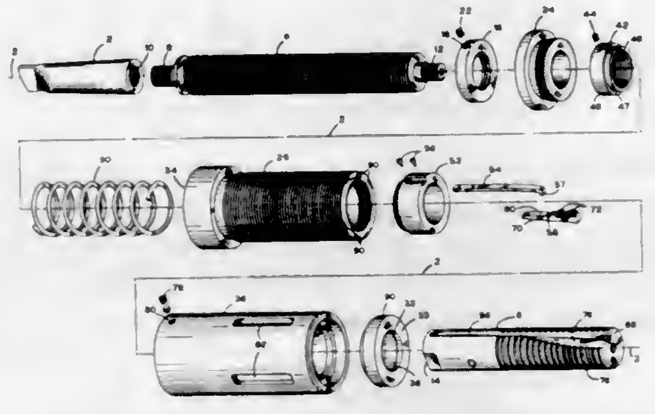
Miyozi Takezawa, 9—18, Terada-cho, Ibaragi-shi, Osaka-fu, Japan
Filed Apr. 28, 1966, Ser. No. 546,077
Claims priority, application Japan, Apr. 30, 1965, 40/25,806, 40/34,594; May 1, 1965, 40/34,616, 40/34,617
Int. Cl. B23b *39/10, 47/24*
U.S. Cl. 77—32.4 **5 Claims**

In a deep hole drilling machine of the step fed type, operation of the step feed mechanism for retraction of the drill for the discharge of accumulated chips is initiated in response to the torque exerted on the drill by providing in the drill spindle drive (a) a torque deriving mechanism (b) in the form of differential or planetary type gearing, and associating therewith a torque setting and detecting mechanism (c) controlling and controlled by the mechanism (b), and a coacting safety switch and gear locking mechanism (d) for use while adjusting the setting of the mechanism (c).



3,451,294
GROOVING TOOL

Charles K. Harman, Houston, Tex., assignor, by mesne assignments, to Twentieth Century Tool Co., Houston, Tex., a corporation of Texas
Filed May 2, 1967, Ser. No. 635,486
Int. Cl. B23b *47/18, 51/00*
U.S. Cl. 77—58 **9 Claims**

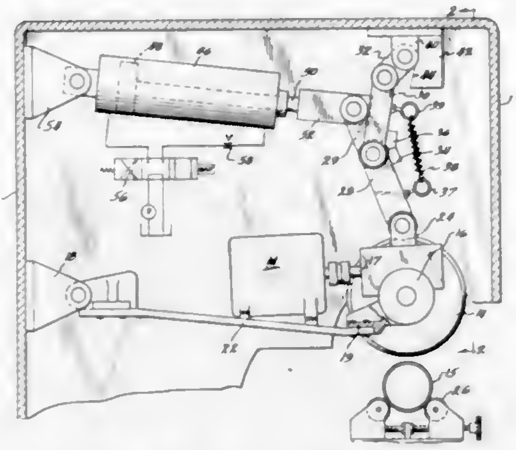


A tool used to form grooves in holes through the end plates of such structures as heat exchangers, so that tubes running between such plates and securely fitted into such holes can be upset into the grooves to further secure and seal the tubes in place. Theretofore one complete grooving tool was required for each different size hole in various end plates, and the major contribution of the invention is a grooving tool assembled so that only two relatively small components need be removed and replaced with others of a different size in going from one hole size to another. The specific parts thus changed are the forward end of the mandrel, which contains the tapered groove which slides under the bit and pushes it into the workpiece to form the grooves therein, and the spring adaptor ring, a member which acts as a steady for the forward part of the mandrel and also controls the location of the bit, being linked to the bit by an axially elongated, radially flattenable bar spring.

3,451,295

MACHINE TOOL FEED MECHANISM

Robert L. Shallenberg, Wheaton, Ill., assignor to K-Line Corporation, Geneva, Ill., a corporation of Illinois
Filed June 9, 1967, Ser. No. 645,003
Int. Cl. B26d *7/00*
U.S. Cl. 82—86 **9 Claims**

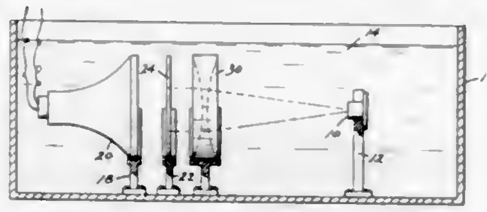


Feed control linkage for a machining element which decreases the feed speed from entry of the machining element into a piece of stock to completion of passage thru the stock. At the same time, the control linkage progressively increases the available leverage of a power element which energizes the linkage.

3,451,296

METHOD OF MAKING SHAPED APERTURES BY USING FOCUSED PATTERN OF ULTRAHIGH FREQUENCY SOUND WAVES

Frank C. Alexander, Jr., Swarthmore, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 20, 1965, Ser. No. 481,357
Int. Cl. B26f *1/26*
U.S. Cl. 83—13 **4 Claims**

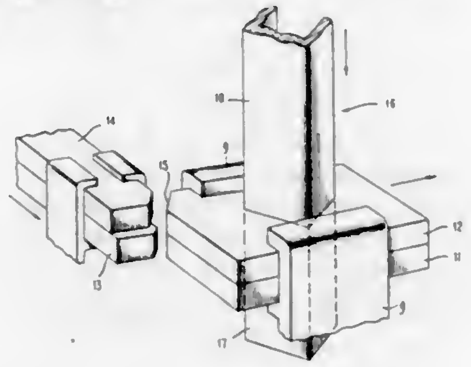


A method of making very small non-circular holes in a spinneret for spinning artificial filaments involves focusing a pattern of ultrahigh frequency sound waves on the spinneret while it is immersed in a liquid medium.

3,451,297

SHEARING DEVICE

Joseph W. Reis, Wappingers Falls, and John M. Adams, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,786
Int. Cl. B26d *1/08, 5/16*
U.S. Cl. 83—198 **3 Claims**

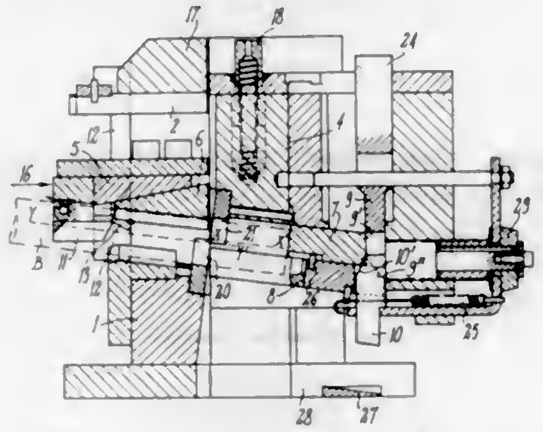


A shearing device has a double shearing mechanism with a pair of dies embracing a work piece. Shearing of the work piece material is caused by cutting movement of a primary die for a distance less than the thickness of the material followed by movement of an adjacent secondary die twice as far in the same shearing direction. Such double die relative movement reduces die stresses and prevents the formation of an edge burr on the sheared material.

3,451,298

POSITIVE GRIP SHEARING MEANS

Guillaume Schaming, Le Perreux, France, assignor to Societe Anonyme Schostal, Vaduz, Liechtenstein
Filed May 16, 1966, Ser. No. 550,425
Claims priority, application France, May 22, 1965, 18,063
Int. Cl. B26d *1/00, 5/42, 7/02*
U.S. Cl. 83—198 **8 Claims**

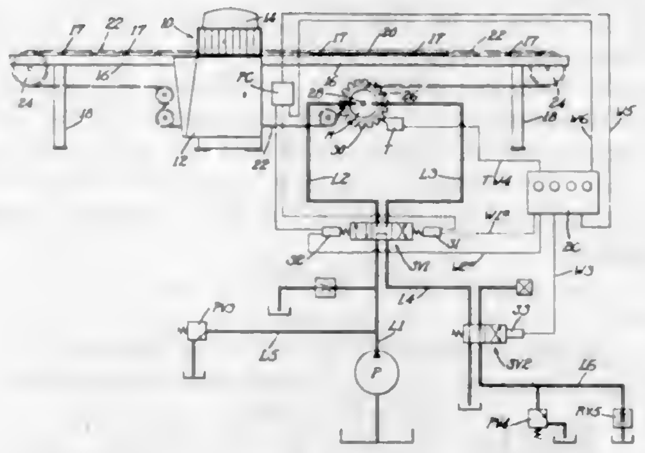


Shearing tool which consists of a block carrying the bottom blade and having slidably mounted therein a slide carrying the top blade. A plate cooperating with the slide is supported in turn by spring means and has its stroke limited by columns. Lugs carried by and projecting from the plate along a relatively great height compress a tool slide prestressing spring means. Cam-responsive means are provided for clamping the metal bar during the shearing operation, and also means for ejecting the sheared bloom.

3,451,299

CUTTING PRESS WITH WORK FEED MEANS

Frederick A. Pretty and Thomas Gibbard, Leicester, England, assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 26, 1967, Ser. No. 648,829
Claims priority, application Great Britain, July 2, 1966, 29,813/66
Int. Cl. B26d *5/20, 5/08, 7/06*
U.S. Cl. 83—263 **4 Claims**

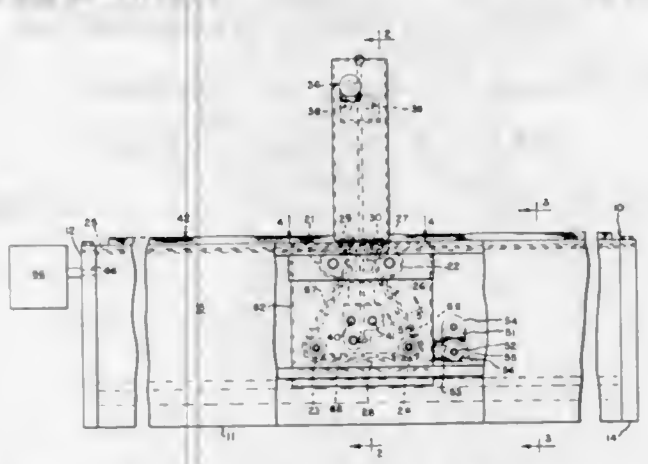


A cutting press for sheet material is provided with work feed means comprising a feed table movable horizontally through the press, a driven shaft for moving the table and control means to index the feed table including a toothed wheel on the drive shaft. A tooth detector is responsive to passage of teeth of the wheel past a predetermined position and operates with means responsive to a predetermined tooth count for interrupting the movement of feed table.

3,451,300

PNEUMATIC SUPPORT FOR FLEXIBLE TABLE TOP

Richard C. Messinger, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 7, 1967, Ser. No. 666,096
Int. Cl. B62d *5/08, 7/16;* **B23q** *3/02*
U.S. Cl. 83—648 **9 Claims**

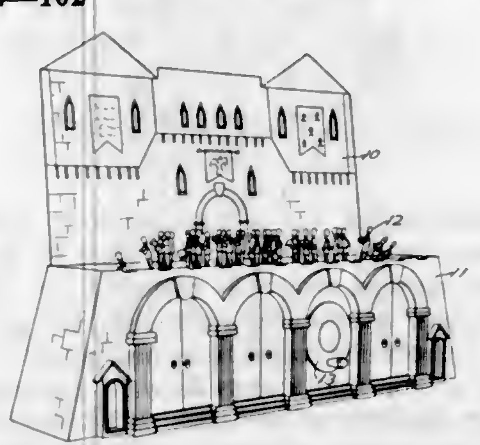


A material cutting machine has a flexible band upon which material to be cut is supported. The opposite ends of the flexible band are fixedly attached to a fixed support structure whereby the band forms the top of a table. Cutting means is supported on a carriage, which has upper and lower rolls cooperating with the flexible band to form a loop in the band into which the cutting means may extend. As the carriage moves longitudinally the loop in the flexible band moves therewith. Each side of the carriage has a groove therein to receive the side of the flexible band to form an air seal therebetween. Air under pressure is introduced into the interior of the frame, which cooperates with the flexible band to form a chamber. This air under pressure supports the portions of the band between the carriage and each end of the frame. The frame has means to limit the upward movement of the sides of the belt, and the carriage has means, which extend between the rolls, to limit movement of the sides of the band disposed in the grooves in the carriage. In another embodiment of the invention, an air bag is disposed beneath the band and supports the portions of the band between the carriage and each end of the frame.

3,451,301

CREATIVE MUSICAL MECHANISM

Robert I. Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York
Filed Mar. 8, 1967, Ser. No. 621,699
Int. Cl. G10f *1/08*
U.S. Cl. 84—102 **6 Claims**



A creative musical mechanism formed by an endless platform having uniform rows of apertures for receiving pins in any desired pattern, the pins projecting from the undersurface of the platform to engage the actuating elements of a bank of hammers which act to strike corresponding chimes to produce melodic effects as the platform is advanced

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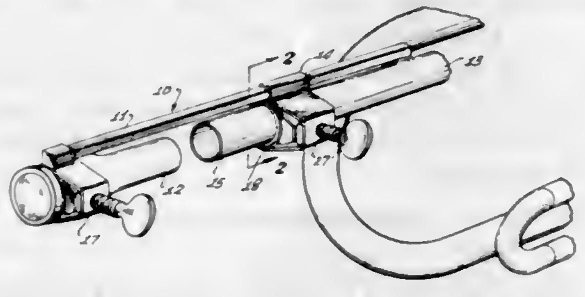
3,451,302

WIND INSTRUMENT TRAINING METHOD AND MEANS

René S. Lamart, 1335 N. Citrus Ave.,
Los Angeles, Calif. 90028
Filed Feb. 5, 1968, Ser. No. 703,047
Int. Cl. G10d *9/02*
U.S. Cl. 84—465 **8 Claims**

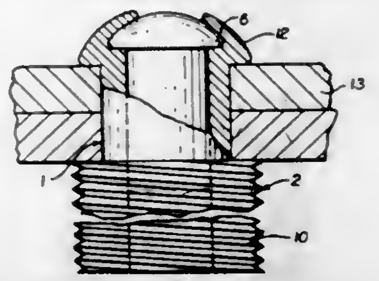


A means or device adapted to be attached to wind instruments having a mouthpiece received by a mouth pipe, which, in the preferred embodiment, comprises a guide rod firmly attached to the mouthpiece or mouth pipe of the instrument and a sleeve firmly attached to the mouth pipe or mouthpiece, respectively, of the instrument. The guide rod is slidably received by the sleeve and the cross sections of the guide rod and sleeve are keyed to each other to prevent rotational movement of one relative to the other. The length of the guide rod and/or sleeve is sufficient to retain the guide rod and sleeve in telescoping relation when the mouthpiece is completely removed from the mouth pipe. This device serves to retain the mouth pipe and mouthpiece in axial alignment when the mouthpiece is withdrawn from the mouth pipe.

3,451,303

THREADED BLIND RIVET

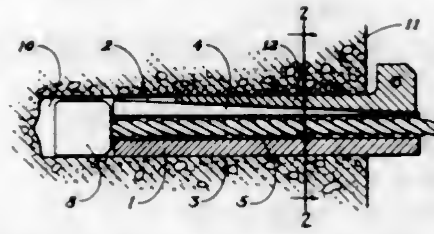
Hans-Georg Biermann, Frankfurt am Main, Germany, assignor to Gesipa Gesellschaft fur Internationale Patentverwertung m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Aug. 23, 1966, Ser. No. 574,336
Int. Cl. F16b *13/12, 33/04, 39/28*
U.S. Cl. 85—77 **4 Claims**



A hollow rivet which is set by pulling a headed mandrel into the rivet body thereby deforming the rivet body. The rivet includes an enlarged head end which is provided with external screw threads so that a threaded member can be secured thereto.

3,451,304
SLOTTED WEDGE-TYPE EYEBOLT

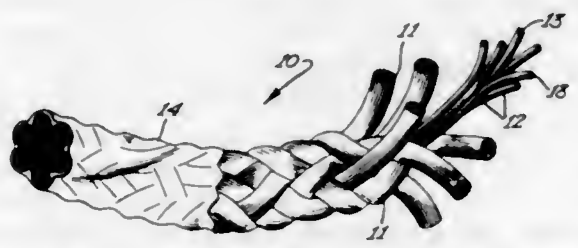
Raymond H. Taylor, P.O. Box 122,
Big Pine, Calif. 93513
Filed Oct. 12, 1967, Ser. No. 674,856
Int. Cl. F16b *13/10, 2/14;* **F16g** *11/04*
U.S. Cl. 85—79 **1 Claim**



An eyebolt having a rigid shank adapted to be inserted in a hole drilled in a rock wall of a mine or the like, and removably wedge-secured therein; the shank being formed with a full-length slot, and a length of cable slightly longer than the shank, and having an enlarged stop on the inner end and an eye on the outer end, being disposed in the slot with the latter closed by the wedge when the eyebolt is in place.

3,451,305
BRAIDED STEEL LEADER CONSTRUCTION

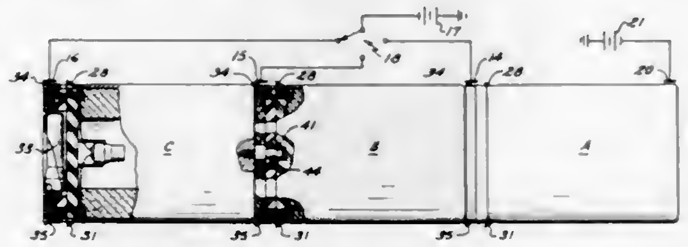
Harlan B. Christensen and Paul C. Johnson, Spirit Lake, Iowa, assignors to Berkley & Company, Inc., Spirit Lake, Iowa, a corporation of Iowa
Filed Mar. 28, 1967, Ser. No. 626,624
Int. Cl. A01k *91/04*
U.S. Cl. 87—6 **7 Claims**



A stranded line, more particularly stranded line adapted for use as a fishing leader and being highly flexible, resistant to kinking, and having exceptional strength qualities. The line includes a group of braided monofilament stainless steel fibers having a filament diameter of between about 10 microns and 20 microns, and may also include core materials and sheath materials, preferably nylon, having predetermined flexibility characteristics.

3,451,306
SAFE AND ARM EJECTION SYSTEM

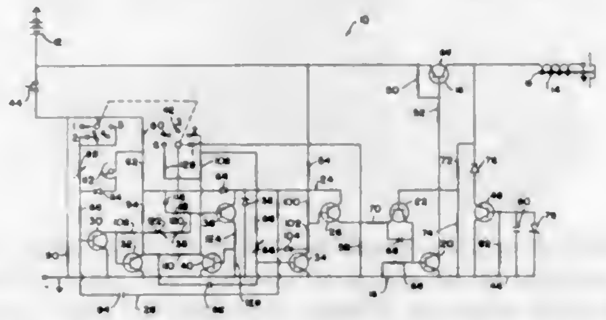
Thomas G. Lagerstrom, Spokane, Wash., and Jerry A. Reed, Placentia, Calif., assignors to The Susquehanna Corporation, a corporation of Delaware
Filed Jan. 26, 1967, Ser. No. 613,068
Int. Cl. F41f *1/00*
U.S. Cl. 89—1 **12 Claims**



A safe and arm ejection system for aircraft-carried, tube-launched items. Each tube load consists of a plurality of items releasably attached together to facilitate handling and loading. Rearward of each item is an electrically fired ejection device. A single item or a selected number, including all, can be ejected from the tube by firing the ejector of the rearmost item of those which are to be launched. As the selected items are launched, the unfired ejectors are fired as they leave the tube, thus positively separating the items. The items are armed as they are launched by a power supply contact in the case of electrically armed items and by bore-riding pins in the case of mechanically armed items. In addition, the bore-riding pins are held in the safe position by the mechanism which interlocks the items so the items cannot arm until adjacent items are separated.

3,451,307
ELECTRONIC CONTROL CIRCUIT FOR CONTROLLING THE RATE OF FIRE OF A MACHINEGUN

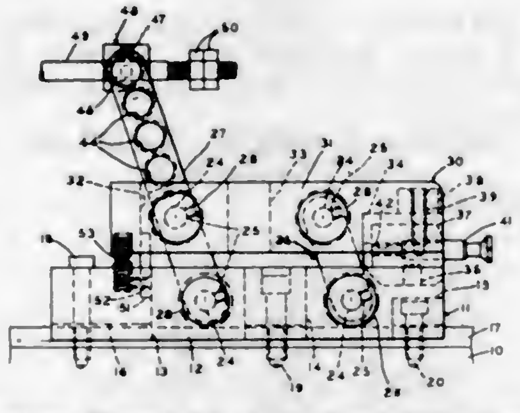
Kenneth Grundberg, 3012 Maplewood,
Royal Oak, Mich. 48073
Filed Dec. 6, 1967, Ser. No. 688,483
Int. Cl. F41d *7/02, 11/10*
U.S. Cl. 89—135 **10 Claims**



An electronic control circuit for and method of controlling the rate of fire of a machinegun or the like, including means for and the method of selectively providing a full firing rate, a reduced firing rate, one shot at a time, a burst of shots and a selected number of single shots or a slow burst. The control circuit is essentially an output solenoid energized from a source of electrical energy in accordance with the closing of an electronic switch and a multivibrator for selectively closing the electronic switch at controlled intervals; i.e., by means of pulses of electric energy, or for a predetermined time or both.

3,451,308
RECESSING FIXTURE

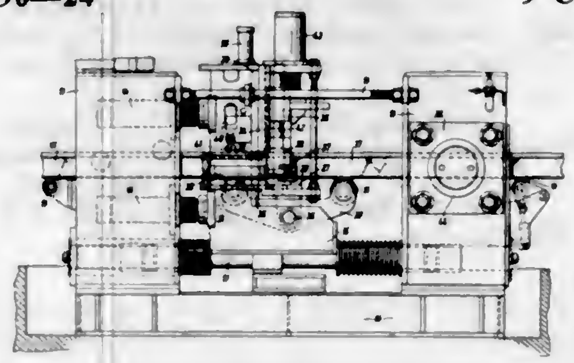
Robert C. Zeller and Warren W. Welble, both % The Zeller Corporation, Fort Wayne Road, Defiance, Ohio 43512
Filed Apr. 24, 1967, Ser. No. 633,201
Int. Cl. B23c *7/00, 3/00;* **B23b** *3/28*
U.S. Cl. 90—15 **3 Claims**



A recessing fixture for a machine tool, comprising a base mounted on the end feed tool slide of the machine tool, a tool support which is mounted on the base by means of a pair of parallel links that are pivoted both to the tool support and to the base, and which is resiliently held against a stop that arrests forward movement of the tool support relative to the base, and a stop rod which provides a lost motion connection between the tool support and the machine tool, to limit the forward movement of the tool support while the base continues to move forward with the end feed tool slide and to cause the parallel links to pivot relative to the base, thereby causing the tool support to move at an angle to the direction of movement of the base.

3,451,309
AUTOMATIC MACHINES FOR STRIPPING WELD-UPSET FROM WELDED RAILWAY TRACK RAILS AND THE LIKE

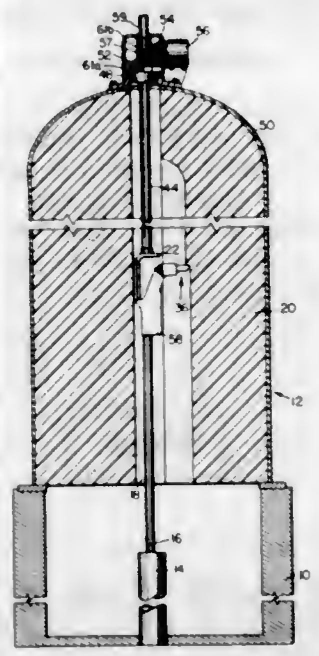
William H. Millwood and David G. Morison, Inverness, Scotland, assignors to A. I. Welders Limited, Inverness, Scotland
Filed Aug. 3, 1966, Ser. No. 570,071
Int. Cl. B23d *1/20, 1/10*
U.S. Cl. 90—24 **9 Claims**



A machine for stripping weld-upset from welded joints in welded railway track rails, and like elongated metal sections which are welded together in end-to-end relationship, including a cutting tool for stripping the weld-upset from the underside of the joint. The tool is carried by a tool box movable longitudinally of the welded sections to perform the stripping operation and is movable in a direction normal to the length of the welded sections to bring it into an operative position. The operative position is determined by engagement of the two ends of a rocking beam respectively with the undersides of the joined sections as opposite sides of the joint.

3,451,310
CAVITY-SHAPING MACHINE

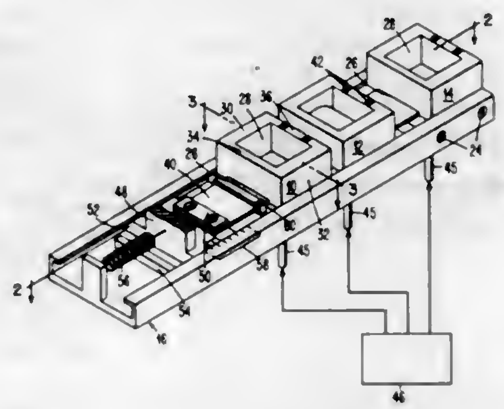
Edward E. McCullough, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,533
Int. Cl. B23d *1/08*
U.S. Cl. 90—43 **1 Claim**



A cutting machine wherein a cutter is mounted for movement toward and away from the longitudinal axis of a reciprocating drive shaft, the latter being rotatable about its own longitudinal axis.

3,451,311
INCREMENTAL MOTION ACTUATOR

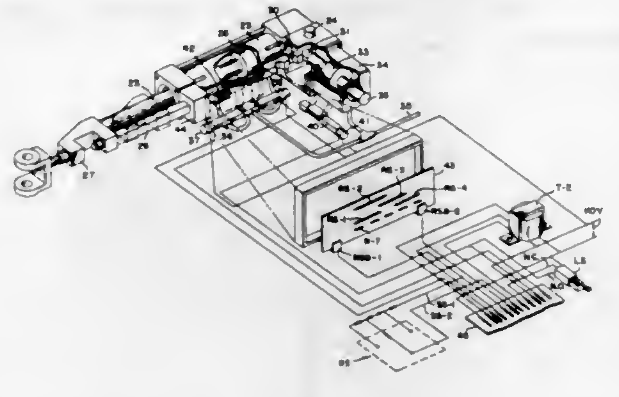
Henri A. Khoury, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 7, 1967, Ser. No. 666,212
Int. Cl. F15b *11/18;* **F16j** *3/00*
U.S. Cl. 91—36 **11 Claims**



An actuator including a plurality of actuating cells arranged in a file and connected in cascade to impart incremental movements to a load. Each cell has a flexible tape slidably received therein and anchored to the cell at one end. Pressure means are provided to deflect a portion of the tape transversely into a cavity in the cell to draw the tape inwardly. The free end of the tape of each cell is connected to the preceding cell and the free end of the tape in the leading cell is connected to the load. All cells except the last cell in the file are slidable in the direction of movement of the load; the last cell is secured to a reference surface. Stop means limit the movement effected by each cell to a predetermined number of increments in accordance with a selected code. Complementary files of cells at opposite sides of the load provide positive control in both directions of movement.

3,451,312
POSITIONING CONTROL FOR MOVABLE CUTTER HEAD

Robert E. Chapman, Vancouver, British Columbia, Canada, assignor to Ernest E. Runnion, Shelton, Wash.
Filed Apr. 28, 1966, Ser. No. 545,957
Int. Cl. F15b *13/044, 13/01, 15/26*
U.S. Cl. 91—42 **1 Claim**

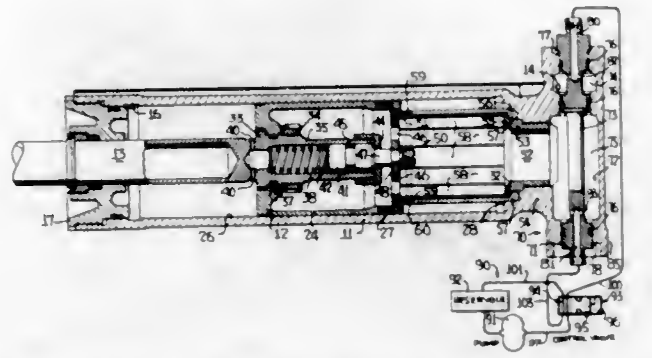


The invention relates to a control system for shifting a movable cutter head to and locking the same in a selected one of a plurality of positions, and the object is to devise a system in which the shifting operation is accomplished with unusual rapidity under force of a pressure fluid and the locking action is made positive, both operations being performed automatically in response to the activation of a selector switch under control of an operator and contained in an electric circuit employing the Wheatstone bridge principle.

3,451,313

MIDSTROKE LOCKING ACTUATOR

Roger K. Andersen, Los Angeles, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 21, 1967, Ser. No. 647,808
Int. Cl. F15b *15/26*
U.S. Cl. 91—45 31 Claims



A fluid pressure operated actuator of the piston-cylinder type including a mechanism for locking the piston from movement in one direction intermediate its limits of movement. The locking mechanism includes a generally cylindrical array of locking fingers in telescopic relation with a piston skirt. The fingers and skirt are provided with interengageable latching portions. A piston carried locking mechanism is engageable with the latching fingers to move them into latching engagement with the skirt.

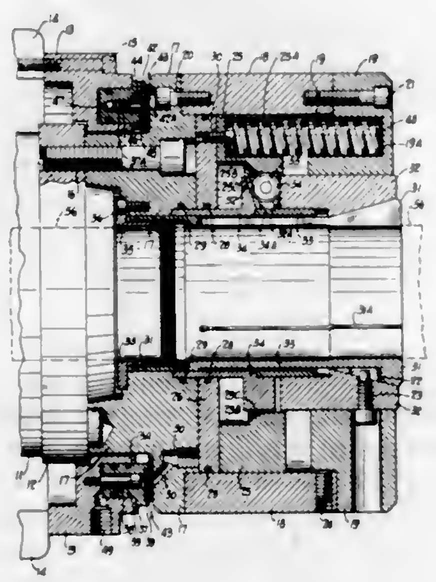
One embodiment locks the piston against movement in the piston rod extending direction and another locks the piston against movement in the piston rod retracting direction.

The actuator includes a fluid header for directing fluid to and from ports formed in opposing ends of the actuator cylinder. The header includes an outer member having a bore therethrough and an inner member inserted in this bore. The outer and inner members cooperate to form fluid chambers which are in fluid communication with the actuator cylinder ports. The outer member of the fluid header has bearing surfaces formed thereon for bearing support of the actuator.

3,451,314

COLLET MECHANISM

Larry F. Smrekar, 6604 Solon Road, Solon, Ohio 44139
Original application Sept. 8, 1966, Ser. No. 578,016. Divided and this application July 16, 1968, Ser. No. 745,237
Int. Cl. F15b *13/04, 11/08;* **B23b** *31/30*
U.S. Cl. 91—422 4 Claims

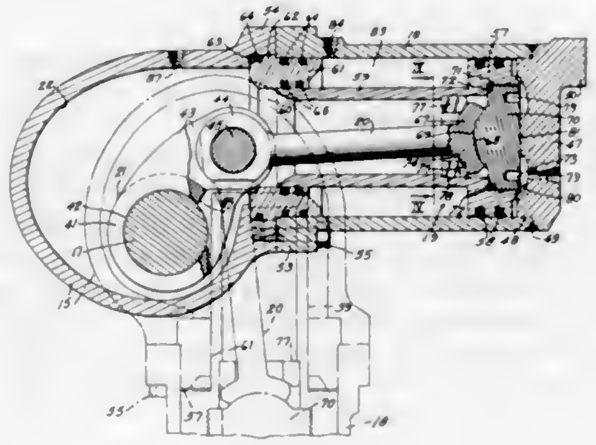


Valve mechanism for controlling the flow of fluid to a rotatable actuatable device such as a collet, having a toroidal piston movable axially in an nnular groove of a gland member carried by a nonrotatable part, a sealing member carried by the toroidal piston, inlet means in the gland member for supplying fluid under pressure to the groove back of the toroidal piston, a conduit from the face of the rotatable actuatable device directed toward the toroidal piston to conduct fluid under pressure to the rotatable actuatable device for actuating the same, a check valve controlled device in the sealing member and toroidal piston to permit fluid under pressure to flow from the groove into the conduit only after the sealing member has sealingly engaged the said face of the rotatable actuatable device.

3,451,315

HOLLOW-PISTON ACTUATORS

Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Aug. 22, 1966, Ser. No. 574,024
The portion of the term of the patent subsequent to Nov. 29, 1983, has been disclaimed
Int. Cl. F01b *15/04, 9/00;* **F16j** *15/8*
U.S. Cl. 92—118 3 Claims

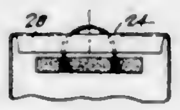


A piston lever actuator assembly comprises a hollow head portion and a lever cylinder portion with a closure and torque guide ring fixedly in the housing at juncture of the head and cylinder portion and slideably engaged by a tubular extension from a piston in the cylinder portion, with a link extending from the piston through the extension and connected to a rigid torque arm on a shaft on which the head is rotatably mounted.

3,451,316

METHOD OF MAKING HANDLED BAGS

John Bagnall, 1785 Caledonia Road, Mount Royal, Quebec, Canada
Filed Aug. 22, 1967, Ser. No. 662,396
Int. Cl. B31b *49/04*
U.S. Cl. 93—35 1 Claim

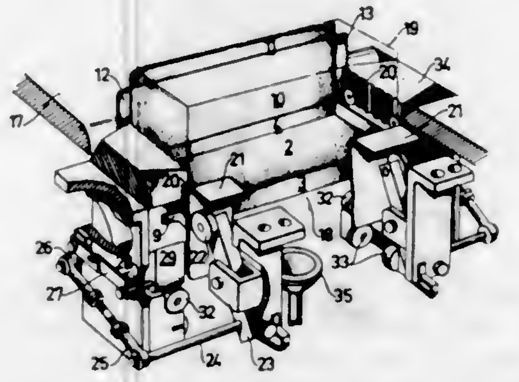


A method of applying handles to bags having tabs formed at the mouth of the bag and slits in the tabs to receive the handle comprising: simultaneously folding the tab toward the side wall of the bag while inserting a preglued handle into position between the tab and side wall with a hand grasping portion of the handle extended through the slit.

3,451,317

MACHINE FOR ERECTING A RECTANGULAR CARDBOARD BOX

Jan Torsten Hakansson, Eslov, and Rolf Magnus Dilot, Lund, Sweden, assignors to AB Akerlund & Rausing Lund, a Swedish joint-stock company
Original application Feb. 24, 1967, Ser. No. 618,390, now Patent No. 3,361,325, dated Jan. 2, 1968. Divided and this application Aug. 4, 1967, Ser. No. 669,332
Claims priority, application Sweden, Mar. 3, 1966, 2.781/66
Int. Cl. B31b *1/44, 1/46*
U.S. Cl. 93—51 6 Claims

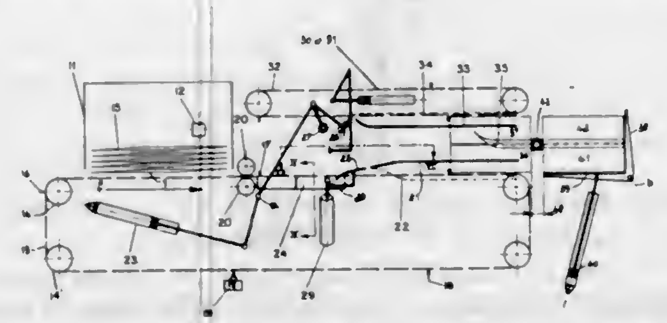


A machine for erecting a rectangular cardboard box from a multi-paneled blank includes a rectangular open shaft of the same size as the bottom panel of the blank and a rectangular stamp which engages the bottom panel of the blank when brought into registry with the open shaft and pushes the bottom panel down into the shaft. As the bottom panel moves downwardly through the open shaft, the side panels are automatically folded upwardly and the corner panels are also folded so as to project outwardly in the form of fins. As the partially erected box continues its downward movement, the corner fins are folded so as to lie flat against the sides of the box and are pressed against and sealed to the box sides by rolls. A suction cup operating from beneath the shaft is used to remove the erected carton after being discharged from the bottom of the shaft.

3,451,318

MACHINE FOR FORMING AND PRESENTING CARTONS FOR CONTINUOUS FEEDING TO A BOXING MACHINE

Michel Arnaudon, Ville d'Avray, and Jean Richard, Charenton, France, assignors to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed Oct. 26, 1966, Ser. No. 589,594
Claims priority, application France, Oct. 27, 1965, 36,405
Int. Cl. B31b *5/26, 1/78*
U.S. Cl. 93—53 12 Claims

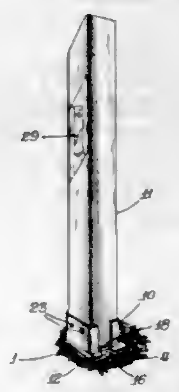


Method of forming a cardboard box from flat, folded blanks by first acting on the flaps forming the bottom and the closure lids and then opening the folded blank. A machine with a hopper for the folded blanks, and a conveyor for feeding the blanks through the machine, stationary inclined ramps for lifting one pair of the front flaps of the blanks away from the transfer plane of the machine, grippers for holding the other pair of the front flaps while a retractable power operated member is arranged to exert a force for opening the flat blank to a tubular shape.

3,451,319

ROAD GUIDEPOST

Hans E. Gubela, Ingeborgstrasse 30, Wuppertal-Barmen, Germany
Filed Oct. 11, 1965, Ser. No. 494,682
Claims priority, application Germany, Oct. 9, 1964, G 41,746; Jan. 23, 1965, G 42,648; May 20, 1965, G 43,650
Int. Cl. E01f *9/02*
U.S. Cl. 94—1.5 8 Claims

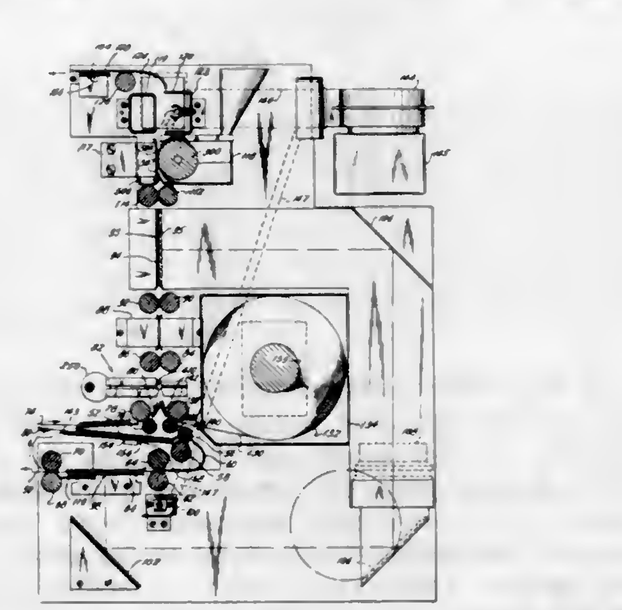


A guidepost assembly for road traffic comprises in combination a base portion adapted to be driven into the ground, a post shoe detachably connected to the base portion, and a post releasably attached to the shoe. The post is formed of a thin walled external case of high quality material, preferably plastic, and a separable solid core of less valuable material. The core fills the case and the case covers all but the bottom of the core. Thereby the case and the core may be separated for the replacement of one or the other. The releasable connection between the shoe and the post also attaches the case to the core. The detachable connection of the shoe and the base portion is formed by a dovetail and spring walls fitting about the dovetail whereby substantial force applied to the post causes the spring wall to deflect and detach from the dovetail.

3,451,320

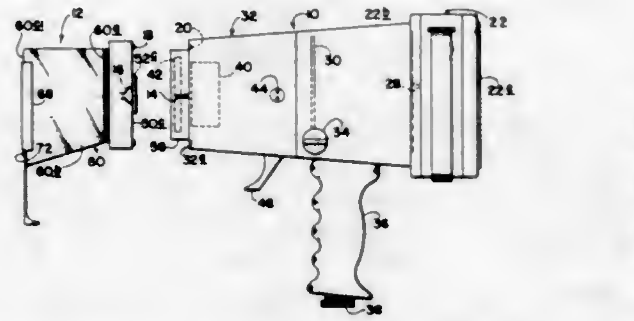
ELECTROSTATIC PRINTING APPARATUS

Ira M. Sage, New York, N.Y., assignor, by mesne assignments, to Ing Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed July 17, 1963, Ser. No. 295,652
Int. Cl. G03g *1/00, 3/00;* **G03b** *27/04*
U.S. Cl. 355—11 5 Claims



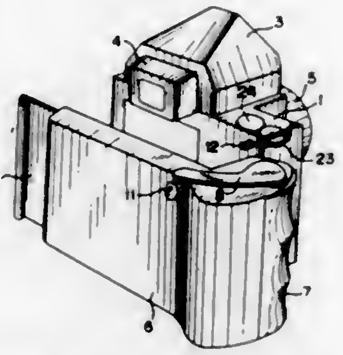
An electrostatic copying machine in which copies can be either on pre-cut sheets of photoconductive copy paper, or on sheets cut to the length of the original from a copy paper roll stored in the machine. Selection between these modes of operation is made simply by operating an electrical switch. The machine has a closed loop recirculation system in which the document to be copied can be recirculated time after time in order to make multiple copies of the document. Means are provided for charging the copy paper, for reflex exposure of the copy paper, developing the latent electrostatic image by brushing it with dry, electrostatically attractable developer particles, and fusing the particles into the copy paper by heat. The same set of charging and developing components is used with both the pre-cut sheets and the sheets cut from the roll stored in the machine.

3,451,321
PHOTOGRAPHIC APPARATUS
Richard M. Raia, Lexington, and Robert T. Sullivan, Norwood, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 24, 1967, Ser. No. 618,407
Int. Cl. G03b *19/02, 27/32*
U.S. Cl. 95—11 **7 Claims**



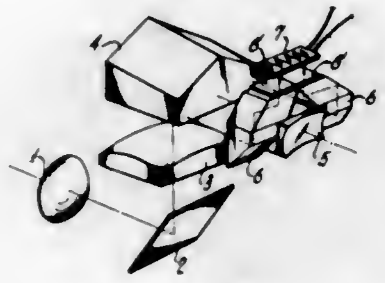
A combined magnifying and selectively-variable framing device for attachment to the front of a short-range or "close-up" camera to make photographic prints of a specialized format. The camera includes a compressive processing apparatus for producing finished photographic prints, using a film pack.

3,451,322
SINGLE LENS REFLEX CAMERA FOR ROLL-FILM
Seijiro Noda and Makoto Nakamura, Tokyo, Japan, assignors to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1966, Ser. No. 605,004
Claims priority, application Japan, Dec. 29, 1965, 40/107,599
Int. Cl. G03b *19/04, 19/20*
U.S. Cl. 95—31 **3 Claims**



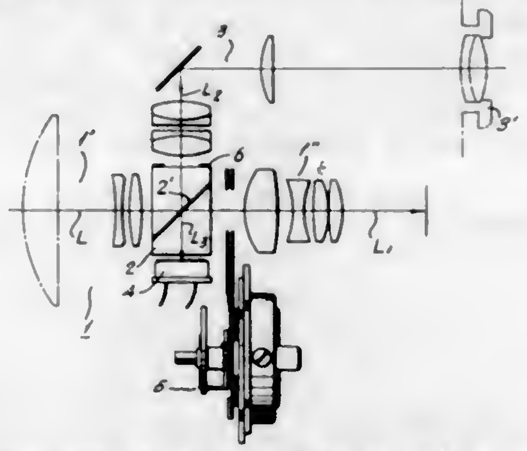
A single lens reflex camera provided with a removable film holder enclosing a film advancing mechanism including the film supply and take-up spools. A slidable light shield protects the film in the holder when the film holder is removed from the camera body. The film advancing mechanism is connected to the shutter charging mechanism of the camera when the holder is positioned on the camera body. A release button on the film holder engages the shutter release of the camera to release the camera shutter.

3,451,323
CAMERA LIGHT RESPONSE SYSTEM
Naoyuki Uno, Urawa-shi, and Tadazumi Sakazaki and Minoru Suzuki, Tokyo-to, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Itabashi-ku, Tokyo-to, Japan, a corporation of Japan
Filed July 14, 1966, Ser. No. 565,149
Claims priority, application Japan, Aug. 21, 1965, 40/50,931
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 **4 Claims**



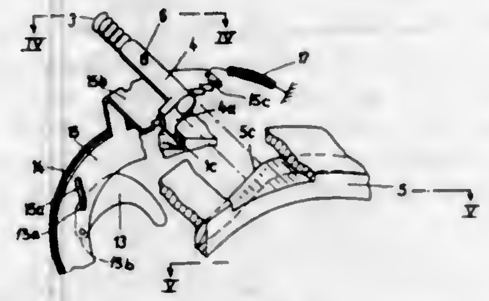
A light measuring system in a single lens reflex camera having a penta-prism and an eyepiece facing the penta-prism rear. A pair of light directing prisms are located on opposite sides of the eyepiece, having inlet faces directed toward the penta-prism and outlet faces directed toward a photoresistor. The outlet faces of the prisms may be directed toward each other with the photoresistor placed therebetween, or facing a common direction toward a common face of the photoresistor.

3,451,324
CAMERA VIEWING AND LIGHT MEASURING SYSTEM
Hideo Miyauchi, Suwa-gun, Nagano-ken, Japan, assignor to Kabushiki Kaisha Yashica, Tokyo-to, Japan, a corporation of Japan
Filed Jan. 23, 1967, Ser. No. 611,160
Claims priority, application Japan, Jan. 22, 1966, 41/3,591
Int. Cl. G03b *19/12, 9/02;* **G01j** *1/52*
U.S. Cl. 95—42 **6 Claims**



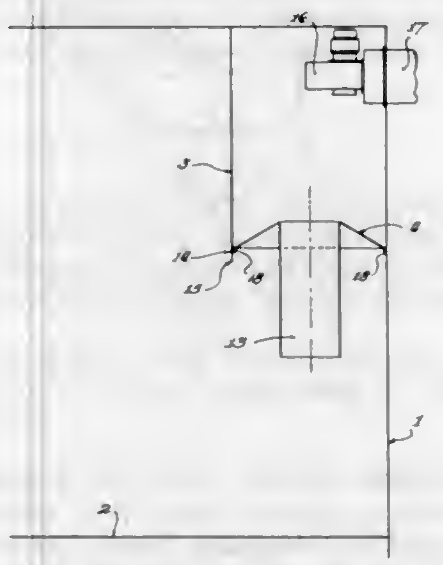
A semi-mirrored surface inclined at 45° is positioned between the lenses of a camera photographic objective which focuses an image on a rearwardly positioned plane. A viewing optical system faces the forwardly directed face of the semi-mirrored surface and is located on one side thereof and a photoconductor faces the rearwardly directed face of the semi-mirrored surface and is located on the opposite side thereof. A semi-mirrored surface or a small mirror element directed toward the photoconductor is located between the principal semi-mirrored surface and the viewing system. An automatic diaphragm controlled by the photoconductor is positioned between the objective lenses.

3,451,325
DIAPHRAGM-STOP PRESELECTOR FOR A PHOTOGRAPHIC CAMERA
Karl Heinz Raab, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co., Optische Werke, Bad Kreuznach, Germany, a corporation of Germany
Filed Mar. 21, 1966, Ser. No. 536,127
Claims priority, application Germany, Apr. 3, 1965, Sch 36,830
Int. Cl. G03b *9/02*
U.S. Cl. 95—64 **8 Claims**



A diaphragm-stop preselector has a spring-loaded rod with a lug adapted to intercept different steps of a stepped segment on a diaphragm-control ring. The position of the rod is determined by a rotatable and axially shiftable setting ring, or by a rotatable setting ring together with a seperate cam disk, under the joined control of a distance selector and a sensitivity indicator.

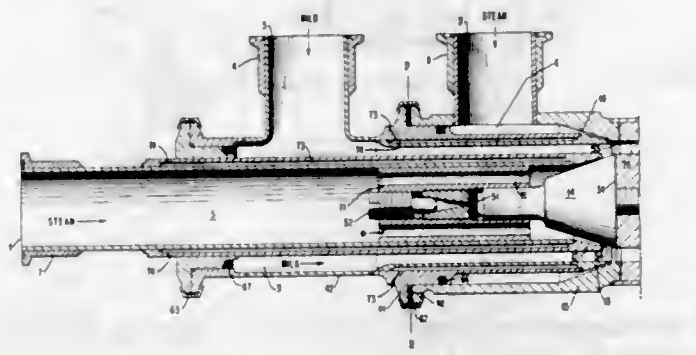
3,451,326
FUME EVACUATION HOOD
Jacques Valensi, 1 Rue Honnorat, Marseille, France
Filed May 9, 1967, Ser. No. 637,120
Claims priority, application France, May 26, 1966, 63,063
Int. Cl. F23j *11/00*
U.S. Cl. 98—115 **4 Claims**



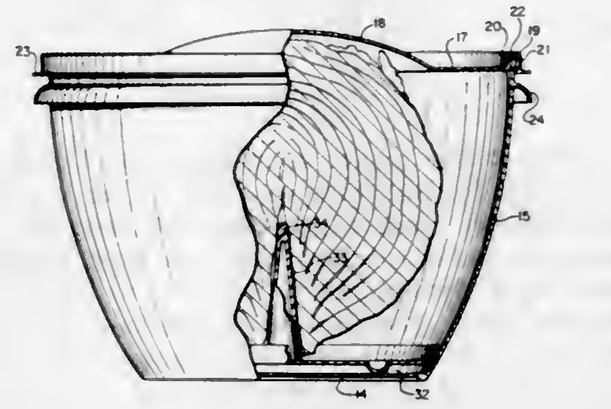
A covering for a vent system for the evacuation of fumes from residential buildings, and the like, the covering having a frusto-pyramid shape. Orifices are provided on the walls of the frusto-pyramid for evacution of fumes accidently pushed back, and for the formation of whirlwinds forming traps for said fumes.

3,451,327
STEAM INJECTOR FOR A MILK STERILIZER
Kurt Nelson, Wappingers Falls, N.Y., assignor to The De Laval Separator Company, Poughkeepsie, N.Y., a corporation of New Jersey
Filed Sept. 20, 1965, Ser. No. 488,463
Int. Cl. B65b *55/06;* **B05b** *7/02;* **B01f** *3/04*
U.S. Cl. 99—251 **9 Claims**

The milk to be sterilized flows through a passage of annular cross-section while steam flows in the same direction through a passage of annular cross-section surrounding the milk passage and also through a passage within the annular milk passage; and at the discharge end of each passage is an annular orifice so that the annular stream of discharging milk is merged with both interior and exterior annular streams of steam. The two annular orifices for discharging steam are adjustable to regulate the steam flow, and an air space separates the annular milk passage from each steam passage. The mixture of milk and condensing steam flows from the discharge orifices through a passage which gradually increases in cross-sectional area.



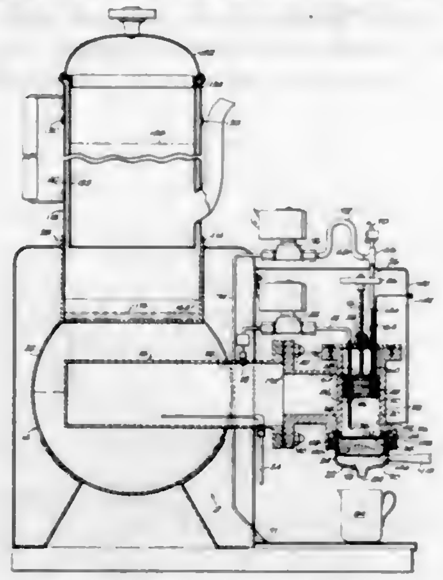
3,451,328
CONTAINER FOR HEAD LETTUCE OR THE LIKE
James B. Swett, Barrington, R.I., assignor to Dart Industries, Inc., a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,628
Int. Cl. A47j *47/02*
U.S. Cl. 99—269 **8 Claims**



A storage container for head lettuce comprising a container adapted to be sealed to prevent ingress or egress of moisture. The container has a support particularly adapted to position head lettuce above the moisture which will collect in the bottom of the container. The support positions the lettuce in stable non-rockable position. A method for maintaining and storing head lettuce in an evenly moist atmosphere.

3,451,329
BREWING APPARATUS
Juan Hernandez Herrera, 3647 SW. 24th St., Miami, Fla. 33145
Filed Dec. 14, 1967, Ser. No. 690,479
Int. Cl. A47t *31/10, 31/00*
U.S. Cl. 99—290 **5 Claims**

An improved brewing apparatus which includes a heater to heat a supply of water and a variable sized brewing chamber for selectively brewing a predetermined amount of liquid; the brewing tank is in open communication with the heat source so as to maintain the brew chamber at a substantially elevated temperature during the brewing operation without heat loss.



3,451,330

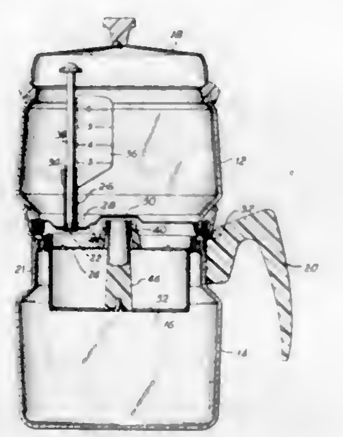
DRIP COFFEE MAKER

Joseph A. Bender, Springfield, N.J., assignor to Vacuum Die Casting Corporation, Newark, N.J., a corporation of Ohio

Filed May 13, 1966, Ser. No. 549,899

Int. Cl. A47j *31/04*

U.S. Cl. 99—299 **14 Claims**



A drip coffee maker as in Patent 3,333,528 comprises a reservoir for hot water, a coffee server, a coffee basket therebetween, and a spreader, the reservoir having a riser tube and also a flow discharge hole which flows hot water at a desired controlled rate to obtain a desired infusion time. The flow discharge rate is found to be undesirably and unpredictably changed by the presence of a whirlpool in the reservoir, and in the present improvement the riser tube is offset from the center of the reservoir, and is also provided with a vane mounted thereon, to inhibit the formation of a whirlpool. The spreader has a hollow handle located at the center of the spreader and acting as a vent. The basket has a post rising from its bottom, with the upper end of the post nearly filling the hollow handle, but leaving a thin annular vent passage, which passage is readily cleaned on separation of the spreader from the post.

3,451,331

HOT ROLL SUPERCALENDER

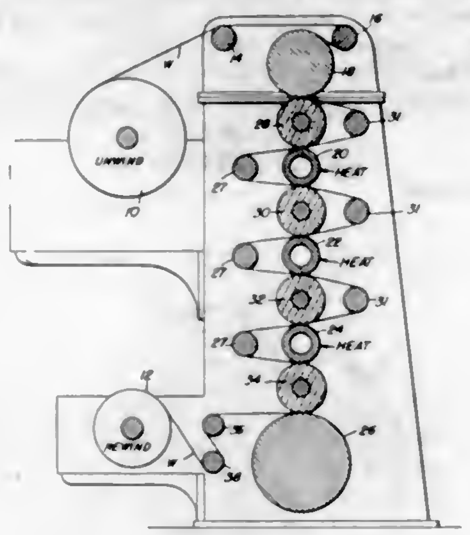
John H. Fredrickson, Glenwood, Gunther K. Hunger, Ellicott City, and Harry F. Kohne, Jr., Glenwood, Md., assignors to Westvaco Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 1, 1967, Ser. No. 619,653

Int. Cl. B30b *3/04, 15/34;* **F28f** *5/02*

U.S. Cl. 100—93 **6 Claims**

Supercalender apparatus with alternating hard and soft rolls in a stack wherein the hard rolls are preferably of a thin-walled construction and at least one and up to three may be heated, the latter by independently controlled means to different temperatures and the soft rolls comprise the conventional cotton-filled type or may be fabricated from a synthetic material.



3,451,332

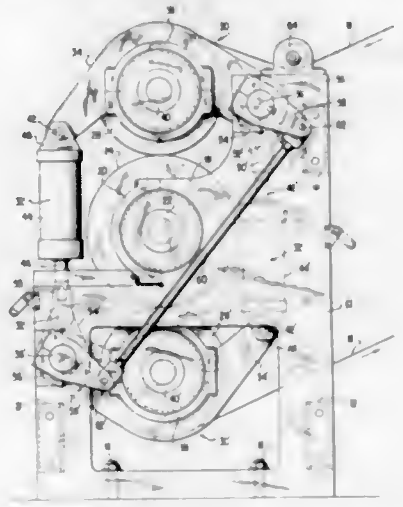
CALENDERING MACHINE

George W. Kesler, Richmond, Va., assignor to The Inta-Roto Machine Company, Inc., Richmond, Va., a corporation of Virginia

Filed Mar. 17, 1967, Ser. No. 624,049

Int. Cl. B30b *3/06, 3/04;* **B21b** *131/04*

U.S. Cl. 100—162 **11 Claims**



A calendering machine employing a main roll and a pair of pressure applying rolls, all of substantial weight and all carried by a common frame. The pressure applying rolls are positioned on opposite sides of the main roll so that they maintain diametrical contact with the main roll regardless of variation in the diameter thereof, and are connected together so that the pressure-exerting means does not transmit stress to the common frame, and the pressure applying rolls counterbalance each other in the event of failure of the pressure-exerting means.

3,451,333

BALE THROWER

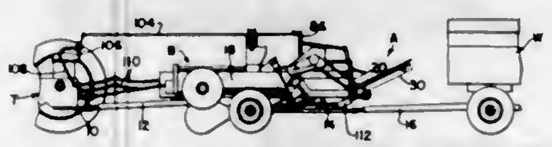
Murray W. Forth, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware

Continuation of application Ser. No. 701,040, Dec. 6, 1957. This application Mar. 11, 1964, Ser. No. 351,889

Int. Cl. A01f *15/08, 17/00*

U.S. Cl. 100—188 **17 Claims**

1. For a baler having bale-forming means including a bale-discharge portion from which individual completed bales emerge rearwardly in succession as the baler operates: bale-throwing apparatus for throwing each emerging bale distantly rearwardly from the bale-discharge portion of the baler, comprising: a bale support having means thereon for connection thereof to the baler and extending rearwardly from the bale-discharge portion and having opposite fore-and-aft sides; a pair of bale-throwing means on the support and respectively along said sides to receive an emerging bale therebetween, each bale-throwing means including front and rear sprockets respectively adjacent to and remote from the bale-discharge portion and an endless chain trained about said sprockets to dispose an inner run of the chain in flanking relation to one side of an emerging bale, each chain having a driving lug thereon assuming a starting position adjacent to its front sprocket and said lugs in their starting positions being transversely alined so that an emerging bale enters between the respective inner runs of the chain to be engaged by the lugs; drive means interconnecting the two bale-throwing means so that the inner runs of the chains move rearwardly in unison to carry the lugs rearwardly to delivery positions at their respective rear sprockets, said lugs turning thence laterally oppositely outwardly about said rear sprockets and thereby accelerating to cause the bale to depart rearwardly by its own momentum; selectively engageable and disengageable power-operated mechanism on the baler and connected to the drive means, said mechanism being disengaged when the lugs are in their starting positions and engageable to drive the chains to carry the lugs to their delivery positions and back to their starting positions; and control means for effecting engagement of the power-operated mechanism, including a bale-sensing device operative automatically, in response to a bale-forming condition including emergence of a bale to said support, to engage the mechanism for driving the chains as aforesaid.



3,451,334

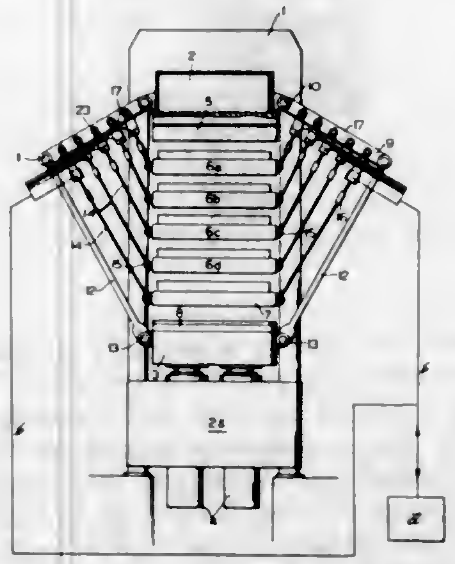
MULTI-TIER PRESS WITH SIMULTANEOUSLY OPENING AND CLOSING TIERS

Will Hütter, Krefeld, Germany, assignor to Niederrheinische Maschinenfabrik Becker & van Hullen, Krefeld, Germany

Continuation-in-part of application Ser. No. 436,866, Mar. 3, 1965. This application Sept. 26, 1966, Ser. No. 582,047

Int. Cl. B30b *7/02*

U.S. Cl. 100—200 **4 Claims**



The press has several vertically displaceable platens arranged in a single row, between the press table and a top cross-bar. An arm is pivoted on each end of the cross-bar. Adjustable pairs of pull rods connect pivotably each platen to the respective arms. The pull rods each have hydraulic cylinders for equalizing the pressure on the respective platens.

3,451,335

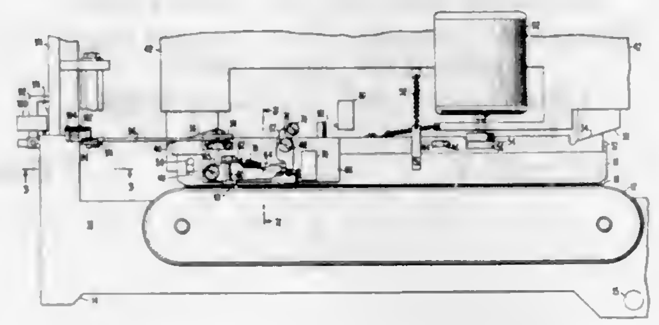
PRINTER PLATEN CONTROL SYSTEM

James M. Cunningham, Bradenton, Fla., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 21, 1967, Ser. No. 661,989

Int. Cl. B41j *1/60;* **B41f** *1/28, 21/00*

U.S. Cl. 101—93 **10 Claims**



An adjustable printer platen is activated when a type carrier gate is closed, to provide a predetermined relation with the type carrier, and when the carrier gate is opened an interlock prevents reclosing the carrier gate until the platen is returned to a retracted position.

3,451,336

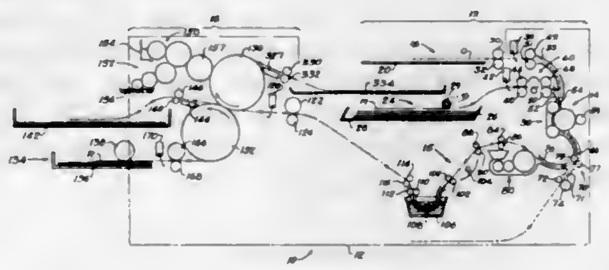
MASTER MAKING AND DUPLICATING MACHINE

Albert E. Mignone, Shaker Heights, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Jan. 13, 1966, Ser. No. 520,492

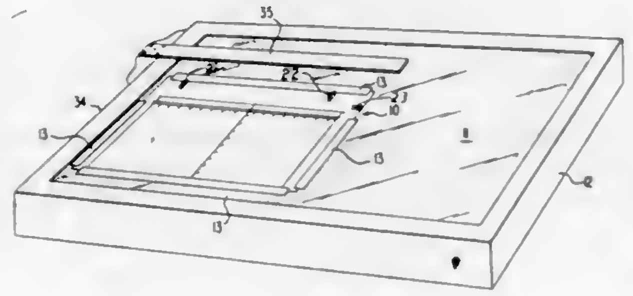
Int. Cl. B41l *11/08;* **B41m** *5/00*

U.S. Cl. 101—132.5 **3 Claims**



There is described an apparatus (and the method according to which it operates) for handling one or more original documents presented to the equipment, and rapidly producing from each original a desired number of printed duplicates. In particular the apparatus includes a master making portion which exposes a charged photoconductive sheet to a light and shadow image of the original to form a reverse reading latent electrostatic image thereon, develops the latent image thus formed on the sheet, and treats the sheet to convert the surface coating in the background areas to hydrophilic condition so that the sheet may perform as a lithographic master. The apparatus also includes an automated direct printing rotary lithographic duplicator which mechanically takes each master thus prepared, places it on the master cylinder, prints by direct contact between the master and receiving sheets, making the desired number of copies in accordance with a preset counter setting, discharges the master, and then triggers the master making section to accept and process another waiting original. Also described is a sequencing control which provides for overlapping of cycles so that whenever there is a series of originals awaiting processing, a second original may have its master prepared and brought to a position awaiting use while the master from a first original is printing copies, and a third original is at a ready location where it will be automatically picked up and fed into the master making section to have a master prepared therefrom at the instant the first master is discharged from the master cylinder of the duplicator section and the second master placed thereon.

3,451,337
METHOD FOR OFFSET PRINTING
Edward R. Updegraff, 4611 Harvard Road, College Park, Md. 20740
Filed Feb. 27, 1967, Ser. No. 618,886
Int. Cl. B41c; B41n; B41b *1/00*
U.S. Cl. 101—401.1 **7 Claims**

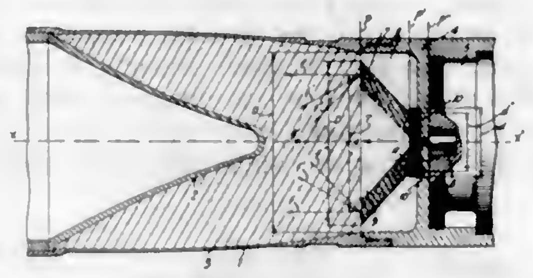


A method of preparing and mounting a straight edge printing plate in proper registration including preparing a flat comprising a sheet of light blocking paper and a photographic negative through which the plate is to be exposed, aligning the leading edge and side edge of the flat on a specially constructed light table having stops against which the flat abuts, moving the flat to an assembly table where the printing plate is placed in the same position relative to the flat as the light table by using stops adjusted for such alignment, exposing the plate through the negative of the flat in this aligned position and placing the plate on a printing cylinder in registration by abutting it against stops on the cylinder corresponding to the alignment stops on the assembly table.

3,451,338
THERMOGRAPHIC RECORDING SYSTEM
Henry H. Baum, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 11, 1964, Ser. No. 366,524
Int. Cl. B41m *5/18*
U.S. Cl. 101—469 **12 Claims**

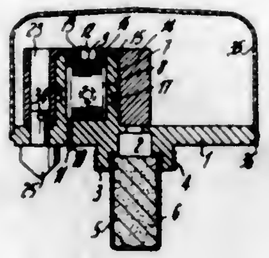
There is provided by this invention a thermographic method of data-recording and heat-sensitive record sheets comprising chromogenic benzo-indolinospiropyran material and a di-phenol material capable of producing immediate and lasting color when and where the two co-reactant materials are brought into liquid contact, as in a melt. The two described co-reactant materials may be coated in a polymeric film binder on a single base web in interspersion in a single coat or separately incorporated into successive coats, or alternatively the co-reactants may be coated on separate base web sheets to provide a co-reactive pair of sheets.

3,451,339
PRIMING EXPLOSIVE DEVICES
Michel Precoul, Paris, France, assignor to Societe Technique de Recherches Industrielles et Mechaniques, Paris, France, a French company
Filed Mar. 2, 1965, Ser. No. 437,633
Claims priority, application France, Mar. 3, 1964, 965,881
Int. Cl. B42b *1/04, 1/02*
U.S. Cl. 102—56 **6 Claims**



1. An explosive device having a casing, a principal explosive charge in said casing, said principal charge having a cavity with a lining to confer a hollow charge effect, fuse means, and a booster assembly positioned rearwardly of said principal charge, said assembly comprising a substantially cylindrical block of explosively inert material having a frusto-conical cavity, a conical plug of explosively inert material positioned in said frusto-conical cavity and smaller than said cavity, said plug and said block defining an annular chamber of frusto-conical shape having its larger end adjacent the principal charge, and a block of booster explosive in said chamber, the larger surface of said booster explosive block being in direct physical contact with the principal charge and the lesser surface being pyrotechnically connected with said fuse means.

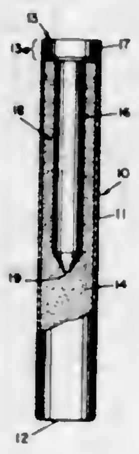
3,451,340
PERCUSSION FUZE INCLUDING ROTARY DELAY PROVISIONS
Boris Batou, Geneva, Switzerland, assignor to Anstalt Tamerlan, Vaduz, Liechtenstein
Filed July 12, 1967, Ser. No. 652,827
Claims priority, application Switzerland, July 28, 1966, 10,923/66
Int. Cl. F42c *9/02, 15/02, 15/00*
U.S. Cl. 102—76 **2 Claims**



A percussion fuze having a generally circular plate, an eccentric shaft extending parallel to the axis of the plate, a drum having a central aperture and rotatable about the shaft, a firing pin, a detonator carried by the drum, a spiral spring having an end fast with the plate and an end fast with the drum, the shaft having on its surface a sinusoidal groove the frequency axis of which extends in the direction of rotation of the drum and a lug fast with the drum and engaging in the groove, the arrangement being such that, after the spring has been wound up, a rotary movement can be imparted to the drum by the unwinding

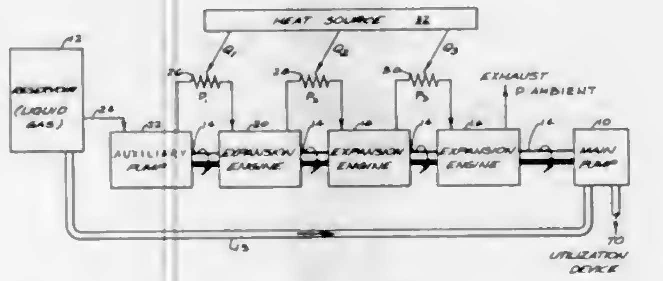
of the spring while an alternating axial movement is imparted to the drum by virtue of the engagement of said lug in the groove, thereby to bring the detonator into a position where it can engage or be engaged by the firing pin.

3,451,341
BOOSTER STRUCTURE
David J. Dittmann, Woodstock, N.Y., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,737
Int. Cl. F42b *3/10*
U.S. Cl. 102—24 **17 Claims**



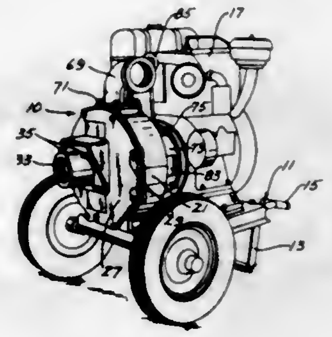
A booster type initiator for explosives is provided which contains a well and a flange around the open end thereof, of integral resilient material construction, as a combined well and end closure assembly therefor; and in preferred embodiments (1) rib structure integral with the well member and extending along the inner wall thereof, for support of a primary initiator and (2) a bail member integral with the flange and extending therefrom for emergency removal of the booster from a complete blasting assembly. Said integral well and flange structure per se is also provided.

3,451,342
CRYOGENIC ENGINE SYSTEM AND METHOD
Everett H. Schwartzman, 457 34th St., Manhattan Beach, Calif. 90266
Filed Oct. 24, 1965, Ser. No. 504,349
Int. Cl. F04b *17/00;* **F03g** *7/06*
U.S. Cl. 103—43 **6 Claims**



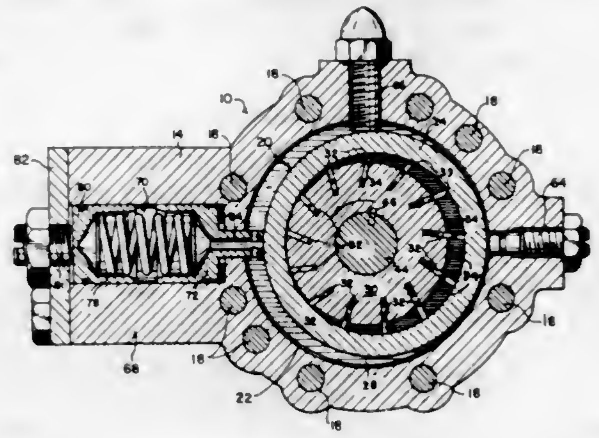
A system is disclosed for converting the energy potential in a reservoir of cryogenic fluid into work, e.g., mechanical drive energy. A liquid gas reservoir is coupled through a pump to an expansion engine, e.g., a turbine. Heat exchanger means is then placed between the pump and the engine to expand the liquid gas by receiving heat (as from ambient) for application to the expansion engine, and the production of work, during which the gas is cooled. The expansion engine is disclosed to be connected to a transfer pump which is employed to deliver liquid gas from the reservoir.

3,451,343
PUMP MEANS
Walter A. Kabele, Waterloo, Iowa, assignor to Construction Machinery Company, Waterloo, Iowa, a corporation of Iowa
Filed Feb. 3, 1967, Ser. No. 613,918
Int. Cl. F04d *1/14, 29/00, 9/02*
U.S. Cl. 103—103 **6 Claims**



A pump means including a pump case having an impeller means and volute quickly removably mounted therein, a shim means for adjusting the clearance between the impeller means and volute and also includes a seal plate means which is quickly detachably secured to the interior of the pump case.

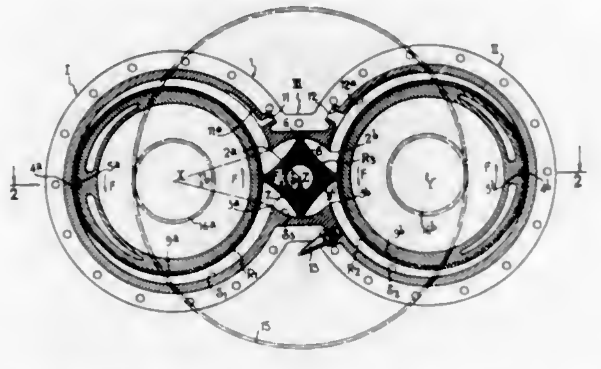
3,451,344
VANE PUMP
Robert E. Trick, Racine, Wis., assignor to Webster Electric Company, Inc., Racine, Wis., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,227
Int. Cl. F04c *15/04, 1/00;* **F04b** *21/08*
U.S. Cl. 103—120 **14 Claims**



A pump housing has a chamber within which is a vane pump assembly including a rotor, vanes slidable in the rotor, a thrust ring and a pair of end plates. One end plate includes a series of outlet ports opening into the housing chamber and communicating with approximately 270° of the pumping region in order to produce counterbalancing forces on opposite regions of the rotor. An outlet port in the housing conducts high pressure fluid from the housing chamber. The end plate includes an inlet port communicating with about 90° of the pumping region and with an inlet passage in the housing. The thrust ring is shiftable between the end plates to vary pump displacement under the control of a control piston operated by outlet pressure admitted from the housing chamber to a control cylinder through a passage in the control piston.

3,451,345
COMPRESSION-DEPRESSION MACHINE HAVING ROTARY PISTONS

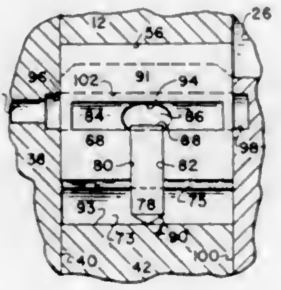
Jean-Francois Georges Roy, 20 Rue d'Estienne d'Orves, Issy-les-Moulineaux, France
Filed Nov. 21, 1967, Ser. No. 684,802
Claims priority, application France, Nov. 25, 1966, 84,978
Int. Cl. F04c *1/04, 1/00*
U.S. Cl. 103—125 **9 Claims**



A machine affording chambers of variable volume of utility as a pump, compressor or motor and including a plurality of rotary pistons having eccentric portions and rotating about parallel shafts and coacting to create said chambers, the machine being characterized in that a connecting mechanism interconnecting the pistons is such that the speeds of rotation of two adjacent pistons are different and the ratio between the numbers of different eccentric portions of the two adjacent pistons is the inverse of the ratio between the speeds of rotation of the two adjacent pistons.

3,451,346
POWER TRANSMISSION

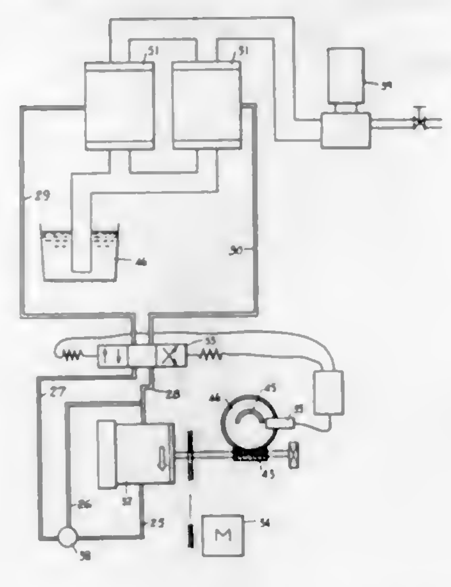
Raymond B. Pettibone, Detroit, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,905
Int. Cl. F04c *1/16, 3/00;* **F01c** *1/30*
U.S. Cl. 103—136 **6 Claims**



A rotary fluid pressure energy translating device having a vane cam track within which is rotatably mounted a rotor carrying radially sliding vanes to form fluid inlet and fluid outlet working zones located between the periphery of the rotor and the vane track, the vanes being of the type having a thrust member telescopically disposed within each vane and forming an expansible pressure chamber therein, a surface of which is effective under pressure to urge the vane into engagement with the cam track, each vane having a balancing cavity on the face thereof, intersecting and in fluid communication with the said expansible pressure chamber, and a pressure porting arrangement for transmitting fluid under pressure to said expansible pressure chamber.

3,451,347
VISCOUS SUSPENSION PUMPING MEANS

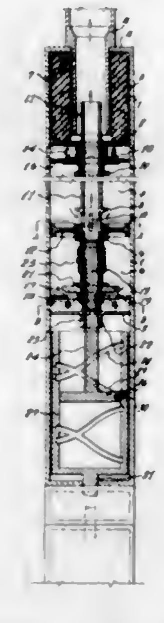
Kihachi Chimura, Yokohama, Japan, assignor to Kabushiki Kaisha Inouye Shokai (Inouye & Co., Ltd.), Yokohama, Japan
Filed Aug. 16, 1967, Ser. No. 661,083
Claims priority, application Japan, June 19, 1967, 42/38,825; June 29, 1967, 42/41,288
Int. Cl. F04b *43/04, 17/00*
U.S. Cl. 103—152 **3 Claims**



This disclosure relates to a viscous suspension pumping means comprising a pair of expansible and collapsible chambers made of, for example, neoprene, which are alternately oppositely deformed by a hydraulic medium constantly pressured by a hydraulic pump. The alternation is controlled by a valve controlled by the hydraulic pump. This means is characterized by a constant pressure given to the output and being measurable, and portable, which is enhanced by an automatic rotating direction regulating means for a built-in three-phase motor.

3,451,348
APPARATUS FOR DRAINING DEEP UNDERGROUND STRATA

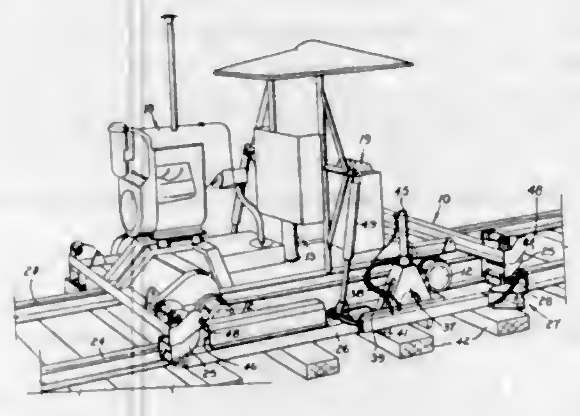
Tatsuo Morimoto, 70 Higashi Ashiya-cho, Ashiya, Hyogo Prefecture, Japan
Filed Aug. 21, 1967, Ser. No. 662,021
Int. Cl. F04b *21/04, 9/04*
U.S. Cl. 103—179 **7 Claims**



Pumps for apparatus for draining deep underground strata include a pump cylinder having a plurality of sloted intake ports and perforated ports housing a hollow slotted piston rod mounting a piston having some up-and-down motion of its own independent of the reciprocating piston rod, associated with a valve structure wherein the valve member seats upon a seat carried by the piston rod below the piston. A pair of small drainage fluid-receiving chambers are provided communicating with the perforations and moving with movements of the piston, assist in the pumping action. The pump cylinder contains a packing chamber containing a compressible spongy packing and the piston rod is reciprocated by any one of three types of mechanism to convert rotary to reciprocatory motion.

3,451,349
SLEEPER POSITIONING MACHINE

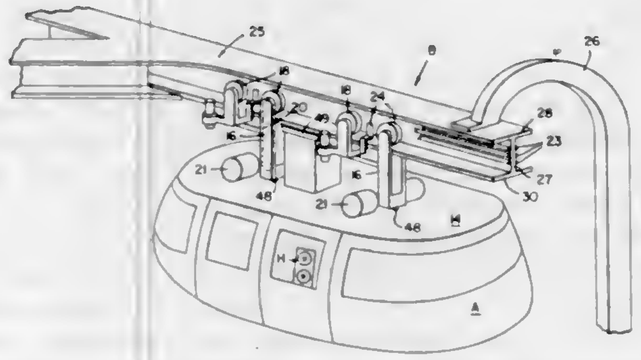
William J. Yard, Cavan, South Australia, Australia, assignor to Australian Railway Equipment Supply Company Proprietary Limited, Adelaide, South Australia, Australia and Trak-Chief Manufacturing Proprietary Ltd., Cavan, South Australia, Australia
Filed June 2, 1967, Ser. No. 643,216
Int. Cl. E01b *27/17*
U.S. Cl. 104—9 **4 Claims**



A sleeper positioning machine having rail clamps to clamp a pair of rails and sleeper grips movable forwardly to engage a sleeper, hydraulic rams operatively connected between the rail clamps and sleeper grips to move a sleeper beneath the rails when clamped.

3,451,350
AUTOMATIC CONVEYOR SYSTEM

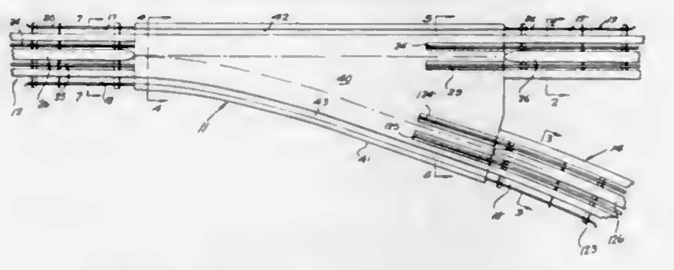
Charles J. Bryson, 611 San Luisito Way, Sunnyvale, Calif. 94086
Continuation-in-part of application Ser. No. 439,525, Mar. 11, 1965. This application May 19, 1967, Ser. No. 639,910
Int. Cl. B61b *13/06, 1/02;* **B61l** *3/00*
U.S. Cl. 104—88 **10 Claims**



A conveyor system for the selected transport of a plurality of vehicles on a supporting path between multiple stations. The conveyed vehicles and supporting path are equipped with mutually co-acting directing and identifying apparatus for sequentially accepting information descriptive of one station, choosing one route along the supporting path from multiple available routes to the described station, and finally distinguishing or identifying with the designated station so as to actuate the vehicle upon arrival. Integrated with this directing and identifying apparatus is a proximity sensing system attached to the conveyed vehicles and supporting path which when coupled to the conveyance apparatus prevents and arrests any tendency of the individually conveyed vehicles to collide or otherwise interfere with one another.

3,451,351
MONORAIL SWITCHING SYSTEM

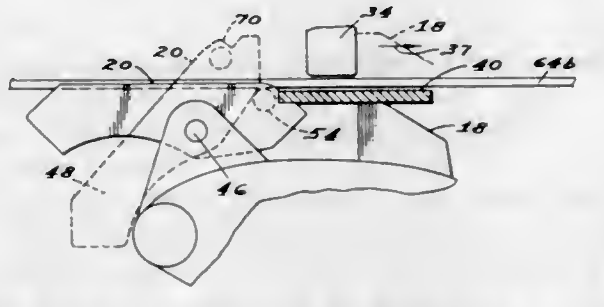
Alan B. Hawes, 8504 Seaview Ave., Wildwood Crest, N.J. 08260
Filed June 14, 1968, Ser. No. 737,089
Int. Cl. E01b *25/06, 25/12, 25/20*
U.S. Cl. 104—130 **10 Claims**



A switching assembly for a monorail car. The car has respective right and left vertically-journaled guide rollers which are vertically-reciprocable by means of solenoids. The rollers are engageable in respective trackway grooves. The solenoids are energized selectively by a circuit including a timed alarm device to indicate malfunction, such as failure to lower at least one guide roller. The circuit for the alarm device includes branches containing roller elevation-responsive limit switches controlled by the raising of the guide rollers. The circuit also includes branches for controlling the energization of the solenoids containing roller descent-responsive limit switches controlled by the lowering of the guide rollers. The solenoid-energizing circuits are interlocked by their limit switches so as to permit the solenoids for the right side to be energized only when the rollers of the left side are in lowered position. The solenoids for the left side can be energized independently of the limit switches associated with the right side, but are held energized by the last-named limit switches after the rollers at the right side have been lowered.

3,451,352
CONVEYOR CARRIER WITH SELECTIVELY OPERABLE DOGS

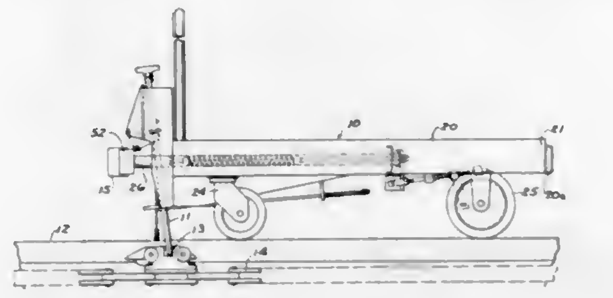
Byrl E. Curry, Milford, Clarence A. Dehne, Orchard Lake, and Joseph W. Farley, Grosse Pointe Farms, Mich., assignors to Jervis B. Webb Company, a corporation of Michigan
Filed Feb. 10, 1966, Ser. No. 526,618
Int. Cl. B61b *9/00;* **E01b** *25/26*
U.S. Cl. 104—172 **12 Claims**



A power and free conveyor including a track for a load carrier which is equipped with a main driving dog, movable between non-driving and driving positions relative to a pusher of a propelling chain supported on a separate track, and with one or more auxiliary dogs such as a hold-back dog and a supplementary driving dog. Such an auxiliary dog is selectively movable independently of the main driving dog as desired, by cam and follower means on the carrier and carrier track, to change the auxiliary dog from a normally operative to an inoperative position or from a normally inoperative to an operative position relative to a pusher.

3,451,353
ACCUMULATING TOW TRUCK CONVEYOR SYSTEM

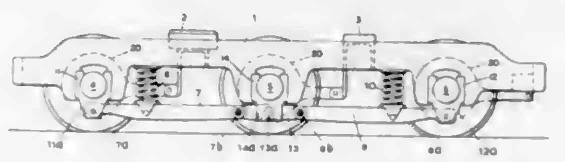
Leonard J. Bishop, Birmingham, Mich., assignor, by mesne assignments, to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 24, 1965, Ser. No. 509,569
Int. Cl. B60d *1/00;* **B60p** *7/00*
U.S. Cl. 104—172 **9 Claims**



The accumulating tow truck conveyor system disclosed herein comprises a plurality of tow trucks adapted to be moved along a slot in the floor by engagement of the tow pin of each truck with a conveyor beneath the floor. Each truck body has a front bumper that is mounted thereon for longitudinal reciprocating movement relative to the truck body. The front bumper is operatively connected to the tow pin by an arrangement which includes a cam surface forming a portion of the bumper and movable therewith which is engaged by a member pivoted on the truck body and, in turn, engaged with the tow pin to lift the tow pin.

3,451,354
MOTORIZED TRUCK RESILIENTLY SUPPORTED ON EQUALIZING BARS

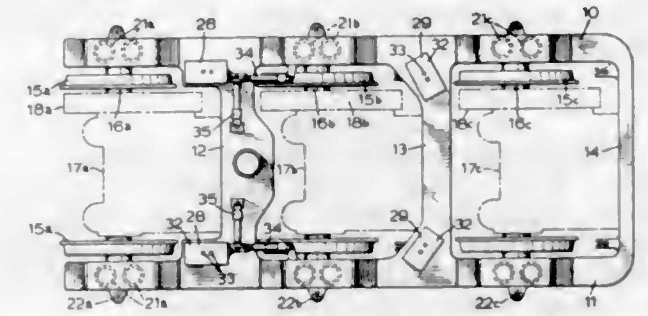
John Dowling, Newton-le-Willows, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Apr. 8, 1965, Ser. No. 446,618
Claims priority, application Great Britain Apr. 24, 1964, 16,994/64
Int. Cl. B61c *1/00, 11/06;* **B61f** *5/04*
U.S. Cl. 105—133 **6 Claims**



A three-axled railway locomotive bogie includes a frame having three upwardly facing non-resilient suspension points by which the locomotive body can be mounted on the frame, a set of pivotally interconnected beams mounted below the axles of the bogie, a pair of helical springs connecting the two outermost beams to the underface of the frame and a nose-suspended traction motor mounted on each axle of the bogie. All of the nose-suspended motors are oriented in the same longitudinal direction. The bogie construction insures equal load distribution between axles under starting conditions.

3,451,355
LOCOMOTIVE TRUCK

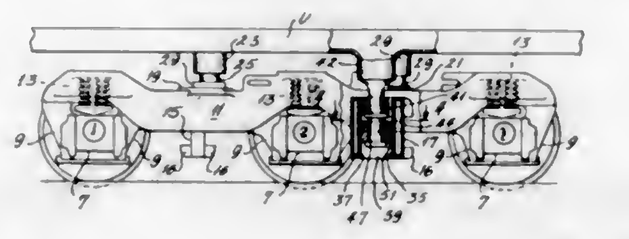
Richard N. Dobson, Burlington, Ontario, and Howard J. Bexon, Oakville, Ontario, Canada, assignors to Dominion Foundries and Steel, Limited, Hamilton, Ontario, Canada
Filed Jan. 4, 1967, Ser. No. 607,325
Int. Cl. B61c *9/48;* **B61f** *5/02*
U.S. Cl. 105—136 **8 Claims**



A high adhesion truck suspension, particularly for locomotive trucks, employs a relatively soft coil spring suspension of the road wheels to the truck and a relatively stiff rubber spring suspension of the vehicle body to the truck; the vehicle body suspension consists of four units in rectangular configuration with their compression axes vertical and a non-load-bearing centre pivot, the pivot preferably being connected to the vehicle body by rubber springs with their compression axes longitudinally of the vehicle.

3,451,356
RESILIENTLY CENTERED RAILWAY MOTOR TRUCK

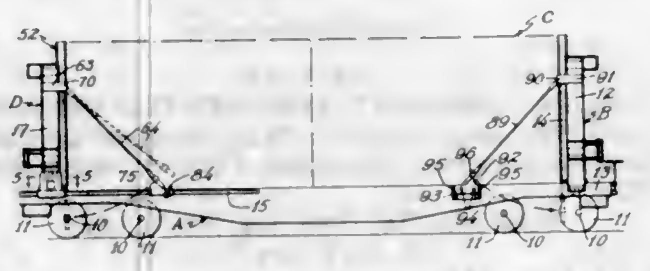
Richard L. Lich, Town and Country, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Aug. 10, 1967, Ser. No. 659,722
Int. Cl. B61c *17/00;* **B61f** *1/14, 13/00*
U.S. Cl. 105—136 **12 Claims**



A railway motor truck comprising three wheeled axles, a rigid frame resiliently supported directly on the axles, a pair of transversely spaced upwardly facing horizontal bearing surfaces on the frame between the middle axle and each end axle and adapted to slidably engage vertically movable spring loaded shoes depending from a supported locomotive underframe and slidably engaging said bearing surfaces to provide a resilient support thereon for the underframe, a vertically cylindrically apertured block mounted in said truck frame near its upper surface and resiliently centered transversely of said truck frame but being unrestrained lengthwise of the truck and being adapted to pivotally and vertically slidably receive a cylindrical post depending from the underframe, a second cylindrically apertured block beneath said first named block at a substantially lower lever, said second block being restrained against any movement lengthwise of the truck but being freely movable transversely of the truck and adapted to pivotally receive the lower part of the cylindrical post whereby tractive forces are transmitted therethrough from said truck to the supported underframe at lower level than the first block.

3,451,357
MOVABLE SHOCK-ABSORBING BULKHEADS

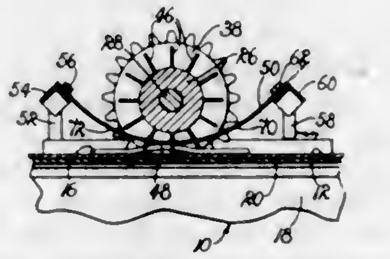
Benjamin R. Barnard and Gustav Maass, Minneapolis, Minn., assignors to St. Paul Foundry & Manufacturing Company, St. Paul, Minn., a corporation of Minnesota
Filed June 13, 1966, Ser. No. 557,191
Int. Cl. B61d *17/06, 45/00*
U.S. Cl. 105—376 **9 Claims**



The invention discloses a railroad flat car having a fixed bulkhead at one end and an adjustable bulkhead at the other end. The movable bulkhead is supported by rails extending along opposite sides of the car. The movable bulkhead is reinforced by braces connecting an upper portion of each bulkhead side to a slide on the rail.

3,451,358
DOUGH PERFORATING MACHINE

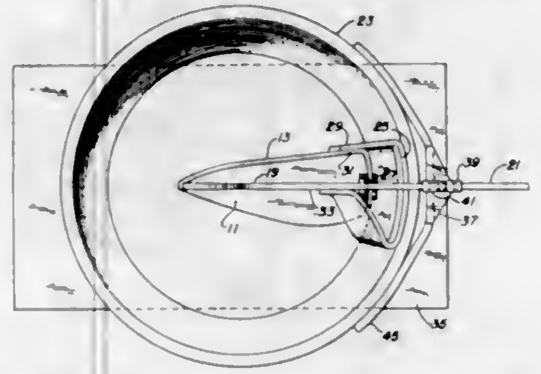
Oscar F. Ruiz, P.O. Box 1253, Tulare, Calif. 93274
Filed Sept. 27, 1966, Ser. No. 582,410
Int. Cl. A21c *11/12;* **A21d** *8/02*
U.S. Cl. 107—15 **8 Claims**



A machine for perforating substantially flat pieces of dough including a drum with perforating spikes, and an arcuate comb for removal of the pieces of dough from the spikes, the comb being adjustably mounted for varying the arcuity thereof for accommodating different thicknesses of dough.

3,451,359
CRUMB CRUST SHAPER

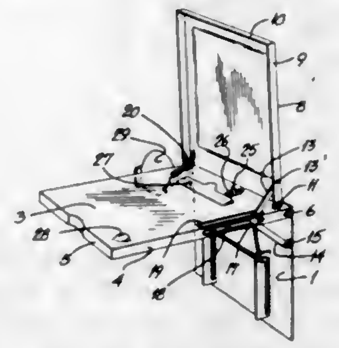
Luther Ellis Glasgow, 2122 Lakeshore Ave., Apt. 303, Oakland, Calif. 94606
Filed Oct. 2, 1967, Ser. No. 672,197
Int. Cl. A47j *43/20*
U.S. Cl. 107—47 **11 Claims**



A base for supporting a pan and a pair of adjustable interconnected shaping plates adjustably supported from the base within the pan to evenly spread crumb crust ingredients disposed in the pan when there is relative rotation of the plates with respect to the pan.

3,451,360
COLLAPSIBLE WRITING SHELF

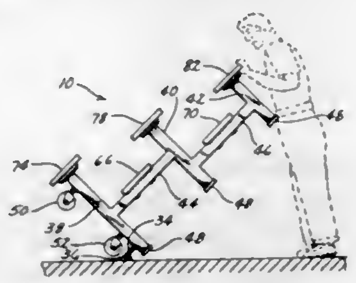
Roger Lemoyne, 419 Cockburn St., Drummondville, Quebec, Canada
Filed Mar. 15, 1967, Ser. No. 623,291
Claims priority, application Canada, Dec. 6, 1966, 977,628
Int. Cl. A47b *3/00*
U.S. Cl. 108—34 **3 Claims**



This invention relates to a wall mounted writing shelf having a cover closed over the writing paper when the shelf is collapsed against the wall, the cover automatically opening when the shelf is pivoted to a writing position.

3,451,361
PORTABLE BLEACHER STRUCTURE

Bill W. Sorenson, Jefferson, Iowa, assignor, by mesne assignments, to New American Co., Inc., Jefferson, Iowa, a corporation of Iowa
Filed Sept. 13, 1967, Ser. No. 667,425
Int. Cl. A47b *83/00*
U.S. Cl. 108—50 **8 Claims**



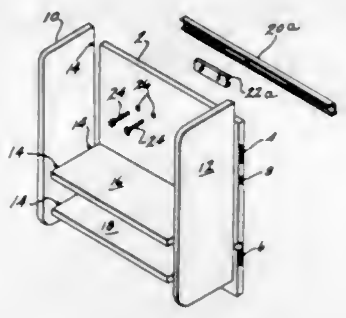
A portable bleacher structure comprising a frame means having rearward and forward ends and including a floor engaging portion. The frame means has a plurality of casters secured to its rearward end so that the bleacher can be tipped rearwardly 90 degrees from its normal position to a transport position to permit the bleacher to be rolled to a desired location and so that the structure will occupy a minimum amount of horizontal space while in the transport position. A plurality of stop assists are secured to the rearward end of the frame means which are adapted to engage the floor during the tipping operation to prevent the bleacher from rolling away from the person performing the tipping operation.

3,451,362
FURNITURE CONSTRUCTION HAVING YIELDABLE RECESSED FASTENING MEANS

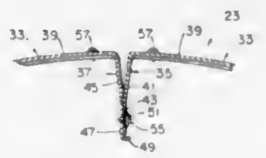
Edward J. Ostling, Muskegon, and Frank R. Gavinski and Philip C. Welch, Grand Rapids, Mich., assignors to Modular Systems, Inc., Muskegon, Mich., a corporation of Michigan
Filed Sept. 20, 1967, Ser. No. 669,155
Int. Cl. A47b *55/00, 3/06, 47/00*
U.S. Cl. 108—60 **16 Claims**

This disclosure relates to a furniture construction containing a back wall, two side walls, and at least one shelf. The walls and shelf or shelves are attached through slotted clips which are recessed in the ends of the back nwall and the shelves, and through double head screw members which are attached to the side walls and fit into the slotted clips.

The clips are so shaped and positioned in the recessed portion of the members that as the screw heads slide in the slots, the joints are wedged into tight contact. The clips preferably have flexible arms which form the slot. The structure is so assembled with or without the use of an expanding tool for the walls to produce a structure which has no visible indication of fastening means.

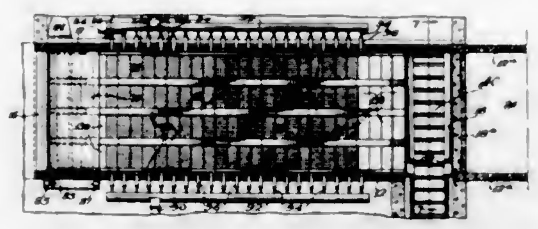


3,451,363
LINER CONSTRUCTION FOR INCINERATORS
David M. Franklin, Memphis, Tenn., assignor to Steelcraft Corporation, Memphis, Tenn., a corporation of Tennessee
Filed June 26, 1967, Ser. No. 648,739
Int. Cl. F23g *7/00, 5/00*
U.S. Cl. 110—18 **5 Claims**



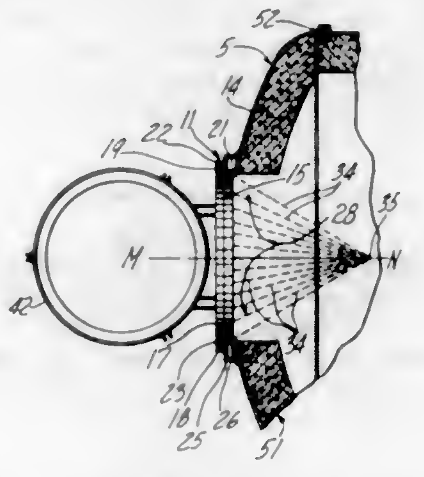
A liner for an incinerator, formed of a series of curved heat expansible and contractible plates, each plate being flanged at its terminal edge and joining the next adjacent plate, with the flanges of adjacent plates being yieldably secured together to allow the liner to expand and/or contract undistorted under changes in temperature.

3,451,364
RECIPROCATING GRATE STRUCTURE
Lester H. Andersen, Bensenville, Ill., assignor to Clear-Air Waste Reduction, Inc., a corporation of Illinois
Original application Feb. 14, 1966, Ser. No. 527,368. Divided and this application Nov. 9, 1967, Ser. No. 681,845
Int. Cl. F23b *1/22, 1/38*
U.S. Cl. 110—38 **5 Claims**



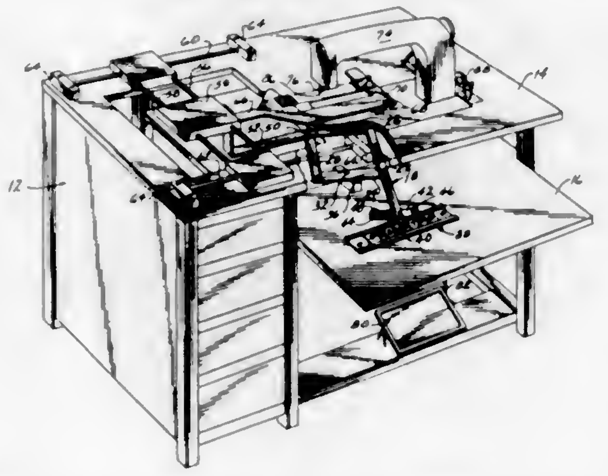
An efficient grate structure for incinerating garbage or other refuse characterized by reciprocable frames carrying grate elements provided with small perforations to admit air upwardly therethrough, thus preventing burning refuse from gravitating downwardly through the perforations. The grate is formed in sections which are spaced apart and separated by stationary ratchet-like elements between the sections which permit forward movement of the refuse with the grate means as the grate means advances in a direction away from the intake end of a combustion chamber toward the outlet thereof, and which resist retrograde movement of the refuse when the grate means moves in the opposite direction. A simple rack and pinion means is provided for reciprocating the grates through the medium of opposite limit switches which alternately reverse the direction of rotation of a motor driving the rack and pinion means.

3,451,365
CLOSURE ASSEMBLY FOR HEATED CHAMBER
David J. Wyrough, Roxboro, N.C., assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 18, 1968, Ser. No. 713,667
Int. Cl. F23m *7/00*
U.S. Cl. 110—175 **4 Claims**



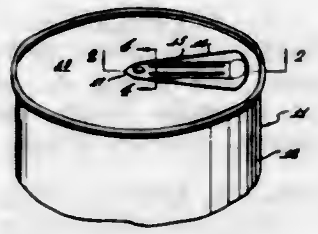
A closure assembly, especially a door frame, for an incinerator or other chamber subject to high interior temperatures and higher than atmospheric pressures. The frame forms a space from which air is discharged into the heated chamber in the form of a curtain of desired shape, and the front face of the frame is formed at least partly of a resilient material which would otherwise be subject to degeneration by heat but is protected from heat by air cooling of the frame.

3,451,366
TAPE MONOGRAMMER
Sidney O. Beck, 6809 S. MacDill Ave., Tampa, Fla. 33611
Filed June 30, 1967, Ser. No. 650,426
Int. Cl. D05c *3/02, 7/04*
U.S. Cl. 112—102 **3 Claims**



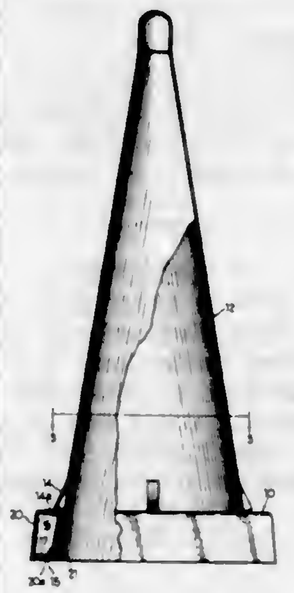
A monogrammer for copying a monogram, design, etc. and stitching it into fabric, particularly tape. It consists of a two-tiered table with a pantograph, stylus and stencil on the lower tier, and a holder, workframe, sewing machine, motor and needle positioner on the top tier. As the stylus follows the stencil, the workframe is moved beneath the head of the operating sewing machine to effect stitching of the monogram, design, etc. onto the workpiece.

3,451,367
METHOD OF FABRICATING CONTAINER-OPENING DEVICE
Henry G. Henrickson, Oakland, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Original application Mar. 30, 1964, Ser. No. 355,873, now Patent No. 3,338,463, dated Aug. 29, 1967. Divided and this application Apr. 26, 1966, Ser. No. 627,270
Int. Cl. B21d *51/44;* **B65b** *17/20*
U.S. Cl. 113—121 **5 Claims**



Improved method of affixing a container pull tab to a removable section of a container in such fashion that thinning of the elements being joined is minimized.

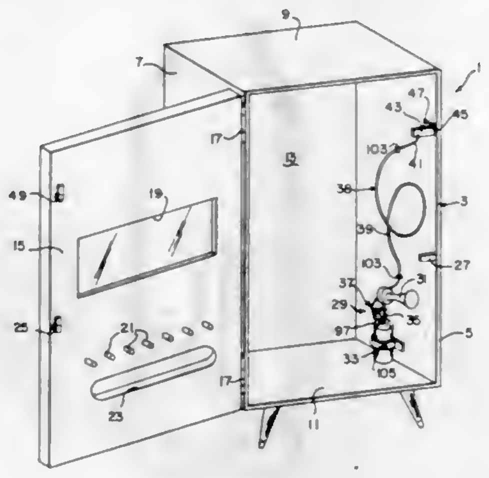
3,451,368
CONICAL MARKER DEVICE
John B. Keats, Marietta, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,571
Int. Cl. E01f *9/10*
U.S. Cl. 116—63 **2 Claims**



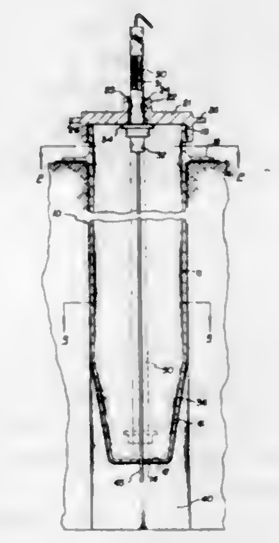
A conically shaped marker device that is formed in two portions, a base portion which is capable of being loaded with ballast and an upper portion, said lower portion adapted to retain said upper portion in an upright vertical position.

3,451,369
VENDING MACHINE ALARM
Norman I. Leve, St. Louis, and Leonard E. Raiffie, Creve Coeur, Mo., assignors to Consolidated Alarm Systems, Inc., St. Louis, Mo., a corporation of Missouri
Filed May 18, 1967, Ser. No. 639,506
Int. Cl. G08b *13/08, 13/00*
U.S. Cl. 116—86 **9 Claims**

A self-contained alarm system for vending machines requiring neither batteries nor power from an electrical outlet. The alarm utilizes an air horn and a container of pressurized gas for powering it, and is actuated by a remote cable operably connected to the vending machine door. A latching spring biased actuator operates a valve interposed between the horn and gas container upon movement of the cable in response to unauthorized opening of the door.



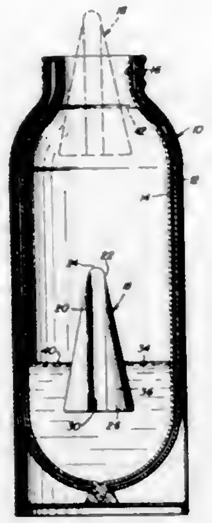
3,451,370
DRILL HOLE MARKER PLUG
Ante Matesan, % 805 Regal Bldg., 144 W. Hastings St., Vancouver, British Columbia, Canada
Filed Nov. 15, 1966, Ser. No. 594,558
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 **6 Claims**



A plug having a hollow body with inner and outer end members. An open-ended tubular rod is telescopically mounted in the outer member and can be extended from the body to serve as a drill hole marker or can be retracted to a position substantially entirely within the body at which time the bore of the rod registers with an aperture in the inner end member.

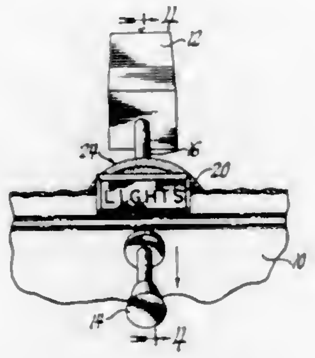
3,451,371
VACUUM BOTTLE FILLING GAUGE
Jack C. Bramlette, Hanford, Calif., assignor of fifty percent to Levi A. Bramlette, Hanford, Calif.
Filed Mar. 21, 1967, Ser. No. 624,926
Int. Cl. G01f *23/06*
U.S. Cl. 116—118 **9 Claims**

A body of buoyant and at least slightly deformable and resilient material and which is generally conical in configuration having a greater height than its maximum width and wedgingly insertable through the neck of a vacuum bottle in upright position whereby as the vacuum bottle is being filled with liquid the minor diameter or apex end portion of the conical body will project upwardly through and above the upper end of the neck of the vacuum bottle as the level of liquid approaches the upper neck portion of the vacuum bottle.



3,451,372
INSTRUMENT ILLUMINATOR

William H. Grover, New Haven, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,871
Int. Cl. G09f *9/00*
U.S. Cl. 116—135 **3 Claims**

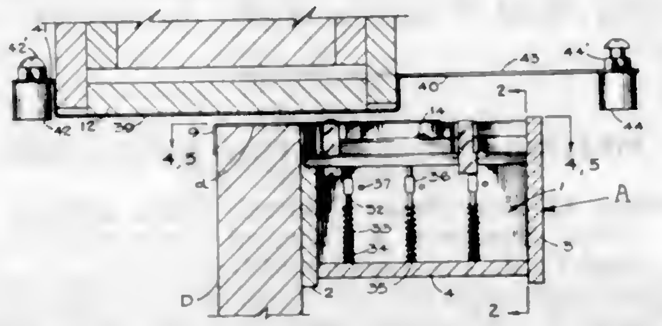


In a preferred form, this disclosure relates to an electric switch which includes a switch actuator slidably supported by a panel for movement relative thereto between on and off positions and an indicating means for providing a visual indication when the switch actuator is in the on position. The indicating means includes opaque means mounted on the panel at a location spaced from the switch actuator and with the opaque means having transparent indicia bearing areas. The indicating means further includes a flourescent means supported by the switch actuator for movement therewith between a remote position in which it is spaced from the opaque means when the switch actuator is in the off position and a position in which it is proximate the opaque means when the switch actuator is in the on position to provide a visual indication that the switch actuator is in the on position.

3,451,373
DOOR CHIME

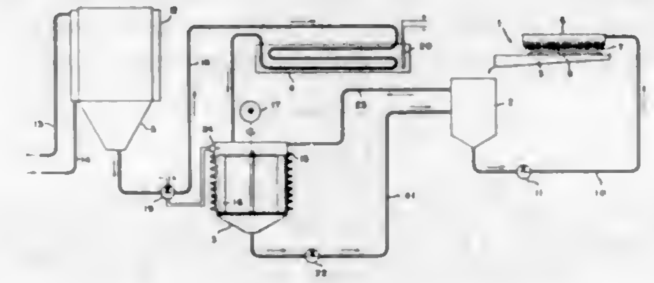
Paul Fox, 1016 Country Park Drive, and Horace N. Broyles, 1106 Christie Lane, both of Prescott, Ariz. 86301
Filed July 6, 1967, Ser. No. 651,561
Int. Cl. G10k *1/10, 1/32;* **G08b** *21/00*
U.S. Cl. 116—169 **10 Claims**

A door chime incorporating a chime box adjustably mounted upon the door for movement therewith. A sweep arm pivotally mounted upon said box effects sound-producing action with hammer-engaging tines upon door movement in a predetermined direction.



3,451,374
CURTAIN COATING APPARATUS

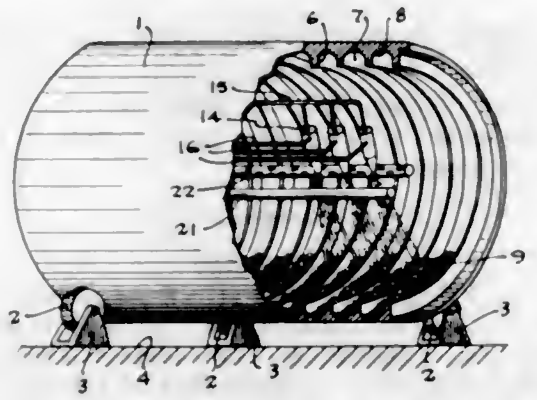
Victor H. Clausen and Reino A. Jarvi, Bellevue, and Arnold Zweig, Olympia, Wash., assignors to Simpson Timber Company, Seattle, Wash., a corporation of Washington
Filed Dec. 8, 1965, Ser. No. 512,412
Int. Cl. B05c *11/10*
U.S. Cl. 118—7 **4 Claims**



Curtain coating apparatus in which the coating material is pumped from a temperature controlled storage tank to a liquid level controlled supply tank while passing through heating means. Means are provided for recirculating the liquid between the supply tank and a reservoir tank. The liquid is then recirculated from the reservoir to the coating head from which the excess returns to the reservoir by way of a collecting trough.

3,451,375
ROTATING DRUM COATING APPARATUS

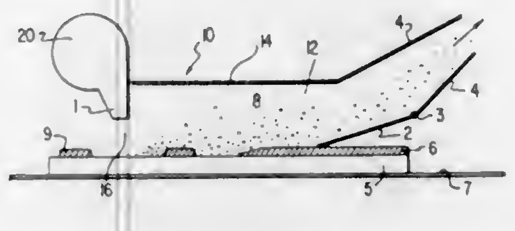
Frithjof Martin, Bern, Switzerland, assignor to Dr. A. Wander S.A., Bern, Switzerland, a Swiss corporation
Original application Sept. 15, 1964, Ser. No. 396,498, now Patent No. 3,390,648, dated July 2, 1968. Divided and this application Jan. 3, 1967, Ser. No. 606,814
Claims priority, application Switzerland, Sept. 19, 1963, 11,597/63
Int. Cl. B05c *7/02*
U.S. Cl. 118—19 **6 Claims**



A tablet coating apparatus having a rotating drum with the interior of the drum having a profiled friction surface or lining to which the tablets tend to adhere more readily than to each other when the drum is rotated.

3,451,376
DEVELOPING DEVICE FOR ELECTROPHOTOGRAPHY

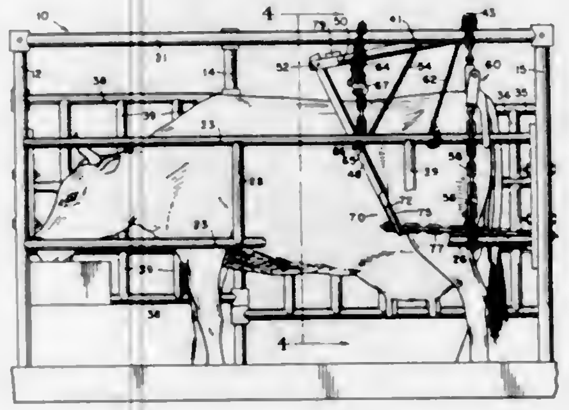
Kazuo Obuchi and Harunobu Kato, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan
Filed Nov. 8, 1967, Ser. No. 681,479
Claims priority, application Japan, Nov. 9, 1966, 41/73,652
Int. Cl. B05b *5/02;* **B05c** *11/00*
U.S. Cl. 118—637 **3 Claims**



The developing device for electrophotography in the form of an enclosure having side and top walls and conveyer means for moving a base plate longitudinally through the enclosure, the base plate carrying a layer of photoconductive powder bearing an electrophotographic latent image, an inclined baffle and guide plate pivotably coupled to the entry end of the enclosure with the free end of the inclined baffle and guide plate normally resting on the conveyer means but contacting the powder covered surface of the base plate and inclined in the direction of base plate movement, means at the exit end of the enclosure for directing an air current onto the powder carrying surface of the plate and suction means carried by the enclosure at the entry end above the pivoted baffle plate for sucking powder particles blown upwardly along the inclined baffle and guide plate and removing the same.

3,451,377
APPARATUS FOR PREVENTING A COW FROM KICKING

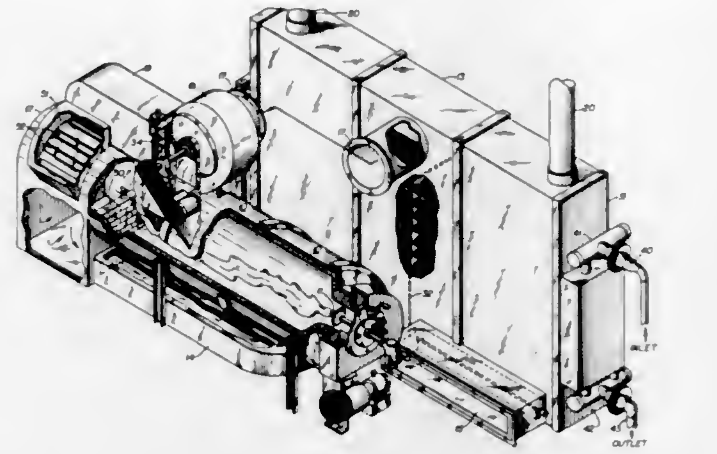
Don Rex Hart, R.R. 1, and Willard L. Padgett, R.R. 2, both of Worthington, Ind. 47471
Filed Jan. 25, 1967, Ser. No. 611,735
Int. Cl. A01j *7/00;* **A01k** *29/00*
U.S. Cl. 119—96 **2 Claims**



An apparatus for firmly engaging the stifle joint of a cow's hind leg and the flesh external to the stifle joint, thereby preventing the cow from kicking the leg so engaged. In one form of the present invention, which is used in combination with a stall having side and rear members, the leg of the cow is also secured to a rear member of the stall as well as to the member which engages the stifle joint.

3,451,378
CONVECTION-RECIRCULATION HEATER

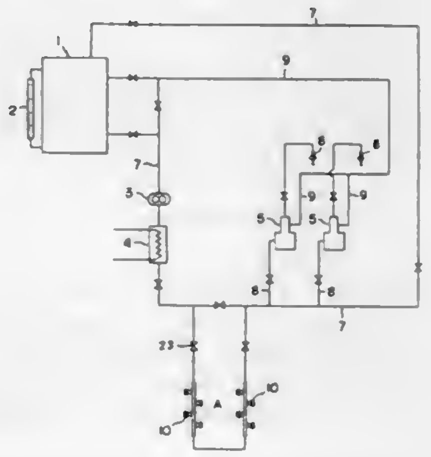
Bill S. Burrus, Tulsa, Okla., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 31, 1967, Ser. No. 664,839
Int. Cl. F22b *15/00;* **F23j** *5/02*
U.S. Cl. 122—235 **4 Claims**



A combustion chamber is shown with products of combustion developed in it from a burner. The products flow into indirect heat exchange with a fluid requiring heat and a passage is provided to recirculate a portion of the cooled products and mix them with the hot initial products from the combustion chamber.

3,451,379
METHOD AND APPARATUS FOR TREATING LIQUID FUEL OIL

Sadatomo Kuribayashi, Eisei Tayama, Makio Mishima, and Syuichi Yuzawa, Tokyo, Japan, assignors to Coal Research Institute, Kawasaki-shi-Kanagawa, Japan, a Japanese Institute and Kay Seven Co., Ltd., Tokyo, Japan, a Japanese body corporate
Filed July 26, 1966, Ser. No. 567,970
Int. Cl. F02m *27/08;* **F02b** *51/06;* **B01f** *11/02*
U.S. Cl. 123—1 **19 Claims**

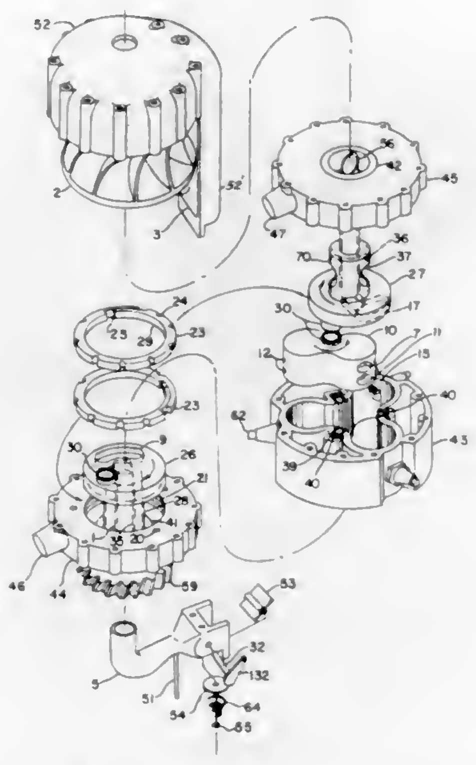


A method and apparatus for continuously processing liquid fuel oil wherein the oil, which completely fills and flows continuously through a liquid conveying pipe-line in a combustion chamber feeding flow circuit, is subjected to ultrasonic waves in a flow duct in said pipe-line. The flow duct has at least one restricted tubular portion, one inner side wall portion of which is operatively connected to or accommodates at least the forward free end of the horn member of an ultrasound generating vibrator appliance extending transversely of and directed towards said duct.

3,451,380

PLANETARY ENGINE

Frederick W. Wanzenberg and Fritz W. Wanzenberg, both of 9 Campbell Lane, Larchmont, N.Y. 10538
Continuation-in-part of application Ser. No. 572,649, Aug. 10, 1966. This application Feb. 14, 1968, Ser. No. 705,440
Int. Cl. F02b *55/08, 55/14*
U.S. Cl. 123—8 **15 Claims**



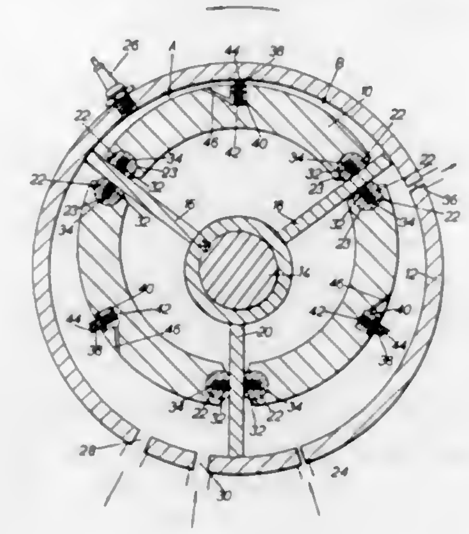
An internal combustion engine which has rotating planetary pistons reciprocating in radially oriented cylinders which are circumferentially spaced in a main cylinder block mounted between a fuel and air intake head and a supercharger head, with combustion chambers in the piston heads and having pressure differential operated sealing members between the cylinders for engaging the piston surfaces and sealing rings seated in grooves in recesses in which disc-like crank arms are rotatably confined at each side of the main cylinder block which sealing rings are pressure urged into engagement with the peripheral surfaces of the crank arms so as to prevent passage of gases from one cylinder to the next, and with the piston carrying crankshaft having co-axial intake and exhaust chambers connected by passageways in the pistons for circulating cooling air, infeed of fuel and supercharged air mixture and discharge of exhaust gases.

3,451,381

ROTARY INTERNAL COMBUSTION ENGINES

Fullerton George Gordon Armstrong, Cottage by the Sea, 26 Greenhill, Waymouth, Dorset, England
Continuation-in-part of application Ser. No. 574,219, Aug. 22, 1966. This application Apr. 8, 1968, Ser. No. 719,600
Claims priority, application Great Britain, Aug. 24, 1965, 36,191/65; Apr. 19, 1966, 17,004/66; Nov. 21, 1967, 52,790/67
Int. Cl. F02b *55/16*
U.S. Cl. 123—16 **20 Claims**

The invention provides abutment means on the rotor of a rotary internal combustion engine in between each successive two vanes. The abutments on the rotor are arranged to form at least a partial seal with the main chamber in the region of the minimum eccentricity position of the rotor so as to effectively seal the gases contained in advance of the abutment from this to the rear of the abutment in this position of the rotor. The ignition device is arranged to lie forwardly of the abutment when in the position of minimum rotary eccentricity and the gases in advance of the abutment are fired before the gases to the rear of the abutment. Greater efficiency is obtainable for a given rotor and main chamber assembly since the ignition can be advanced nearer to top dead center than is the case when no abutments are employed.

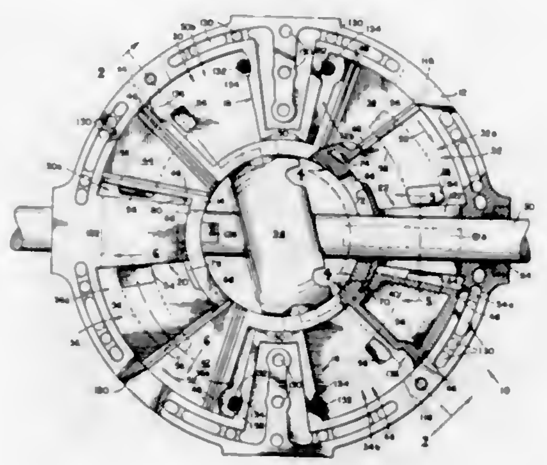


The abutments can be rigid radial protrusions on the rotor surface, for example, formed integrally therewith and the outer surface of each abutment may be grooved or scalloped. Alternatively the abutments may be separate members partially let into grooves in the rotor and may be spring loaded in a radially outward direction to form a definite seal with the main chamber at the position of minimum eccentricity.

3,451,382

ENGINE

Joseph H. Huff, Indianapolis, Ind., assignor to Floyd H. Dreyer, Indianapolis, Ind., trustee
Filed May 16, 1967, Ser. No. 638,987
Int. Cl. F02b *53/10*
U.S. Cl. 123—18 **7 Claims**

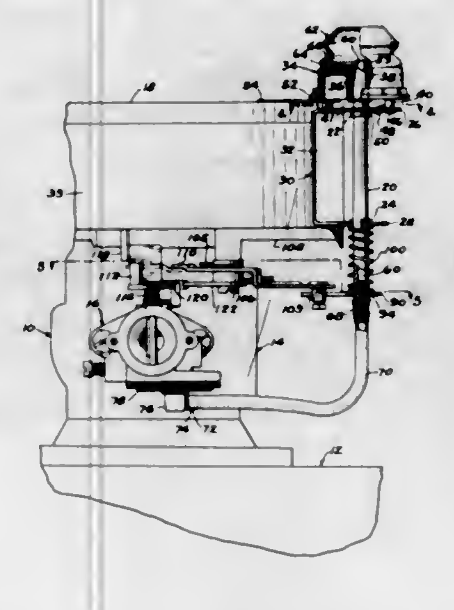


An engine comprising a piston arranged to oscillate about an axis in an arcuate chamber having a high-compression head at one of its ends and a low-compression head at the other of its ends, the chamber being formed to provide a passageway communicating between the space bounded by the piston and the low-compression head and the space bounded by the piston and the high-compression head. Means are provided for admitting fuel to the first-mentioned space, the fuel being forced by the piston through the passageway into the second-mentioned space.

3,451,383

CARBURETOR PRIMER AND THROTTLE CONTROL MECHANISM

Eugene L. Nelson, Cedarburg, Wis., assignor to Tecumseh Products Company, Tecumseh, Mich., a corporation of Michigan
Filed Oct. 31, 1967, Ser. No. 679,478
Int. Cl. F02m *1/16*
U.S. Cl. 123—187.5 **7 Claims**

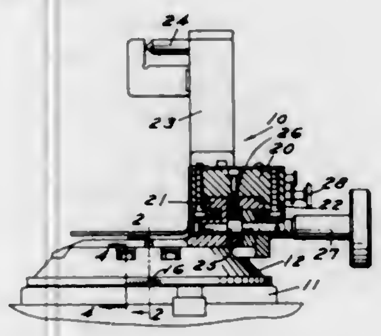


An integrated throttle and primer control for a carburetor of a small internal combustion engine of the vertical crankshaft type wherein a throttle dial control knob supports a primer squeeze bulb and the knob is rotatably mounted by a shaft which also serves as a part of the pressure conduit between the primer bulb and carburetor. In addition, a coil spring received on the dial shaft retains the dial shaft axially in its mounting bracket and biases a positioning detent of the knob into engagement with the cooperating pocketed upper flange of the bracket.

3,451,384

FORMED WHEEL DRESSER

Vernon A. Riddell, Farmington, Mich., assignor to Vinco Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 10, 1966, Ser. No. 593,574
Int. Cl. B28d *1/16;* **B23b** *3/28*
U.S. Cl. 125—11 **16 Claims**

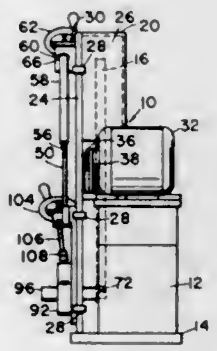


A formed wheel dresser comprising a base and an index plate rotatably mounted on the base. A first slide is slidably mounted on the index plate and a second slide is mounted for movement transversely on the first slide and is adapted to carry a dressing tool. The index plate has at least one vertically extending opening therethrough and stop engaging means on the index plate are adapted to engage stop means on the base, the latter being accessible through the opening for adjustably limiting the rotational movement of the index plate relative to the base.

3,451,385

GRINDING MACHINE

Peter C. Dooley, Jr., Lewiston, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,279
Int. Cl. B24b *53/00, 55/00*
U.S. Cl. 125—11 **10 Claims**

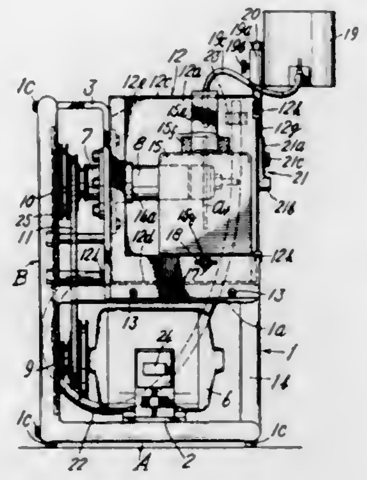


A dressing and truing mechanism mounted on a wheel guard door of a grinding machine having the dressing and truing tool mounted on the end of a screw jack for traversing the tool across the working face of a grinding wheel. The screw jack is mounted on a plate which is pivotably mounted in order to bring the dressing tool into contact with the grinding wheel face.

3,451,386

APPARATUS FOR CUTTING, GRINDING AND POLISHING ORNAMENTAL STONE

Toru Naito and Michio Nishiyama, Chiba-ken, Japan, assignors to Kabushiki Kaisha Maruto Seisakusho, Tokyo, Japan
Filed Sept. 6, 1966, Ser. No. 577,505
Claims priority, application Japan, Oct. 16, 1965, 40/63,460
Int. Cl. B28d *1/04;* **B24b** *41/02*
U.S. Cl. 125—13 **8 Claims**

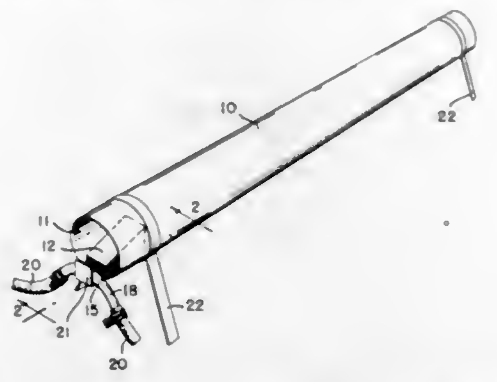


Apparatus for cutting, grinding and polishing ornamental stones which comprises a base frame including a support member having legs arranged in L-shape, said legs of the support member defining first and second surfaces for supporting the base frame in respective perpendicular positions, a drive mechanism fixed on the base frame and adapted to receive and drive a tool in mutually perpendicular positions depending upon the position in which the base frame is supported, casing means which define an enclosure surrounding the tool on the drive mechanism, said casing means being provided with an opening for introducing a workpiece into the enclosure to be operated on by the tool and water supply means, including a water tank for supplying cooling water to the enclosure.

3,451,387

ORCHARD HEATER

Daryl G. Hill, 523 N. 24th Ave.,
Yakima, Wash. 98901
Continuation-in-part of application Ser. No. 576,057, Aug. 30, 1966. This application Feb. 8, 1968, Ser. No. 704,167
Int. Cl. A01g *13/06;* **F24c** *3/04*
U.S. Cl. 126—59.5 **3 Claims**

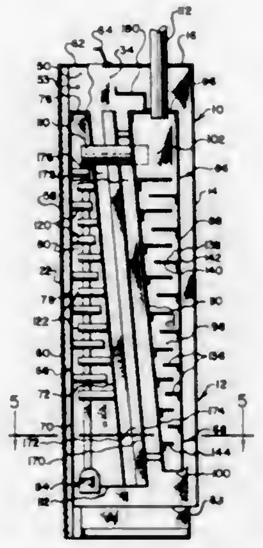


An orchard heater comprised of a horizontally disposed elongated pipe of heat-radiating material open at the front and back ends and having a burner located adjacent said front end with its nozzle directed forwardly causing the products of combustion to travel in a front-to-back direction, the pipe being imperforate throughout its length so that the generated heat will have been substantially wholly transferred to the pipe walls before the gases can escape to atmosphere.

3,451,388

WALL FURNACE

Joel D. Eck, Lincoln Township, Sedgwick County, Kans. (Rte. 2, Valley Center, Kans. 67147)
Filed Jan. 15, 1968, Ser. No. 697,862
Int. Cl. F24h *3/00;* **F28f** *13/08;* **F23m** *9/00*
U.S. Cl. 126—116 **10 Claims**

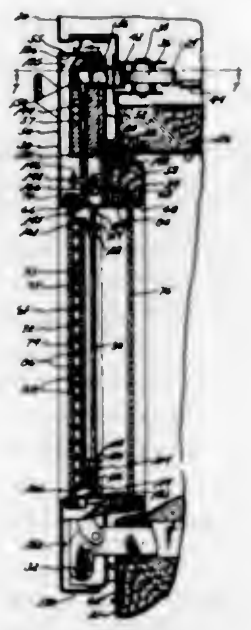


A wall furnace including spaced front and rear heat exchanger units respectively upwardly and downwardly tapered to define an upwardly and forwardly inclined convection zone therebetween. The front heat exchanger is provided with a removable baffle structure therein for alternately deflecting rising combustion products from a burner at its lower end forwardly and rearwardly. All except the lower end portion of the interior of the rear heat exchanger is laterally separated into two portions, and the upper ends of such two portions are connected respectively to the upper interior of the front heat exchanger and to a chimney connector. The lowermost end of the rear heat exchanger is open and baffle means is provided in the two interior portions of the rear heat exchanger for the purpose of stabilizing or equalizing pressures to obtain a more uniform draft despite the chimney being exposed to wind gusts and also for the purpose of enhancing heat exchange contact of the walls of the rear heat exchanger with combustion products passing therethrough. A shield is disposed between the front and rear heat exchangers to reduce radiant heat exchange therebetween and to separate the convection zone into front and rear zones, and a deflection plate is mounted on the top of the rear heat exchanger to facilitate direction of convection currents rising from the zones and from the rear of the rear heat exchanger toward the top vented upper end of the front wall of the furnace.

3,451,389

COMBINATION WINDOW AND SHUTTER ARRANGEMENT FOR RANGE OVEN DOORS

Herbert G. Huff, Royal Oak, Mich., assignor, by mesne assignments, to Kelvinator, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Feb. 19, 1968, Ser. No. 706,443
Int. Cl. F24c *15/04, 15/02;* **F23m** *7/00*
U.S. Cl. 126—200 **17 Claims**



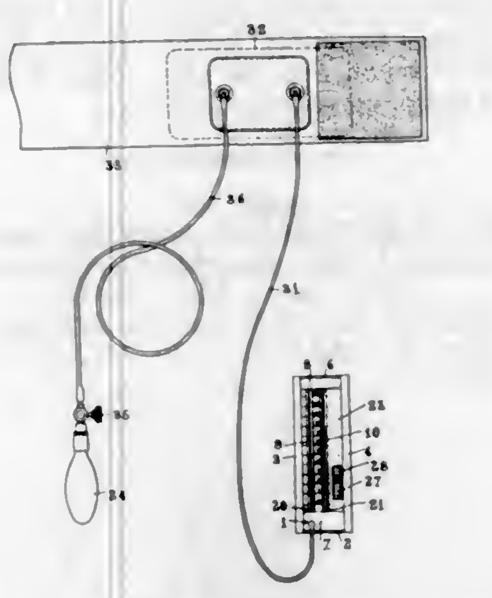
A combination window and shutter arrangement for a range oven door adapted for use with a high temperature self-cleaning oven. The combination comprising a plurality of spaced apart window panes arranged to form a thermal barrier wherein at least two of the panes are constructed having areas of transparencies and nontransparencies and at least one of these panels is movable relative to the other so that in one position the like transparent areas of the panes are in alignment to permit viewing therethrough the oven chamber and in another position the unlike areas are aligned in opposition to obscure viewing through the window. A mechanical arrangement positions the movable panel automatically through operation of the door latching mechanism.

3,451,390

OSCILLOMETER-TENSIOMETER

Marcel Savignat, Paris, France, and Louis Benjamin Le Goupil, 30 bis Rue Rottembourg, Paris, France; said Savignat assignor to said Le Goupil
Continuation of application Ser. No. 410,114, Nov. 10, 1964. This application June 28, 1967, Ser. No. 649,708
Claims priority, application France, Nov. 13, 1963, 953,544
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 **8 Claims**

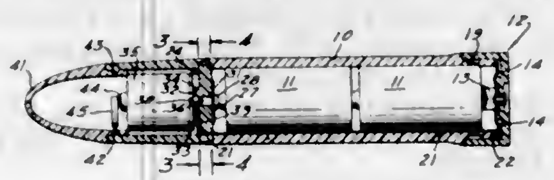
An oscillometer-tensiometer for measuring the amplitude and frequency of gaseous or hydraulic pulses which occur in a circuit. The instrument includes series-connected transparent tubes with pistons slidably mounted therein, in a fluid circuit. The pulses via pulse pickup means cause fluid flow to move the pistons, thereby giving a visual indication of the pulses.



3,451,391

CORDLESS ELECTRIC VIBRATOR FOR USE ON THE HUMAN BODY

Jon H. Tavel, 17643 Belinda St.,
Encino, Calif. 91316
Continuation-in-part of application Ser. No. 516,867, June 30, 1966. This application Mar. 25, 1968, Ser. No. 715,631
Int. Cl. A61h *1/00*
U.S. Cl. 128—36 **11 Claims**

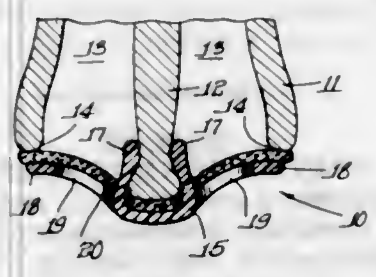


A cordless electric vibrator which is adapted for use on the human body. The vibrator is small and compact, and can be held in one hand and applied to any part of the body. The structure is simple and compact and the exterior housing may comprise only one piece of molded plastic, except for the removable cap. The vibrator in one embodiment may be selectively operated at high or low speed by manual rotation of the end cap.

3,451,392

NOSE FILTER

Irving L. Cook and Douglas L. Cook,
both of Suring, Wis. 54174
Filed Feb. 24, 1966, Ser. No. 529,725
Int. Cl. A61f *1/18, 13/00*
U.S. Cl. 128—140 **6 Claims**

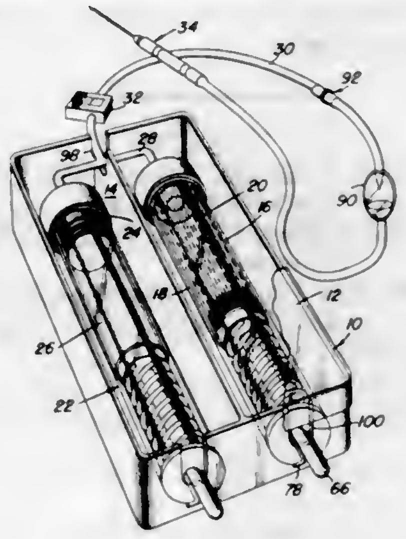


A nose filter for filtering air breathed or inhaled through the nose includes a molded single piece holder having a base portion, a pair of gripper portions integral with the base portion which are anatomically contoured to frictionally and anatomically engage the septum of the nose, and a pair of wing portions integral with the base portion adapted to underlie the nostrils of the nose, the wing portions having apertures therein. A layer of filtering material overlies the upper side of the base and wing portions for filtering the air breathed or inhaled by the nose through the apertures in the wing portions.

3,451,393

AUTOMATIC INFUSION DEVICE

Stanley J. Sarnoff, 7507 Hampden Lane,
Bethesda, Md. 20014
Filed Feb. 7, 1966, Ser. No. 525,399
Int. Cl. A61m *5/14*
U.S. Cl. 128—214 **11 Claims**



An automatic infusion device comprises a pair of cylinders with a medication in one cylinder and a diluent in the other, said cylinders each containing at one end thereof a piston under spring pressure to move toward the other end of the piston, the cylinders at the other end having an intercommunicating duct to enable transfer of contents from one cylinder to the other. A valved branch conduit having a hypodermic needle at the end thereof enables the commingled materials to be ejected from the needle.

3,451,394

RADIATING TANNED AND UNTANNED COLLAGEN PROSTHESIS WITH 5 TO 25 MEGARADS OF IONIZING RADIATION

Lavon Dee Bechtol, Far Hills, and Charles Artandi, Highland Park, N.J., assignors to Ethicon, Inc., a corporation of New Jersey
No Drawing. Filed Apr. 4, 1961, Ser. No. 100,522
Int. Cl. A61l *5/00*
U.S. Cl. 128—296 **5 Claims**

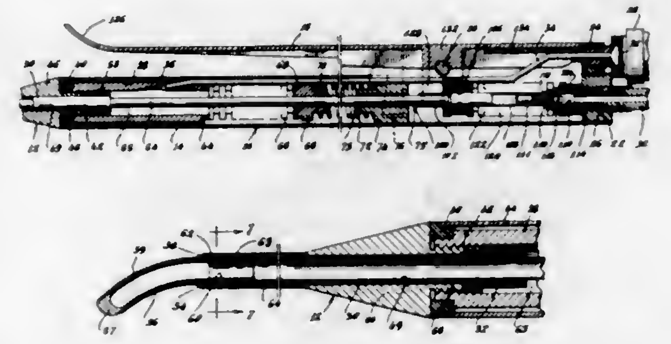
1. A method of producing a collagen prosthesis selected from the group consisting of collagen sutures and collagen sponges, said collagen prosthesis being characterized by specific absorption characteristics, which comprises the steps of:
  tanning the collagen prosthesis; and,
  exposing the tanned collagen prosthesis to form 5 to 25 megarads of ionizing radiation.

3,451,395

CRYOSURGICAL INSTRUMENTS

Victor A. Thyberg, Fairfield, Conn., assignor to Frigitronics, Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Feb. 3, 1967, Ser. No. 613,800
Int. Cl. A61b *17/36*
U.S. Cl. 128—303.1 **9 Claims**

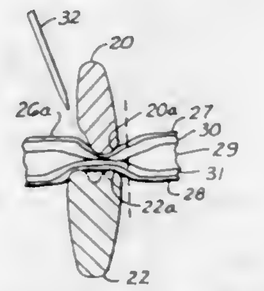
A cryosurgical probe having a metering orifice through which liquid refrigerant flows and expands into a "boiler" tip for cooling the tip under normal operating conditions. A control lever is provided for opening a valve to flood the "boiler" with liquid refrigerant for warming the tip.



The valve is delicately and adjustably balanced so as to require application of a very small force upon the control lever to open the valve.

3,451,396
APPARATUS AND METHOD FOR TRIMMING ANIMAL EARS

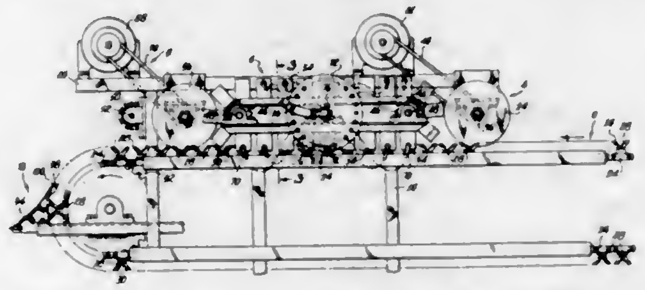
Jock R. Collins, 1528 S. Post Oak Road,
Houston, Tex. 77027
Filed May 13, 1965, Ser. No. 455,408
Int. Cl. A61b *17/32*
U.S. Cl. 128—305 **4 Claims**



A method of and apparatus for trimming animal ears by first crushing the ear along the line of the trim is disclosed. The apparatus includes pinchers having rounded convex elongated jaws. Pressure, applied to the rounded jaws, squeezes the ear between them sufficiently to sever the inner cartilage and crush the blood vessels located between the cartilage and the outer skin of the ear. The unwanted portion of the ear is then cut away, with the incision being located just outside the line of crushed blood vessels adjacent the end of the separated cartilage. One jaw of the pinchers has a parallel, convex protrusion that forms a groove with the jaw for guiding a knife along the line of crushed blood vessels and between the severed cartilages.

3,451,397
FRESH CORN TRIMMING AND HUSKING MACHINE

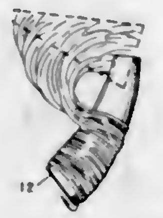
Robert G. Rauth, Del Ray Beach, Fla., assignor, by mesne assignments, to Flavor-Pict, Inc., Del Ray Beach, Fla., a corporation of Delaware
Filed Sept. 9, 1966, Ser. No. 578,251
Int. Cl. A01f *11/06;* **A01d** *23/04*
U.S. Cl. 130—5 **18 Claims**



A conveyor has transverse V-shaped troughs that carry ears of unhusked fresh corn past a butt trimmer and the ears are then pushed along the trough to press the tips and fold the projecting husks firmly against an abutment and the husk and tip are trimmed. The ears then pass onto husking rollers on a second conveyor and axially directed jets of air loosen the husks. Rotary brushes, movable with the second conveyor, over the ears, rotate to gently brush all silk and husk remnants from the ears.

3,451,398
METHOD FOR CURLING AND WAVING HAIR

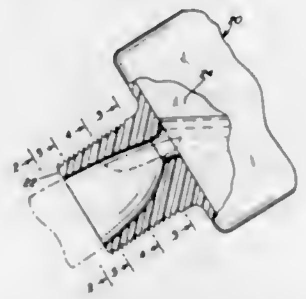
Rudolph J. Marcello, 9523 Georgia Ave.,
Silver Spring, Md. 20910
Filed Oct. 21, 1965, Ser. No. 499,602
Int. Cl. A45d *2/02, 2/10, 2/12, 2/14*
U.S. Cl. 132—7 **3 Claims**



The method including the steps of helically winding a strand of hair on a tapered arcuate hair curler in an arcuate path, progressively reducing the diameter of the hair strand helix from the free end of hair strand to the scalp, rotating the hair curler through an arc after approximately half of the hair strand has been wound on it, and winding the remainder of the hair strand on the remainder of the hair curler.

3,451,399
COSMETIC BOTTLE HAVING TAPERED OUTLET, COMPLEMENTING SHAPE OF FINGERS

Millé Peare Schmieding, 4909 Vista Arroyo, Mount Helix, La Mesa, Calif. 92041
Continuation-in-part of application Ser. No. 407,833, Oct. 30, 1964. This application Dec. 27, 1965, Ser. No. 517,889
Int. Cl. A45d *29/17*
U.S. Cl. 132—73 **16 Claims**



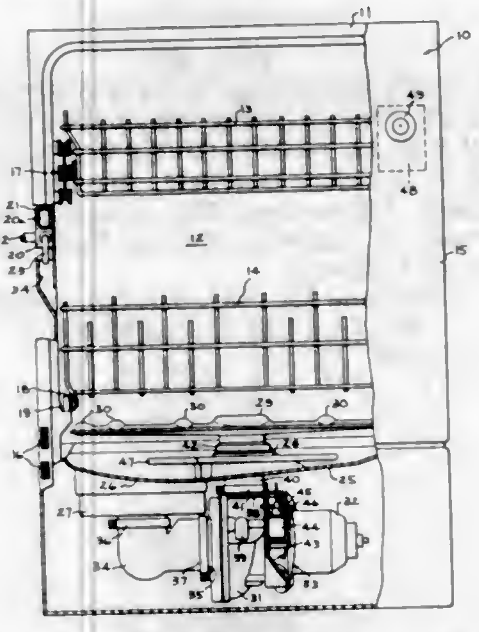
A manicure substance container or an accessory for such container having an outlet which increases in cross section area outwardly from approximately a size complementing the little finger of a hand to approximately a size complementing the thumb of a hand for receiving any of the fingers of a person.

3,451,400
DISHWASHING MACHINE

Donald S. Cushing, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 19, 1967, Ser. No. 676,530
Int. Cl. B08b *3/02*
U.S. Cl. 134—58 **11 Claims**

An automatic dishwasher comprising: a washing enclosure for receiving and containing articles to be washed therein, means for supplying liquid to the enclosure, spray

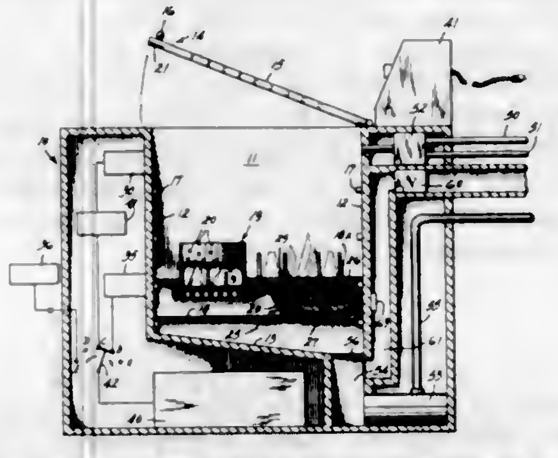
means in the lower portion of said enclosure for effecting a washing action on the articles by ejecting pressurized liquid thereon, a pump connected between the enclosure and the spray means for circulating fluid from the enclosure to the spray means, and means for periodically



limiting the volume of liquid supplied to the enclosure by the supply means to an amount such that the pump is only partially primed and the range of the liquid ejected by the spray means is substantially limited to the lower portion of the enclosure.

3,451,401
MICROWAVE ULTRASONIC APPARATUS

Melvin L. Levinson, 1 Meinzer St., Avenel, N.J. 07001
Continuation-in-part of application Ser. No. 492,183, Oct. 1, 1965. This application Oct. 12, 1967, Ser. No. 674,774
Int. Cl. B08 *3/10;* **H05b** *9/06*
U.S. Cl. 134—58 **9 Claims**

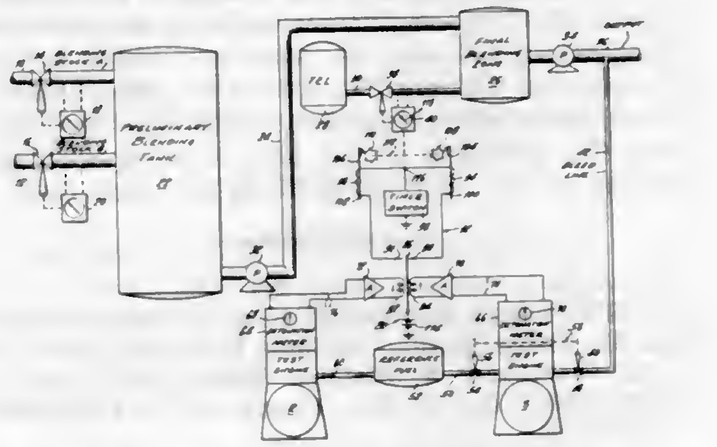


A multi-function apparatus capable of operating as an ultrasonic cleaner and microwave oven, which features the use of an ultrasonic emitting means, a microwave emitting means, and an implement capable of converting at least a portion of the emitting microwave energy into heat energy. The apparatus also features the use of circuitry capable of operating the ultrasonic and microwave emitting means either simultaneously or sequentially from a common power supply.

3,451,402
BLENDING MONITOR

Wayne A. Howard, Paris, France, assignor to Mobil Oil Corporation, a corporation of New York
Continuation of application Ser. No. 453,858, Mar. 22, 1965. This application Sept. 6, 1966, Ser. No. 577,539
Int. Cl. E03b *1/00;* **G05d** *11/00;* **G01n** *33/22*
U.S. Cl. 137—3 **14 Claims**

A method of continuously blending a gasoline by operating a first engine on a target fuel and operating a second engine on a sample of the blended gasoline. The knock intensities of the target and sample fuels are compared



to generate an error signal, and the error signal provides a basis for adjusting the relative proportions of the components forming the blended gasoline.

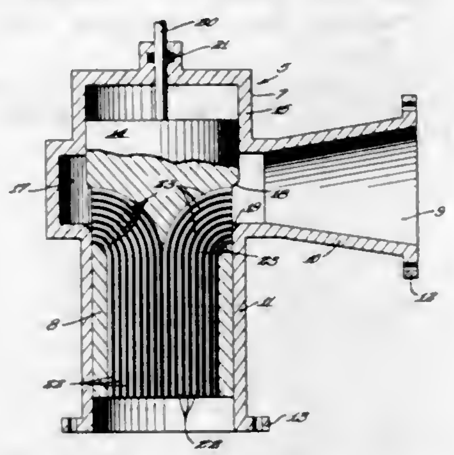
3,451,403
METHOD AND APPARATUS FOR DETERMINING THE PURITY OF A FLOWING SOLUTION OR MIXTURE

Rud F. Madsen, Nakskov, Denmark, assignor to Aktieselskabet de Danske Sukkerfabrikker, Copenhagen, Denmark
Filed Mar. 14, 1966, Ser. No. 534,197
Claims priority, application Denmark, Mar. 19, 1965, 1,413/65
Int. Cl. G01n *27/10;* **G05d** *11/13*
U.S. Cl. 137—5 **4 Claims**

A method and apparatus are disclosed for determining the purity of a flowing solution or mixture by measuring its maximum conductivity. A stream of the solution or mixture is fed into a container after which a diluting or concentrating agent is fed into the container, and measuring means continuously measures the conductivity of the contents of the container. The conductivity will pass through a maximum and then decline as the diluting or concentrating agent is added. Automatic control means is provided to switch the feed back to the solution or mixture when the conductivity has declined to a predetermined value after passing through the maximum value.

3,451,404
HIGH ENERGY LOSS FLUID CONTROL

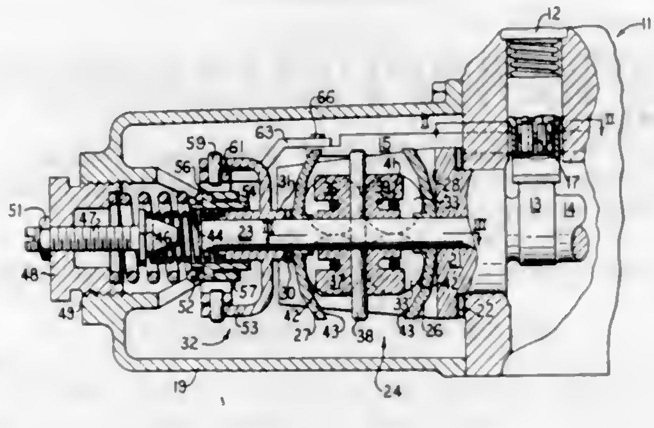
Richard E. Self, 3121 Brimhall Drive,
Los Alamitos, Calif. 90720
Filed Dec. 5, 1966, Ser. No. 599,229
Int. Cl. F15d *1/04*
U.S. Cl. 137—14 **9 Claims**



A method of, and a device such as a valve for, high energy loss fluid control by subdividing high pressure fluid flow into a plurality of individual streams throughout a substantial length of travel along fixed frictional drag surfaces of passageways having long length to diameter ratios and within which the streams are subjected to frictional drag energy losses along said surfaces which turn the streams and substantially increase the length of frictional drag energy losses as compared to straight lines between the inlet and outlet ends of the passageways. The passageways may be ducts in a valve controlling plug member wherein the ducts have one of their ends at one end of the plug member and their opposite ends along the perimeter of the plug member with angular portions of the duct intermediate the ends thereof.

3,451,405
CENTRIFUGAL FLYWEIGHT ENGINE GOVERNOR

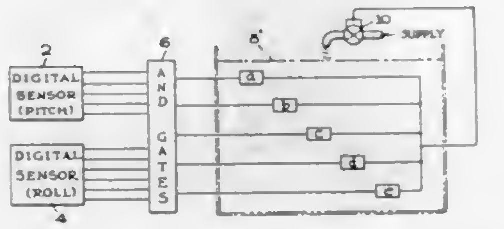
John M. Bailey, Dunlap, Stephen F. Glassey, East Peoria, and Waldemar A. Staniak, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed June 19, 1967, Ser. No. 647,098
Int. Cl. F01b *25/02;* **F01c** *21/12;* **F01l** *15/00*
U.S. Cl. 137—18 10 Claims



Precision regulation of fuel injector pumps or the like is accomplished by a compact and simple flyweight mechanism carried on a rotating shaft which may be coupled directly to an engine drive train without speed increasing means. In a preferred form, the flyweight mechanism has a carrier coupled to the rotating shaft for retaining and driving contacted pairs of annular flyweights which may move radially, in response to increasing centrifugal force, to exert an axial force on a pair of convergent ramps. The flyweights may also shift in a direction parallel to the rotating shaft. Positioning, synchronizing and driving of the flyweights are all effected through the carrier.

3,451,406
POINT SENSOR VOLUMETRIC FILL DEVICE FOR LIQUID CONTAINERS

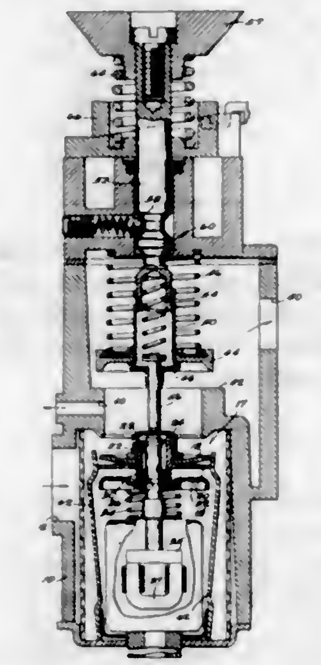
Irving H. Cohn, New York, N.Y., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed Apr. 3, 1967, Ser. No. 628,051
Int. Cl. G05d *9/00;* **F16k** *21/18;* **G05b** *11/06*
U.S. Cl. 137—45 4 Claims



A system for filling a container to a 100% fill with a liquid regardless of the attitude assumed by the container wherein plural point sensors electrically responsive to contact with a liquid are located in the container with each location corresponding to a 100% fill condition for a given attitude and a means for sensing the attitude of the container is provided for energizing only one of the point sensors which in turn controls a shut-off liquid supply valve for the container.

3,451,407
FLOW INTERRUPTER GAS CONTROL WITH SAFETY INTERLOCK PREVENTING RESET WHILE ELECTROMAGNET IS ENERGIZED

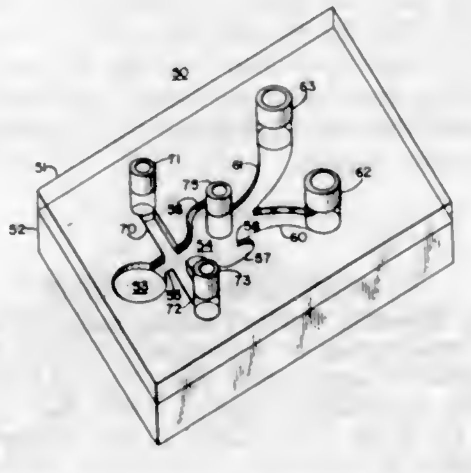
Richard K. Fairley, Deerfield, Ill., and Lourdes V. McCarty, Milwaukee, Wis., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,489
Int. Cl. F23d *5/16;* **F23q** *9/08*
U.S. Cl. 137—66 10 Claims



Depressing the knob closes the flow interrupter valve before opening the safety valve to allow pilot flow. After the electromagnet is energized the knob returns to normal to allow flow to the main burner outlet. Pulling the knob out allows the safety valve to close while the armature is retained and this allows the latch members to move under the valve to prevent reopening (resetting) until the armature is released and the release plate cams the latch members to inactive position.

3,451,408
CONTROL APPARATUS

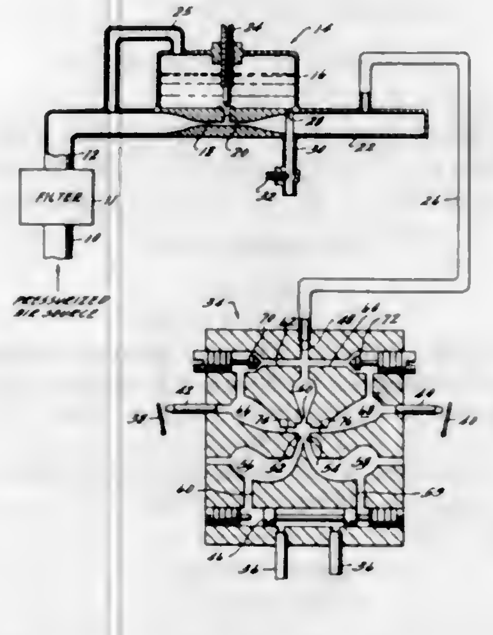
Richard A. Evans, Anoka, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 8, 1966, Ser. No. 578,006
Int. Cl. F15c *1/14, 1/08*
U.S. Cl. 137—81.5 2 Claims



A method of changing the gain of a fluid amplifier comprising varying the interaction region pressure by introducing additional fluid thereinto. Two amplifier embodiments employing means for varying the interaction region pressure are shown.

3,451,409
FLUIDIC SYSTEMS

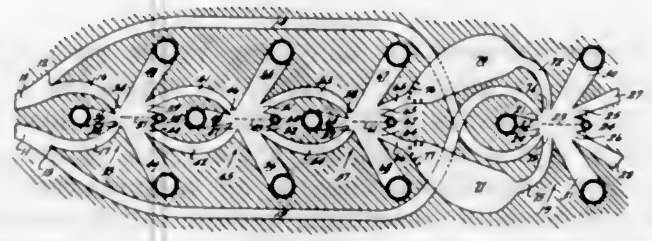
Jean A. Roche, Reading, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 3, 1966, Ser. No. 555,051
Int. Cl. F15c *1/10*
U.S. Cl. 137—81.5 5 Claims



A fluidic system is disclosed wherein the motive fluid supply section includes a container containing a solvent for contaminants known to be in the motive gas and means for injecting the solvent into suspension in the motive fluid.

3,451,410
FLUID AMPLIFIER COMPENSATION NETWORK

Willis Anson Boothe, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 23, 1964, Ser. No. 398,607
Int. Cl. F15c *1/08, 1/12, 1/14*
U.S. Cl. 137—81.5 4 Claims



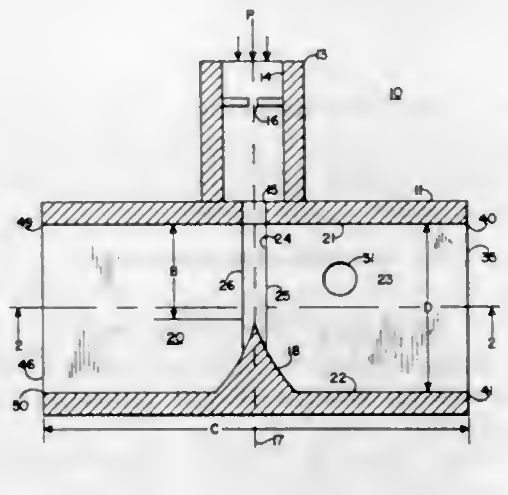
1. A fluid amplifier network, for amplifying an input signal to provide an output signal of increased strength, comprising,

means, including a delay fluid flow path, for providing a reset signal which, with unidirectional changes in input strength provides a reset signal proportionately varying over a given time period at a rate proportionate to the strength of the input signal and, which, with relatively rapid bidirectional variations in input signal strength provides a reset signal of progressively decreasing strength as the rate of bidirectional variation of the input signal increases, and

summing fluid amplifier means responsive to both the input signal and the reset signal and providing, for unidirectional input signal changes, an output signal immediately varied in strength proportionate to the input signal and also proportionate to the progressively varying strength of the reset signal and providing for reltaively rapidly changing, bidirectional input signals, an output signal which decreases in strength as the rate of variation in the input signal increases.

3,451,411
PRESSURE RESPONSIVE APPARATUS

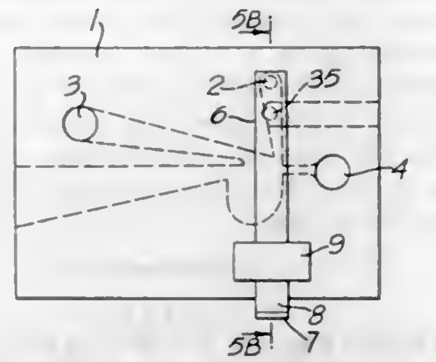
Jerome L. Johnson, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 28, 1966, Ser. No. 561,185
Int. Cl. F15c *1/08;* **F15d** *1/14*
U.S. Cl. 137—81.5 7 Claims



A fluidic pressure ratio sensor whose output is a train of pressure pulses having a frequency that varies with the ratio of two fluid pressures, but is independent of absolute pressure.

3,451,412
ELECTRICAL CONTROL OF FLUID AMPLIFIERS

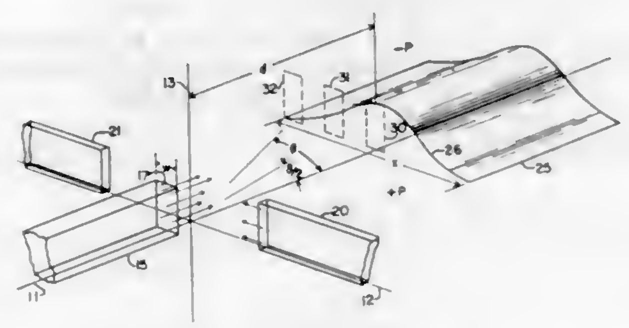
Alwyn Barrie Render, Ashington, Sussex, England, assignor to The Printing, Packaging & Allied Trades Research Association, Surrey, England, a corporation of the United Kingdom
Filed Oct. 31, 1966, Ser. No. 590,765
Claims priority, application Great Britain, Nov. 10, 1965, 47,689/65
Int. Cl. F15c *1/04, 1/10*
U.S. Cl. 137—81.5 13 Claims



This invention relates to a fluid flow control valve comprising a body having a passage through which, in use, a fluid can flow, and a piezoelectric element arranged to regulate the flow of fluid through the passage in accordance with electric potentials applied to the element; and to wall-attachment fluid logic elements and fluid analogue amplifiers comprising such a control valve.

3,451,413
FUNCTION GENERATORS

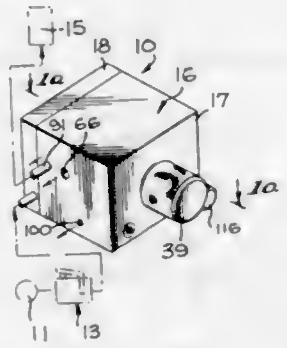
Edward G. Zoerb, Roseville, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 361,055, Apr. 20, 1964. This application Jan. 12, 1967, Ser. No. 621,376
Int. Cl. F15c *1/08, 1/12, 1/14*
U.S. Cl. 137—81.5 **6 Claims**



A fluid amplifier for deflecting a high momentum fluid stream across a specially shaped splitter, so as to produce an output signal which is a function of the input signal and the shape of the splitter.

3,451,414
FLUID-ACTUATED TIMER

Wesley E. Buford, 1045 N. Azusa, Covina, Calif. 91722, and Charles G. Buford, 17727 Laxford Ave., Azusa, Calif. 91702
Filed Dec. 23, 1966, Ser. No. 604,294
Int. Cl. G05b *19/44;* **F15c** *3/00*
U.S. Cl. 137—102 **8 Claims**

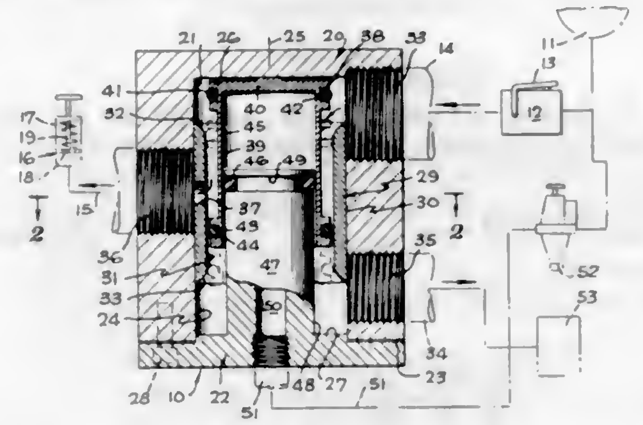


A pneumatically actuated timer having a housing containing two chambers separated by a valve element and a diaphragm adjacent the valve element, and adapted upon admission of compressed air to the device to first admit the air into one of the chambers in a relation actuating the valve element to a first position, and to subsequently admit air from the source into the other chamber past a restriction, in a manner causing a predetermined delay interval before the pressure in the second chamber can reach a sufficient value to actuate the valve, by virtue of a differential area relationship, to a second position, in which the valve passes air as a timed signal to a mechanism being controlled.

3,451,415
FLUID PRESSURE IMPULSE VALVE

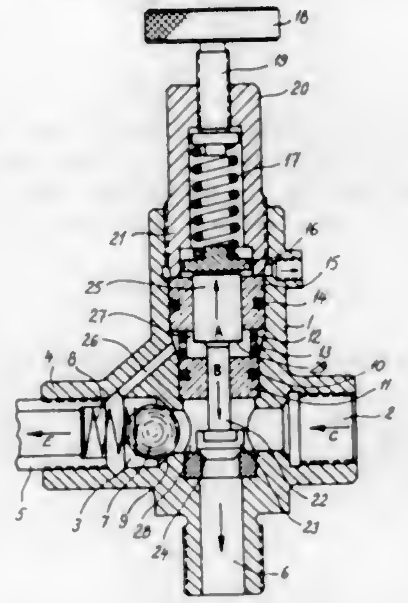
Wesley E. Buford, 1045 N. Azusa, Covina, Calif. 91722, and Charles G. Buford, 17727 Laxford Ave., Azusa, Calif. 91702
Filed Dec. 23, 1966, Ser. No. 604,295
Int. Cl. F15b *21/12*
U.S. Cl. 137—102 **15 Claims**

A device for producing a fluid pressure impulse, or two successive pressure impulses, and including a body containing a valve which, in an initial position, places a predetermined fluid inlet in communication with a first outlet, and which is actuable by pressure from the inlet to a second position in a relation first closing off communication between the inlet and the first outlet, and then exhausting pressure fluid from the first outlet back through the body and to a second outlet, so that successive impulses are produced at the two outlets respectively.



3,451,416
RELIEF VALVES

Johan Edvard Nyberg, Kiruna, Sweden, assignor to Nybergs Mekaniska Verkstab AB, Kiruna, Sweden
Claims priority, application Sweden, Dec. 13, 1965, 16,156/65
Filed Dec. 1, 1966, Ser. No. 598,408
Int. Cl. G05d *7/00, 9/00, 11/00*
U.S. Cl. 137—108 **1 Claim**

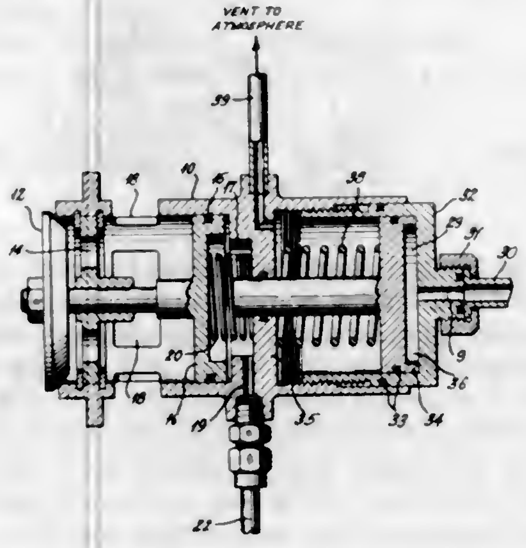


An arrangement for unloading valves by which the valves can be adjusted manually by regulating a spring so that immediately upon exceeding a certain load in the pressure system determined by the force of the spring, the valve immediately cuts off all communication with said system and automatically opens a shunt line through which pressure medium, which is supplied constantly to the valve, is led away in a depressurized condition to a reservoir.

3,451,417
COMBINATION OF RELIEF PRESSURE MECHANISM AND VALVE

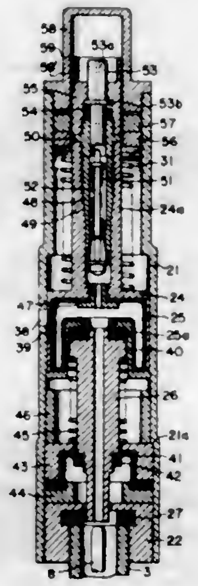
Pellegrino E. Napolitano, Brooklyn, N.Y., assignor to Hudson Engineering Company, Hoboken, N.J., a corporation of New Jersey
Filed June 10, 1966, Ser. No. 556,665
Int. Cl. G05d *16/10;* **F16k** *17/19*
U.S. Cl. 137—117 **4 Claims**

A liquid system is disclosed including a pipe provide with a port. A cylindrical housing is mounted at one end to the exterior of the pipe about the port. A valve is arranged to close the port and is connected by a rod to a piston mounted in the housing. Ports are defined in the housing so that liquid escaping through the pipe port can escape through the housing ports. A web is arranged behind the piston to isolate the housing into two compartments. In the second compartment, a pressure relief piston is mounted and includes a projection that extends through a hole in the web and terminates in the first compartment spaced from the piston. Both pistons are spring biased, with the first piston biased to hold the valve open, and the second piston biased from the first piston. An arrangement is provided to sense the flow condition in the pipe and is used to actuate the first piston so that the valve is held closed so long as sufficient flow is occurring. A pressure relief arrangement is provided so that, upon excess pressures in the pipe, the second piston moves forward, and the projection strikes against the first piston unseating the valve.



3,451,418
DEVICE FOR INDICATING THE INTERIOR PRESSURE OF A PNEUMATIC TIRE

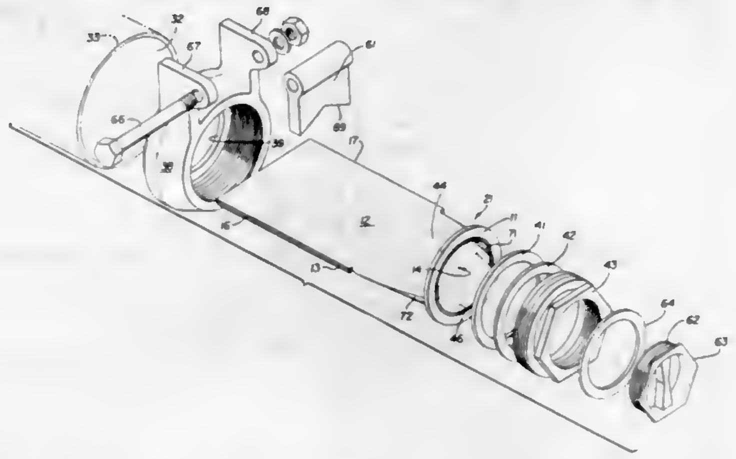
Shunshi Nakagawa, Tokyo, and Junichiro Koike, Hyogo-ken, Japan, assignors to Shunshi Nakagawa, Tokyo, Japan
Filed July 19, 1967, Ser. No. 654,487
Claims priority, application Japan, July 27, 1966, 41/70,553; Dec. 6, 1966, 41/110,897; Dec. 7, 1966, 41/79,834; May 19, 1967, 42/31,497; May 27, 1967, 42/33,365
Int. Cl. B60c *23/04*
U.S. Cl. 137—227 **5 Claims**



A device for indicating the interior pressure of a pneumatic tire which is adapted to be mounted on a pneumatic tire to indicate the interior pressure thereof and which permits compressed air to be charged in said pneumatic tire therethrough without being removed from the tire.

3,451,419
FLEXIBLE DISCHARGE VALVE

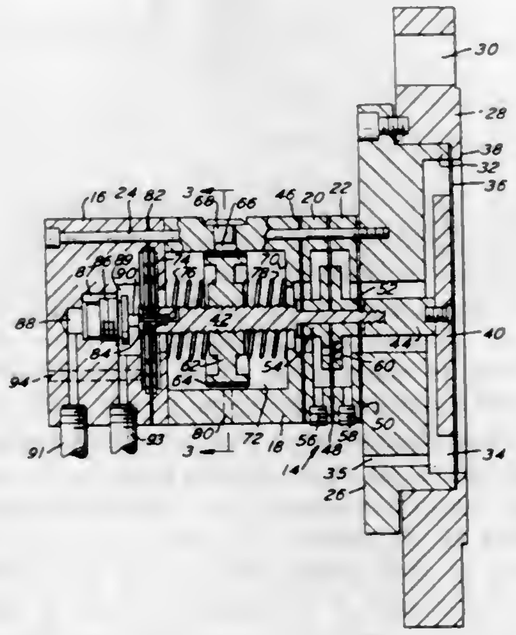
Clarence B. Coleman, Oakland, Calif., assignor to Fabricated Metals, Inc., a corporation of California
Filed Apr. 26, 1966, Ser. No. 545,491
Int. Cl. F16l *37/00, 37/04;* **F16k** *7/00*
U.S. Cl. 137—322 **6 Claims**



A valve for use in containers holding bulk fluid material and having a discharge opening positioned adjacent the bottom of the container. Opposed sheets are joined at opposite edges to define a passageway and an end of the sheets is secured to a collar mounted in sealed relation with the discharge opening. The sheets extend inwardly of the collar into the interior of the container and provide separable opposed faces which are biased into sealing engagement by a pressure head from the material stored in the container to close the passageway. A major length of the faces in the direction of the axis of the discharge opening is normally parallel and in mutual abutment. The faces are further constructed to be engaged with and spread apart by a tubular discharge member which can be inserted from the exterior of the container through the collar to thereby open the passageway.

3,451,420
LIQUID LEVEL TRANSMITTER

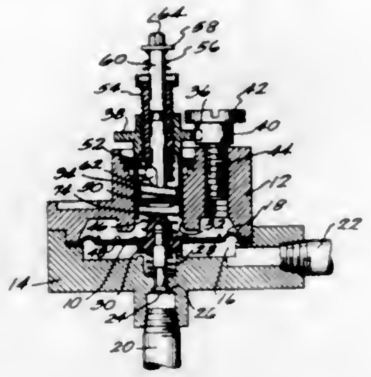
Kenneth Walter Bullivant, Pitman, N.J., assignor to Kane Air Scale Co., Glassboro, N.J., a corporation of New Jersey
Filed May 1, 1967, Ser. No. 635,138
Int. Cl. G01f *23/14*
U.S. Cl. 137—403 **9 Claims**



A liquid level transmitter is provided with a means for varying the zero level elevation.

3,451,421
CONVERTIBLE MODULATING PRESSURE REGULATOR

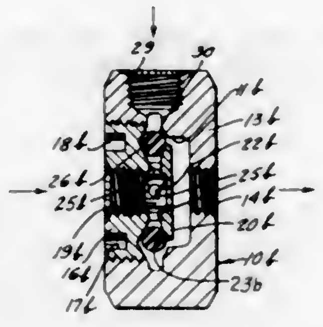
Reno L. Vicenzi, Riverside, and Elmer E. Wallace, Fullerton, Calif., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed July 22, 1966, Ser. No. 567,173
Int. Cl. F16k *31/165;* **G05d** *23/02*
U.S. Cl. 137—495 **6 Claims**



The pressure regulator provides for modulation through movement of the spring cylinder or sleeve within a range permitted by adjustment of the limit stop. In FIG. 1 the diaphragm is opposed by both springs whereas in FIG. 2 the regulated pressure has been increased by turning the lock stem to a lower position to render inoperative the upper weaker spring opposing the diaphragm. In FIG. 3 the lock stem has been moved down to remove both springs from operation and lock the diaphragm and the valve in the down position holding the valve open permitting unregulated passage of a gas.

3,451,422
CHECK VALVE

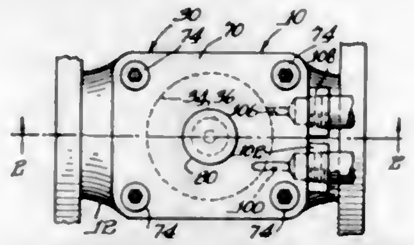
William J. Chorkey, 32331 Baintree, Farmington, Mich. 48024
Application Mar. 29, 1963, Ser. No. 271,549, now Patent No. 3,298,394, dated Jan. 17, 1967, which is a continuation-in-part of application Ser. No. 210,974, July 19, 1962, now abandoned. Divided and this application Dec. 16, 1966, Ser. No. 602,195
Int. Cl. F16k *15/14*
U.S. Cl. 137—525 **4 Claims**



A check valve having an internal chamber in a valve body and a plurality of ports for admitting fluid under pressure into the chamber and exhausting the same therefrom. At least one of the ports is an inlet port having a one-way, O-ring type valve at the inner end thereof. The O-ring is expandable away from its valve seat by fluid under pressure entering said inlet valve to allow the fluid to flow therearound and into the chamber. One of said ports functions as an exhaust port. In one embodiment a second one of said ports is an inlet port and is disposed on an axis at an angle to the axis of the first mentioned inlet port so that when said O-ring is expanded, away from its valve seat, it is engageable with a valve seat on the second inlet port so as to close the same and block fluid flow therethrough. In another embodiment of the valve two of the ports are inlet ports which are each provided with a one-way O-ring valve.

3,451,423
FLUID ACTUATED DIAPHRAGM VALVE

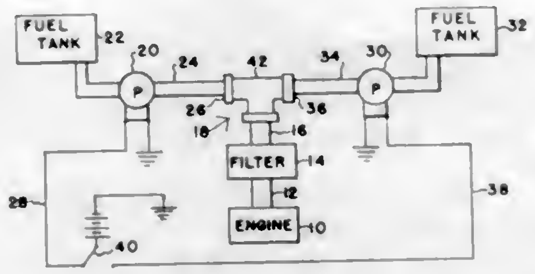
Werner K. Priese, Barrington, Ill., assignor to Hills-McCanna Company, Carpenterville, Ill., a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 690,910
Int. Cl. F16k *37/00, 7/12, 31/143*
U.S. Cl. 137—556 **4 Claims**



A fluid actuated diaphragm valve in which a diaphragm is secured to a hollow body in opposing relation to a weir by a bonnet containing two tandem pistons forming a movable compressor assembly which acts directly on the diaphragm to move the latter toward the weir with the cumulative force of fluid pressure on both pistons and which pulls the diaphragm away from the weir with the force of fluid pressure on one piston, the instantaneous position of the diaphragm being continuously manifest visually.

3,451,424
FUEL CONTROL VALVE

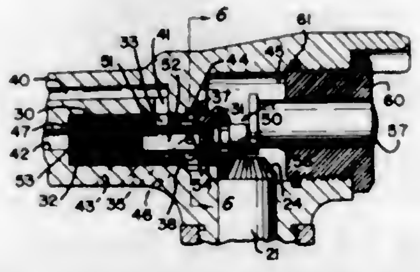
William E. Gardner, Del Rio, Tex. (P.O. Box 1454, Uvalde, Tex. 78801), and Aubra D. Thomas, P.O. Box 828, Del Rio, Tex. 78840
Filed Feb. 14, 1967, Ser. No. 616,059
Int. Cl. F16k *15/02, 17/14, 21/04*
U.S. Cl. 137—566 **1 Claim**



In a truck with dual fuel tanks and a pump in each tank to deliver pressurized fuel to the engine, two check valves are provided in the junction of the tank lines so that fuel is directed to the engine and not pumped from one tank to other other.

3,451,425
FEED LEG CONTROL DEVICE

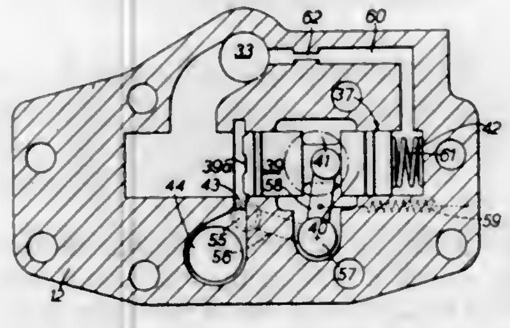
Martin Worman, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 8, 1966, Ser. No. 571,125
Int. Cl. F16k *11/18, 11/20*
U.S. Cl. 137—596.2 **9 Claims**



Apparatus for controlling the flow of fluid under pressure to and exhaust of fluid from the feed leg of a rock drill. The control apparatus meters the air supplied to the feed leg to thereby control the speed at which the drill is raised. The control is provided with a button which may be depressed to block air supplied to the feed leg and at the same time vent the feed leg to atmosphere to permit the drill to be quickly lowered.

3,451,426
SLIDE VALVES

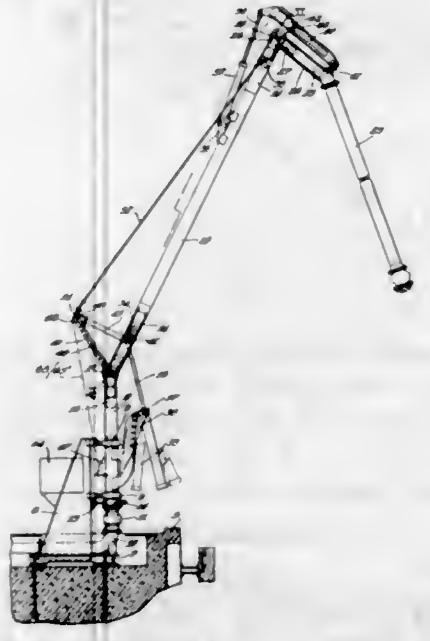
John C. E. Flint, Chalford, England, assignor to Dowty Technical Developments Limited, Cheltenham, England, a British company
Filed Oct. 12, 1966, Ser. No. 586,208
Claims priority, application Great Britain, Oct. 19, 1965, 44,145/65
Int. Cl. F17d *3/02, 3/00*
U.S. Cl. 137—596.13 **20 Claims**



A slide valve unit having a plurality of sliders forming displaceable valve elements, includes a by-pass for directly placing a single inlet connection for the unit in communication with a single exhaust connection for the unit. A single unloader valve in the by-pass is operable by mechanical means associated with all the sliders of the unit when, to cause operation of an associated service, any one of the sliders is moved away from its neutral position. This movement causes the unloader valve to close the by-pass and pressure fluid then becomes available at the sliders.

3,451,427
ARTICULATED PIPE BOOM STRUCTURE

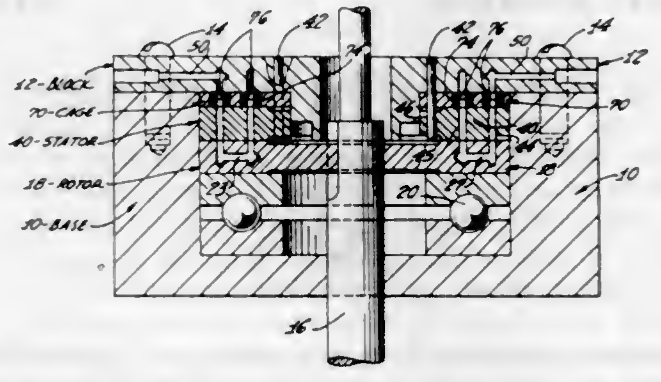
Francis A. Dollinger, Oak Park, Ill., assignor to Mississippi Valley Structural Steel Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 26, 1965, Ser. No. 482,667
Int. Cl. E03b *5/00;* **F16l** *3/14*
U.S. Cl. 137—615 **8 Claims**



A pipe boom construction includes a mast head having a gooseneck pipe yoke and a pipe boom arm having an inboard gooseneck pipe yoke with a swivel joint coupling the yokes on a horizontal axis. An arm-actuating motor generally underlies the inboard yoke and has a thrust member extending in arm-raising thrusting relation toward the inboard yoke, and a flexible connection operatively attaches the thrust member to the inboard yoke. A pylon connected to the thrust member, and also connected to the inboard yoke through the flexible connection, is connected by frame arms in load distribution to journal flange plates of the swivel joint and is also connected by tension rods to journal flange plates of bearing means of a swivel joint connecting the boom arm with an outboard boom arm. A releasable locking member is attached to the upper end portion of the pylon to retain the boom assembly in a raised inactive position.

3,451,428
MULTI-THROW VALVE

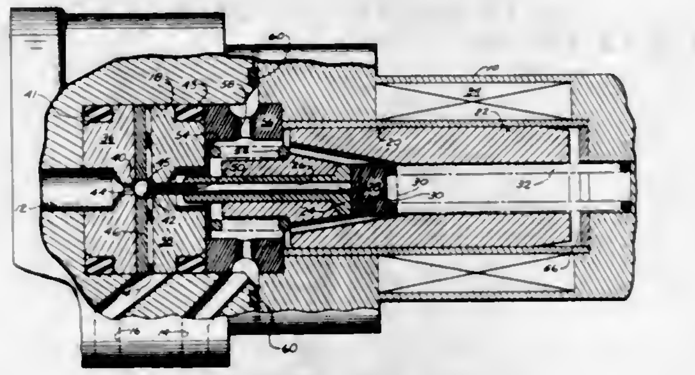
Kenneth Max Pruett, San Diego, Calif., assignor to J. C. Pemberton, San Diego, Calif.
Filed Nov. 14, 1966, Ser. No. 594,093
Int. Cl. F16k *11/02;* **F15c** *3/00*
U.S. Cl. 137—625.46 **3 Claims**



An improved fluid valve assembly is provided which is capable of performing complex fluid switching operations, these operations being analogous to the electrical switching operations performed by electrical wafer switches. The valve includes a rotor and a stator which present annular faces to one another, and a matrix of ports and channels is provided so that fluid switching may be achieved as the rotor is turned.

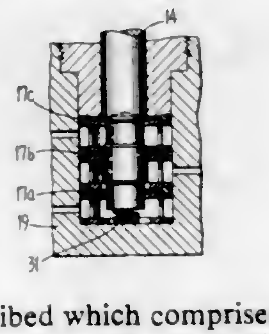
3,451,429
CONTROL VALVE PROVIDING MEANS FOR MINIMIZING SEAT WEAR

Ralph L. Vick, Granada Hills, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 28, 1966, Ser. No. 582,621
Int. Cl. F16k *31/05;* **F17d** *1/10*
U.S. Cl. 137—625.65 **2 Claims**



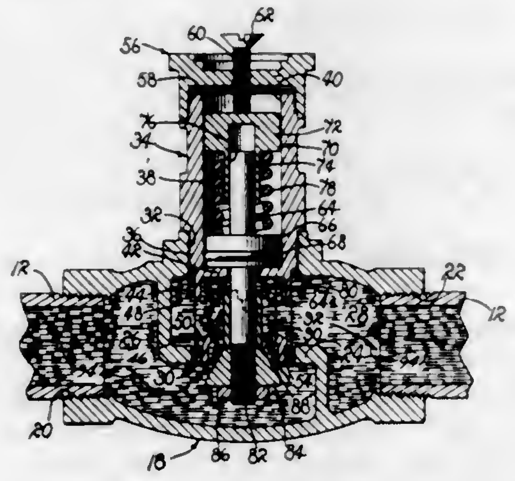
A solenoid-actuated control valve is shown having inlet, control and return ports with a ball valve movable between a pair of seats to control flow between the inlet and control ports and between the control and return ports. The armature includes a soft iron piston having an axial passage therethrough with a hardened insert over part of its length and a contact pin carried in the insert. A strong spring urges the piston and contact pin toward the ball valve member to close the inlet port, and a weaker spring urges the piston in the opposite direction such that, when the solenoid is energized, its force plus the force of the weaker spring and the fluid pressure at the inlet act to overcome the strong spring and cause the ball valve to be seated on the seat between the control and return ports. Upon de-energization of the solenoid, the force of the strong spring moves the piston and the contact pin in a direction to force the ball valve against its seat at the inlet port, at which time the contact pin stops and the greater mass of the piston continues moving until its momentum is absorbed, largely by the weaker spring, thereby avoiding the deterioration which would result if the momentum of the piston were to be dissipated over the small area of the valve seat.

3,451,430
FLUID CONTROL VALVE
Lloyd D. Cowdin, P.O. Box 814,
San Leandro, Calif. 94577
Filed Nov. 16, 1966, Ser. No. 594,729
Int. Cl. F16k *11/07, 31/06*
U.S. Cl. 137—625.69 **4 Claims**



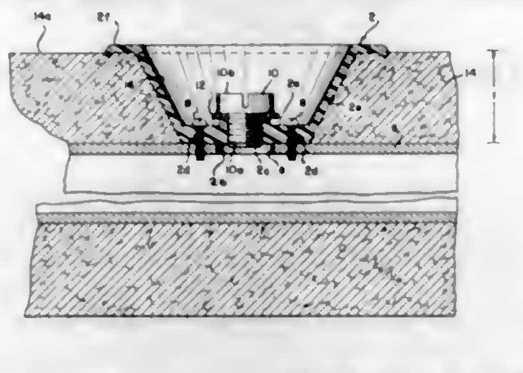
A valve is described which comprises a cylindrical body having an axial bore in which a cylindrical rod is concentrically disposed. A plurality of ports extend radially through the body to the bore and are axially spaced relative to one another along the body. A plurality of annular seal rings circumscribe the rod and are positioned within the bore of the body between adjacent ports. The outer peripheral portion of each seal ring sealingly engages the body, and the inner peripheral portion sealingly engages the rod. However, the rod is provided with diametrically reduced portions which, upon axial movement of the rod, are adapted to be aligned with the sealing rings to permit fluid flow between such rod portion and the ring, and hence, between adjacent ports.

3,451,431
LIQUID FLOW REGULATOR
John A. Royer, Fresno, Calif., assignor to Buchner Industries, Inc., a corporation of California
Filed Feb. 6, 1967, Ser. No. 614,120
Int. Cl. F16k *31/12, 25/02;* **F15d** *1/02*
U.S. Cl. 138—46 **5 Claims**



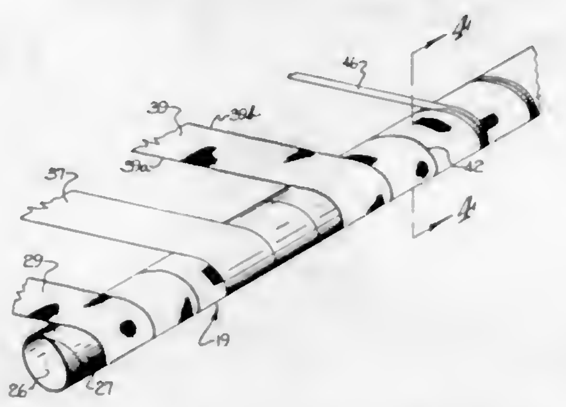
Flow regulator for liquid supply lines serving one or more liquid dispensers, including an adjustable automatically operable liquid flow restricting means responsive to pressure and flow surges from a liquid supply source, to monitor and maintain a substantially even liquid flow to the dispensers.

3,451,432
TEST PLUG MEANS FOR FLUID CONDUITS
Daniel R. Miller, 9317 St. Andrews Place,
College Park, Md. 20740
Filed Mar. 2, 1967, Ser. No. 619,975
Int. Cl. F16l *55/10*
U.S. Cl. 138—90 **3 Claims**



Test plug means for removably closing an access opening through which a measuring instrument may be inserted within a fluid conduit. In the preferred embodiment, the test plug means includes a synthetic plastic housing adapted for mounting across an opening contained in a conduit, and a plug removably mounted in a through bore in the housing to afford test access to the conduit, said housing having a frustoconical portion extending outwardly from the conduit opening to protect and attractively conceal a corresponding bevelled surface of the access opening contained in a layer of insulation that jackets the conduit.

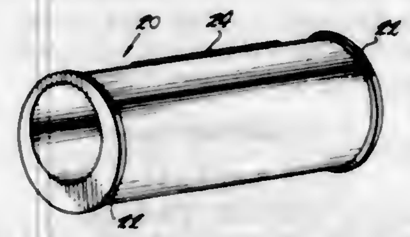
3,451,433
FORMING TUBE FOR GLASS FIBERS
McCleery B. Cunningham and Charles K. Dunlap, Jr., Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed May 24, 1967, Ser. No. 640,915
Int. Cl. F16l *9/16*
U.S. Cl. 138—144 **2 Claims**



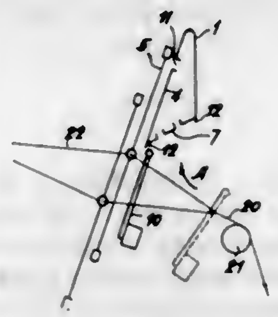
A spirally wound forming tube for glass fibers which includes at least two spirally wound plies of resin impregnated textile material and a spirally wound paper ply bonded to at least one of the textile material plies by means of the resin impregnant.

3,451,434
NONUNIFORM WALL PIPE
Eugene C. Bauer, Jr., 729 Cumberland Ave.,
Park Ridge, Ill. 60068
Filed Oct. 21, 1965, Ser. No. 499,600
Int. Cl. F16l *9/02, 57/00*
U.S. Cl. 138—172 **3 Claims**

A metal pipe having an eccentric configuration adapted to transport a mixture of an abrasive aggregate and a fluid. Pipe comprises a thin upper segment of constant thickness and a lower thicker segment of constant thickness interconnected by an intermediate segment of varying thickness. A rib atop the upper segment indicates the proper orientation for the pipe, and each of the three segments encompasses an arc of 120°.

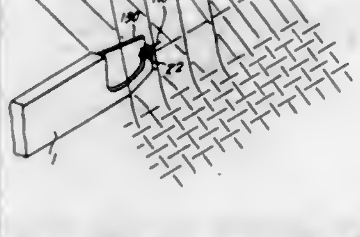


3,451,435
DUST REMOVING ARRANGEMENT FOR LOOMS
Miloslav Říha, Jiří Černocký, and Milan Zgarba, Vsetin, Czechoslovakia, assignors to Elitex Zavody Textilniho Strojirenstvi, Liberec, Czechoslovakia
Filed Dec. 22, 1967, Ser. No. 693,005
Claims priority, application Czechoslovakia,
Feb. 20, 1967, 1,207/67
Int. Cl. D03d; A47l *7/00, 11/00*
U.S. Cl. 139—1 **10 Claims**



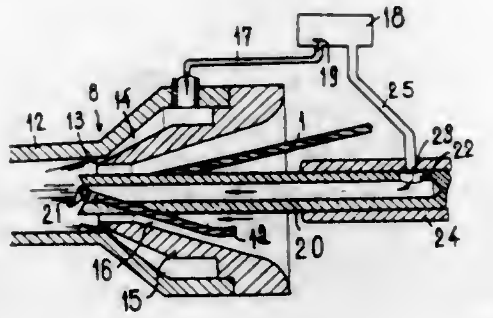
An elongated suction nozzle is positioned across the warp directly above the reed and adjacent the heddles of a loom so that air currents containing dust are fanned by the oscillating reed into the inlet of the suction nozzle.

3,451,436
METHOD AND APPARATUS FOR MANIPULATING SELVAGE WARP AND WEFT YARNS
Vladimír Svatý, 336 Kraluv Haj,
Liberec, Czechoslovakia
Filed Feb. 16, 1967, Ser. No. 616,669
Int. Cl. D03c *13/00;* **D03d** *47/14*
U.S. Cl. 139—55 **8 Claims**



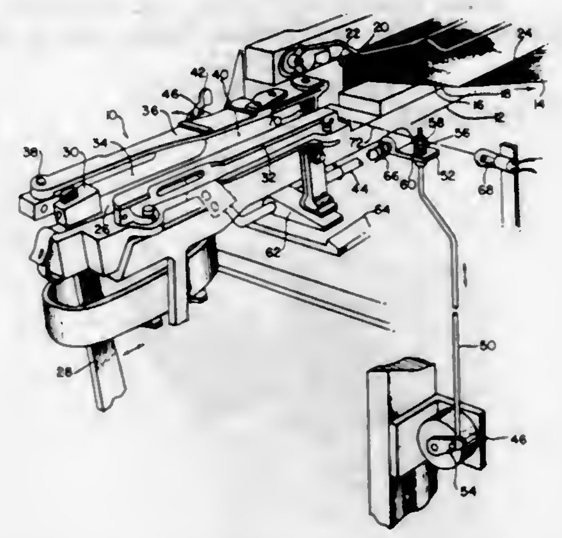
Method of controlling movements of a gripper in a gripper loom according to which the gripping mechanism which engages and entrains the leading end of the pick releases the pick before the leading end is moved laterally beyond the selvage so that the pick need not extend beyond the edges of the fabric. The warp yarns of the shed sides remain open until after the gripping mechanism of the gripper moves beyond the respective fabric edge so that release of the leading end of the pick can take place in the space between the lateral warp portions, whereupon the respective shed side closes.

3,451,437
DEVICE FOR LAUNCHING A THREAD BY JET ACTION OF A FLUID TO BE USED IN CONJUNCTION WITH A LOOM
Hubert Peter van Mullekom, Voortseweg 11,
Deurne, Netherlands
Filed July 12, 1967, Ser. No. 652,978
Claims priority, application Great Britain, July 14, 1966,
31,764/66
Int. Cl. D03d *47/30*
U.S. Cl. 139—127 **5 Claims**



An improvement in a device for launching a thread by jet action of a fluid under pressure by means of a nozzle for discharging a jet of fluid and a member which is movable relative to the nozzle between two end positions, for presenting a thread to the nozzle. The improvement comprises a discharge opening for a fluid, which is so located in the moveable member as to discharge a jet of fluid in such a direction as to merge with the jet of fluid from the nozzle and to impinge upon the thread presented to the nozzle.

3,451,438
HIGH SPEED LOOM
Leon G. Wilde, Andover, Albert Szczur, New Bedford, and William J. Stephens, Bedford, Mass., assignors to Z and D Industries, Inc., Woburn, Mass., a corporation of Massachusetts
Filed May 1, 1967, Ser. No. 634,978
Int. Cl. D03d *49/54*
U.S. Cl. 139—187 **9 Claims**

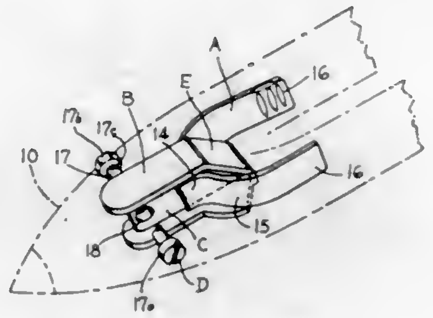


The speed and efficiency of an automatic loom is increased by means of a shuttle box control system in which photoelectric units are employed to detect the position of the shuttle and then to actuate the shuttle box braking mechanism at a precisely determined point of time for stopping the shuttle at its proper rest position within the box. A variable timing system is provided for operating the shuttle boxes in accordance with the speed of the shuttle.

3,451,439

SHUTTLE GRIP AND STRAP ASSEMBLY WITH INSERT

James S. Russell, Greer, and John J. Kaufmann, Jr., Greenville, S.C., assignors to Steel Heddle Manufacturing Company, Paris, S.C., a corporation of Pennsylvania
Filed Jan. 17, 1968, Ser. No. 698,454
Int. Cl. D03j *5/08*
U.S. Cl. 139—207 1 Claim

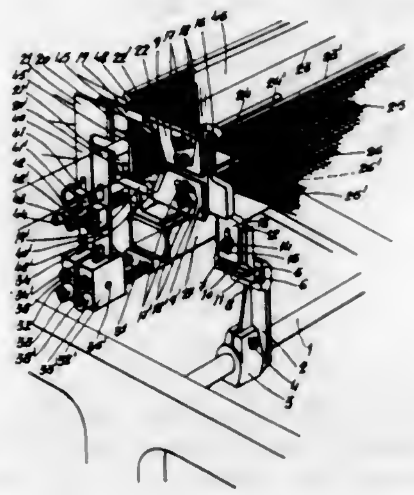


A shuttle grip and strap assembly wherein the strap, of integral construction of a relatively rigid incompressible synthetic polymeric material having plastic set such as nylon, has an insert integral with a cover portion. The insert substantially fills the space within the U-shaped shank portion of the grip so as to insure a proper grip opening. A fastening member constructed of metal passes through an intermediate portion of the insert locking the cover and insert grip portions together resisting shock occasioned during weaving and positioning the assembly within the shuttle body. A downwardly inclined wall is integral with said cover and said insert, and is also constructed of relatively rigid incompressible synthetic polymeric material. A modification of the invention contemplates positioning the strap directly upon a thickened shuttle base portion beneath an enlarged base portion of the strap.

3,451,440

CUTTING DEVICE FOR LOOMS

Ramon Balaguer Golobart, 86 Calle Caspe, Barcelona, Spain
Filed Oct. 6, 1967, Ser. No. 673,461
Claims priority, application Spain, Oct. 6, 1966, 332,412
Int. Cl. D03d *49/70*
U.S. Cl. 139—303 5 Claims

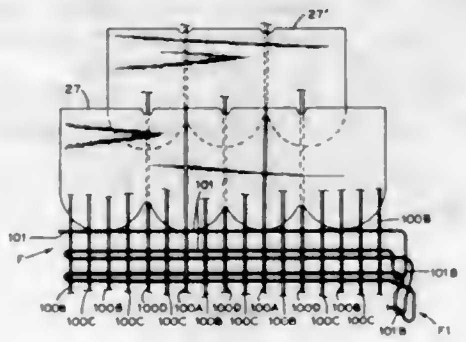


A cutting device for cutting excess weft threads in looms producing two parallel fabrics simultaneously comprises a first cutting member mounted on a fixed shaft of the loom and co-acting therewith a second cutting member mounted on the lay. The first member is constituted by a support on which two stationary cutting blades are mounted. These blades have a prolongation which forms an angle with the cutting edge and serves as guides for the second member when moved into cutting position by the movement of the lay.

3,451,441

WOVEN FABRIC

Cesar Bustamante, 150 W. 21st St., New York, N.Y. 10011
Original application May 23, 1961, Ser. No. 111,948, now Patent No. 3,156,265, dated Nov. 10, 1964. Divided and this application May 10, 1962, Ser. No. 194,750
Int. Cl. D03d *3/00*
U.S. Cl. 139—384 8 Claims

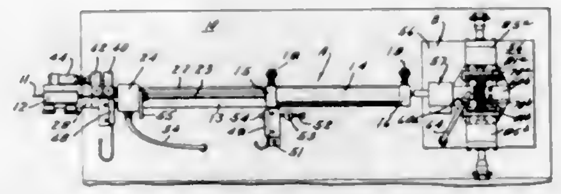


1. A woven fabric comprising a plurality of warp threads divided into two layers, a doubled over strand of weft thread defining a loop at one end thereof inserted between the respective warp thread layers, and the looped end of one weft thread adapted to receive the looped end of the next succeeding weft thread to define a chain stitch along a selvedge edge of said fabric and a third layer of warp threads, and a flat scalloped edge link interwoven between said third layer and one of the other of said two layers of warp threads.

3,451,442

WIRE END BENDER APPARATUS

Floyd G. Eubanks, Pasadena, Calif., assignor of ten per cent to Robert M. McManigal, South Pasadena, Calif.
Filed Sept. 24, 1965, Ser. No. 490,031
Int. Cl. B21f *1/06;* **B21d** *43/28*
U.S. Cl. 140—1 15 Claims

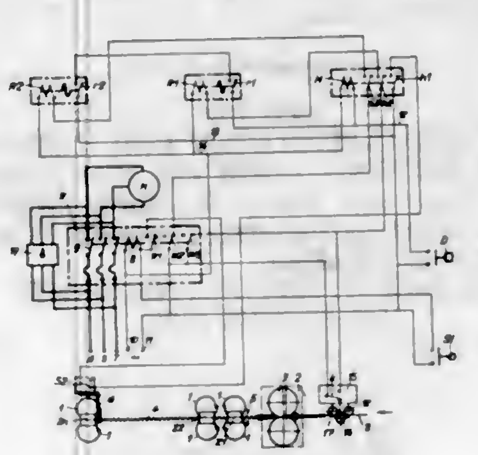


Apparatus for cutting selective lengths of insulated wire, bending the adjacent severed ends and stripping the insulation therefrom, in which gripping members periodically advance the wire to a cutting position where one set of cutting blades severs the insulation and wire core, and sets of blades respectively on the opposite sides of said one set cut the insulation only, and while other members hold the severed ends, a die member at the cutting position is moved in right angled relation between the sets of insulation cutting blades to bend the severed ends at right angles, the die member having shoulders for engaging and stripping the insulation from the severed ends as they are being bent, after which the severed part with its bent ends is ejected in an axial direction by a blast of air. Electrically energized cyclically operable components automatically control the successive operations of advancing, cutting, bending and stripping.

3,451,443

MACHINES FOR MANUFACTURING SPRING INTERIORS

Walter Spühl, St. Gall, Switzerland, assignor to Spuhl A.-G., St. Gall, Switzerland
Filed Mar. 3, 1967, Ser. No. 620,368
Claims priority, application Germany, July 12, 1966, S 104,757
Int. Cl. B21f *27/16, 23/00*
U.S. Cl. 140—92.7 4 Claims

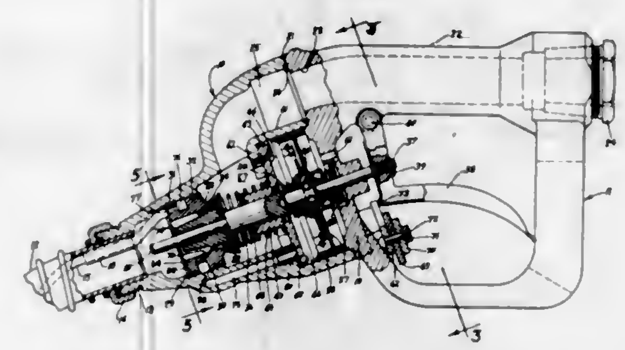


A machine for manufacturing spring interiors and having a coiling device for forming a wire into a spiral and screwing this spiral through juxtaposed end convolutions of rows of adjacent coil springs to connect them together is provided with a safety circuit in the form of a feed responsive monitor for automatically switching off the coiling device if the wire feed is obstructed.

3,451,444

AUTOMATIC NOZZLE

Robert W. Murray, Brooklyn Park, Minn., assignor to American National Valve Corporation, Minneapolis, Minn.
Filed Sept. 6, 1966, Ser. No. 577,429
Int. Cl. B65b *57/06*
U.S. Cl. 141—225 12 Claims

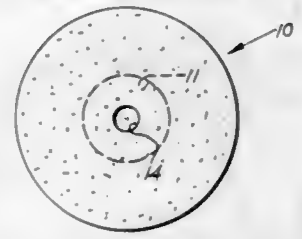


A valved nozzle for the dispensing of gasoline and similar liquids with automatic shut-off to prevent overflow, characterized by in-line construction in which valve seat, cooperating valve member, valve plunger, locking means and vacuum actuated unlocking shut-off means are aligned about a common axis extending between handle and spout.

3,451,445

GASOLINE SPILLAGE CATCHER

Leo W. Sippola, 3125 W. Parnell, Milwaukee, Wis. 53221
Filed Dec. 1, 1967, Ser. No. 687,234
Int. Cl. B65b *1/04, 3/04;* **B67c** *3/00*
U.S. Cl. 141—285 3 Claims



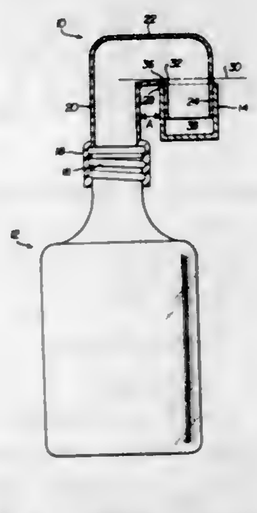
A spongy gasoline spillage catcher having an axial opening therethrough for receiving a gasoline pump nozzle and adapted to be placed in substantially liquid-tight communication with the spout of a vehicle-mounted gasoline tank, whereby any gasoline that backs up through the spout as the tank is being filled by the nozzle will be absorbed by the catcher, preventing the gasoline from damaging the finish of the vehicle.

The use of gasoline pumps and the nozzles thereof to fill the gasoline tanks of vehicles, such as automobiles, is old in the art. At times, when the nozzle operator attempts to fill the gasoline tank too fast, the displacement of air within the tank by the inrushing gasoline causes air pressure to build up within the tank. The air pressure forces the gasoline back out through the tank spout and over the fender or bumper of the vehicle, and the gasoline discolors and damages the finish thereof. United States Patent 3,159,409 issued Dec. 1, 1964 to R. V. Koehler entitled, "Fuel Tank Filler Tube and Drain" shows one possible solution to this problem.

3,451,446

LIQUID MEASURING DISPENSER

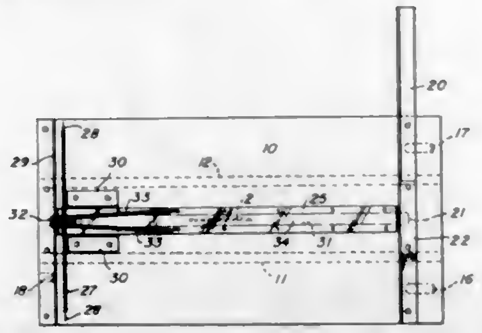
Theodore B. Russell, 2190 NE. 124th St., North Miami, Fla. 33161
Filed Apr. 23, 1968, Ser. No. 723,542
Int. Cl. B65b *39/00, 3/30*
U.S. Cl. 141—319 5 Claims



An improvement in a liquid measuring and dispensing device including a tubular element having a first leg shaped to be detachably connected with the neck of a bottle and a second leg to be detachably connected with a cup with the second leg fitting inside the cup, the improvement lying in the dimensioning of the length, thickness and inside diameter of the second leg to displace a predetermined amount of liquid from the cup when liquid has been dispensed to the cup so that the amount of liquid left in the cup and second leg will only partially fill the cup when the cup is removed from the second leg leaving a consistent desired portion of the cup unfilled.

3,451,447
AUXILIARY TABLE AND WORK HOLDING MEANS FOR POWER SAWS AND THE LIKE

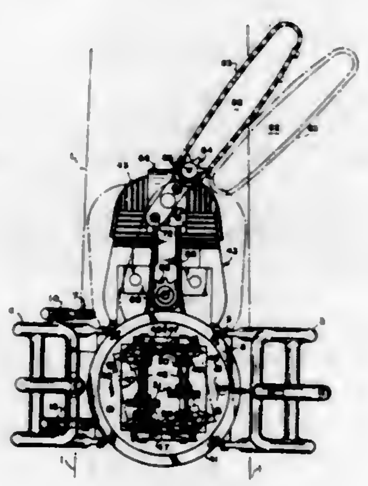
Henry H. Ferneyhough, Deaver Road,
Wyncote, Pa. 19095
Filed Mar. 29, 1967, Ser. No. 626,779
Int. Cl. B27b *5/02, 9/02*
U.S. Cl. 143—51 **6 Claims**



An auxiliary saw table for a power driven circular saw or other cutting or grinding tool supporting the work for movement along a path normal to the plane of the tool including a movable hold down guard carried by the auxiliary table adapted to overlie and hold the work disposed on the table and extend parallel thereto independently of the thickness of the work to shield the hands of the operator from contact with the tool.

3,451,448
AUTOMATIC TREE PRUNER

Lynn H. Michener, 842 3rd Ave.,
Vernonia, Oreg. 97064
Filed Aug. 2, 1966, Ser. No. 569,704
Int. Cl. B27c *9/00;* **B27m** *3/00*
U.S. Cl. 144—2 **3 Claims**

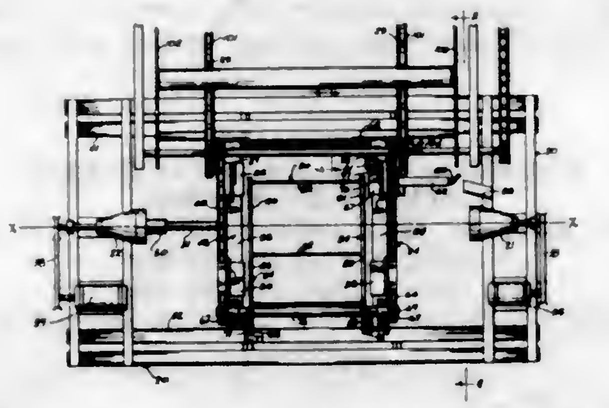


Tree pruning apparatus automatically operable to ascend a tree trunk in a spiralling path of travel for cutting off branches up to a predetermined height, then descending to the base of the tree.

3,451,449
POST POINTING AND CAPPING APPARATUS

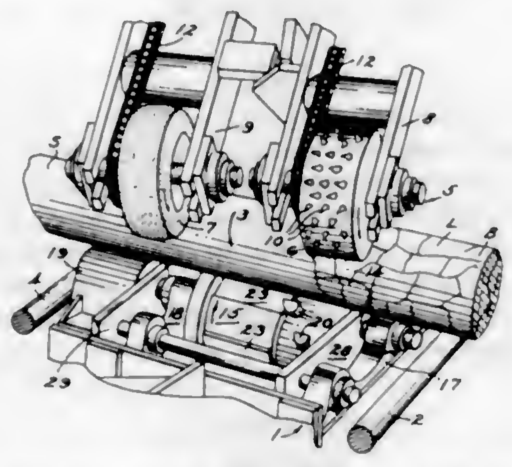
Harold Bouma, Choteau, Mont., assignor to Bouma Post Yards, Choteau, Mont., a corporation of Montana
Filed Feb. 6, 1967, Ser. No. 614,257
Int. Cl. B27m *3/32*
U.S. Cl. 144—30 **15 Claims**

The patent disclosure describes an embodiment of my invention concerning an apparatus for pointing and capping the ends of posts comprising a base frame with two opposed trimming devices mounted at the ends of the base frame and centered along a longitudinal axis. A reciprocating carriage is mounted on the base frame for movement between the trimming devices. Opposed jaws are reciprocally mounted on the carriage transversely and co-axially to the longitudinal axis. Inclined guides are mounted on the carriage for movement with jaws. A guide and transfer frame is rotatably mounted on the carriage, in cooperation with the inclined guides, for guiding posts received from a conveyor toward the longitudinal axis and between the jaws to be secured and aligned to the carriage along the longitudinal axis.



3,451,450
METHOD AND APPARATUS FOR DEBARKING AND PEELING LOGS OR THE LIKE

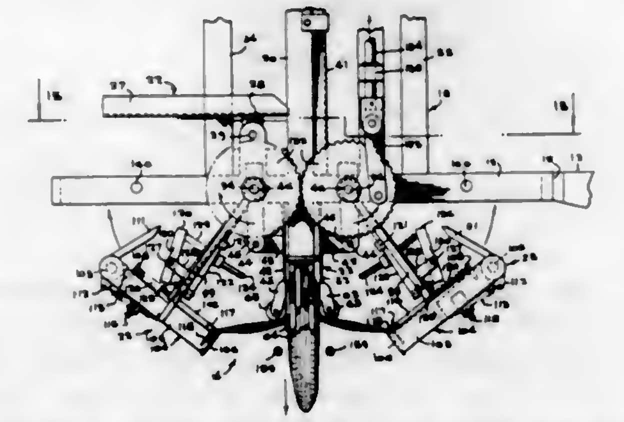
Norval K. Morey and Harry D. Morey, Winn, Mich., assignors to Morbark Debarker Company, Winn, Mich., a corporation of Michigan
Filed June 15, 1966, Ser. No. 557,656
Int. Cl. B27l *1/00*
U.S. Cl. 144—311 **10 Claims**



A method and apparatus for debarking and peeling a log wherein the log is fed spirally along a path leading to and beyond a work station and bark is chipped from the log at the station after which the log is shaved or peeled to leave its surface relatively smooth.

3,451,451
BANANA PEELER

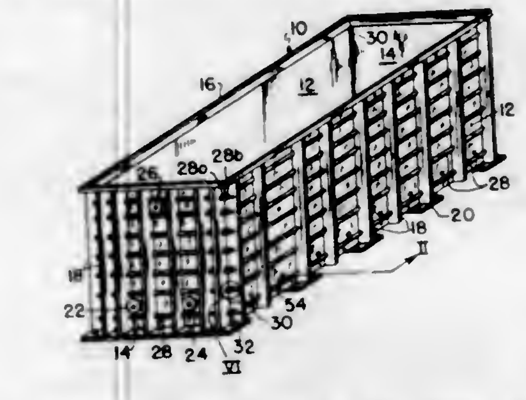
Ralph Polk, Jr., P.O. Box 3208, Tampa, Fla. 33601
Filed July 17, 1967, Ser. No. 653,739
Int. Cl. A23n *7/00*
U.S. Cl. 146—224 **16 Claims**



A method for peeling bananas including posititoning a banana in a predetermined plane and maintaining it there, cutting off the bottom end of the fruit, slitting the peel from the cut end centrally along the curved sides of the fruit in the predetermined plane, gripping the cut ends of the slit peel segments, and, after releasing the holding of the fruit in the predetermined plane, pulling the peel segments in opposite directions from the predetermined plane to strip it from the fruit. The disclosure also includes a machine for carrying out the method, which has a turret mounting a plurality of peeling heads rotatable in an orbit and having means to insert a banana into the head, clamp it in position centered on a reference plane, cut the end from the fruit, split the peel longitudinally and grasp and pull the split peel from the fruit. The various mechanisms are operated sequentially by cams as the turret rotates.

3,451,452
REINFORCING SUPPORT STRUCTURE

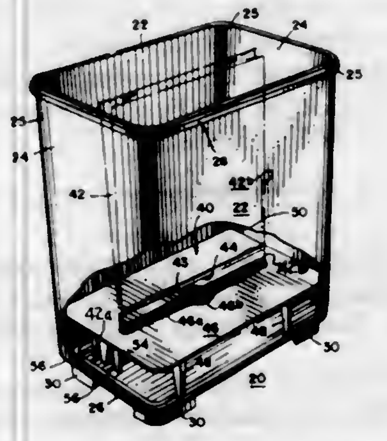
Robert M. Marshall and Robert W. Wittebort, Pittsburgh, Pa., assignors to Allegheny Plastics, Inc., Coraopolis, Pa., a corporation of Pennsylvania
Filed July 26, 1967, Ser. No. 656,161
Int. Cl. B65d *25/20, 25/00*
U.S. Cl. 150—0.5 **8 Claims**



A multiple tubular support structure for reinforcing tank walls made of plastic material wherein each tube of the structure is formed from a metal pipe insert in a plastic casing. Each tube extends along the wall it is to support in tangential relation thereto. A pair of tubes are resiliently joined at right angles to each other at a tank corner to provide for dimensional changes of the walls in response to temperature changes in the contents of the tank.

3,451,453
WASTE RECEPTACLE WITH DISPENSER FOR DISPOSABLE LINERS

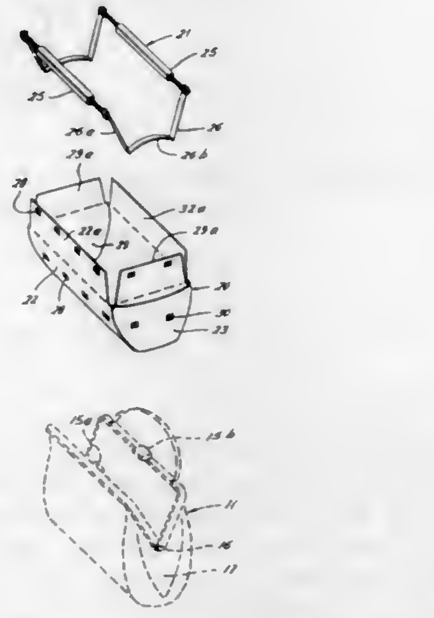
Edward E. Heck, Berwyn, Ill., assignor to Republic Molding Corporation, Niles, Ill., a corporation of Illinois
Filed Sept. 13, 1967, Ser. No. 667,560
Int. Cl. B65d *25/14;* **A45c**
U.S. Cl. 150—.5 **10 Claims**



A waste receptacle having upright walls and a bottom and a dispenser, removably mounted in the receptacle adjacent the bottom for dispensing disposable liners for the receptacle. The dispenser is adapted to be inserted from the upper end of the receptacle and includes an upper wall with an opening therein for dispensing the disposable liners. Means are provided for supporting the upper wall of the dispenser spaced above the bottom of the receptacle whereby said upper wall forms a false bottom for said receptacle.

3,451,454
REMOVABLE LINER FOR PURSES OR THE LIKE

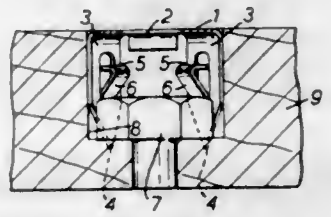
Robert J. Davis, 2902 Ann Arbor, Houston, Tex. 77042
Filed Mar. 14, 1968, Ser. No. 713,172
Int. Cl. A45c *13/02, 13/06*
U.S. Cl. 150—29 **13 Claims**



A removable liner for purses or the like comprising a frame including a pair of parallel, elongate side rods, and a pair of U shaped members each having its ends pivotally connected to adjacent end portions of the rods. When the sides of each member extend downwardly from the rods, they may be swung relatively to the base of such members for moving the rods between positions toward and away from one another. A lining for the frame includes side and end walls, a bottom wall, and opening from the top. Each side wall has a flap which folds over an adjacent rod of the frame and releasably attaches to the outside of this side wall. The end walls of the lining are on the outside of the U shaped members of the frame to confine the frame against substantial endwise movement.

3,451,455
FASTENER FOR ANCHORING A NUT

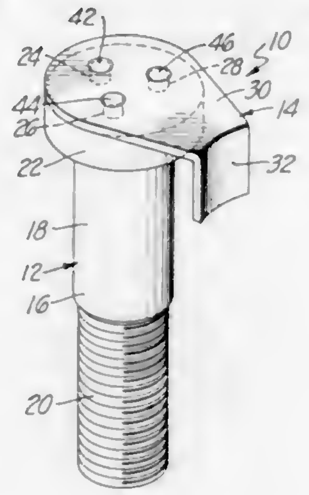
Leslie Parkin, Bobbers Mill, England, assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,518
Claims priority, application Great Britain, Aug. 16, 1966, 36,628/66
Int. Cl. F16b *39/00, 13/04, 33/04*
U.S. Cl. 151—41.73 **1 Claim**



A fastener for non-rotatably anchoring a nut in a recess in a support, comprising a hollow body having side walls formed with integral resilient tongues which are displaced laterally by the nut as it is drawn axially into the body so that pointed ends of the tongues are driven into the sides of the recess.

3,451,456
BOLT WITH RESTRAINER

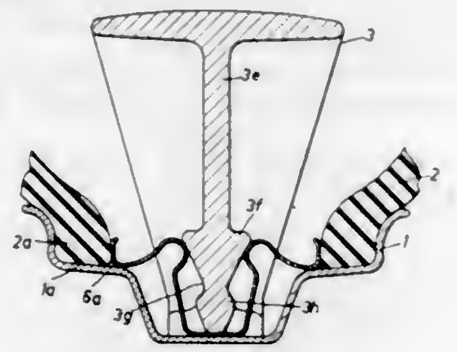
Ervin J. Dey, Santa Fe Springs, Calif., assignor to Standard Pressed Steel Co., Santa Ana, Calif., a corporation of Pennsylvania
Filed Apr. 26, 1967, Ser. No. 633,846
Int. Cl. F16b *39/02*
U.S. Cl. 151—68 **8 Claims**



In order to restrain the rotation of the bolt, a restrainer is fixedly secured to the bolt head. When the bolt is headed, at least one rivet shank is formed to upstand on the bolt head. After the bolt is otherwise finished, a restrainer is mounted on the bolt head over his rivet shank, which is then headed down over the restrainer to retain the restrainer in place. The shape of the rivet shank, or preferably the pattern of the several rivet shanks, is such as to restrain the restrainer from rotating with respect to the bolt axis. The restrainer has engagement means on it to engage upon a member through which the bolt is inserted to thus restrain rotation of the bolt with respect to the member.

3,451,457
SAFETY RING FOR TIRE-CARRYING WHEELS

Gunter Leyer, Wuppertal-Wohwinkel, Germany, assignor to Kronprinz Aktiengesellschaft, Solingen-Ohligs, Germany
Filed July 17, 1967, Ser. No. 653,972
Claims priority, application Germany, July 15, 1966, K 59,768
Int. Cl. B60c *17/04*
U.S. Cl. 152—158 **1 Claim**



A safety or emergency ring for installation in the rims of tire-carrying wheels. The ring consists of several sections fastened to the rim and supported by the same. A spring inserted between ring and rim urges the tire against the rim and holds it firmly in place. In the event of pressure loss, the tire rides on the safety ring without shifting and is not damaged. The device is applicable to tubeless tires.

3,451,458
SILICA FILLED SYNTHETIC RUBBER COMPOSITIONS AND TIRE TREADS

Curtis C. Stueber, Cary, Ill., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 89,363, Feb. 15, 1961. This application Mar. 16, 1965, Ser. No. 440,270
Int. Cl. B60c *5/00, 9/00, 11/00*
U.S. Cl. 152—330 **21 Claims**

The wear resistance of silica-filled synthetic rubber compounds is enhanced by maintaining the compounds essentially free of metal oxide activator. The metal oxide-free compositions are particularly useful in the manufacture of tire treads.

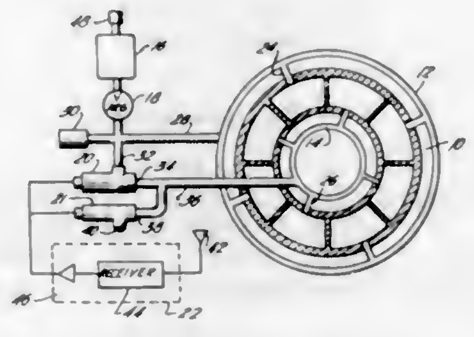
3,451,459
RUBBER BLENDS COMPRISING NATURAL RUBBER, CIS-POLYBUTADIENE AND A TERTIARY AMINE

Edward M. Bevilacqua, Allendale, N.J., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 534,435, Mar. 15, 1966. This application Dec. 15, 1966, Ser. No. 601,854
Int. Cl. C08c *9/04, 11/44*
U.S. Cl. 152—330 **1 Claim**

Tear resistance of pneumatic tire treads made from blends of NR and cis-BR can be improved, without increase in hysteresis, by addition of certain aliphatic amines, e.g., 2-aminoheptane, octyl diethanolamine, n-dodecylamine, and N,N-bis(isobutoxymethyl)-n-docecylamine.

3,451,460
SKID-RESISTING SYSTEMS

Anatole J. Sipin, 177 E. 77th St., New York, N.Y. 10021
Filed Oct. 7, 1966, Ser. No. 585,212
Int. Cl. B60c *23/10, 29/00*
U.S. Cl. 152—417 **10 Claims**

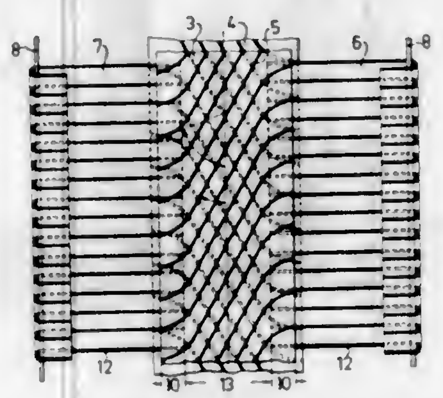


A skid-resisting system, including an inflatable tire with an internal annular volume divided by transverse members into a plurality of chambers, in which traction is controlled by segmentally varying the resilience along the circumference of the tire by differential pressurization of alternate sets of chambers.

3,451,461
PNEUMATIC VEHICLE TIRE

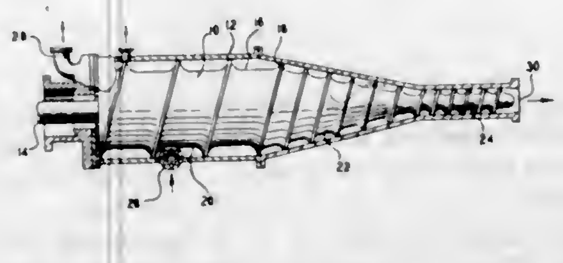
Hermann Wittneben, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Oct. 3, 1966, Ser. No. 583,523
Claims priority, application Germany, Oct. 9, 1965, C 37,106
Int. Cl. B60c *9/02, 11/00*
U.S. Cl. 152—356 **6 Claims**

A pneumatic vehicle tire with reinforcing layer means extending substantially over the width of the tread strip and comprising pull resistant strength members extending at an angle with regard to the circumferential direction of the tire the side walls of which having incorporated therein half carcasses with strength members extending at least approximately at a right angle with regard to the circumferential direction of the tire, the marginal areas of said reinforcing layer means and the adjacent marginal areas of said half carcasses forming overlapping zones in the tire shoulder area while the strength members of said reinforcing layer means within the said overlapping zones form an angle with the tire circumferential direction which is materially greater than the angle formed by the strength members of the reinforcing layer means with the tire circumferential direction within the area intermediate said two overlapping zones.



3,451,462
APPARATUS FOR DEVOLATILIZING LIQUID POLYMER COMPOSITIONS

Ted T. Szabo, Martinsville, and Felix Peter Klosek, Neshanic Station, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,319
Int. Cl. B01d *1/28;* **C08c** *17/08*
U.S. Cl. 159—2 **4 Claims**

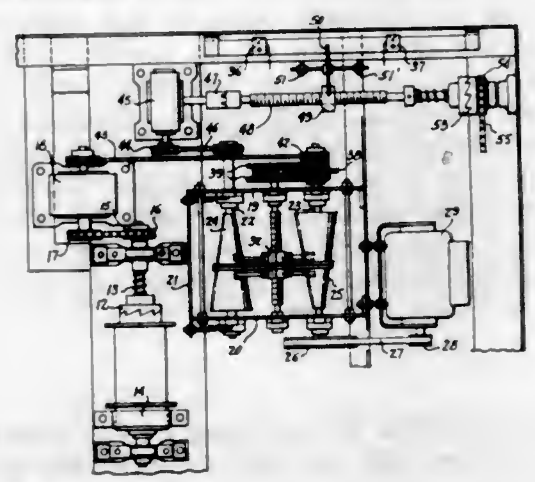


Method and apparatus are provided for the devolatilization of polymer solutions employing tapered screw means mounted in a close fitting barrel; the barrel being maintained at reduced pressure. The solution is fed to the barrel, foams, the foam is compacted as it is moved along the tapered screw, vapors are drawn off and concentrated polymer is discharged from the apparatus.

3,451,463
REVERSIBLE COILABLE PARTITION

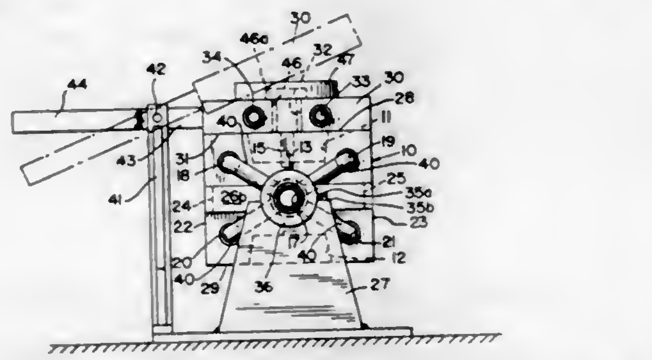
Hugh M. Lyman, 2352 East 6275 South, Salt Lake City, Utah 84121
Filed Oct. 22, 1965, Ser. No. 502,265
Int. Cl. E06b *9/14, 9/204, 9/36*
U.S. Cl. 160—23 **4 Claims**

A coilable curtain or partition for multi-purpose rooms, adapted to be coiled on a vertical spool, having reversible motor means for coiling and uncoiling the curtain through a single cable and pulley system, characterized by means for insuring constant uniform speed of movement of the curtain in both directions, including clutch means permitting the spool to rotate freely during the uncoiling operation, and double cone variable speed drive means imparting a variable speed to the spool during winding to compensate for the increasing diameter occasioned by the stored portion of the partition or cutain.



3,451,464
METHOD OF CASTING METALS USING PERMANENT MOLDS

Orville J. Stender, Crete, Ill., assignor to Conlon-Moore Corporation, a corporation of Delaware
Original application Apr. 4, 1966, Ser. No. 539,807, now Patent No. 3,398,783, dated Aug. 27, 1968. Divided and this application June 28, 1968, Ser. No. 740,952
Int. Cl. B22d *33/02*
U.S. Cl. 164—137 **2 Claims**

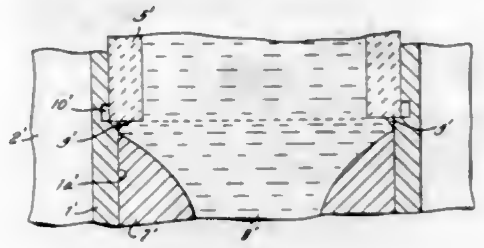


A method of metal casting with permanent molds in which a mold is provided that has first and second cavities in opposite faces, and a permanent cope is provided which may close either of the cavities and has a gating hole; in which the mold is positioned with the first cavity uppermost, said first cavity is closed with the cope, and a charge of molten casting metal is poured into the mold through the gating hole and allowed to cool to a non-plastic state; and in which the mold is then inverted, the second cavity is closed with the cope, molten metal is poured through the gating hole into the second cavity which is retained uppermost until shrinkage of the casting in the first cavity permits said casting to drop out; and in which the mold is then again inverted to place the first cavity uppermost.

3,451,465
METHOD AND ARRANGEMENT FOR INTRODUCING LUBRICATING MATERIAL INTO A STATIONARY CHILL FOR CONTINUOUS CASTING OF METAL

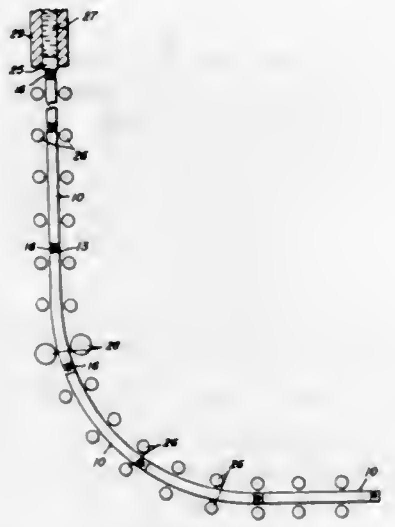
Guenther Moritz, Bad Godesberg, Germany, assignor to Vereinigte Aluminium-Werke Aktiengesellschaft, Bonn, Germany
Filed July 20, 1966, Ser. No. 566,602
Claims priority, application Germany, July 24, 1965, V 28,967
Int. Cl. B22d *11/10*
U.S. Cl. 164—268 **6 Claims**

An arrangement for lubricating a strand of molten metal during casting thereof in which lubricating material passes by capillary action through a porous member at the inlet opening of a chill heated by the molten metal continuously fed through the inlet opening so that the lubricating material will condense on the cooled passage surface of the chill and form a lubricating film between the metal moving through the passage and the surface of the latter.



3,451,466
FLEXIBLE STARTER BAR FOR CONTINUOUS-CASTING MOLD

Howard S. Orr, Upper St. Clair Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,464
Int. Cl. B22d *11/08*
U.S. Cl. 164—274 **5 Claims**

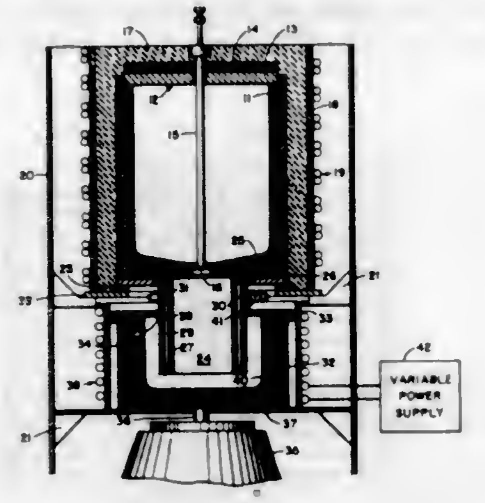


A starter bar composed of flexible fabricated sections hinged together. Each section is made up of top and bottom plates spaced apart by a plurality of lengths of sheet-piling section or rectangular-section tubing disposed transversely, joined together and secured loosely to the plates which are themselves discontinuous. Terminal blocks secured to the ends of the plates are adapted to receive hinge pins joining adjacent sections.

3,451,467
CENTRIFUGAL CASTING APPARATUS

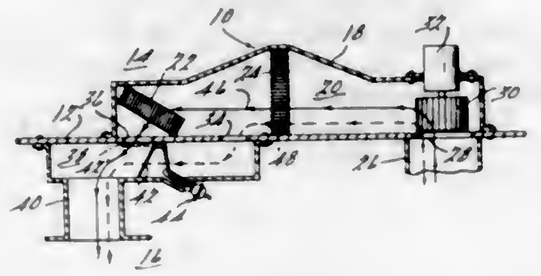
Julius L. Frankeny, Arvada, and Kenneth E. Voiles, Denver, Colo., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 3, 1967, Ser. No. 658,289
Int. Cl. B22d *13/10, 13/00*
U.S. Cl. 164—297 **5 Claims**

A centrifugal casting assembly comprising a bottom discharge crucible, heated by an electrical furnace and mounted above an open top rotary mold encompassed by a heating means to control outside wall cooling; a top entering centrally disposed rod plug for controlling molten metal flow from the crucible; and a radiant heat sink extending concentrically into the rotary mold, said heat sink having means to control the rate of heat removal therefrom.



3,451,468
MOTOR VEHICLE CLIMATE CONTROL SYSTEM

Roger W. Furrow, Roanoke, Va., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,635
Int. Cl. F25b *25/00;* **B60h** *3/04, 1/06*
U.S. Cl. 165—23 **10 Claims**

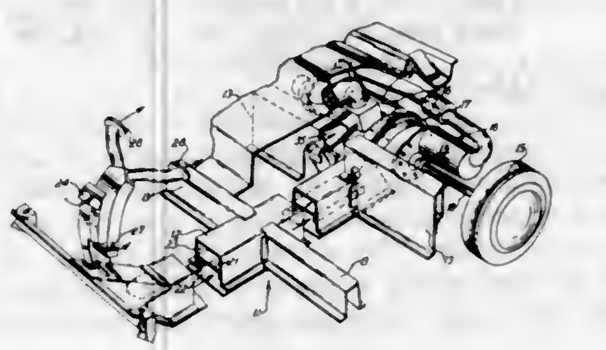


A motor vehicle climate control system wherein the volume of air exposed to either air heating or air cooling means is controlled by a valve. A manually operable temperature control lever controls movement of the valve and is connected thereto by an adjustable mechanical linkage. Manually operable linkage adjustment means are provided so that the ratio of control lever movement to valve movement can be varied to accommodate the different temperature ranges encountered in the operation of the climate control system to either heat or cool the vehicle.

3,451,469
VEHICLE HEATING AND VENTILATION SYSTEM

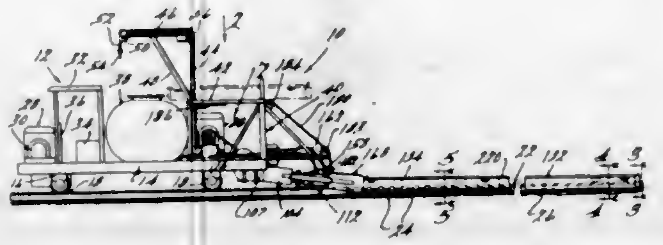
Leslie Hall, Hadleigh, Arthur E. Lynes, Thorpe Bay, and Laurie Martland, Basildon, England, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,399
Claims priority, application Great Britain, Apr. 12, 1967, 16,778/67
Int. Cl. B60h *1/28, 1/16, 1/02*
U.S. Cl. 165—41 **10 Claims**

A heating and ventilation system for a motor vehicle in which the road wheels are driven by an electric motor and the vehicle body is supported on a hollow chassis member. The hollow chassis member, preferably the backbone of the vehicle, is the main trunk duct of the system and provides passageways for ducting hot and cold air. The heated air source is the electric motor. Provision is made for recirculating heated air for very cold conditions or for selectively mixing heated air with cold air for desired temperature control. The duct system preferably includes a forced air blower.



3,451,470
RAIL TEMPERATURE REGULATING APPARATUS

Clifford C. Herrick, White Plains, N.Y., assignor to The New York Central Railroad Company, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1967, Ser. No. 631,112
Int. Cl. B60h *3/04;* **E01b** *29/32*
U.S. Cl. 165—42 **24 Claims**



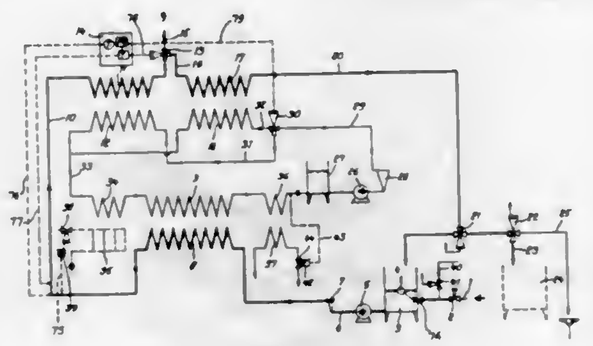
An apparatus for controlling the temperature of a section of railroad rail in order to expand or contract the section preparatory to anchoring the same to its associated roadbed; the apparatus comprising a self-propelled wheeled vehicle which is adapted to travel along a railroad right-of-way and is provided with a pair of elongated temperature regulating enclosures which extend rearwardly from the vehicle and partially enclose the railroad rails; heating and cooling means on the vehicle for raising and lowering the temperature within the enclosures to heat or cool the rail sections enclosed therewithin; and means for moving the enclosures between an inactive position on the vehicle to an operative position extending rearwardly of the vehicle.

The purpose of the above abstract is to provide a nonlegal technical statement adapted to serve as a searching-scanning tool for scientists, engineers and researchers. Accordingly, this abstract is not intended to limit the scope of the invention hereinafter described in detail, nor is it intended to be used in interpreting or in any way limiting the scope or fair meaning of the claims appended hereto.

3,451,471
CONTINUOUS HEAT TREATMENT OF LIQUID PRODUCTS

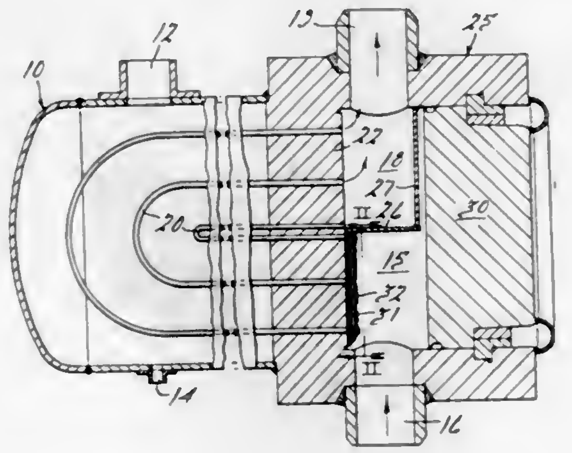
Bengt Arne Palm, Genarp, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Apr. 24, 1967, Ser. No. 633,027
Claims priority, application Sweden, Apr. 25, 1966, 5,545/66
Int. Cl. A23c *3/02, 9/10, 9/00*
U.S. Cl. 165—66 **11 Claims**

A first pipeline system includes a starting point for the liquid product to be heat treated, the primary side of indirect heat exchange means for heating the product, the primary side of indirect heat exchange means for cooling the product, and means for returning the product to the starting point for repeated treatment in the system in the event of failure of the product to acquire a predetermined heat treatment temperature from the heating. A second pipeline system forms a circuit for a second liquid product and includes the secondary sides of the heat exchange means, whereby the product under treatment in the first system is in indirect heat exchange relation to another liquid product in the second system. Preferably, the heat exchange means for cooling the first product include forward flow and return flow regenerative heat exchangers, the aforesaid return means including a first valve connected between the primary sides of these exchangers and operable in one position to discharge the first product and in another position to feed it from the forward flow to the return flow exchanger, the second pipeline system including the secondary sides of the regenerative exchangers connected in parallel to each other and also including a second valve for directing the second liquid product selectively through one or the other of these exchangers.



3,451,472
TWO-STAGE BAFFLE FOR HIGH PRESSURE FEEDWATER HEATERS

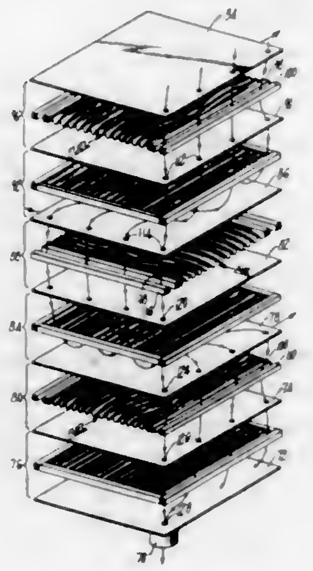
Julian W. Keck, 2520 San Domingo St., Coral Gables, Fla. 33134
Filed Aug. 2, 1967, Ser. No. 657,952
Int. Cl. F28f *19/00*
U.S. Cl. 165—134 **3 Claims**



In tubular heat exchangers of the type wherein water flows at high velocity into a head from which it must enter a plurality of tubes, one (or more) additional baffling sheets are provided, located between the tube sheet and the water inlet and having a plurality of orifices therein, one such orifice being aligned with each tube inlet. The orifices are smaller in diameter than the tube inlets. Each tube inlet is provided with a protective internal sleeve which projects from the inlet and is flared radially outwardly to partially overlie the inlet tube weld and tube sheet. The sleeves are smoothly contoured to streamline flow.

3,451,473
HEAT EXCHANGER CONSTRUCTION

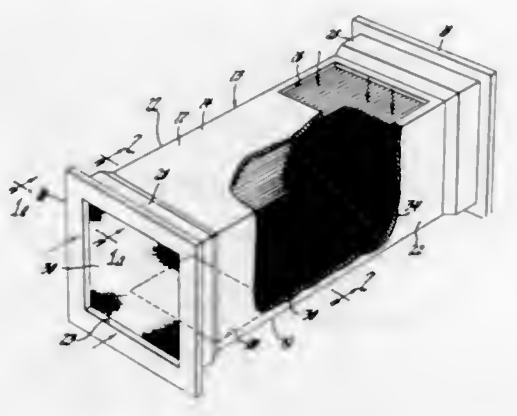
Robert G. Urie, Hartford, and Edward W. Radtke, Bloomfield, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 11, 1967, Ser. No. 629,975
Int. Cl. F28f *3/04, 11/00*
U.S. Cl. 165—166 **4 Claims**



Judiciously located passages in the core of a heat exchanger are provided to vent the escapement of obnoxious or toxic fluid utilized therein for heat exchange relationship.

3,451,474
CORRUGATED PLATE TYPE HEAT EXCHANGER

Dean M. Cox, Whitestown, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,606
Int. Cl. F28f *3/04*
U.S. Cl. 165—166 **9 Claims**

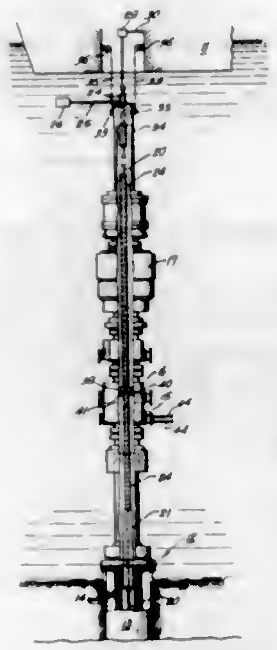


A heat exchanger structure including corrugated sheets. The sheets are folded into wafers, sealed, stacked, brazed together at the ends, and the brazed metal and ends of the folded sheets are cut away to open passages through the wafers from end to end. This stack is enclosed in a pressure-containing case which confines a fluid which flows between the wafers. A method of making the heat exchanger is also disclosed.

3,451,475
WELL FLOW TEST APPARATUS

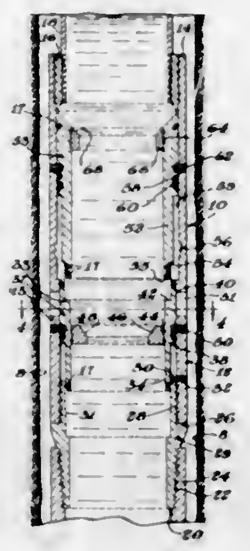
Tom B. Price, Houma, La., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,246
Int. Cl. E21b *43/01*
U.S. Cl. 166—.5 **5 Claims**

Combined apparatus applicable to oil well drilling operations that includes a tubing string with a fail-closed valve connected therein to control flow of well fluid. A second concentric tubing string is also connected to the fail-closed valve. The second string forms an annulus with the first tubing string to provide a passage for hydraulic fluid under pressure which may control the operation of the fail-closed valve. The second tubing string has a suspension collar attached therein in order to provide for support of both tubing strings at retractable pipe rams in one of a group of blowout preventers that are attached to the well head.



3,451,476
MULTIPLE STAGE CEMENTING

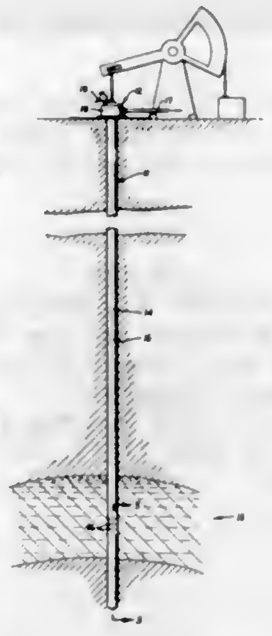
Charles A. Pitts, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 3, 1967, Ser. No. 680,511
Int. Cl. E21b *33/13*
U.S. Cl. 166—224 **4 Claims**



This invention relates to multiple stage well cementing apparatus in which sleeve valves are operated by differential pressure across the apparatus. Means are provided for relieving pressure caused by moving the first sleeve valve downward to uncover side ports.

3,451,477
METHOD AND APPARATUS FOR EFFECTING GAS CONTROL IN OIL WELLS

Kork Kelley, Liberal, Kans., assignor of one-half to Robert K. Kelley, Fort Worth, Tex.
Continuation-in-part of application Ser. No. 433,909, Feb. 19, 1965. This application June 30, 1967, Ser. No. 650,286
Int. Cl. E21b *43/12, 39/00;* **F04b** *21/00*
U.S. Cl. 166—265 **11 Claims**



This invention provides a method and apparatus for improving the production of oil wells by improved control of pressure through the combination of a seal and valve means for control of casing pressure and a gas anchor to assure separation of oil in the producing zone whereby the producing zone is held under controlled even pressures; in addition, the system minimizes entry of unwanted solid materials into the product line and includes an improved gas anchor to assist in overcoming this problem.

3,451,478
NUCLEAR FRACTURING AND HEATING IN WATER FLOODING

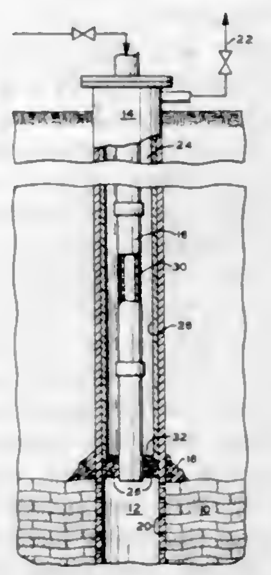
Daniel Silverman, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Nov. 1, 1965, Ser. No. 505,984
Int. Cl. E21b *43/20, 43/26*
U.S. Cl. 166—272 **9 Claims**

A nuclear explosive device is detonated in a well at a level which results in fracturing of an oil-bearing formation. An oxygen-containing gas is injected into the fractured formation to burn some of the oil and generate heat. Water is then injected into an input well and oil is recovered from a producing well.

3,451,479
INSULATING A CASING AND TUBING STRING IN AN OIL WELL FOR A HOT FLUID DRIVE

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,442
Int. Cl. E21b *21/00, 43/24, 33/03*
U.S. Cl. 166—303 **4 Claims**

Tubing and casing strings in a well penetrating an oil stratum to be produced by hot fluid drive, such as with steam, are coated on the walls thereof forming the annulus by packing off the annulus adjacent or near the stratum, filling the annulus with an aqueous solution of a water-soluble inorganic salt, such as borax, sodium carbonate, sodium sulfate, and mixtures thereof, preferably containing a binder, and injecting a hot fluid thru the tubing string into the stratum to evaporate water from the solution in the annulus while venting steam therefrom at the wellhead and deposit a substantial coat of the salt in solid form on the walls of the annulus.



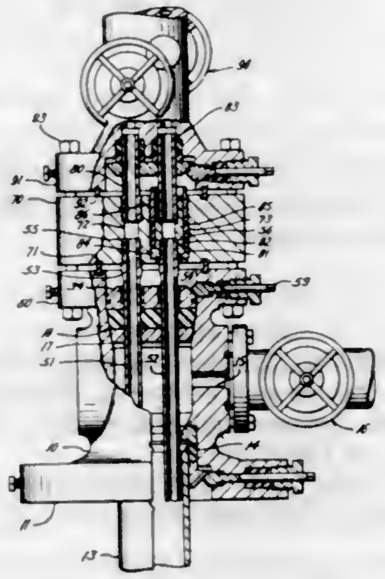
3,451,480
FRICTION LOSS REDUCING

Herbert J. Zeb, Jr., and Alan E. Bischof, Pittsburgh, Pa., assignors, by mesne assignments, to Calgon Corporation, a corporation of Delaware
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,857
Int. Cl. E21b *43/26;* **F17d** *1/16;* **C08g** *15/00*
U.S. Cl. 166—308 **7 Claims**

Reduction of friction loss in oil well fracturing is accomplished through the addition of small amounts of copolymers of acrylamide and diacetone acrylamide, with and without crosslinking.

3,451,481
DUAL SUSPENSION AND SEAL

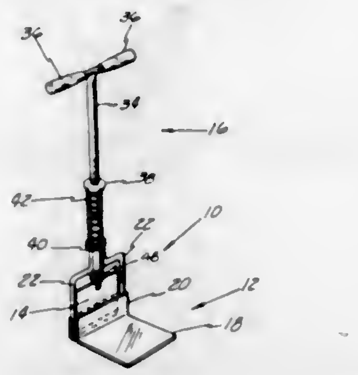
C P Lanmon II, Galveston County, Tex., assignor to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania
Continuation of application Ser. No. 492,489, Oct. 4, 1965, which is a continuation of applications Ser. No. 199,167, and Ser. No. 199,168, May 31, 1962, said applications being a division of applications Ser. No. 98,071, and Ser. No. 126,729, Mar. 24, 1961, the last two applications being a division of application Ser. No. 498,791, Apr. 4, 1955. This application June 9, 1966, Ser. No. 556,522
Int. Cl. E21b *33/03;* **F16l** *39/00, 21/04*
U.S. Cl. 166—313 **13 Claims**



Method of completing under pressure a dual production zone parallel tubing string well; also, tubing hangers, the table with the tops being pulled downwardly between the rolls. A cutter at the end of the spiral rolls cuts the tops from the onions to drop them into a bagging chute located beyond the cutter. The spirals on the rolls of the finishing table are of resilient material to prevent damaging the onions.

3,451,486
SOD CUTTING DEVICE

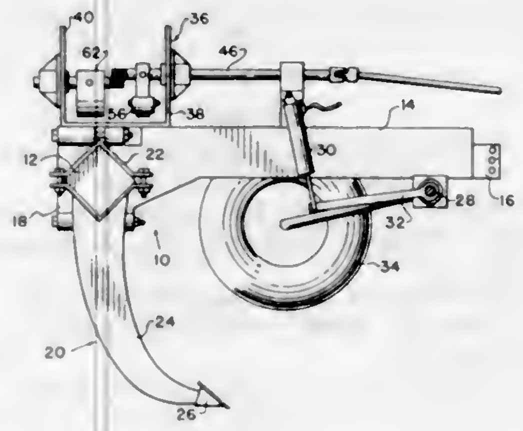
John Vostoris, 2132 Otter, Warren, Mich. 48092
Filed Aug. 3, 1967, Ser. No. 658,194
Int. Cl. A01b *45/04*
U.S. Cl. 172—13 **2 Claims**



A sod cutting device having a blade moving into and out of a close fitting shroud which protects the cutting edge of the blade and removes soil from the blade as it returns from a cutting stroke.

3,451,487
VIBRATING PLOW

Thelmer A. Rogers, P.O. Drawer 1589, Lubbock, Tex. 79408
Filed Nov. 30, 1964, Ser. No. 414,803
Int. Cl. A01b *35/02, 35/00*
U.S. Cl. 172—40 **7 Claims**

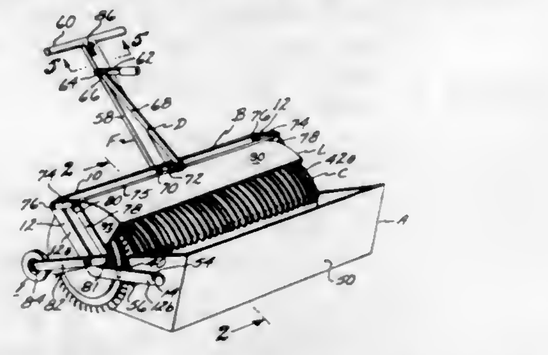


A vibrator attached to a subsoil cultivator has two parallel shafts geared together to turn the same speed in opposite directions. Each carries an eccentric weight. One eccentric weight may be adjusted as to the rotational position upon its shaft and the other eccentric weight may be adjusted as to eccentricity. Therefore, it is possible to get rectilinear vibrations or elliptical vibrations with varying degrees of ratios between the long axis and short axis of the ellipse, as well as positioning the axis of the ellipse in different positions.

3,451,488
REFUSE RETRIEVING DEVICE

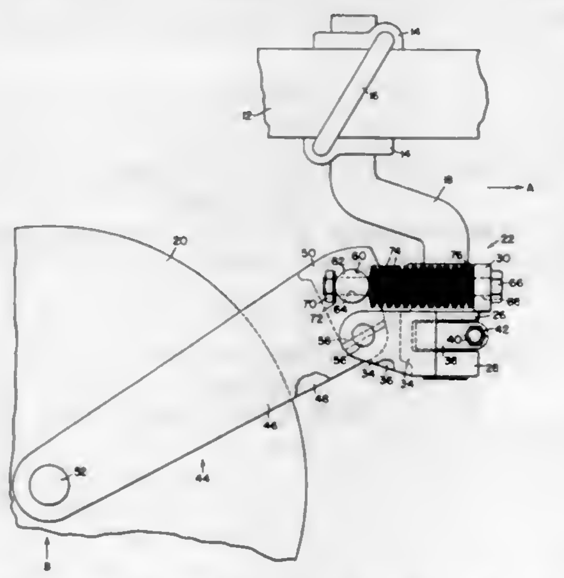
Howard H. Taketa, 840 S. Lincoln, Monterey Park, Calif. 91754
Filed Mar. 29, 1967, Ser. No. 626,888
Int. Cl. A01d *7/00, 11/00;* **A01b** *21/02*
U.S. Cl. 172—350 **7 Claims**

A compact device, which when in a first position, may be rolled across the terrain of either private or public grounds in either a straight or curved path to retrieve leaves, small pieces of paper, and the like and deposit the same in a hopper, and when the device is placed in a second position it may be rolled over a hard surface without damage to rotatable toothed rings forming a part thereof.



3,451,489
SPRING-LOADED ROLLING COULTER

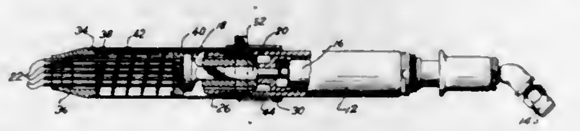
James F. Sullivan, East Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,437
Int. Cl. A01b *5/16, 15/20*
U.S. Cl. 172—572 **1 Claim**



A rolling coulter assembly in which the coulter is mounted for movement toward and away from a plow frame. The coulter is normally held in its lower working position by a stack of compressible Belleville washers.

3,451,490
POWER TOOL ADJUSTMENT DEVICE

Paul E. Troike, Bryan, Ohio, assignor to The Aro Corporation, a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,010
Int. Cl. E21c *3/04;* **B23d** *79/02;* **B21c** *43/00*
U.S. Cl. 173—31 **6 Claims**

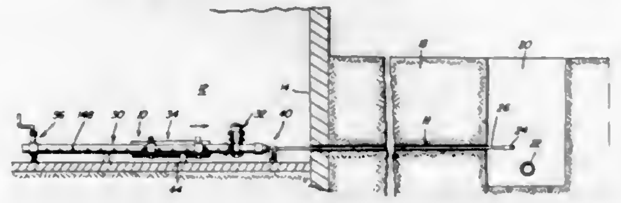


A power tool attachment which controls the depth of penetration or exposure of the power instrument, such as a drill or the like. Two concentric cylinders having coincident longitudinal slots are fitted over a knob projecting out from the instrument end of the power tool. The longer inner concentric cylinder is biased away from the power tool whereas the shorter outer concentric cylinder is rotated to any one of a number of stepwise notches which engage the knob on the tool. The inner cylinder is flanged to engage the outer cylinder so that the cylinders coact to hold the inner cylinder in a precisely positioned relationship with the power instrument.

3,451,491

HORIZONTAL DRILL SLIDE AND RECONVEYOR FOR INSTALLING UNDERGROUND LINES

Patrick J. Clelland, Springwater, N.Y.
(69 Old Post Road, Fairport, N.Y. 14550)
Filed Apr. 27, 1967, Ser. No. 634,149
Int. Cl. E21c *5/00, 9/00, 11/00*
U.S. Cl. 173—44 **7 Claims**

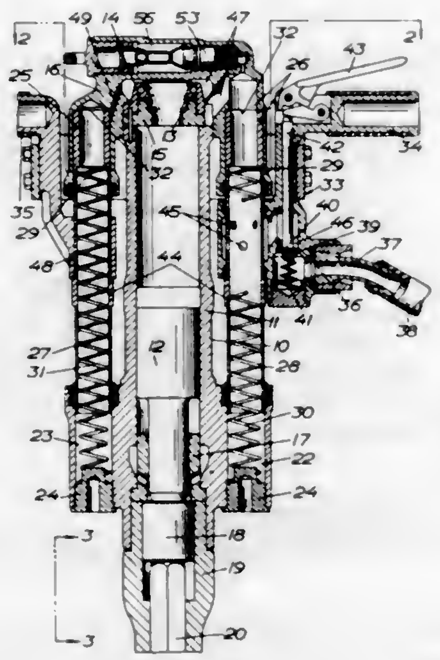


The installation of underground tubing between two horizontally spaced locations by anchoring a level track at one location on which a piston assembly and a rotary drilling device are slidably mounted. The piston assembly advances the drilling device as it penetrates the underground formation from removably anchored locations forwardly moved along the track until a borehole is formed through the formation. The tubing is then coupled to the piston assembly and pulled through the uncased borehole.

3,451,492

RECOIL VIBRATION DAMPED PERCUSSIVE MACHINE

Gösta Ivar Ekström and Jarl Joel Blomberg, Nacka, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Nov. 28, 1967, Ser. No. 686,035
Claims priority, application Sweden, Nov. 29, 1966, 16,284/66
Int. Cl. E21c *1/00;* **E21b** *3/00, 1/00*
U.S. Cl. 173—162 **10 Claims**

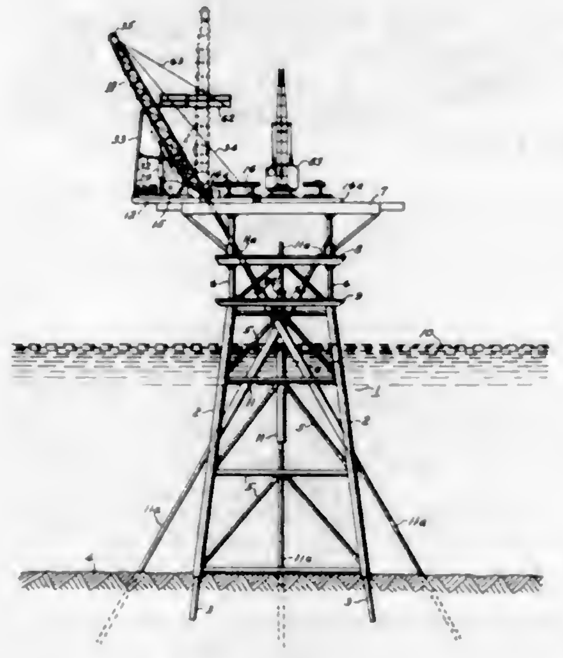


In a recoil vibration damped percussive machine a handle portion for sustaining the machine in position is fixed to an intermediate portion of at least one tube axially slidably guided at its opposite ends in bores in the machine, a recoil damping spring being inserted between the interior of each said tube and one of the bores for being loaded during work by forward movement of the handle portion relative to the machine.

3,451,493

DRILLING APPARATUS AND METHOD

James C. Storm, 823 S. Water St., Apt. 2A, Corpus Christi, Tex. 78401
Filed Mar. 29, 1967, Ser. No. 626,762
Int. Cl. E21b *15/02;* **E21c** *11/00*
U.S. Cl. 175—9 **43 Claims**

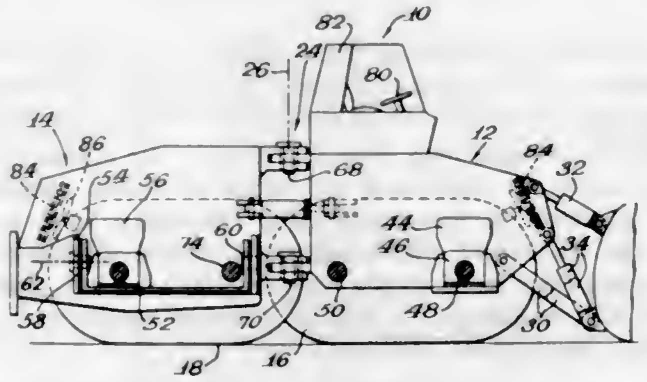


A tiltably mounted derrick permits directional or slant drilling at desired angles to the vertical, as well as vertical drilling. When directionally drilling, the derrick is tilted back over the draw works. A hydraulically operated collapsible frame is positioned in front of and aligned with the derrick, and pipe racks are located to one or both sides of the frame. In marine drilling, a platform having guide tubes is positioned on location, the directions of the guide tubes having been determined by the desired directions of the wells to be drilled. Thereafter, conductor casings are driven through the guide tubes, and drilling equipment mounted on the platform.

3,451,494

CLOSE-COUPLED ARTICULATED CRAWLER TRACTOR

John J. Kowalik, Glenview, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 673,439
Int. Cl. B62d *55/06;* **E02f** *3/76*
U.S. Cl. 180—9.24 **12 Claims**

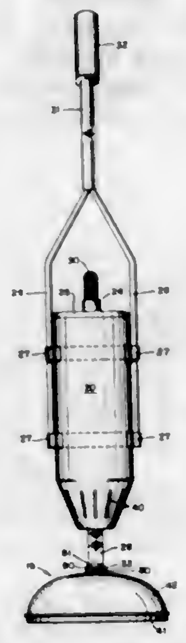


Wheel steered, all crawler tractor having front and rear frame sections articulated together at their adjacent ends. Each frame section carries longitudinal, crawler type endless tracks at opposite sides of the frame section, which tracks are laterally spaced apart from the frame and which, at the articulated end of the frame section, extend past the articulation so as to be non-interferingly intercalated with the tracks on the other section. Steering is accomplished by angulating the sections under power of steering cylinders located at the articulation, the cylinders responding to turning of a steering wheel in conventional way.

3,451,495

POWER DEVICES HAVING REVERSIBLE DRIVE

Frank K. Bayless, Darien, Conn., and Hugh A. Robinson, Wenham, Mass., assignors, by direct and mesne assignments, to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed May 17, 1966, Ser. No. 550,857
Int. Cl. B62d *51/04;* **A47l** *11/00*
U.S. Cl. 180—19 **11 Claims**

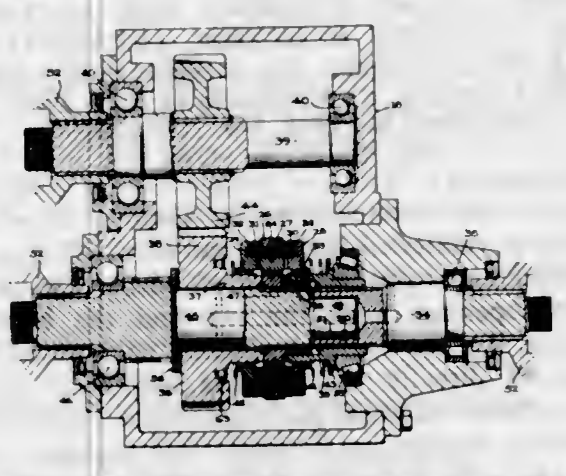


A reversibly self-propelled device, for instance a floor treating machine, has a drive wheel controlled through a transmission by a member manually shiftable to cause movement of the device in corresponding direction. Positioning the control member actuates one or the other or neither of two brakes thus locking either one or none of two circular splines in a harmonic drive mechanism, the compact arrangement thus providing forward, neutral, or reverse propulsion of the device.

3,451,496

PLURAL AXLE VEHICLE WITHOUT TRANSFER CASE DIFFERENTIAL MECHANISM THEREFOR

Albert F. Myers, Berkley, Mich., assignor to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,240
Int. Cl. B62d *61/10;* **F16h** *35/04;* **B60k** *17/34*
U.S. Cl. 180—23 **8 Claims**

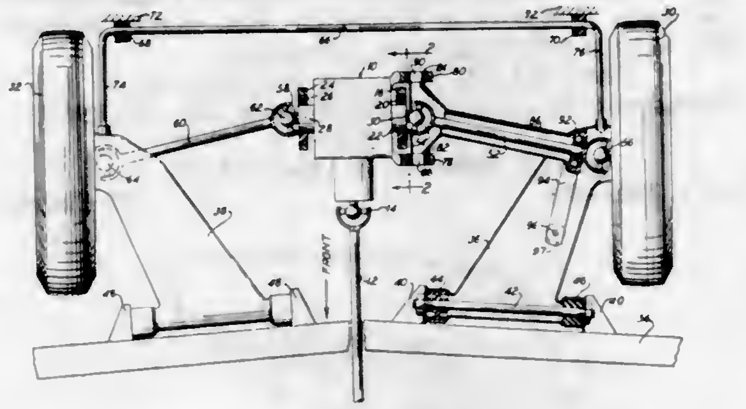


A transfer case differential mechanism of the automatic overrunning or declutching type for an automotive vehicle having a plurality of driving axles wherein the power input to the differential is provided internally by a driving shaft which is coaxial with the elements of the differential, the outputs are delivered to parallel shafts, one of which is coaxial with the driving shaft, by an external gear and a side gear, respectively, and all of the parts of the differential are supported by the coaxial driving and driven shafts without the use of a conventional rotatable differential case.

3,451,497

INDEPENDENT REAR SUSPENSION FOR A MOTOR VEHICLE WITH ANTISQUAT CHARCTERISTICS

John V. Barnes, Detroit, and Achille C. Sampietro, Bloomfield Hills, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 619,738
Int. Cl. B60g *9/02;* **B60k** *17/16*
U.S. Cl. 180—73 **15 Claims**

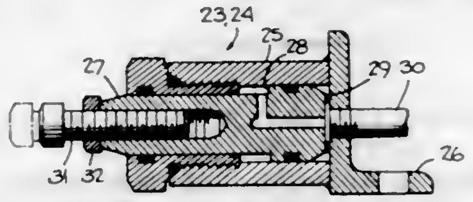


An independent rear suspension system for a motor vehicle having a resiliently mounted differential housing and a laterally extending torque reaction member that is connected to one of two suspension arms. The suspension components are arranged to provide an antisquat force during acceleration.

3,451,498

HYDRAULIC STEERING CONTROL FOR SHARP STEERING

Lloyd A. Molby, Elba, N.Y., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 23, 1967, Ser. No. 640,542
Int. Cl. B62d *5/06*
U.S. Cl. 180—79.2 **8 Claims**



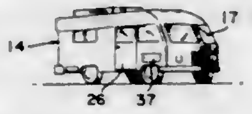
The fluid pressure existing in a hydraulic steering mechanism acts against a pair of small pistons that are mounted in position to be engaged by the pitman arm of the steering wheel as the arm moves toward extreme steering positions. The pitman arm can depress a piston, but when the fluid pressure becomes very high, as due to an extreme steered position of the vehicle, the pressure causes the piston to press the pitman arm somewhat away from extreme position so that the steering valve no longer directs fluid pressure to the vehicle. That enables the fluid pressure to return to a normal value so that the pressure relief valve need not discharge large amounts of fluid.

3,451,499

VAN TYPE VEHICLE

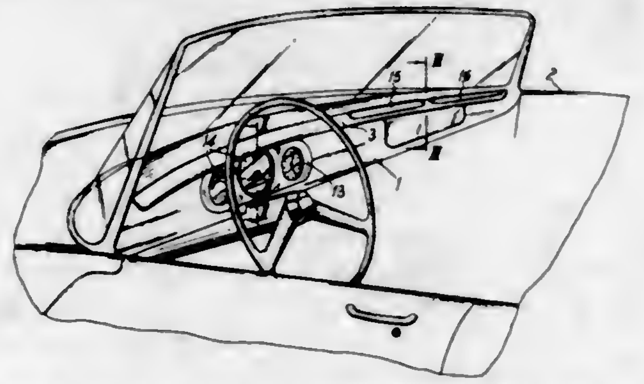
Jean M. Taylor, 1800 Lake Washington Blvd., Box 25, Renton, Wash. 98055
Filed Aug. 11, 1967, Ser. No. 659,921
Int. Cl. B62d *39/00*
U.S. Cl. 180—89 **1 Claim**

A house car or utility vehicle having a standard front-engine passenger or truck chassis and a van body extending the full length of the chassis with the driver/passenger location remaining behind the engine and the extended frontal area over the engine between the windshield and the dashboard being used for a bed, display area, desk top, counter or work bench.



3,451,500
MOTOR VEHICLE INSTRUMENT PANEL

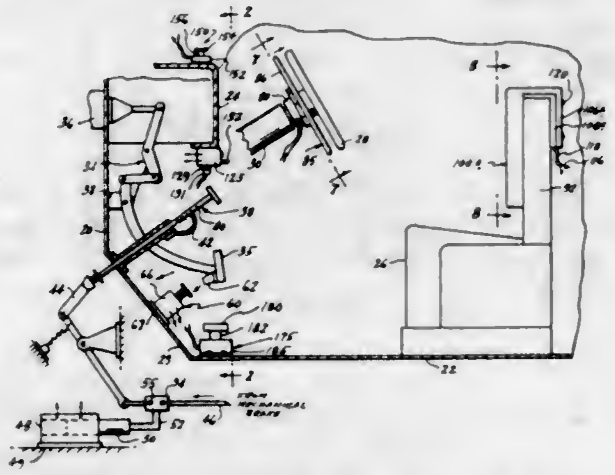
Ferdinand Alexander Porsche, Doffingen, Kreis Boblingen, and Konrad Bamberg, Stuttgart-Zuffenhausen, Germany, assignors to Firma Dr. Ing. H.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Oct. 11, 1966, Ser. No. 585,810
Claims priority, application Germany, Oct. 19, 1965, P 37,906
Int. Cl. B60k *37/00;* **B60r** *21/04*
U.S. Cl. 180—90 11 Claims



A single piece molding member releasably secured to an automotive instrument panel to form a continuous shield above the instruments in front of the normal driver's position and a hand grip in front of the normal passenger's position. The molding member includes a single metallic pipe extending substantially its full length and covered with a padding, which pipe is secured to the instrument panel by bolts extending through brackets, the instrument panel, and a reinforcing plate with a spacer therebetween.

3,451,501
AUTOMATIC EMERGENCY BRAKE ACTUATION SYSTEM

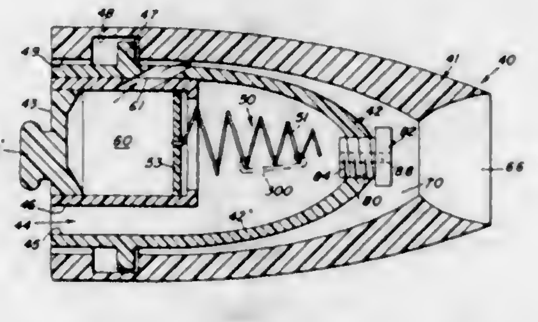
William A. Applegate, 2001 NW. 36th St., Fort Lauderdale, Fla. 33309
Filed Oct. 14, 1968, Ser. No. 767,244
Int. Cl. B60t *7/14;* **F16d** *65/14;* **B60k** *27/08*
U.S. Cl. 180—99 10 Claims



An automatic emergency brake actuation system includes a plurality of switch assemblies located at the seat, steering wheel and service brake pedal of an automotive vehicle. The assemblies include switches connected in circuit with an electromagnetically operated solenoid arranged to operate the emergency brake of the vehicle. Simultaneous closure of any two of the switches operates the emergency brake. The system may also include switch means for actuating the emergency brake in the event that the service brakes fail. The system may also include switch means for actuating the emergency brake by a passenger in the vehicle in the event the driver fails to respond to an emergency situation.

3,451,502
TONE FREQUENCY NOISE FILTER

Jack P. Branch, 2627 Sherwood Ave., Charlotte, N.C. 28207, and Noel O. Durham, Charlotte, N.C.; said Durham assignor to said Branch
Filed Apr. 3, 1968, Ser. No. 718,542
Int. Cl. H04r *25/02*
U.S. Cl. 181—23 20 Claims

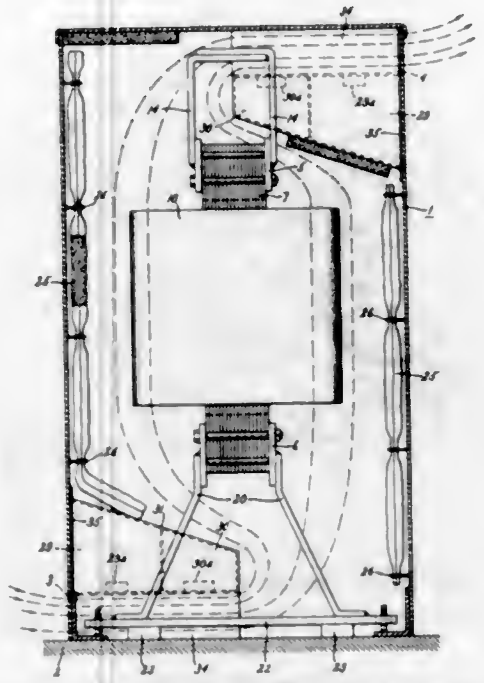


There is disclosed a process and means for improvement of speech understanding for an individual whose physical surroundings cause a lack of ability to facilely discriminate between auditory speech pulsations and background noises. The present invention discloses means, including a resonant capsule member which capsule encases a vibratory member and a diaphragm, this capsule being adaptable for insertion within the outer portion of the auditory canal. The capsule and the members associated therewith, including inner and outer casings, filter extraneous background noise and transmit, on a preferential basis, those frequencies and vibrations which are essential to perceptive discrimination of human speech. The capsule has incorporated therein a vibratory element or elements having a pre-selected peak frequency response or frequency discriminatory properties, and further includes means to shift the peak of this response, and to broaden this response as to its frequency width.

3,451,503
SOUND-REDUCING HOUSING FOR ALTERNATING CURRENT ELECTRIC APPARATUS

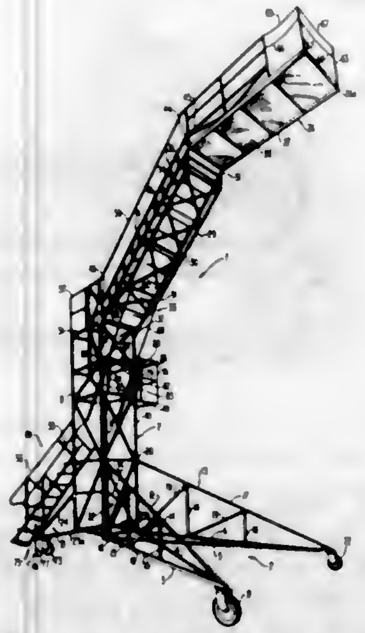
Thomas J. Twomey, Rome, Ga., assignor to General Electric Company, a corporation of New York
Filed Sept. 26, 1967, Ser. No. 670,540
Int. Cl. G10k *11/04*
U.S. Cl. 181—33 6 Claims

In an air-cooled enclosure for electric transformers or the like, a ventilated housing spaced at its sides from the enclosed apparatus is provided with large air inlet and outlet openings near the top and the bottom of the housing. To prevent transmission of internally generated sound directly through the ventilated openings there is provided adjacent each opening a chambered air duct structure comprising a tubular air passageway having one wall common with one or more laterally positioned sound attenuating cavities, each such cavity communicating with the air passageway through a tubular orifice in the common wall and comprising with such orifice a Helmholtz resonator tuned to one selected sound frequency to be attenuated. Preferably the inner walls of the housing are also lined with sound-absorbing material and the housing is mounted substantially in vibration-isolating independence of the enclosed electric apparatus.



3,451,504
AIRCRAFT SERVICE STAND

Richard W. Logan, Miami, Fla., assignor to Federal Sign and Signal Corporation, Blue Island, Ill., a corporation of New York
Filed Apr. 17, 1968, Ser. No. 721,987
Int. Cl. E06c *1/39, 1/397, 7/08*
U.S. Cl. 182—1 5 Claims

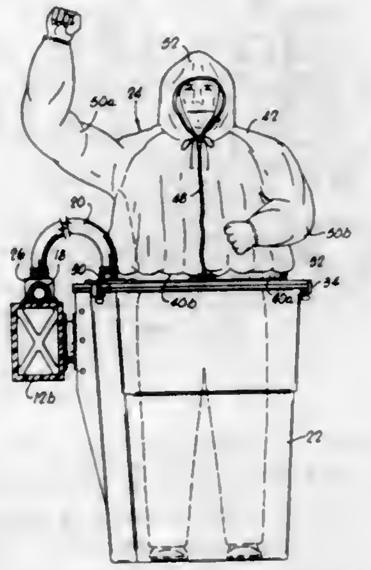


An aircraft service stand characterized by a planar base, an upright tower, and generally vertically extending, wedge-shaped, and horizontally diverging wings which define a shielded area. Articulated stairway and working platform means are mounted on the tower for vertical, pivotal movement, with the platform moving vertically between the vertical planes aligned with the diverging wings.

3,451,505
WORKING ENVIRONMENT CONTROL APPARATUS

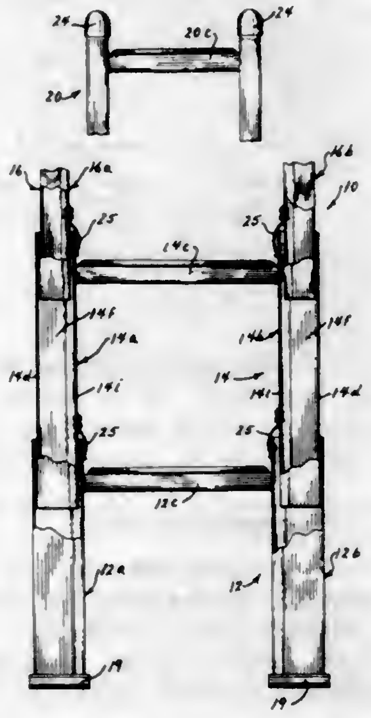
Bonnie R. Hulin, 6032 NW. 55th St., Oklahoma City, Okla. 73122
Filed Feb. 7, 1968, Ser. No. 703,685
Int. Cl. A62b *17/00*
U.S. Cl. 182—129 9 Claims

An apparatus for permitting control of the working environment of a workman in an aerial basket of the type carried at the end of an elevatable boom structure mounted on a portable vehicle. The environment control appartus includes a blower for moving air through a conduit which is supported on an articulated boom, and which terminates at its upper end at a sealed connection with a basket in which a workman may stand. Included in the apparatus is a torso garment having a waist portion, and having arm portions sealed at the cuff. The waist portion is provided with a sealing ring which cooperates with a channel which is located on the upper side of a cover plate for the basket, and is disposed around a large central aperture in such cover plate so that temperature controlled air passed through the plate from the conduit may pass upwardly into the torso garment, as well as down into the basket, and thus provide a thermally controlled environment for the workman without impairing ease of movement.



3,451,506
COLLAPSIBLE LADDER

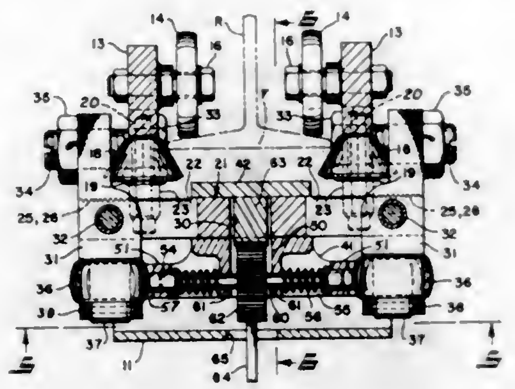
Vernon L. Neal, Evansville, Ind.
(917 Crestland Drive, Ballwin, Mo. 63011)
Filed Oct. 13, 1967, Ser. No. 675,137
Int. Cl. E06c *1/10, 5/04*
U.S. Cl. 182—195 4 Claims



A collapsible ladder characterized by a series of rung sections, nestable within each other when collapsed and maintained in extended position by load supporting spring clip members.

3,451,507
TROLLEY HOIST BRAKE WITH DEADMAN CONTROL

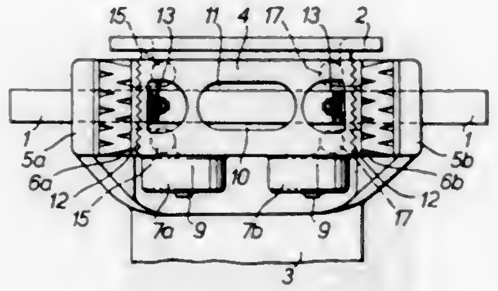
Gerard R. Santos, Levittown, Pa., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 20, 1967, Ser. No. 632,420
Int. Cl. B61h *7/12, 7/00;* **B60t** *7/12*
U.S. Cl. 188—44 **15 Claims**



A brake assembly is mounted for movement on the same trolley rail as a hoist, and is connected to the hoist through a slide that is in cam relation to brake jaws on the assembly. The brake jaws have an initial spring pressure causing a small amount of friction holding the brake assembly against movement, so that the hoist when starting to move will cause the cam action of the slide to press the brake jaws forcibly against the rail. The slide can be manually held in neutral position, allowing the brake and hoist to travel on the rail.

3,451,508
SPOT TYPE DISC BRAKES HAVING A FLOATING SADDLE

Hans Reinhard Ehlers, Reinbek, Germany, assignor to Jurid Werke G.m.b.H., Glinda, Germany
Filed Dec. 7, 1967, Ser. No. 688,828
Claims priority, application Germany, Dec. 9, 1966, J 32,459
Int. Cl. F16d *55/00, 65/38*
U.S. Cl. 188—73 **4 Claims**

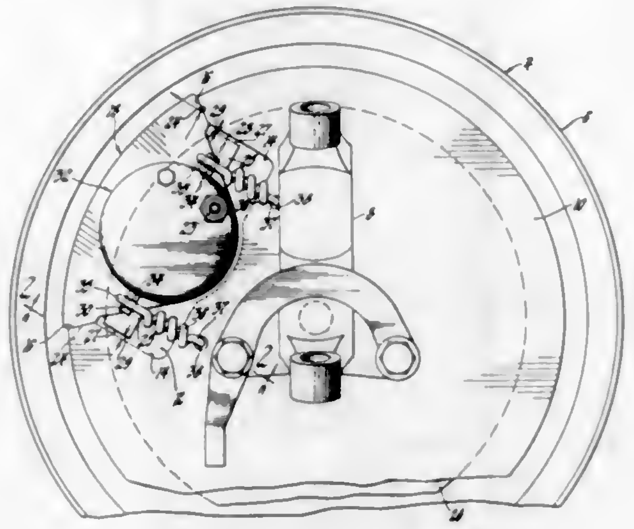


A spot-type disc brake has a floating saddle which is connected to and supported on a frame by means of resilient connections by which the saddle is guided in its floating motion relative to the frame axially of the disc brake.

3,451,509
DISC BRAKE FLOATING CALIPER MOUNTING MEANS

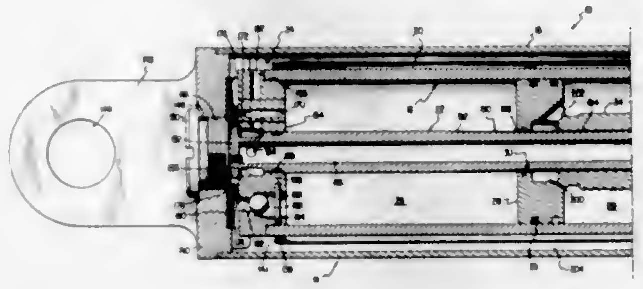
Edward J. de Hoff, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 8, 1968, Ser. No. 711,807
Int. Cl. F16d *55/00, 65/14*
U.S. Cl. 188—73 **3 Claims**

An arrangement for mounting a disc brake floating caliper in association with a non-rotatable splash shield. A wedge-shaped caliper housing is positioned in a sectorial recess in a splash shield and is biased into engagement therewith by two springs so that application of the brakes does not result in a clanking noise.



3,451,510
METERING SHOCK ABSORBER WITH SNUBBING MEANS AND SNUB RELEASE MEANS

Robert Louis Hartwig, Portage, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,670
Int. Cl. F16d *57/00*
U.S. Cl. 188—88 **9 Claims**

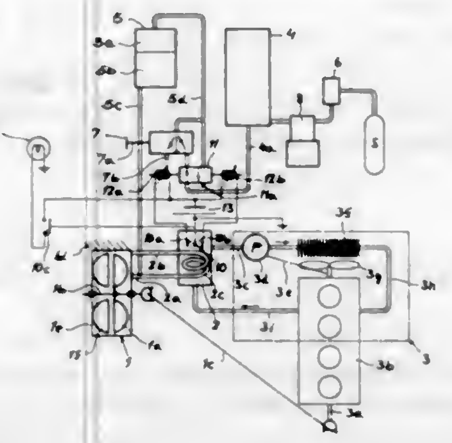


This disclosure describes a hydraulic type shock absorber having a metering pin to provide controlled fluid flow across a piston to control the rate of piston movement within a cylinder. Means are provided at one end of the cylinder to snub the piston hydraulically prior to the time the piston physically strikes the cylinder end. Means are also provided to allow the piston to move rapidly away from the snubbed position in order to condition the shock absorber to accommodate a subsequent impact.

3,451,511
LIQUID COOLED HYDRODYNAMIC BRAKE SYSTEM FOR MOTOR VEHICLES

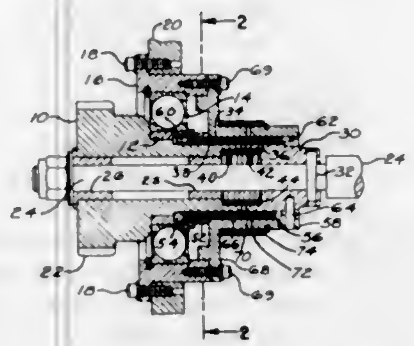
Wilhelm Knapp, Bad Homburg, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Oct. 2, 1967, Ser. No. 672,121
Int. Cl. F16d *57/00, 65/78*
U.S. Cl. 188—90 **10 Claims**

An automotive-vehicle brake system for a vehicle whose engine-cooling system is heated by a hydrodynamic brake in an operative state thereof. A temperature-sensitive switch in the cooling system line operates a valve connected with said hydrodynamic brake for inactivating the hydrodynamic brake upon the temperature in the cooling system exceeding a predetermined level.



3,451,512
COIL SPRING CLUTCHES AND BRAKES

Columbus R. Sacchini and Robert D. Lowery, Willowick, Ohio, assignors, by mesne assignments, to The Marquette Metal Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 2, 1968, Ser. No. 694,948
Int. Cl. F16d *67/02*
U.S. Cl. 192—12 **12 Claims**

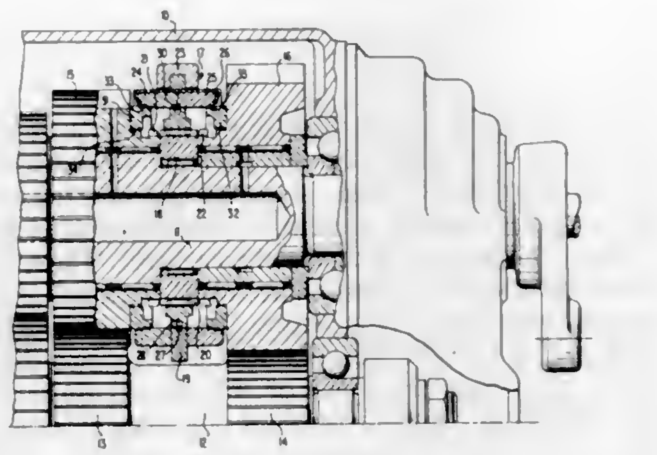


In an intermittently operable unidirectional spring clutch, a main spring and a backstop spring each engage the output member of the clutch and each is also subject to engagement with a fixed member when the clutch is disengaged, the main spring being engageable at such time with the fixed member to prevent rotation of the output member in its driven direction and the backstop spring being engageable with the fixed member to prevent rotation in the opposite direction. A third spring **42** prevents the output member from overrunning the driving member.

3,451,513
BLOCKING-TYPE SYNCHRONIZING SHIFTING CLUTCH FOR MOTOR VEHICLE CHANGE-SPEED TRANSMISSIONS

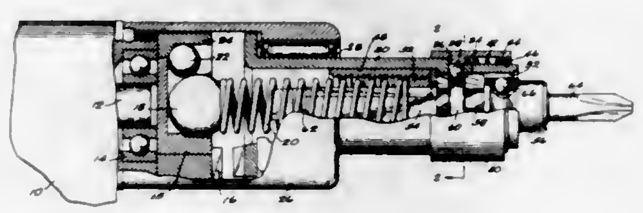
Werner E. Altmann, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 27, 1967, Ser. No. 634,295
Claims priority, application Germany, Apr. 30, 1966, D 50,004
Int. Cl. F16d *11/00, 13/00, 13/60*
U.S. Cl. 192—53 **20 Claims**

A blocking-type synchronizing shifting clutch for change-speed transmissions adapted to couple gear wheels freely rotatably mounted on a shaft to such shaft, which includes synchronizing surfaces as well as coupling members securely arranged at the gear wheels, a shifting sleeve axially displaceably but non-rotatably mounted on the sleeve carrier of the shaft and provided with counter coupling members, a shifting fork for axially displacing the shifting sleeve to effect engagement of a speed, and a synchronizing ring rotatable with respect to the shifting sleeve by only a limited amount, the shifting sleeve as well as the synchronizing ring being provided with mutually cooperating blocking surfaces blocking the full engagement of the shifting sleeve with a preselected gear until synchronism exists, in which the counter coupling members are constituted at the same time by the teeth between the shifting sleeve and its carrier and these teeth of the shifting sleeve are adapted to be engaged into the teeth of the gear wheels disposed directly adjacent the same and serving as coupling members, and in which the gear wheel body is provided with synchronizing surfaces which extend at least in part over the teeth serving as coupling members.



3,451,514
ADJUSTABLE TORQUE CONTROLLED RELEASE CLUTCH FOR POWER DRIVEN TOOLS

Edward W. Ristow, Wauwatosa, Wis., assignor to Milwaukee Electric Tool Corporation, Waukesha County, Wis., a corporation of Wisconsin
Filed Dec. 4, 1967, Ser. No. 687,899
Int. Cl. B25b *21/00;* **F16d** *7/02, 43/20*
U.S. Cl. 192—56 **5 Claims**

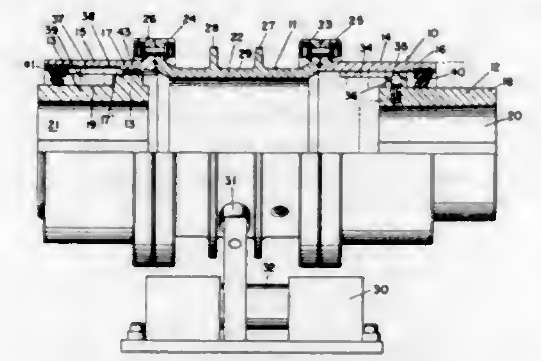


This disclosure consists of a spring operated torque controlled release clutch of well-known design mounted in the chuck driver assembly of a portable power driven rotary tool. The spring is adjusted by rotating a threaded plug also mounted in such assembly. The rotation of such plug is accomplished by manipulating a chuck with a long hex shaft slidably and nonrotatably passing through such plug. The release of such chuck from the chuck driver is accomplished by releasing a ball lock and sliding the chuck axially from its driving connection from such driver to thereupon permit the relative rotation necessary to adjust such plug.

3,451,515

PILOT BEARING FOR DISCONNECT COUPLING

Norman J. Anderson, Erie, Pa., assignor to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1967, Ser. No. 663,772
Int. Cl. F16d *11/04, 11/10, 13/22*
U.S. Cl. 192—67 **5 Claims**

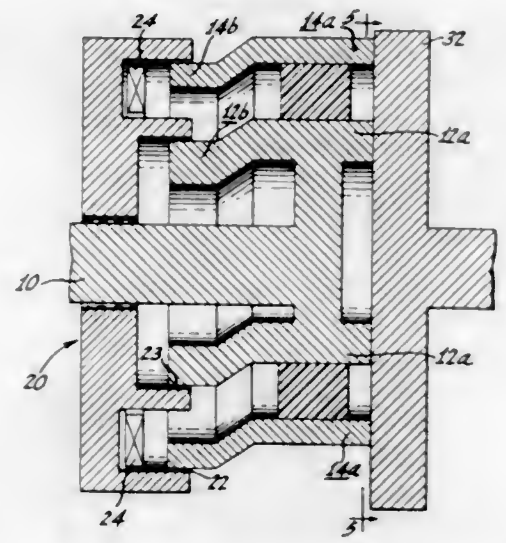


The coupling disclosed herein provides a bearing support by way of a ring having an outer cylindrical peripheral surface that engages a cylindrical bearing surface in the coupling to keep the tips of the disengaged hub teeth in radial alignment with the sleeve teeth. Thus, when the sleeve teeth and the hub teeth are disengaged, they rotate the ring with them. This assures that the differential movement will be at the bearing surface between the outside of the ring and the inside of the sleeve, rather than on tips of the hub teeth themselves and assures axial shifting into engagement and disengagement without interference between the hub and gear teeth.

3,451,516

ELECTROMAGNETIC CLUTCH HAVING ECCENTRICALLY MOUNTED POLES

James P. Watson, Jupiter, Fla., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,426
Int. Cl. F16d *27/00, 37/02, 19/00*
U.S. Cl. 192—84 **3 Claims**



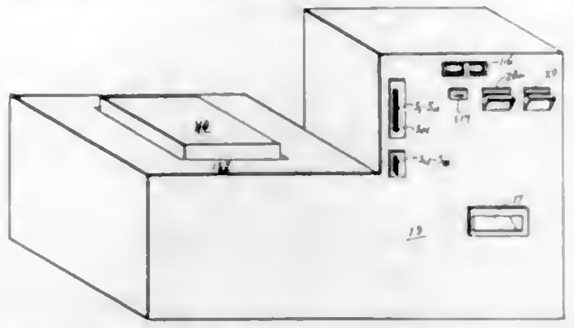
An electromagnetic clutch or brake having annular pole pieces which are eccentrically mounted to either the driver or driven shaft.

3,451,517

POSTAL VENDING MACHINE

Eric C. Wahlberg, 32 8th St., Stamford, Conn. 06905
Filed July 8, 1966, Ser. No. 563,804
Int. Cl. G07f *17/00, 11/00*
U.S. Cl. 194—2 **12 Claims**

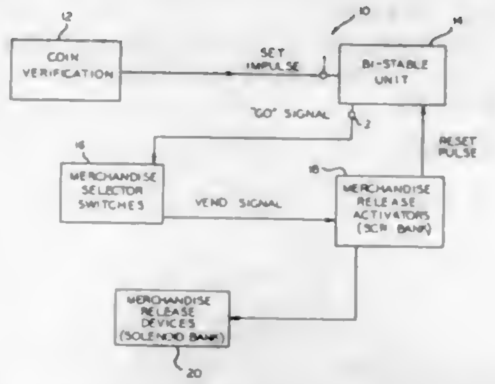
A postal vending machine for automatically determining the cost of mailing a package according to its weight and destination and special services desired such as airmail and special delivery, automatically issuing a mailing tape for the package, automatically dispensing and determining the cost of stamps, postcards and various other items and automatically totaling the cost of the transaction, comparing the total cost with the amount of money inserted in the machine and dispensing the difference, if the amount of money inserted is greater than the total cost.



3,451,518

MERCHANDISE RELEASE CONTROL FOR A COIN VENDING MACHINE

Martin E. Schneider, Chicago, Ill., assignor to Televiso Electronics, Division of Doughboy Industries, Inc., Wheeling, Ill., a corporation of Wisconsin
Filed Aug. 17, 1967, Ser. No. 661,360
Int. Cl. G07f *11/00*
U.S. Cl. 194—2 **13 Claims**

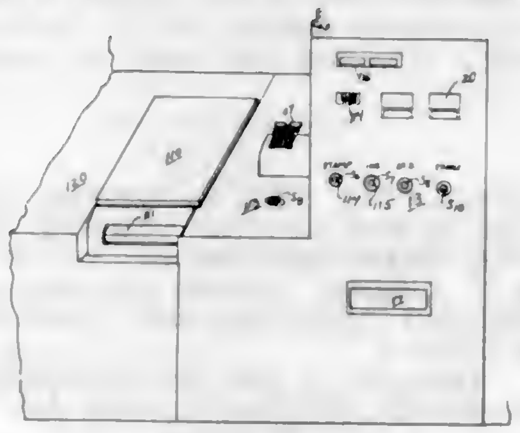

12
COIN VERIFICATION
SET IMPULSE
10
14
BI-STABLE UNIT
"GO" SIGNAL
2
RESET PULSE
16
MERCHANDISE SELECTOR SWITCHES
VEND SIGNAL
18
MERCHANDISE RELEASE ACTIVATORS (SCR BANK)
MERCHANDISE RELEASE DEVICES (SOLENOID BANK)
20

A coin operated vending machine producing an electrical drive signal upon the acceptance of the proper coinage inserted into the machine. The drive signal becomes a vend signal when a product selection is made, to close an electronic switch and provide a discharge path for a storage capacitor whereby a merchandise release solenoid is energized causing the selected product to be dispensed.

3,451,519

VARIABLE VALUE POSTAGE MACHINE

Eric C. Wahlberg, 32 8th St., Stamford, Conn. 06905
Filed June 7, 1966, Ser. No. 556,816
Int. Cl. G07d *17/00*
U.S. Cl. 194—4 **22 Claims**

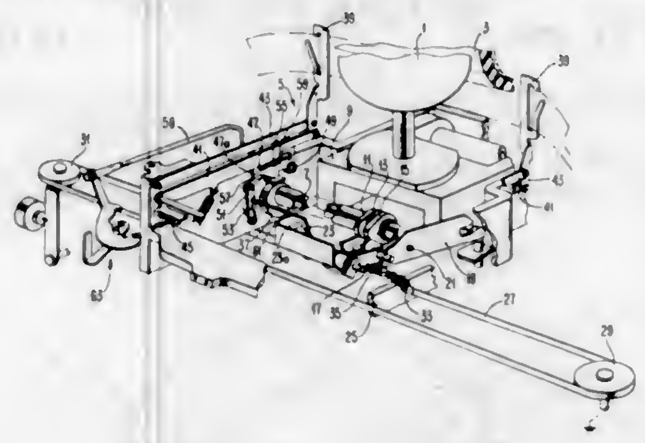


A variable value postage machine comprising apparatus for manually setting the cost of mailing an item into the machine, a currency detector for validating currency inserted in the machine and representing its total value and circuitry for comparing the cost with the currency value and issuing change and either stamps and/or a printed tape whereby the cost of mailing an object is determined independently of the machine and then inserted into the machine along with currency equal to or greater than the cost and the machine issues mailing indicia such as stamps and/or a printed tape in accordance with the mailing cost along with change for any overpayment.

3,451,520

RIBBON LEVEL SHIFT WITH PRINT VELOCITY SELECTION

Donald L. Greer, Jerome B. O'Daniel, and Krikor Yosmali, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 21, 1967, Ser. No. 647,813
Int. Cl. B41j *33/56, 23/02, 35/10*
U.S. Cl. 197—157 **4 Claims**

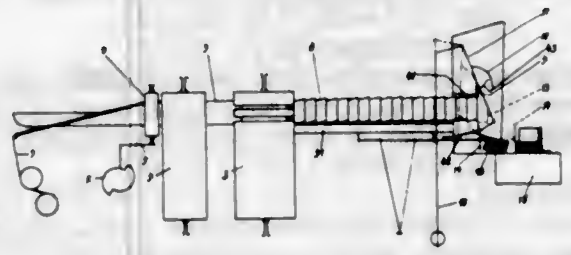


The preferred embodiment contains a camming plate rigidly connected to the print velocity cam follower in a single element typewriter. Two print velocity cams between which the follower is moved have substantially identical surfaces, to thereby produce the same print velocity in the printing function. As the follower moves, it carries the camming plate. The camming plate positions a pivot point in the ribbon vibrator so that in one position the black ribbon vertical half of a typewriter ribbon is lifted to the print position and in the other position the red ribbon half is lifted to the print position. The resulting product is a low cost and practical one which includes both the print velocity structures and a red ribbon shift in the limited space available.

3,451,521

APPARATUS FOR TRANSFERRING STACKS OF SHEET MATERIAL INCLUDING FOLDED PAPER HANDKERCHIEFS AND THE LIKE

Jurgen Fehst, Erkrath, and Wilhelm Kurten and Herbert Schettlinger, Dusseldorf, Germany, assignors to Hobema-Maschinenfabrik, Dusseldorf, Germany, a corporation of Germany
Filed Aug. 15, 1966, Ser. No. 633,308
Claims priority, application Germany, Aug. 13, 1965, H 56,866
Int. Cl. B65g *47/00*
U.S. Cl. 198—24 **11 Claims**

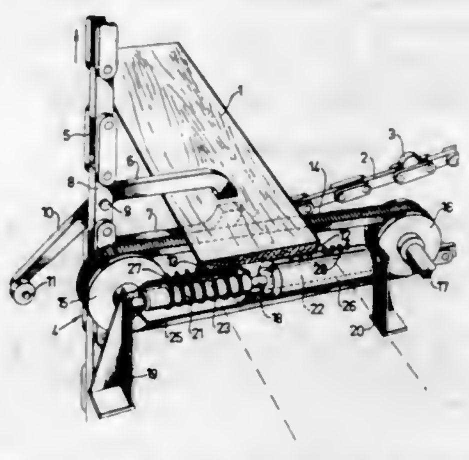


An apparatus for transferring stacks of sheet material from a stacking means to a receiving conveyor.

3,451,522

ARRANGEMENT FOR CENTERING AND DETERMINING THE WIDTH OF WORKPIECES

Gunnar Lennart Ahlstedt, Alfredshem, Sweden, assignor to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden
Filed Sept. 20, 1967, Ser. No. 669,208
Claims priority, application Sweden, Sept. 27, 1966, 13,019/66
Int. Cl. B65g *47/22*
U.S. Cl. 198—29 **8 Claims**

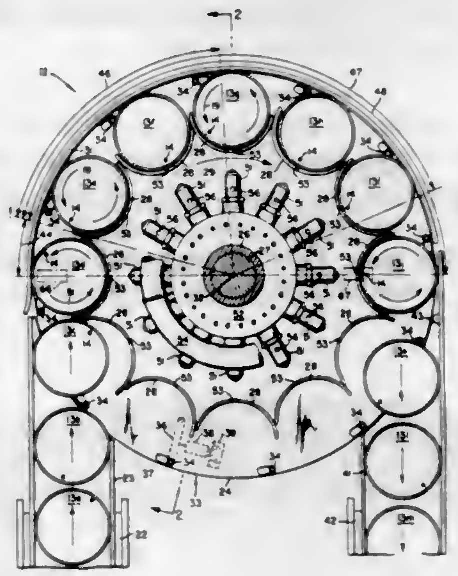


A device is provided for centering and/or determining the width of planks and like objects wherein a conveying means for conveying the plank in one plane and parallel with the dimension with respect to which the plank is to be centered, and with rows of circuit actuators capable of being deflected by the plank and extending in the conveying plane parallel with the conveying direction, the circuit actuators being arranged on both sides of and equidistant from a center line with which the centerline of the plank shall be caused to coincide, and which when deflected actuate the conveying means so that it moves the plank in either direction until an equal number of circuit actuators are deflected in both rows, whereupon the movement ceases.

3,451,523

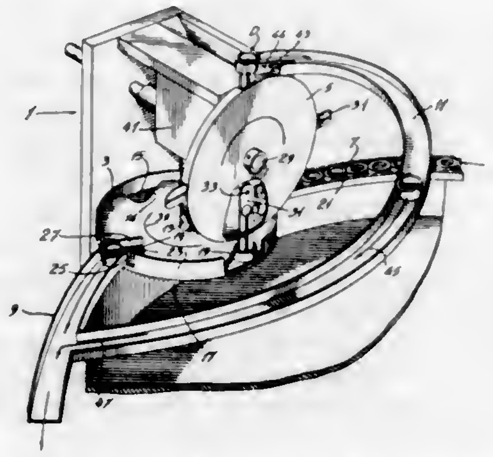
CONTAINER ORIENTER

John S. Evans, Jr., and James E. McGhee, Houston, Tex., assignors to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan
Filed July 14, 1967, Ser. No. 653,465
Int. Cl. B65g *47/24, 47/80*
U.S. Cl. 198—33 **9 Claims**



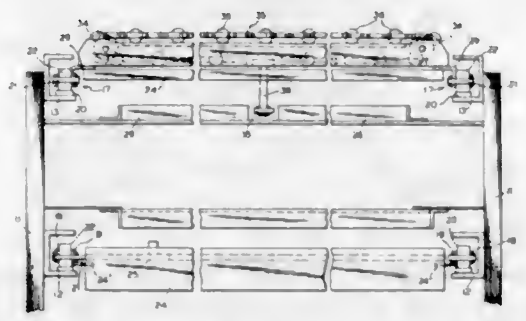
Cans of food are to be oriented for packing in an open-sided carton so that selected portions of the can labels face outwardly and are visible to retail purchasers. The labelled cans are conveyed to a large rotating disc of the "star-wheel" type defining curved pockets for holding the cans in predetermined peripheral positions on the disc, but free for relative rotation with respect to the disc. The centrifugal forces generated by the rotating disc force the cans outwardly against a fixed wall that partially encircles the disc, and the dragging effect of the wall causes the cans to rotate on the disc until each has a predetermined orientation with respect to the disc axis. While the cans are rotating on the disc, a photoelectric viewing apparatus senses a predetermined portion of the label and actuates a clamp to lock the can in its desired orientation and prevents further rotation of the can on the disc. Arriving at a discharge point, each can is automatically unclamped and discharged onto an output conveyor for transmission to the packing station, each of the cans on the output conveyor having a desired label orientation.

3,451,524
DEVICE FOR INVERTING REVERSED ARTICLES
Marcel H. Normandin, Montreal, Quebec, Canada, assignor to Diemakers Limited, Montreal, Quebec, Canada
Filed Sept. 6, 1967, Ser. No. 665,932
Int. Cl. B65g *47/24, 11/20;* **B23q** *7/12*
U.S. Cl. 198—33 **8 Claims**



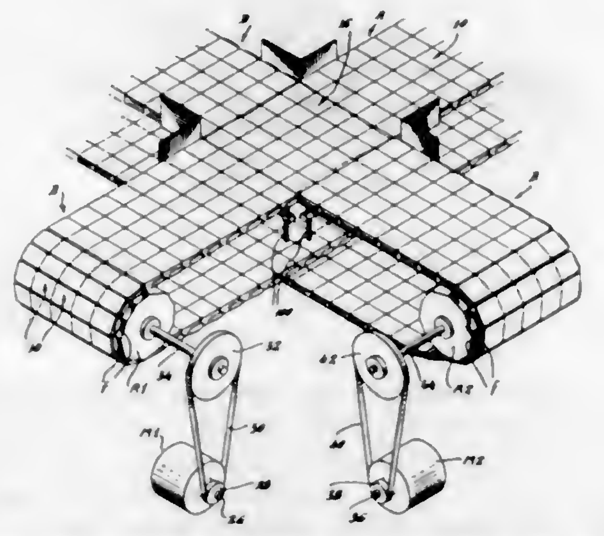
The device is especially adapted for inverting upstanding reversed articles such as bushings or the like. It generally comprises a feeding chute for feeding the upstanding articles in a disorderly manner, a turntable for conveying the articles standing head up to a discarding chute and those standing head down to an inverting rotor. The rotor picks up the reversed articles but let go of those standing head up. The reversed articles picked up by the rotor are inverted, fed into a return chute and then into the discarding chute in the head up position. Preferably, the rotor comprises spring loaded finger capable of intercepting the reversed articles.

3,451,525
SORTING CONVEYOR
Nelson P. Greller, 2800 Allendale Place, NW., Washington, D.C. 20008
Filed Aug. 10, 1967, Ser. No. 659,661
Int. Cl. B65g *13/02, 17/24*
U.S. Cl. 198—38 **4 Claims**



The disclosure relates to a sorting conveyor in which the conveyed articles can be removed laterally over either side of the conveyor at a selected one of a plurality of removal stations. The conveyor includes a series of article receiving platforms. Each platform includes an endless series of rollers carried by a conveyor-carried frame. The frame includes a transverse guideway along with a slide, connected with said series of rollers, is moved by cam means located at the removal station. The individual rollers in the upper run of the series of rollers are caused to rotate by a surface across which they are moved by movement of the slide along the guideway whereby the article which rests directly on the rollers is moved at a rate equal to twice that of the slide. Thus, the slide need move only halfway across the conveyor to move an article, resting at one side of the conveyor, completely across the conveyor to remove it.

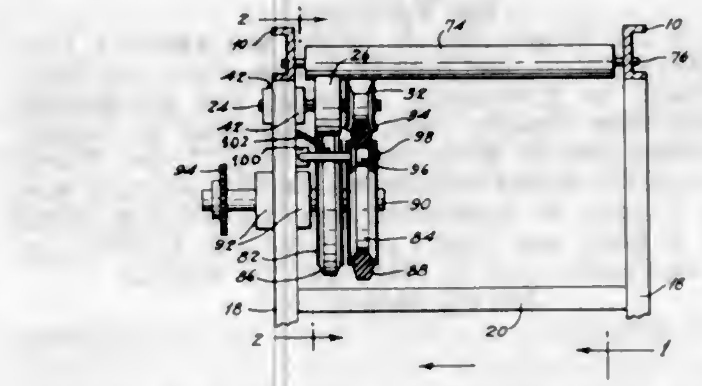
3,451,526
CONVEYOR SYSTEMS
John Fernandez, 370 West Ave., Norwalk, Conn. 06050
Filed Mar. 3, 1967, Ser. No. 620,315
Int. Cl. B65g *37/00, 23/00*
U.S. Cl. 198—75 **14 Claims**



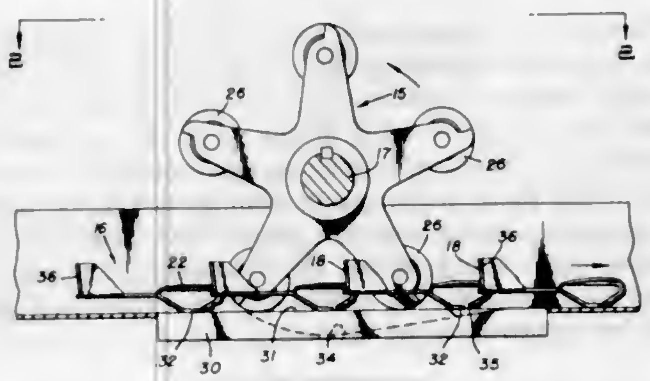
A number of interengageable conveyor units or links are disposed in the form of two conveyors for movement along either of two angularly related paths having a common coplanar area of intersection, the units which at any time happen to be within said area of intersection, being common to both conveyors, and transferable from one to the other, each unit having coupling members angularly disposed around its periphery and engageable with coacting coupling members carried by the units disposed in front and behind it and at its sides, the coupling members of units which are moving becoming automatically decoupled from the coupling members of laterally opposed units which are not moving. Means are provided for controlling the movement of units along either path so that when stopped the units will be wholly within or wholly outside of said area of intersection and will not straddle the margins of the area of intersection. Means are also provided for relieving frictional engagement between adjoining units or rows of units on opposite sides of a margin of the area of intersection.

3,451,527
ARTICLE HANDLING CONVEYORS
John M. Leach, P.O. Box 341, Port Jefferson, N.Y. 11777
Continuation of application Ser. No. 629,808, Apr. 10, 1968, now Patent No. 3,400,806, dated Sept. 10, 1968. This application May 3, 1968, Ser. No. 726,381
Int. Cl. B65g *13/071, 13/07*
U.S. Cl. 198—127 **11 Claims**

This invention relates to power driven article conveyors of the type commonly known as accumulation conveyors. In the operation of such type conveyor, whenever an article is stopped thereon for any reason, suitable mechanism is operated to stop the forward movement of the next article behind the stopped article in the direction of article flow just before or just as it touches the stopped article ahead, and this action is continued along down the line of approaching articles so as to prevent the articles from forcibly crowding together sufficiently to damage each other or make them difficult to remove from the line.



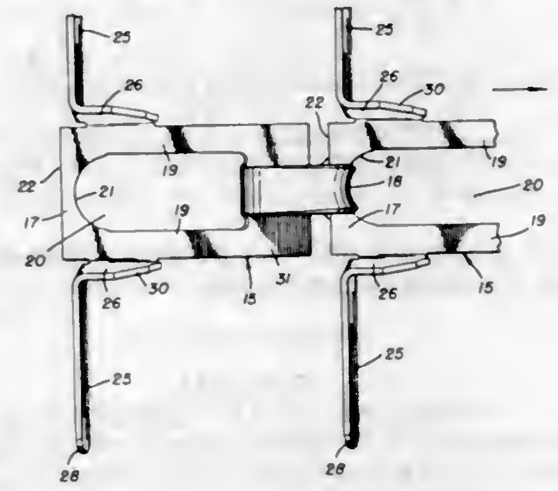
3,451,528
STRAIGHT-THROUGH SPROCKET DRIVE FOR OPEN-LINK LONG PITCH CHAIN
James H. McAuley, Bremen, Ohio, assignor to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed Oct. 6, 1967, Ser. No. 673,332
Int. Cl. B65g *35/06*
U.S. Cl. 198—171 **4 Claims**



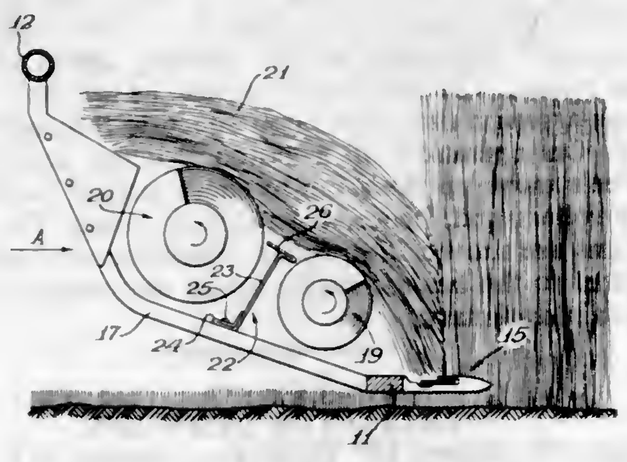
A special sprocket drive for interlocking open-link flexible chain of the general type disclosed in Patents Nos. 2,672,059, 2,889,915, 3,215,256, and 3,262,546–8; or in the copending applications Ser. No. 630,049, filed Apr. 11, 1967, and the application filed simultaneously herewith. Drive of this type of chain is by a sprocket which engages the chain tangentially and in which the chain does not pass around the sprocket but passes straight through or in a straight line longitudinally of the sprocket with successive single sprocket teeth engaging the chain to apply the driving force. According to the present invention, the sprocket is provided with anti-friction driving rollers which successively engage the succeeding links to apply the driving force with the development of a minimum of force on the sprocket and of friction between the sprocket and chain as a result of the driving engagement together with an opposed bearing shoe which prevents excessive distortion of the chain as a result of the radial force developed thereon.

3,451,529
FLEXIBLE MATERIAL-CONVEYING CHAIN
James H. McAuley, Bremen, Ohio, assignor to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed Oct. 6, 1967, Ser. No. 673,368
Int. Cl. B65g *19/00*
U.S. Cl. 198—173 **8 Claims**

A chain of the general nature disclosed in the patent to Graetz et al. No. 2,672,059, issued Mar. 16, 1954, composed of interlocking links but having greatly increased material-moving capacity. It is produced in very wide form to increase its material-moving capacity without the waste of material and without sacrifice of strength. Because of its great width and resulting increased material-moving capacity, it is especially suited for conveying loose bulky animal feed such as silage, haylage, etc. Because of its design, it can be made wide with a minimum of material by a series of identical stampings from a continuous strip of steel or other suitable material.



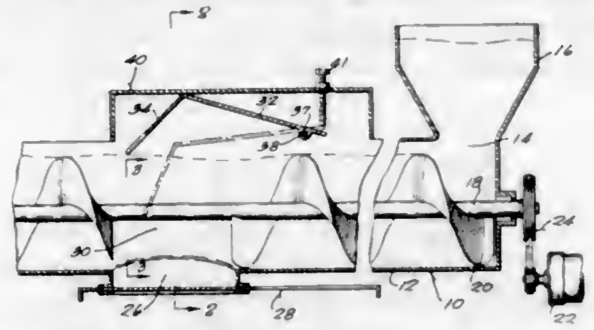
3,451,530
CROP CONVEYING MEANS FOR HARVESTERS
John E. Shumway, Park Ridge, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,265
Int. Cl. B65g *33/10, 65/22;* **A01d** *57/06*
U.S. Cl. 198—213 **10 Claims**



A crop harvesting platform for windrowers and the like including plural parallel crop-conveying augers which carry the cut crop laterally to a crop discharge area defined in the platform. A crop stripping and supporting member is mounted on the platform between the parallel augers for preventing wedging of the crop between the augers.

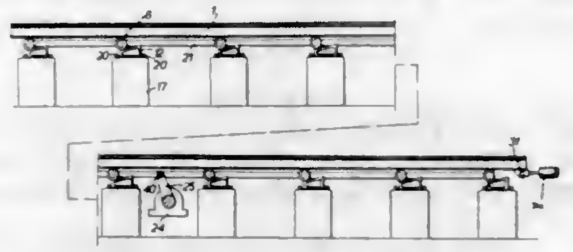
3,451,531
AUTOMATIC HIGH SPEED OUTLET
Clyde R. Barnes, Ossian, Ind., assignor to Mix-Mill, Inc., Bluffton, Ind., a corporation of Indiana
Filed Aug. 16, 1967, Ser. No. 661,111
Int. Cl. B65g *33/14*
U.S. Cl. 198—213 **7 Claims**

An auger conveyor having an intermediate outlet is provided with a deflector plate pivotally mounted to the auger housing to deflect grain or other conveyed material into the intermediate outlet. Removal of a portion of the auger flight above the intermediate outlet permits movement of the deflector close to the auger shaft to prevent carry-over of material past the open outlet during high conveying speeds. When the outlet is closed the conveyed material pushes the deflector plate to a retracted position outside the main conveyor tube.



3,451,532
WALKING BEAM APPARATUS

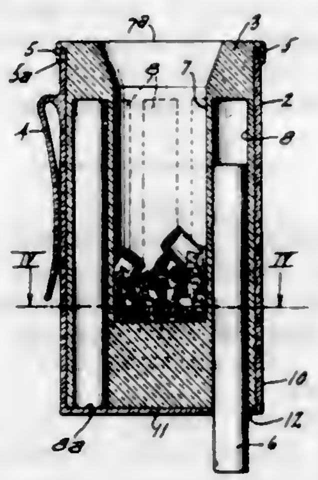
Ralph Manterfield, Dronfield, near Sheffield, England, assignor to Davy and United Engineering Company Limited, Sheffield, England
Filed Mar. 28, 1967, Ser. No. 626,592
Claims priority, application Great Britain, Mar. 29, 1966, 13,750/66
Int. Cl. B65g *25/04*
U.S. Cl. 198—219 5 Claims



This disclosure relates to a walking beam apparatus for advancing rolling mill products on a cooling bed. It comprises a set of fixed beams and a set of walking beams. The walking beams are supported by rollers which allow horizontal movement of the walking beams relative to the rollers. The rollers are carried by wheels which engage a ramp; thus, the ramp supports the entire assembly. On operation of a piston cylinder assembly, the wheels move up the ramp to effect vertical movement of the rollers and, hence, the walking beams. The walking beams are moved in opposite directions by a motor connected to the beams, during which movement the wheels remain stationary.

3,451,533
CIGARETTE DISPENSER

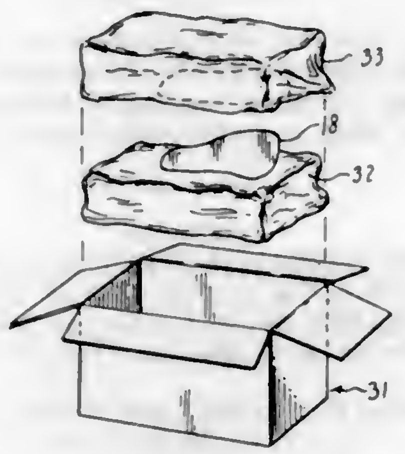
Henry E. Butler, 107 Glen Ave., Scotia, N.Y. 12302
Filed Oct. 6, 1967, Ser. No. 673,396
Int. Cl. B65d *37/00*
U.S. Cl. 206—38 5 Claims



A waterproof cigarette holder for woodsmen with a rotary cartridge assembly for dispensing cigarettes downwardly and incorporating a central ash tray and butt receptacle.

3,451,534
PACKAGING

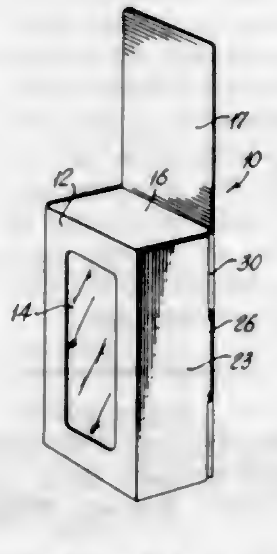
James E. De Remer, Detroit, Mich., and Tobias J. Herringshaw, Toledo, and John W. Parent, Cleveland, Ohio, assignors to Continental Aviation and Engineering Corporation, Toledo, Ohio, a corporation of Virginia
Application July 20, 1964, Ser. No. 383,717, now Patent No. 3,237,760, and Reissue No. 26,426, which in turn is a division of application Ser. No. 143,210, dated Oct. 5, 1961, now Patent No. 3,204,385. Divided and this application Feb. 3, 1966, Ser. No. 541,044
Int. Cl. B65d *85/00*
U.S. Cl. 206—46 3 Claims



A method of packaging and a package including a carton, an article carried in the carton and plastic foam cushioning material intermediate the article and the carton with several means being disclosed to aid in removing the article from the carton, such means including a wire to be positioned to be used to cut through the foam, a parting sheet positioned to sever the foam block into two or more pieces upon being pulled, or the foam being carried in bags formed about the article so that removal of the bags permits removal of the article.

3,451,535
TAMPERPROOF DISPLAY RECEPTACLE

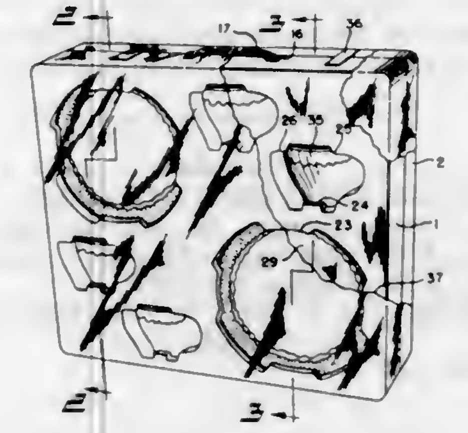
Earl H. Caplan, Bayside, N.Y., assignor to Nysco Laboratories, Inc., Long Island City, N.Y., a corporation of New York
Filed Aug. 29, 1967, Ser. No. 664,043
Int. Cl. B65d *5/50, 5/52, 5/10*
U.S. Cl. 206—44 1 Claim



A tamperproof display receptacle is formed of a unitary cardboard blank and includes side walls projecting rearwardly from the vertical marginal edges of a windowed front wall and provided with locking tabs projecting from their terminal rear edges, said tabs having neck sections terminating in enlarged heads. Panels project forwardly from the rear wall into positions underlying the side walls, each panel having a base slit formed along its rear edge of a width between that of the tab neck and head, and slits forwardly diverging from the base slit to points spaced a distance greater than the width of the tab head. The tabs are contiguous to the front face of the rear wall with their necks registering with the base slits and are retained in position by the panel flaps delineated by the base and diverging slits.

3,451,536
SHIPPING AND DISPLAY PACKAGE

John P. O'Leary and Thomas P. Woolaway, Beaver, Pa., Richard S. Reese, Scio, Ohio, and Joseph Feuchtwanger, New York, N.Y., assignors to The Scio Pottery Company, Scio, Ohio, a corporation of Ohio
Filed May 15, 1968, Ser. No. 729,219
Int. Cl. B65d *65/16, 85/44, 81/16*
U.S. Cl. 206—45.33 10 Claims



A shipping and display package for pottery and the like comprising an assemblage of at least two molded foamed plastic sections having recesses in their inner juxtaposed faces adapted to receive the articles, and also having windows in their outer side faces to expose such articles to view.

3,451,537
PRESSURE-SENSITIVE ADHESIVE TAPE

Charles R. Freeman, Lincoln Township, Washington County, Minn., and Charlotte I. Sauer, North St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Feb. 28, 1966, Ser. No. 530,337
Int. Cl. B65h *55/00*
U.S. Cl. 206—59 10 Claims

Normally tacky and pressure-sensitive adhesive tape which can be applied at temperatures as low as —30° C. and which when applied function effectively from —30° C. to +105° C. The adhesive is a reacted blend of rubbery polymer, tackifying resin, and curing agent, the rubbery polymer at least preponderantly comprising 1,4-polybutadiene having over 95% cis configuration.

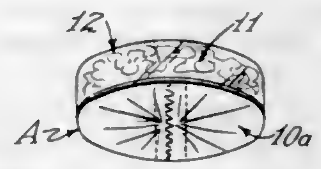
3,451,538
PACKAGING FILMS WITH IMPROVED PROPERTIES

Quirino A. Trementozzi, Springfield, Mass., assignor to Monsanto Company. St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 544,109, Apr. 21, 1966. This application May 29, 1967, Ser. No. 642,207
Int. Cl. B65b *29/00;* **C08f** *37/00*
U.S. Cl. 206—46 7 Claims

Disclosed herein are packaging materials having oxygen permeability of less than 6.5 cc./100 sq. in. 24 hr. atmos. mil at 73° F. and water vapor transmission of less than 8.5 gms./24 hr. 100 sq. in. mil at 100° F. and 95% R.H. The materials are based upon copolymers of acrylonitrile wherein the acrylonitrile is present in a range of from 55 to 90% by weight. A preferred copolymer is 80/20 acrylonitrile/isobutylene. The process for the manufacture of the packaging materials is also claimed.

3,451,539
CIRCULAR TYPE DISC

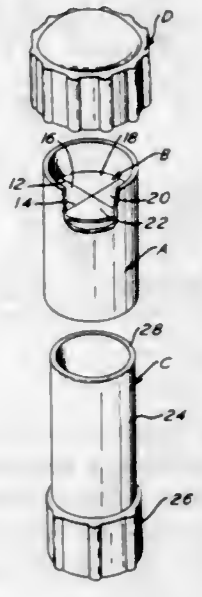
Lawrence S. Wysocki, Chicago, Ill., assignor to Hoerner Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed Aug. 7, 1968, Ser. No. 750,965
Int. Cl. B65d *85/00, 65/04, 5/54, 17/02*
U.S. Cl. 206—46 7 Claims



Generally cylindrical patties of meat and the like are supported upon a paperboard disc of similar size. A transparent film encloses the patty and the marginal edges of the film are sealed to the exposed surface of the disc. A zig-zag line of perforations extends across the disc. When the patty is bent in a manner to flex the exposed surface of the disc into convex form, the disc will burst apart along the perforations, tending to tear or unseal the edges of the film.

3,451,540
DISPOSABLE MIXING CAPSULE

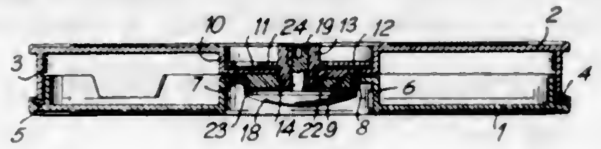
Walter Kulischenko, Staten Island, N.Y., assignor, by mesne assignments, to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1967, Ser. No. 690,007
Int. Cl. B65d *79/00, 1/04*
U.S. Cl. 206—47 10 Claims



Mixing capsule for separate storage of ingredients comprising a pair of telescoping hollow members, one of which has a transverse partition with pre-scored weakened zones symmetrically disposed in the central portion. When the members are compressibly urged toward each other, the marginal edge of the proximal end of one hollow member causes the partition to rupture in tension, and the ruptured segments are captured in the annular space between the telescoped members to permit intermixing and trituration of the ingredients without interference.

3,451,541
LOCKING DEVICE FOR A BOX ADAPTED TO CONTAIN A SPOOL OF MATERIAL

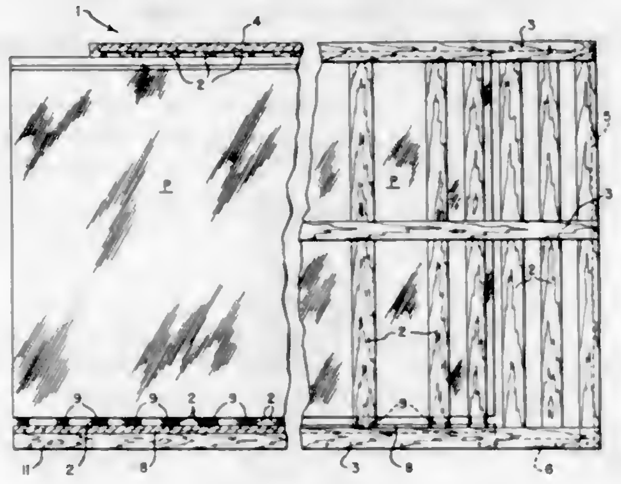
Pierre A. L. Posso, 20 Rue Gandon, Paris, France
Continuation-in-part of application Ser. No. 616,932, Feb. 17, 1967. This application Mar. 1, 1968, Ser. No. 709,717
Claims priority, application France, June 30, 1967, Addition 112,641
Int. Cl. B65h *55/00, 75/02*
U.S. Cl. 206—52 **9 Claims**



Locking device for securing together two disc-like components of a cylindrical box adapted to contain a film or tape spool. The device includes a central axial cam shaft rotatably supported in a central, circular recess portion in a first disc-like component. The shaft has cam portions which engage sector segments disposed about the shaft, for urging the sector segments outwardly whereby an elastic ring surrounding the sector segments is expanded and forced into contact with a circular inner surface bounding an opening in the other component, whereby the components are locked together in sealed relation.

3,451,542
GLASS CASE

Albert J. Bundy and James L. Williams, Kingsport, Tenn., assignors to American Saint Gobain Corporation, Kingsport, Tenn., a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,335
Int. Cl. B65d *83/00, 85/46, 85/48*
U.S. Cl. 206—56 **6 Claims**

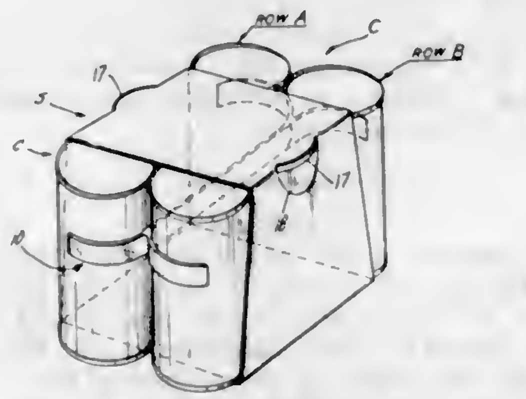


A glass case having a pair of side walls, end members and a top member providing a storage area for receiving glass sheets, fixed spaced support means disposed along the bottom of the case, and movable support means seated on the fixed support means for supporting the glass sheets.

3,451,543
WRAP-AROUND PACKAGE AND RETAINER MEMBER

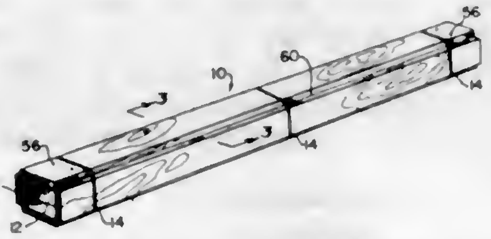
Earl J. Graser and Earle C. Sherman, Monroe, La., assignors to Olinkraft, Inc., a corporation of Delaware
Filed Oct. 5, 1967, Ser. No. 673,090
Int. Cl. B65d *71/00*
U.S. Cl. 206—65 **5 Claims**

This invention relates to a wrap-around package of the type having a sleeve-like wrapper encircling a plurality of similar articles disposed in rows in combination with a resilient generally elongate retainer member positioned between the rows, said member terminating at each end in a flared, arcuate structure having a surface partially encircling mating terminal articles in each row, said member being effective to retain the articles within the wrapper and being further effective by virtue of its resilience to generate a hoop stress in the wrapper.



3,451,544
GRAIN DOOR KIT FOR TRANSPORT VEHICLES

Warren H. Sutter, Chicago, Ill., and Donald F. Kramer, Appleton, Wis., assignors to Signode Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,062
Int. Cl. B65d *85/62*
U.S. Cl. 206—65 **3 Claims**



A grain door kit embodying all of the components of two grain door installations for a railway freight car or the like. The kit components include two paperboard grain doors separately coiled and attached to respective pry-boards, and two climb-out boards, together with a package of nails. The four boards are arranged in quadrilateral fashion to provide a tubular box-like enclosure for the doors and nails, while a pair of end cleats inside the enclosure afford the necessary reaction to enable the four boards to be held in position by tensioned strapping.

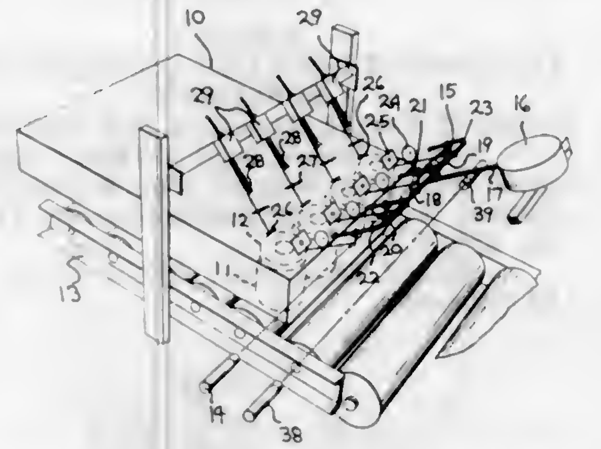
3,451,545
METHOD FOR SEPARATING MICRO-ORGANISMS FROM EARTH SAMPLES

Heinz P. Studer, Bellaire, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 13, 1967, Ser. No. 653,011
Int. Cl. B03c *1/00;* **A01n** *1/00;* **C23c** *17/00*
U.S. Cl. 209—8 **9 Claims**

A method for coating micro-organisms such as foraminifera in earth samples with a magnetizable compound by treating the foraminifera with an aqueous solution containing a soluble salt of a complex of a magnetizable metal and a polyfunctional acidic material and thereby depositing a magnetic compound on the foraminifera. The foraminifera can then be separated from the remaining earth samples by magnetic separating means.

3,451,546
INSPECTING SEALED CONTAINERS IN CLOSED CARTONS

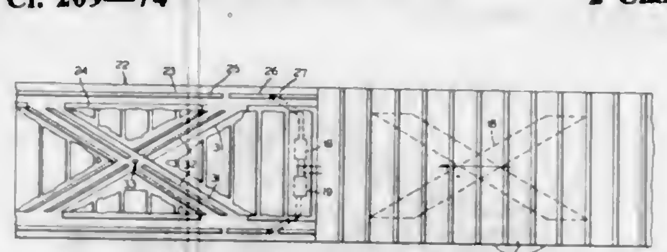
Ellsworth M. Murley, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 21, 1967, Ser. No. 662,042
Int. Cl. C07c *5/34, 5/12*
U.S. Cl. 209—73 **9 Claims**



The inspection of sealed containers, particularly glass containers, having metal caps which incorporate a flip-panel that assumes a concave configuration when the container is under sufficient vacuum and a convex configuration when the vacuum is unsatisfactory, is carried out after the containers are packed within a carton by using microwave radiation and reflection technique. A klystron operated in the millimeter wave band at low power is coupled to feed horns and by the use of dielectric lenses the millimeter waves, which penetrate the cartons, are directed toward and reflected from the container flip-panels. The reflected waves are picked up by horns coupled to bolometers. The pickup horns are positioned behind masks so that divergent reflected waves will reach the horns while convergent reflections will be intercepted by the mask, thus the output of the bolometer serves as an indication of the vacuum condition of the containers.

3,451,547
SORTING CONVEYOR CONTROL

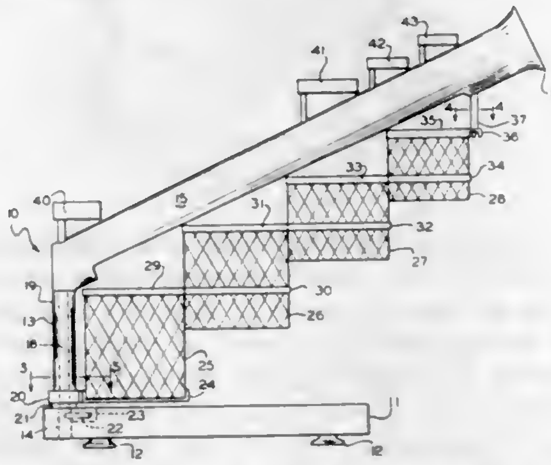
Nelson P. Greller, 2800 Allendale Place NW., Washington, D.C. 20008
Filed Aug. 10, 1967, Ser. No. 659,736
Int. Cl. B07c *5/36, 9/00*
U.S. Cl. 209—74 **2 Claims**



A sorting conveyor has a plurality of article removing stations. The removal stations are arranged on both sides of the conveyor. Each removal station has a removal station opposite it on the other side of the conveyor. The conveyor includes an endless conveyor apron provided with a plurality of longitudinally spaced, transverse guideways extending across said conveyor apron. A guide is slidable along each guideway and carries a cam follower. A pair of cam rails is associated with each opposing pair of removal stations. A switch is provided at the entrance end of each cam. The switch is normally inactive, but each pair of switches may be simultaneously moved to active positions in which any cam follower reaching said switches is switched onto the associated cam rail. Movement of the cam follower along said cam rail causes the guide to move along its associated transverse guideway. Such movement of the guide actuates article removal means whereby an article carried by the apron is removed at the selected removal station. The switches are automatically controlled in timed relation to travel of the article. The automatic control also controls over which side the article is to be removed from the conveyor apron.

3,451,548
HAIR CURLER SORTER

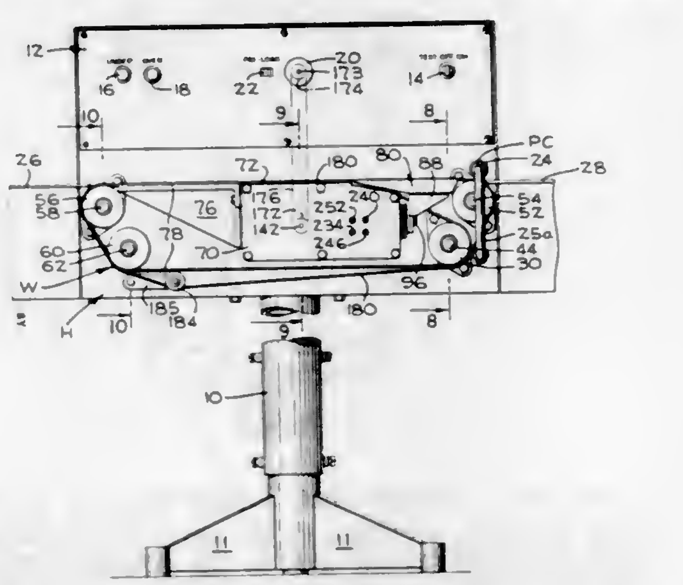
Arthur G. Martineau, Jr., 1024 Onondaga Ave., Syracuse, N.Y. 13207
Filed Dec. 16, 1966, Ser. No. 602,389
Int. Cl. B07c *5/04, 1/10;* **B07b** *13/04*
U.S. Cl. 209—97 **3 Claims**



Apparatus having an inclined tube whose lower end is pivotally connected to a base support. The bottom sidewall of the tube has a tapered slot allowing curlers inserted in the upper open tube end to drop from the tube at side-spaced intervals. A plurality of baskets secured together and pendantly and removably supported by the tube, are arranged successively beneath the slot to receive the curlers, one basket for each size.

3,451,549
AUTOMATIC WEIGHING AND FILL CONTROL APPARATUS

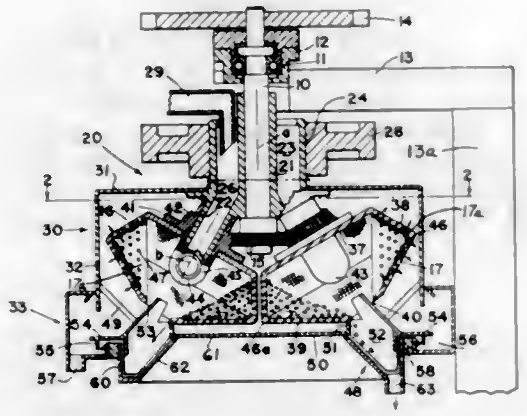
Paul E. Seaborn, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Aug. 12, 1963, Ser. No. 301,498, now Patent No. 3,367,433, dated Feb. 6, 1968. Divided and this application Mar. 10, 1967, Ser. No. 656,606
Int. Cl. B07c *5/16;* **B07b** *13/08*
U.S. Cl. 209—121 **8 Claims**



In a conveyor type checkweigher, the position of a spring loaded scale platform is sensed by a vertical array of reed switches operated by magnets on the platform for giving digital readings of the weight of articles on the platform.

3,451,550
CENTRIFUGAL MACHINE

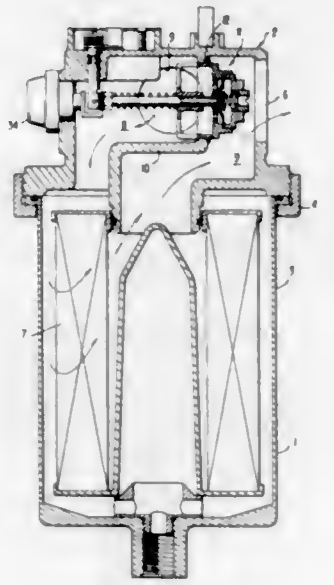
Bradley G. Cox, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed June 12, 1967, Ser. No. 646,156
Int. Cl. B01d *33/02*
U.S. Cl. 210—78 **12 Claims**



A continuous self-discharging centrifugal separator having orbitally and axially rotating perforated baskets including at least one radially inwardly extending annular shelf forming at the interior of each basket wall a V-shaped or U-shaped product annulus. The rapidly orbiting baskets are positively rotated around their own axes at a predetermined, very slow rate in the neighborhood of 2–3 revolutions per minute, and the solids freed from the liquid are continuously centrifugally thrown off the shelves to an annular discharge chute. The liquid-solid mixture is initially delivered to a zone radially intermediate the extreme inner and outer peripheral portions of the baskets relative to the orbital axis.

3,451,551
FREE-FLOW FILTER BYPASS VALVE

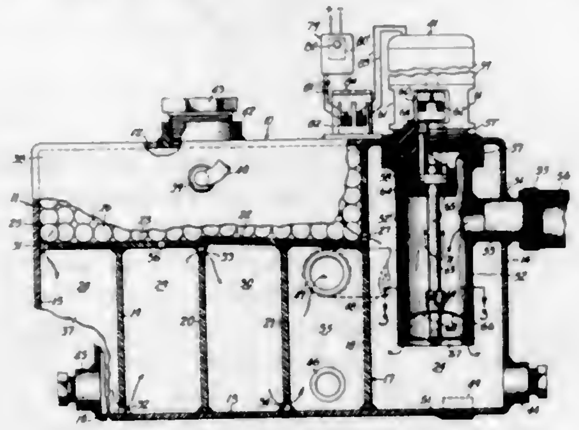
William J. Sample and George T. Downey, Corry, Pa., assignors to Aero-Flow Dynamics, Inc., Corry, Pa.
Filed Sept. 15, 1967, Ser. No. 668,102
Int. Cl. B01d *35/14, 27/10*
U.S. Cl. 210—90 **16 Claims**



A filter assembly for liquids such as gasoline fuel, incorporating a bypass valve assembly including a valve body exposed on one side to the pressure of the fluid at the inlet portion of the filter assembly and, on the opposite side, to the pressure of the fluid at the outlet portion of the filter assembly, in addition to the force of a spring which acts upon the valve body to maintain the body in a seated position, and further incorporating a second pressure-responsive element, exposed, on one side, to the ambient pressure and, on the opposite side, to the pressure of the fluid at the inlet portion of the filter assembly, said second pressure-responsive element related to the valve body such that a pressure drop at the inlet portion of the filter assembly to a level below a predetermined minimum causes a force to be exerted against the valve body to unseat the valve body, allowing the flow of unfiltered fuel.

3,451,552
TREATMENT UNIT FOR CONTAMINATED EFFLUENT

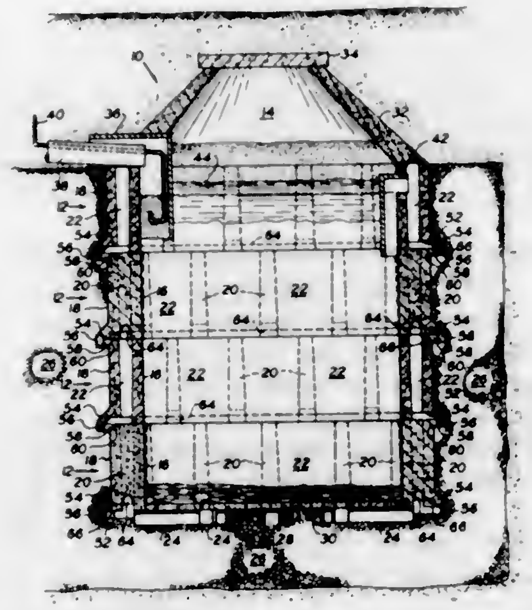
Gordon R. Carlson, Metuchen, N.J. (P.O. Box 16, N. Dayton Station, Dayton, Ohio 45403)
Original application Nov. 10, 1966, Ser. No. 593,556. Divided and this application Aug. 9, 1967, Ser. No. 659,372
Int. Cl. B01d *35/02, 23/20, 33/18*
U.S. Cl. 210—152 **10 Claims**



A device for treating contaminated effluent, as from a toilet bowl, by passing it through a solid but soluble treating agent bed, which filters the effluent and treats it chemically to substantially minimize bacteria in the treated effluent. The device includes provisions by which the solid soluble treating agent normally is not in contact with much of the liquid effluent, to minimize the dissolution rate.

3,451,553
SEPTIC TANK STRUCTURE

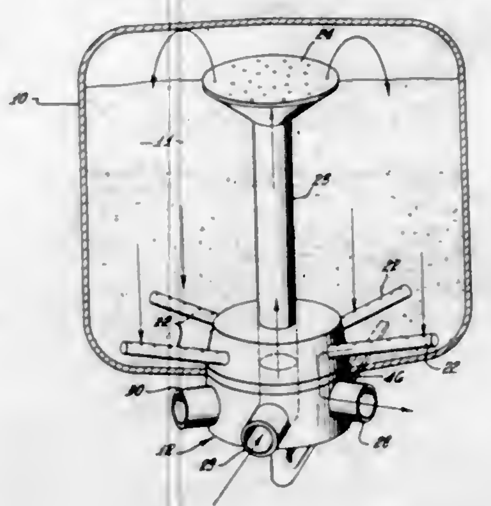
Cloyd Davis, Williston Park, N.Y., assignor to Modern Sewerage Systems, Inc., Roslyn, N.Y., a corporation of New York
Filed Feb. 29, 1968, Ser. No. 709,416
Int. Cl. B01d *23/16, 23/10*
U.S. Cl. 210—170 **7 Claims**



A septic tank having a plurality of precast circular tiers forming a tank chamber and a plurality of peripheral chambers opens to the ground through which liquid is leached into the ground.

3,451,554
SWIMMING POOL FILTER WITH ALTERNATE FLOW VALVE CONTROL

Charles E. Wade, Covina, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Sept. 10, 1968, Ser. No. 758,913
Int. Cl. B01d *29/38, 29/08*
U.S. Cl. 210—278 **9 Claims**

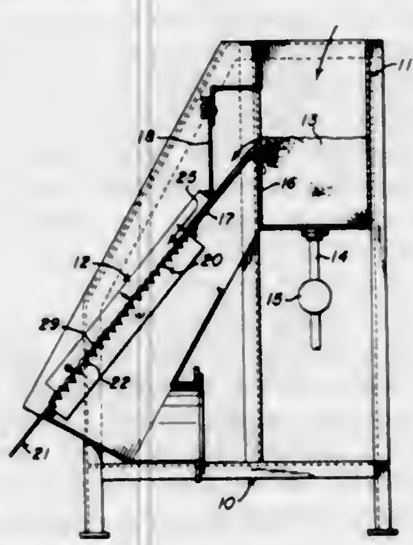


A simplified control of swimming pool filters for normal water flow to the pool through a filtering medium, and for occasional reverse back-wash flow through the filter medium.

Such control is accomplished by a valve structure applied to the bottom of the filter vessel and including a rotary plug valve within a sectional body having external conduits for water distribution within the filter medium, the valve being capable of manual oscillation between flow reversing positions and the body sections being formed and interconnected to clamp between them the bottom wall of a filter vessel.

3,451,555
DEWATERING DEVICE

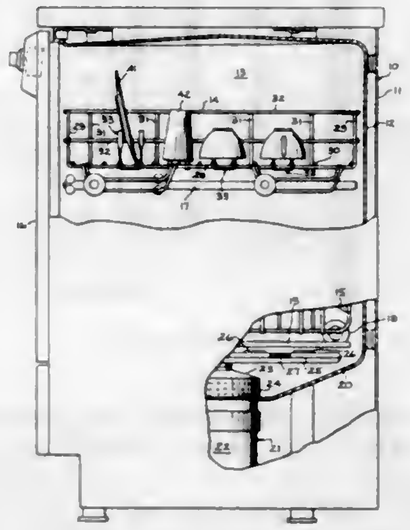
Marvin E. Ginaven, Springfield, Ohio, assignor to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio
Filed Apr. 12, 1967, Ser. No. 630,354
Int. Cl. B01d *43/00, 23/00*
U.S. Cl. 210—433 **13 Claims**



A dewatering device for extracting liquid from a flowing slurry, characterized by a perforate drainage unit over which the slurry flows, the drainage unit comprising a series of parallel spaced bars extending transversely to the direction of slurry flow, the surface contour and arrangement of said bars being such as to produce an undulatory motion of the slurry as it progresses from one end to the other of the perforate drainage unit.

3,451,556
REMOVABLE ARTICLE SUPPORTING DEVICE FOR AUTOMATIC DISHWASHER RACK

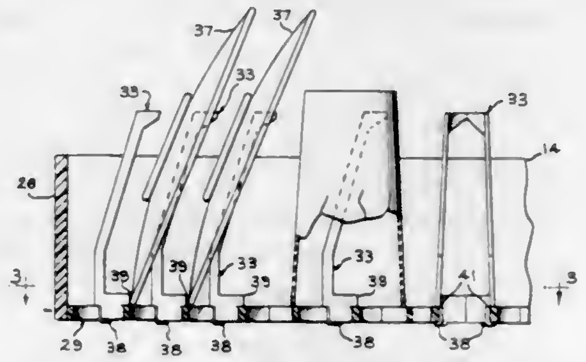
Edward L. Macolcz, Glendale, Wis., assignor to General Electric Company, a corporation of New York
Filed Apr. 12, 1967, Ser. No. 630,357
Int. Cl. A47g *19/08;* **A44b** *21/00;* **A47f** *5/14*
U.S. Cl. 211—41 **6 Claims**



A device removably secured to the reticulated base of a dishwasher rack to support against tipping articles resting on the base. The article comprises a generally U-shaped member having two fingers interconnected by a bight portion. A pair of indentations or concave portions receive two of the wires forming the base to secure the device thereto. Resiliency of the device allows manual flexing of the fingers toward one another to allow movement relative to, or removal from, the base.

3,451,557
REMOVABLE ARTICLE SUPPORTING DEVICE FOR AUTOMATIC DISHWASHER RACK

Edgar S. Stoddard, Naperville, Ill., assignor to General Electric Company, a corporation of New York
Filed Apr. 12, 1967, Ser. No. 630,358
Int. Cl. A47g *19/08*
U.S. Cl. 211—41 **13 Claims**

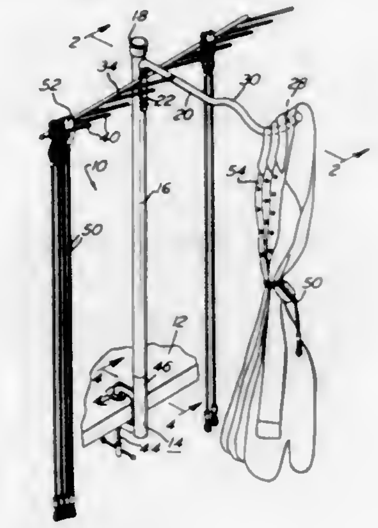


A device removably secured to the grid-like base of a dishwasher rack to support against tipping articles resting on the base. The device has a lower portion adapted to extend into an opening in the base with tabs extending therefrom to engage the base and secure the device thereto. Resiliency of the device allows manual flexing to move the tabs out of engagement with the base to allow removal of the device from the base.

3,451,558

SHIRT BUNDLING RACK

Ephraim Cohen, 2424 Sylvale Road,
Baltimore, Md. 21209
Filed Mar. 21, 1967, Ser. No. 624,871
Int. Cl. A47f *5/04*
U.S. Cl. 211—86 6 Claims

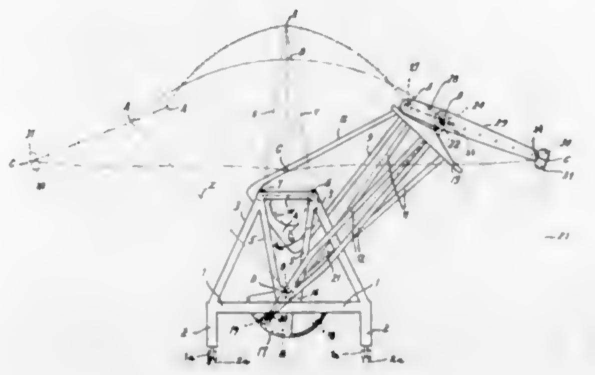


A rack for use in a shirt laundry on which the shirts can be supported in an orderly, stack arrangement for bundling the shirts and which carries the tie cords used to tie the shirts into the bundle. The rack comprises an upright removably mounted on a support which is clamped to the edge of a table. A shirt hanger rod is secured to the post at the top end thereof and extends radially from the post. The end of the hanger rod is curved upwardly and is adapted to support the shirts by placing the collars of the shirts over the curved end. A tie cord supporting rod extends transversely across the upper end of the post and is secured thereto. The supporting rod is perpendicular to both the post and the shirt hanger rod. A plurality of tie cord hanger pins extend outwardly and upwardly from the supporting rod at spaced points therealong. The tie cords are hung from the hanger pins.

3,451,559

NON-SLEWING LUFFING CRANE

Avery Alfred Simpson Haines, 8 Glenn Ave., Mosman Park, Western Australia, Australia
Filed July 19, 1967, Ser. No. 654,574
Claims priority, application Australia, Aug. 25, 1966, 10,230/66; Sept. 13, 1966, 11,021/66
Int. Cl. B66c *23/06*
U.S. Cl. 212—8 10 Claims

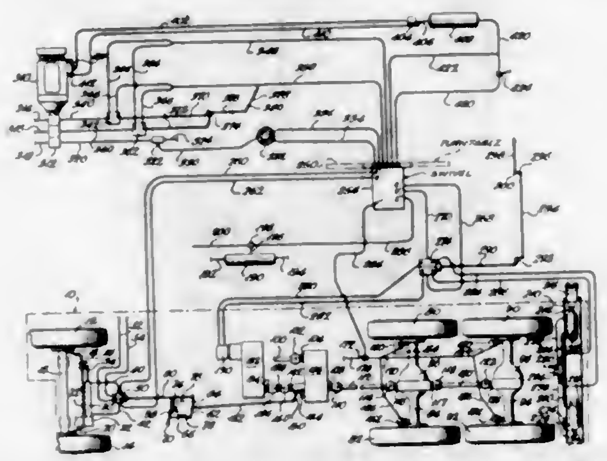


Crane with a jib mounted for pivotal movement, from side to side in a vertical plane, and a luffing arm pivoted on the jib, for rotation in a vertical plane parallel to the plane of movement of the jib, the pivot point on the luffing arm being chosen so that its working end moves in a substantially horizontal line as the jib moves from side to side.

3,451,560

REMOTE CONTROL SYSTEM

Wallace J. Witwer, Waukesha, Wis., assignor to Hein-Werner Corporation, Waukesha, Wis., a corporation of Wisconsin
Filed July 20, 1967, Ser. No. 654,862
Int. Cl. B66c *23/36*
U.S. Cl. 212—38 9 Claims

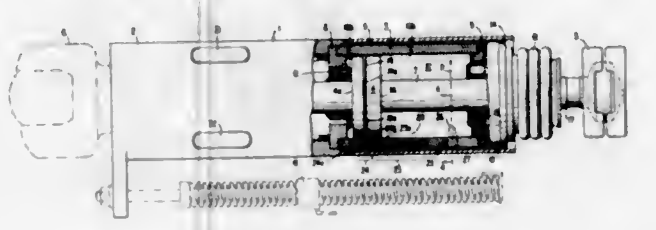


A self-propelled vehicle for a power-operated crane or the like includes dirigible wheels and drive wheels. Power-operated steering means is provided for the dirigible wheels and the usual drive means and brake means are provided for the drive wheels. These mechanisms are all operated in the usual manner with conventional controls on the vehicle. Power-operated outrigger means is also provided having control means on the vehicle. An auxiliary remote control system is provided at an operator's station mounted on a turntable on the vehicle. A source of hydraulic pressure and air pressure is mounted on the upper works on the turntable, the source of hydraulic pressure being operatively connected with the hydraulic motor mounted on the vehicle and connected through a clutch means with the drive wheels of the vehicle. Valve means is provided for controlling the direction of hydraulic flow to the motor so as to operate the vehicle in either forward or reverse. This same source of hydraulic pressure may be selectively connected with the outrigger means to operate the outrigger means in either direction of movement. Valve means is provided for alternatively connecting the hydraulic motor or the outrigger means to the source of hydraulic pressure. The source of hydraulic pressue is also connected with a power steering control means which is adapted to be connected with the power-operated steering means of the vehicle. A control level selectively operates the clutch means to connect the hydraulic motor to the drive wheels or to disconnect it therefrom. This lever also serves to control a switch means for preventing the engine of the vehicle from starting when the lever is in remote control position. This lever also disconnects the conventional steering control means and connects the remote control system power steering control means when in remote control position. The remote control system also includes an auxiliary air reservoir which is connected with the conventional air reservoir of the vehicle to release the fail-safe parking brakes of conventional construction. The air reservoir of the auxiliary remote control system is also connected with the tandem brakes associated with the drive wheels and valve means is provided for controlling the operation of the tandem brakes from the remote control system.

3,451,561

DRAFT GEAR TRAIN ACTION CONTROL SYSTEM

Jack G. Stephenson, Duncan, Okla., and Robert E. Abbott, Forth Worth, Tex., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,553
Int. Cl. B61g *9/12*
U.S. Cl. 213—8 20 Claims



Railway shock absorbing, i.e. cushioning, apparatus characterized by valve controlled fluid passage means for regulating fluid outflow from a body of shock absorbing fluid. This valve controlled fluid passage means provides an open passage to facilitate relatively rapid restoration of a coupling from a full buff condition to the position it normally occupies when not connected with the coupling of another railway car. This passage means is automatically closed in response to train action forces imposed on the coupling by other railway cars while a train is in motion so as to impede coupling movement by channeling flow of shock absorbing fluid through restricted passage means.

Shock absorbing apparatus for railway car couplings characterized by passage means adapted to control the flow of shock absorbing fluid and characterized by an exponentially varying passage arrangement augmented by an additional passage arrangement which is open during the initial imposition of buff force and progressively blanked off or covered at the end of the buff stroke of the coupling. The additional passage arrangement remains blanked off or covered for the initiation of the restoring draft stroke of the coupling.

A method of controlling the operation of a railway car shock absorbing mechanism wherein relatively open venting of a piston biasing, coupling movement resisting, fluid zone is permitted, while a coupling is disconnected or not subjected to train forces. Relatively restricted venting of this zone is achieved while the coupling is connected with another car in a train in motion and while the coupling is tending to extend.

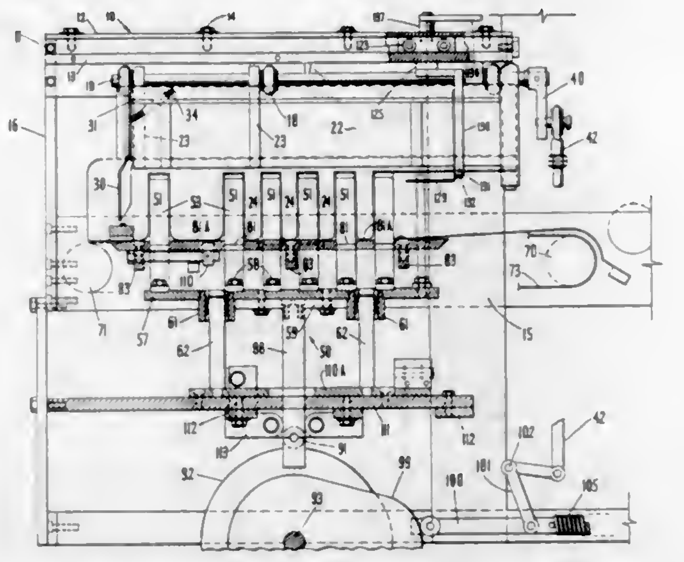
A method of controlling the movement impeding and force absorbing characteristics of a railway car shock absorbing mechanism. This method is characterized by venting a shock absorbing fluid zone, in response to the imposition of buff force, through an exponentially varying passage arrangement and through a secondary passage arrangement. The secondary venting arrangement is blanked off or covered when draft force is imposed upon the coupling and the coupling is in its fully converged or full buff position.

3,451,562

STACKER

Robert L. Sjostrom, Boca Raton, Fla., assignor to Sjostrom Automations, Inc., Boca Raton, Fla., a corporation of Florida
Filed Sept. 12, 1966, Ser. No. 578,690
Int. Cl. B65g *57/14, 57/18*
U.S. Cl. 214—6 7 Claims

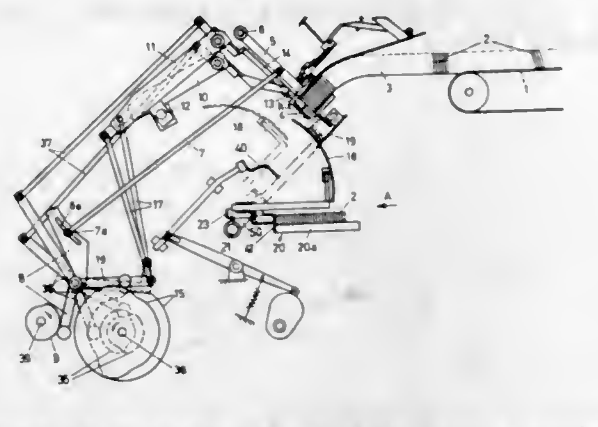
A stacker for a plurality of folded sheets in which successive sheets are fed forwardly by a belt to a first position and then raised upwardly by an elevator to a second position. A cradle engages and supports the successively delivered sheets in a stack in the second position with each later delivered sheet positioned below the earlier delivered sheet. A means comprising a carriage and a pusher are provided for moving the stack forwardly at selected intervals from the cradle. The pusher includes means for engaging and raising the rear edge of the stack and the cradle includes side plates resiliently tensioned toward the sides of the stack of sheets.



3,451,563

DEVICE FOR SEPARATING FLAT ARTICLES FROM A CONTINUOUSLY SUPPLIED LINE OF ARTICLES

Pierre Luginbuhl, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Kheinfall, Switzerland
Filed Aug. 22, 1967, Ser. No. 662,381
Claims priority, application Switzerland, Aug. 29, 1966, 12,459/66
Int. Cl. B65g *59/12, 57/16*
U.S. Cl. 214—8.5 6 Claims



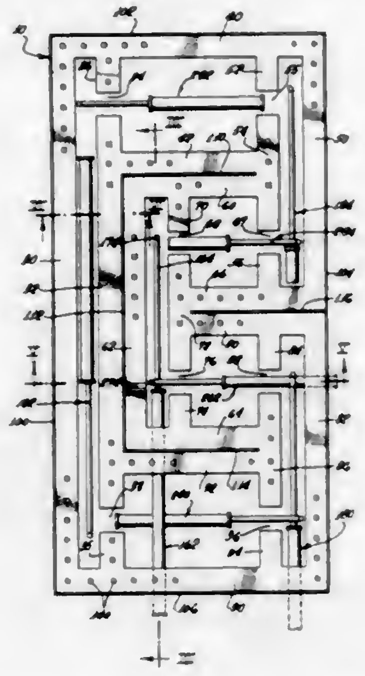
A device for separating flat articles from a continuously supplied line of such articles, in which the articles move along in a trough whose discharge end is inclined to the horizontal and is controlled by a pivotally mounted bottom plate adapted to move away from said discharge end so as to permit a predetermined number of articles to be transversely pushed from the trough by ejector means onto a transfer device comprising a slide plate and a pivoted carrying plate, which transfer device discharges the articles onto a collecting clamp.

3,451,564

AUTOMOBILE PARKING SYSTEM

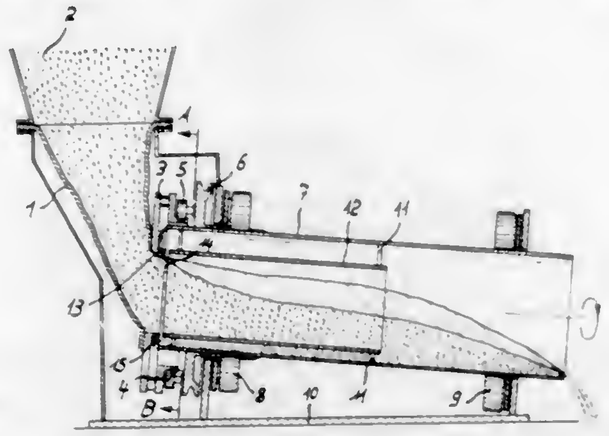
Wendall M. B. Haas, 19204 Casad Ave.,
Covina, Calif. 91722
Continuation of application Ser. No. 404,789, Oct. 19, 1964. This application May 3, 1968, Ser. No. 726,604
Int. Cl. E04h *6/34;* **B65g** *1/04, 37/00*
U.S. Cl. 214—16.1 5 Claims

A parking system with a rectangular plot defining a tortuous path therein with an array of rectangular units spaces disposed along said path, a plurality of rectangular pallets movable along the path in said spaces and adapted to carry an automobile thereon, the number of unit of spaces being one less than the number of pallets, means for moving the pallets in a step-by-step fashion that includes a plurality of extensible and retractable actuators periodically engageable with the pallets, the longitudinal axes of the actuators being inclined and at least a portion of some of said axes being vertically spaced from each other.



3,451,565
DISCHARGING DEVICE FOR SILOS

Richard Jung, Gummersbach, Germany, assignor to L. & C. Steinmuller G.m.bH., Gummersbach, Germany
Filed July 26, 1966, Ser. No. 567,880
Claims priority, application Germany, Aug. 3, 1965, St 24,219
Int. Cl. B65g *65/34, 65/70;* **B65d** *37/00*
U.S. Cl. 214—17 **7 Claims**

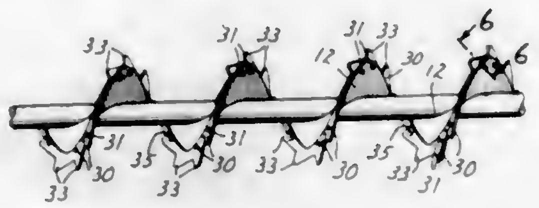


A device for withdrawing pulverous cohesive pourable material from a silo, which includes hopper means having an inlet section for flow communication with a silo and also having an outlet section which is in flow communication with rotatable tubular conveying means, said outlet section being subjected to an oscillatory movement in response to a rotation of said tubular conveying means.

3,451,566
AUGER CONSTRUCTION FOR SILO UNLOADERS

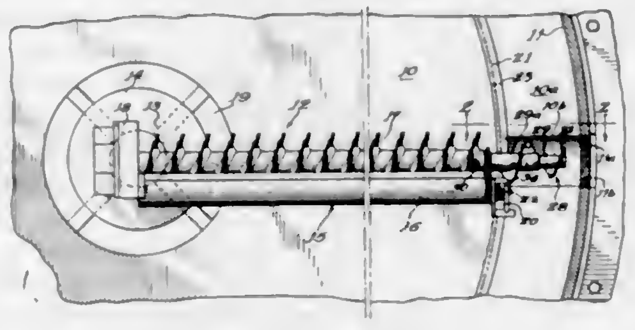
Newell B. Hanson, Lake Lillian, Minn., assignor to Hanson Silo Company, Lake Lillian, Minn., a corporation of Minnesota
Filed Mar. 13, 1967, Ser. No. 622,555
Int. Cl. B65g *65/46*
U.S. Cl. 214—17 **2 Claims**

A silo unloader including a pair of parallel, oppositely rotating elongated augers adapted to engage the upper surface of the silage and to gather, cut, and loosen silage between said parallel augers and move the silage axially of said augers into a blower which transports the silage to the exterior of the silo. The forwardmost auger of the pair of augers has removable teeth attached adjacent the silage engaging edge so that the teeth extend therefrom and cut and loosen silage. The teeth are constructed to interlock for added strength, and to follow the contours of the auger. Additional wheels having radially outwardly projecting teeth thereon are mounted at the outermost end of each of the augers to cut and loosen silage adjacent the wall of the silo and urge it inwardly toward the augers.



3,451,567
SILO UNLOADER AND METHOD OF REMOVING MATERIAL FROM A SILO

Jonathan J. Laidig, Mishawaka, Ind., assignor to Laidig Silo Unloaders, Inc., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 667,487
Int. Cl. B65g *65/40, 33/10;* **A01f** *25/16*
U.S. Cl. 214—17 **9 Claims**



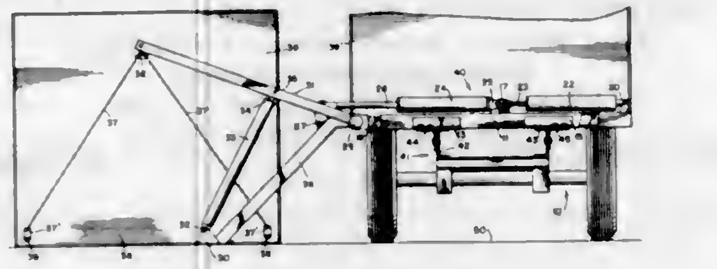
A bottom silo unloader and method, in which an unloader of the type which has a sweep arm that rotates about the axis of the silo and is provided with a radial shield and a cutting and conveying auger which cooperates with the shield to cut and feed material into a central opening in the floor of the silo is characterized by the fact that the sweep arm shield and auger have their outer ends spaced inwardly from the silo wall, and a tapered auxiliary cutting and conveying screw forms a coaxial extension of the auger and has no shield, so that only a portion of material cut by the auxiliary screw is moved into the auger and the rest of said material remains adjacent to the wall in a relatively loose mass which partially supports the body of material above it and affords controlled lowering of said body of material.

3,451,568
PACKAGE UNIT FOR HANDLING SHIPPING CONTAINERS

Harry B. Kuster, Centerville, Ind., assignor to Golay & Co., Inc., Cambridge City, Ind., a corporation of Indiana
Filed Aug. 2, 1967, Ser. No. 657,965
Int. Cl. B65g *67/02, 67/58*
U.S. Cl. 214—77 **3 Claims**

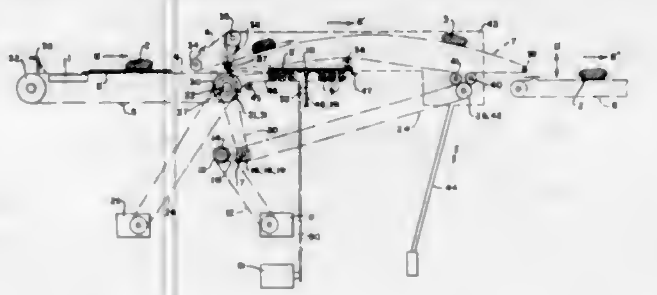
A package unit for mounting on a vehicle, such as a truck, trailer or railway car, comprising a swingable

ground contacting lever; a pair of in-line hydraulic cylinders with one cylinder attached to the vehicle with its piston rod attached to a slide and the other cylinder is attached to the slide with its piston rod being in turn rockably connected to the ground lever; a boom rockably pivoted from the vehicle adjacent the ground lever; and a hydraulic cylinder interconnected between an outer length portion of the lever and the boom.



3,451,569
APPARATUS FOR DELIVERING DOUGH PORTIONS

Franz Remensperger, Bahnhofstrasse 44, Saint Georgen, Germany, and Max Cramer, Rietheimer Strasse 59, and Walter Schnee, Hebelstrasse 3, both of Villingen, Germany
Continuation of application Ser. No. 227,202, Oct. 1, 1962. This application June 8, 1967, Ser. No. 644,689
Claims priority, application Germany, Sept. 30, 1961, W 30,802
Int. Cl. B65g *47/71*
U.S. Cl. 214—309 **8 Claims**

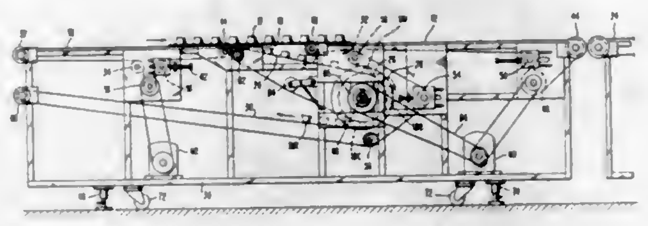


Apparatus for conveying successive batches of unbaked dough portions from fermentation carriers to the net conveyor of a baking oven, which apparatus includes conveyors for guiding the fermentation carriers in a first direction, further conveyors for guiding the fermentation carriers with their dough portions in a second direction perpendicular to the first direction and for removing the dough portions from their carriers while continuing to convey the dough in the second direction, and additional conveyors for conveying the empty fermentation carriers away in a direction perpendicular to the second direction.

3,451,570
CAKE DE-PANNER

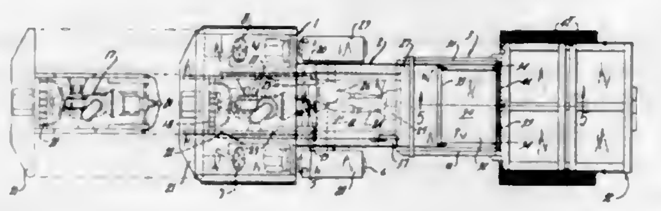
Hubert E. Tobey, Rochelle Park, N.J., assignor to Continental Baking Company, Rye, N.Y., a corporation of Delaware
Continuation of application Ser. No. 575,313, Aug. 26, 1966. This application Aug. 28, 1968, Ser. No. 757,219
Int. Cl. B65g *65/42, 37/00;* **B65b** *69/00*
U.S. Cl. 214—311 **17 Claims**

A cake de-panner having a first conveyor arranged to receive an inverted multiple-cavity baking pan having cakes in the cavities thereof. A second conveyor is provided in alignment with the first conveyor and having its entrance end spaced from the exit end of the first conveyor by a distance greater than the maximum width of one of the cakes and arranged to receive the leading edge of the baking pan. A third conveyor is arranged with its entrance end within the space between the first and second conveyors and extending at an angle beneath the second conveyor for the purpose of receiving and conveying cakes away from the associated cavities of the multiple-cavity pan. A double pulley device is provided in association with the third conveyor for turning the cakes over.



3,451,571
REFUSE COLLECTION

John R. Brisson, Kingsford, Mich., assignor to Lodal Inc., Kingsford, Mich., a corporation of Michigan
Filed Sept. 27, 1967, Ser. No. 670,934
Int. Cl. B60p *1/64, 1/00, 3/00*
U.S. Cl. 214—516 **19 Claims**

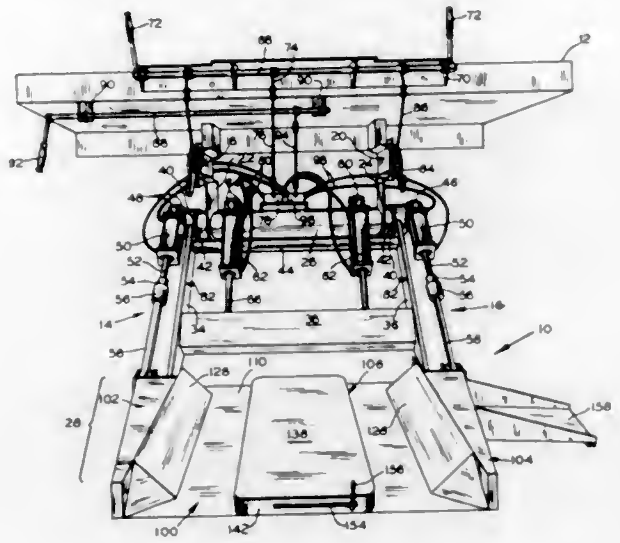


A refuse collection vehicle having a cab with interconnected dual steering wheels. An assembly comprising the engine, radiator, transmission and bumper is slideably removable forwardly as a unit from the chassis frame. A hopper forms a portion of the vehicle and a compaction platen slides rearwardly through the hopper to push refuse into an opening in a refuse container. The container is movable onto and off of the rear end of the vehicle, and has rollers and/or skid shoes which ride on inclined rails on the vehicle. Detachable link bars connect the platen with the container, and platen movement moves the container. A channel and bolt mechanism locks the container in place.

3,451,572
LIFT TAILGATE

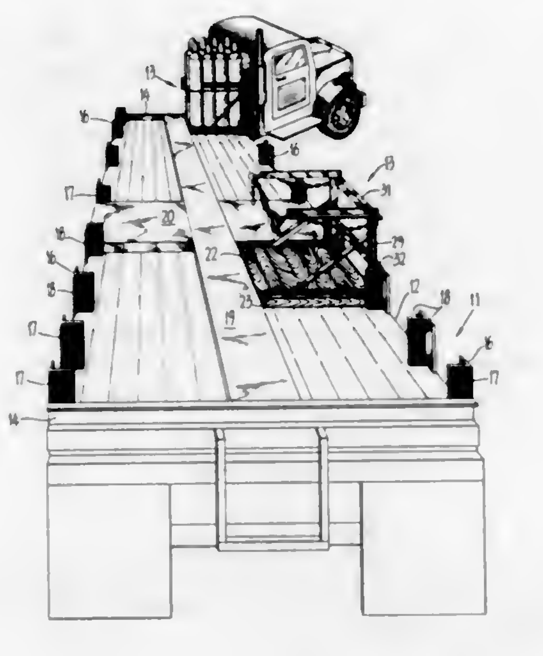
Angelo S. Rossoni, Toledo, Ohio, assignor, by mesne assignments, to Overhead Door Corporation, Dallas, Tex., a corporation of Indiana
Filed Oct. 10, 1966, Ser. No. 585,417
Int. Cl. B60p *1/44, 1/48, 3/06*
U.S. Cl. 214—515 **15 Claims**

This disclosure relates to a platform adapted to be secured to the rear of a vehicle and connected thereto by a pair of parallel arm linkage systems. The platform is adapted to be moved from a ground engaging position to a position adjacent the bed of the vehicle upon vertical arcuate movement of the parallel linkage systems. The platform itself comprises basically three sections: First, a deck having a gentle slope and, second, a pair of side supports secured alongside the deck and to which the parallel linkage system is adapted to be connected. The side supports project above the deck and are secured thereto by angularly positioned reinforcing plates. The third section is a central rigid section secured on the deck to prevent sagging of the same. The central section may also house a slidable restraining bar which is moved into the path of the wheel of a truck to prevent its exit once it has been positioned on the platform.



3,451,573
TRANSPORTING SYSTEM

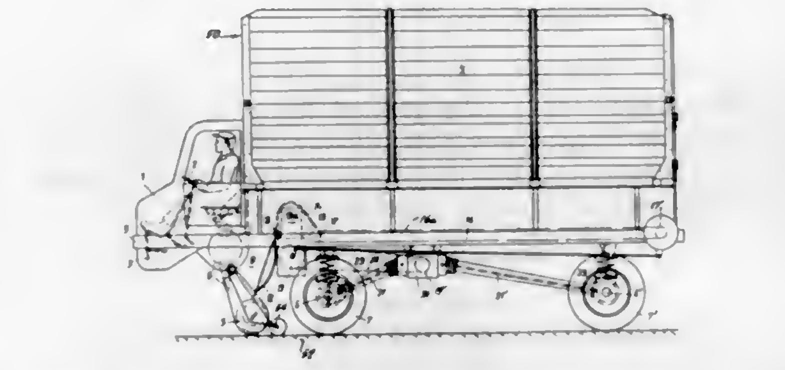
William Josephian, Oakland, Calif., assignor to Pacific Oxygen Company, Oakland, Calif., a corporation of California
Filed July 3, 1967, Ser. No. 650,823
Int. Cl. B60p *1/64;* **B62d** *27/06*
U.S. Cl. 214—515 **8 Claims**



A transporting system is described which facilitates simultaneous loading of a plurality of objects and individually unloading thereof. The system includes a transporting vehicle such as a truck-trailer which has a bed upon which is mounted structure for holding a plurality of pallets. Each of the pallets is adapted to hold a plurality of the objects and includes a base from which a supporting frame structure extends upwardly. An aisle on the trailer bed extends between the locations for the pallets and the edge of the bed to permit conveyance of objects removed from the pallet to the edge of the bed for unloading.

3,451,574
LOAD CARRYING VEHICLE HAVING DRIVING ENGINE LOCATED WITH A PORTION EXTENDING INTO THE LOADING SPACE

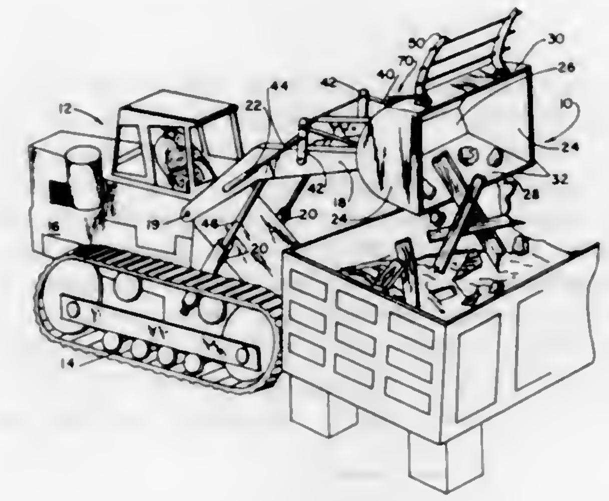
Ernst Weichel, Bahnhofstrasse 1, Heiningen, Kreis Goppingen, Germany
Filed Feb. 20, 1967, Ser. No. 617,395
Int. Cl. B60p *1/36;* **B62d** *39/00*
U.S. Cl. 214—519 **10 Claims**



Two embodiments of a self-loading vehicle are described. The load bearing vehicles are of a type which are used for agricultural purposes and include a truck body having a rear loading portion and a forward cab in which the driver or operator sits. The vehicle is supported on a plurality of longitudinally spaced axles, at least one of which is driven.

3,451,575
CONVEYOR BUCKET WITH HYDRAULICALLY-OPERATED GRILLE-LIKE LID

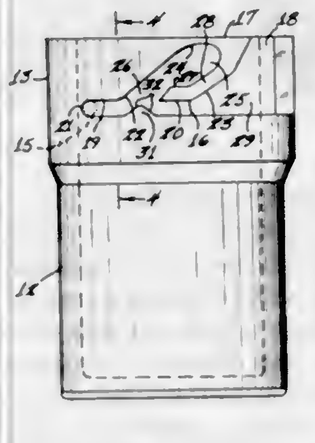
Geza Petro, Jr., Danville, Ill., assignor of one-third each to Tiberio Monoki, and F. Daniel Welsch, Danville, Ill.
Filed Sept. 15, 1967, Ser. No. 668,227
Int. Cl. E02f *3/00;* **B66c** *3/00*
U.S. Cl. 214—767 **2 Claims**



A conveyor bucket adapted to be hingedly connected to the distal end of a tractor boom and having a hinged grille-like lid which is movable between open and closed positions over the open upper rim of the bucket. In its open position, the lid is disposed in an entirely out-of-the-way position so that it does not interfere with the normal scooping action of the bucket and it also extends substantially vertically from the rear end wall of the bucket so that it acts as a back stop to restrain material from being by-passed over the bucket, thereby insuring a full bucket load during the scooping operation. The lid constitutes a closure to retain material within the confines of the bucket when the latter is not overfilled, but when the bucket is overfilled, the lid functions to clamp the excess material in position on the bucket, thereby increasing bucket capacity.

3,451,576
LOCKING CLOSURE WITH FALSE RELEASE FOR TOXIC CONTENTS

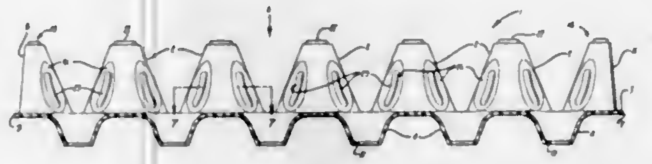
Norman J. Lewis, Minneapolis, Minn., assignor to Tot-Top Company, Minneapolis, Minn., a partnership
Filed June 14, 1967, Ser. No. 646,099
Int. Cl. B65d *41/06, 39/10*
U.S. Cl. 215—9 **14 Claims**



A receptacle and closure therefor with telescoping and separable plug and socket parts alternately closing and opening access into the receptacle, one of the parts having nibs thereon and the other of the parts having a labyrinth confining the nibs in locked position and requiring alternate relative circumferential and endwise movement of the closure and receptacle to effect removal of the closure.

3,451,577
EGG TRAY CONSTRUCTION

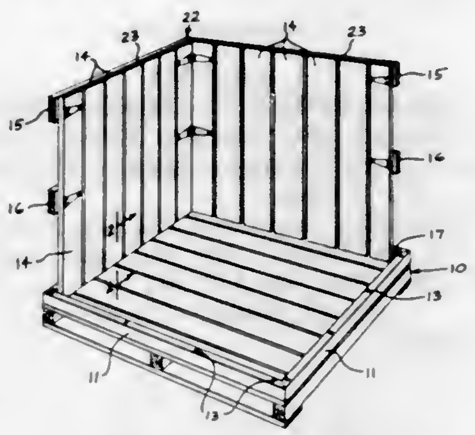
Raymond G. Nurick, Oakland, Calif., assignor to Food Systems, Inc., Berkeley, Calif., a corporation of California
Continuation of application Ser. No. 271,762, Apr. 9, 1963. This application Jan. 16, 1967, Ser. No. 609,687
Int. Cl. B65d *85/32, 81/16*
U.S. Cl. 217—26.5 **3 Claims**



An egg washing tray of liquid resistant sheet material, such as plastic, has egg receiving pockets formed by tapered posts which also form a cavity below the plane of the sheet. An imperforate depression in each of four posts facing a pocket has an elongated ridge within the depression which spaces an egg in such pocket from the surface of the depression to allow cleaning liquid to flow around the back of the egg. Each ridge is entirely above the plane of the sheet to accommodate various size eggs; the top of the posts having knobs to allow stacking of trays by engaging in recesses in the bottoms of the cavities.

3,451,578
COLLAPSIBLE CONTAINER

John D. Edmundson, Rte. 2, Fremont, N.C. 27830
Filed June 1, 1967, Ser. No. 642,922
Int. Cl. B65d *9/14*
U.S. Cl. 217—48 **3 Claims**



In abstract, a preferred embodiment of the present invention is a collapsible produce shipping container composed of a fork lift type pallet having a channel member about its outer edge to engage a tongue formed along the lower part of the sides to interlock the parts together.

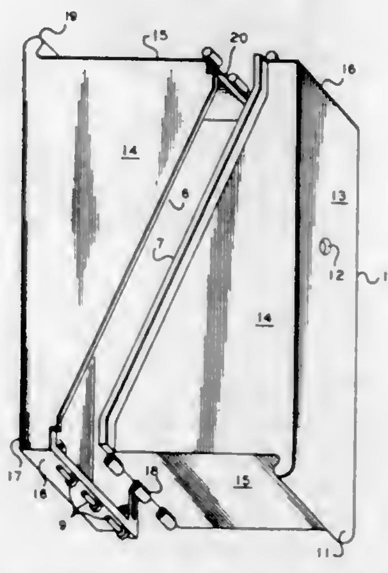
3,451,579
COMPOSITE LAMP ARTICLE WITH GLASS-CERAMIC LAMP ENVELOPE

Frederic L. Bishop, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 1, 1966, Ser. No. 569,250
Int. Cl. H01j *61/32*
U.S. Cl. 220—2.1 **8 Claims**

1. A composite lamp article of manufacture wherein said lamp article comprises sealed parts, said parts consisting of a preformed hollow low thermal coefficient of expansion glass-ceramic envelope and a preformed radiant energy transmitting low expansion silica glass window, both having compatible low coefficients of thermal expansion not in excess of 25×10^{-7}, the latter intimately bonded to said envelope by a vitreous copper container sealing glass consisting essentially of 75 to 80 mole percent SiO_2, 8 to 12 mole percent Al_2O_3, and 10 to 15 mole percent Cu_2O.

3,451,580
FIRE EXTINGUISHER BOX

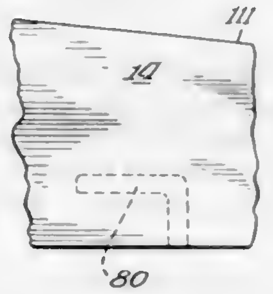
Richard E. Husby, Villa Park, Ill., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,285
Int. Cl. B65d *11/10, 11/18, 51/04*
U.S. Cl. 220—4 **6 Claims**



A two-part wall-mounted fire extinguisher box molded from thermoplastic resinous materials comprising in one embodiment two identical parts which form a box by reversing one part 180° and wherein each part varies in depth from one end wall to the other end wall and wherein each part has integral hinge elements and handle means and in a second embodiment, the box is molded in one piece so that the two halves are connected by an integral hinge.

3,451,581
NEAR-POINT TACHISTOSCOPE

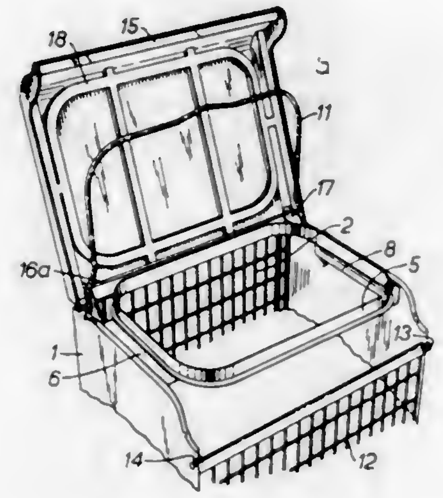
Steven A. Warren, 480 Saunders Road, Lake Forest, Ill. 60045, and Gerald Zanck, Chicago, Ill.; said Zanck assignor to said Warren
Original application Aug. 19, 1965, Ser. No. 480,946, now Patent No. 3,358,391. Divided and this application Oct. 30, 1967, Ser. No. 695,302
Int. Cl. B65d *7/00, 43/10*
U.S. Cl. 220—4 **1 Claim**



A container comprising two mating container members. One of the container members is formed of thin flexible material. Additionally, one of the two mating container members has two ridges extending in different directions and the other of the two container members has grooves complementary to the ridges.

3,451,582
REFUSE RECEPTACLES

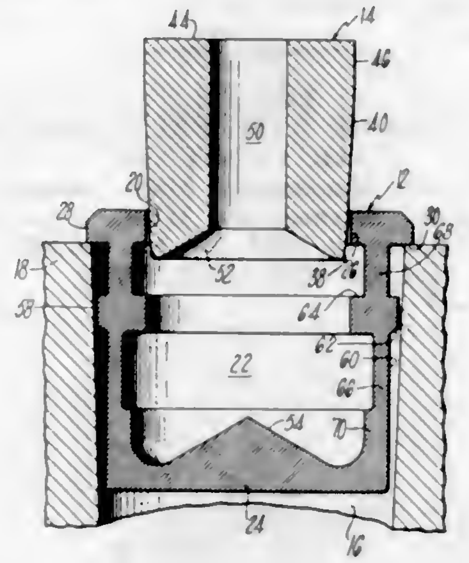
John F. Morgan, Maidstone, England, assignor to Cartem Engineering Limited, Maidstone, England
Filed June 19, 1967, Ser. No. 647,079
Int. Cl. B65d *7/20*
U.S. Cl. 220—7 **8 Claims**



The invention provides a refuse receptacle of the kind comprising an impervious sack or bag of paper, plastics or similar material detachably secured around its mouth to a frame member, the sack and frame member being enclosed by a casing which can be folded to provide a convenient pack for transportation and which, on arrival at a desired site, can be assembled easily by means of interengaging or interlocking connections provided on the sides of the casing.

3,451,583
EXPANDABLE SEALING PLUG

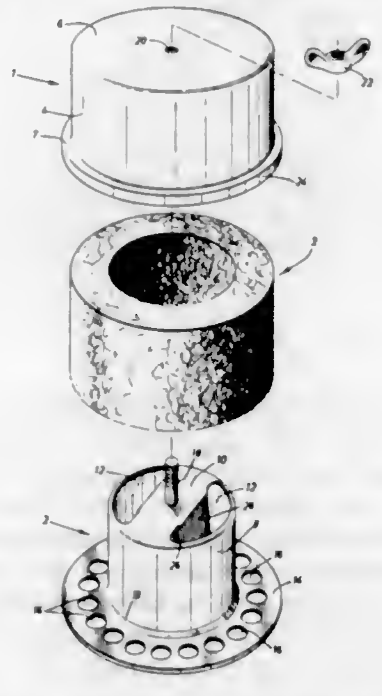
Leighton Lee II, Guilford, Conn., assignor to The Lee Company, Westbrook, Conn., a corporation of Connecticut
Filed May 20, 1968, Ser. No. 730,534
Int. Cl. B65d *39/12;* **F16l** *55/12*
U.S. Cl. 220—24.5 **10 Claims**



A plug for sealing apertures of varying size and taper in die castings includes a hollow cylindrical plug member radially expandable upon insertion of a tapered pin therein. An inwardly projecting ring of limited depth intermediate the ends of the plug is driven radially by the high taper of the pin causing an aligned external land to bite into the casting below the surface of the aperture being sealed. The plug member is provided with a support shoulder for contacting the lip of the aperture and preventing axial displacement of the member during insertion of the pin. The taper on the pin facilitates the use of a short pin which is fully received within the hollow of the plug and locked therein by an inwardly projecting extension of the support shoulder of the plug.

3,451,584
OIL FILLER BREATHER CAP

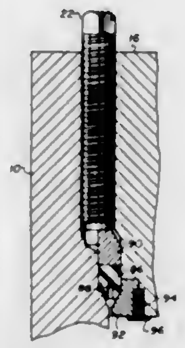
Ben Degaetano, Tarrytown, N.Y., assignor to Continental Research & Development Ltd., Toronto, Ontario, Canada, a company of Canada
Filed May 19, 1967, Ser. No. 639,674
Int. Cl. B65d *51/16;* **B01d** *19/00, 27/02*
U.S. Cl. 220—44 **1 Claim**



This disclosure relates to an improved oil breather cap having co-operating component parts which can be releasably secured together to permit the facile replacement of a filter element.

3,451,585
SHEAR STUD VESSEL CLOSURES AND SHELL JOINTS

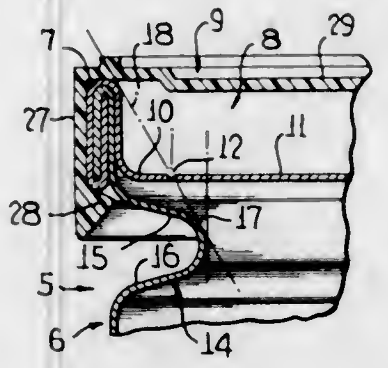
Svend M. Jorgensen, Tenafly, N.J., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 542,328, Apr. 13, 1966. This application Feb. 15, 1968, Ser. No. 707,383
Int. Cl. B65d *53/00*
U.S. Cl. 220—46 **3 Claims**



Stud bolt pressure vessel closure having a circumferential groove in an annular interface between the shell and closure, and one or more rings in said groove with the top ring engaged by said stud bolts, such as a backup ring, a seal ring, and a jack ring, with a seal ring therebelow.

3,451,586
CAN BODY GUARD BEAD FOR SCORED CAN ENDS

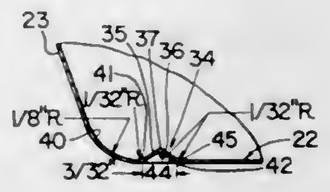
Leonard A. Maliszewski, Western Springs, and Robert T. Hsu, Park Forest, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 15, 1967, Ser. No. 667,899
Int. Cl. B65d *17/00, 43/00, 51/18*
U.S. Cl. 220—48 **9 Claims**



This disclosure relates to a can of the easy opening type wherein one end of the can has a major portion of the end panel thereof in the form of a removable panel portion. The can body is divided immediately adjacent the one end of the can with an inwardly projecting guard bead which underlies the end panel of the can end and projects radially inwardly of the boundaries of the removable panel portion so as to protect one dispensing a product from the can from engaging the resultant raw edge when the removable panel portion is removed. In addition, the can is provided with a snap-on type plastic overcap. The overcap, in addition to protecting the contents of the can after the can has been opened, also protects the can end against accidental rupture prior to the initial opening thereof. The guard bead is advantageously utilized in conjunction with the overcap in that it provides clearance for engaging the lower edge of the overcap to facilitate the removal of the overcap. The guard bead has a further function in that it reinforces the entire end construction of the can and thereby further eliminates the possibility of accidental rupture of the end panel.

3,451,587
METALLIC DISH-LIKE CONTAINER

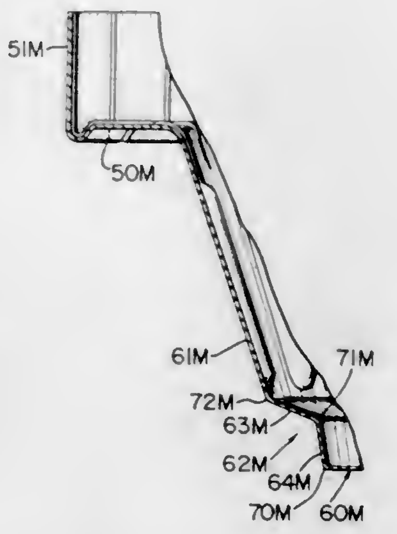
Otto R. Weber, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Sept. 27, 1966, Ser. No. 582,397
Int. Cl. B65d *7/46*
U.S. Cl. 220—66 **5 Claims**



A dish-like container such as a pan of the type particularly adapted for containing and popping popcorn therein. The pan has a substantially planar bottom wall defining its lowermost surface and a downwardly opening peripheral groove extending thereabout which is substantially contiguous with side wall means thereof and which renders such bottom wall smooth and free of wrinkles to thereby define a pan which provides uniform heat distribution throughout its bottom wall.

3,451,588
METALLIC DISH-LIKE CONTAINER AND METHOD OF MAKING SAME

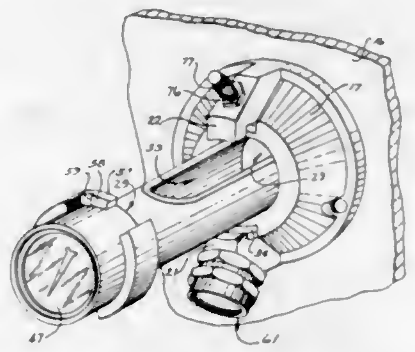
Otto R. Weber, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 14, 1967, Ser. No. 653,470
Int. Cl. B65d *1/34*
U.S. Cl. 220—66 **6 Claims**



This disclosure relates to dish-like container such as a pan of the type particularly adapted for containing and popping popcorn therein. The pan of this disclosure has an uninterrupted planar bottom wall and side wall extending upwardly from the bottom wall and interconnected thereto by an annular portion of angular radial cross section defining an outwardly concave peripheral groove adjoining the peripheral edge of the bottom wall. The outwardly concave groove assuring that said bottom wall is smooth and free of wrinkles to thereby provide a pan which provides uniform heat distribution throughout its bottom wall.

3,451,589
FILLING NECK AND PRESSURE CAP

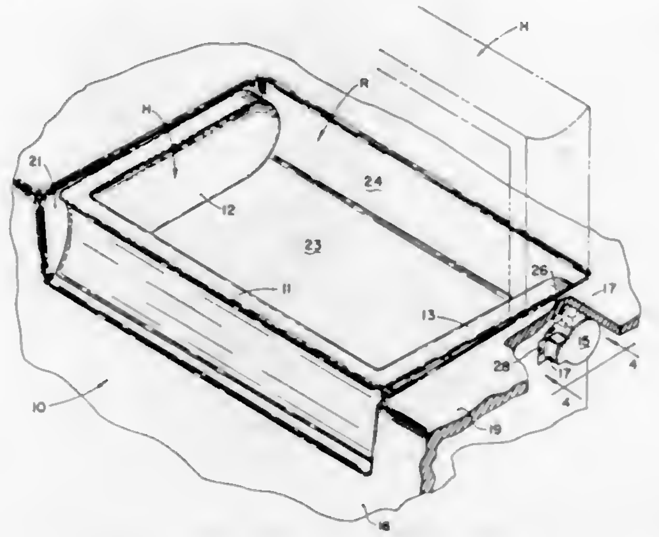
Edward R. Lee, Ceresco, Mich., assignor to S. H. Leggitt Company, Marshall, Mich., a corporation of Michigan
Filed Aug. 8, 1967, Ser. No. 659,230
Int. Cl. B65b *3/00;* **B67c** *3/00*
U.S. Cl. 220—86 **5 Claims**



A pressure cap construction for a pressurized fluid system comprising a reservoir having a filling neck and a pressure cap which is releasably securable to the filling neck and is slideable between a closed position and opened position. Locking means are provided which prevent the cap from being removed when the fluid system is pressurized except by deliberate intention. Means are also provided to permit filling of the reservoir while the system is under pressure. If desired the cap can be further provided with pressure gauging means responsive to the pressure of the fluid system and/or relief valving means for relieving excess pressure in the fluid system.

3,451,590
RECESSED HANDLE ASSEMBLY

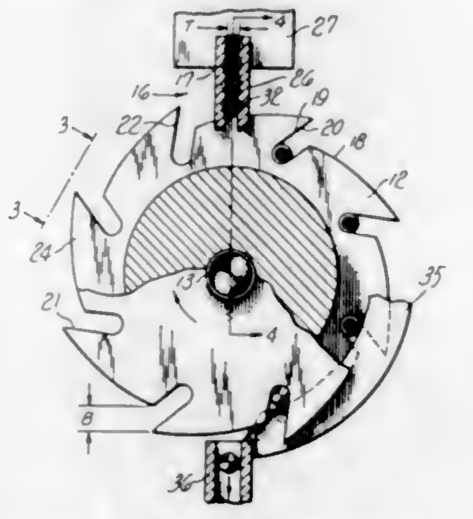
Robert B. Johnson and William H. Goddard, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 21, 1967, Ser. No. 647,709
Int. Cl. B65d *25/28*
U.S. Cl. 220—94 **2 Claims**



A handle assembly for an article to be carried including a housing having a generally rectangular recess extending across the top from one side of the housing, adapted to contain a handle in a storage position. In the side walls of the housing are opposed openings adapted to receive complementary lugs on depending legs of the handle. The handle may be attached to the housing by sliding it into the recess with the lugs bearing against the side walls thereof bending the legs slightly toward each other. These side walls serve as guides for the handle during the assembly operation until the lugs are aligned with the openings, whereupon the arms spring outwardly, snapping the lugs into the openings.

3,451,591
ARTICLE DISPENSING MECHANISM

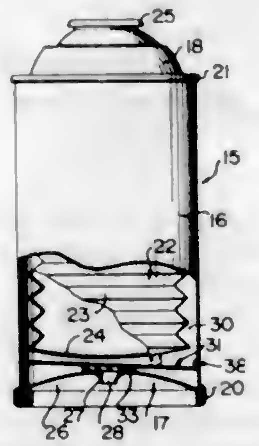
George W. Milne, Kansas City, and Donald F. Schultz, Jr., Lee's Summit, Mo., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 24, 1967, Ser. No. 663,149
Int. Cl. B65g *59/06;* **B65h** *3/32*
U.S. Cl. 221—277 **10 Claims**



A continuously rotating, peripherally stepped wheel is provided with oblique slots at the steps for receiving articles stacked in a stationary feed. Each step strips an article from the stack as it moves past the feed, and the stripped article is urged to the bottom of the associated slot by a camming action between the feed and the oblique wall of the slot.

3,451,592
DISPENSING CONTAINER AND CHARGING VALVE THEREFOR

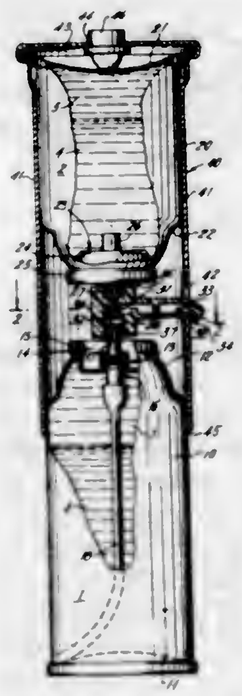
Herbert D. Bartels, Palos Heights, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 3, 1966, Ser. No. 547,246
Int. Cl. B65d *35/28;* **B65b** *3/04*
U.S. Cl. 222—95 **12 Claims**



This invention relates to a novel dispensing container of the aerosol type, and is particularly directed to novel charging valve mechanisms for introducing a pressurized propellant into a propellant chamber of the container and preventing the escape of the propellant during the usable life of the container.

3,451,593
PRESSURIZED DISPENSING DEVICE

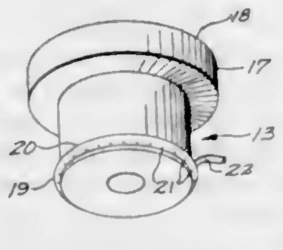
Alan Dillarstone, Highland Park, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed June 24, 1966, Ser. No. 560,299
Int. Cl. B67d *5/64;* **B05b** *7/32;* **B65d** *81/32*
U.S. Cl. 222—130 **14 Claims**



A pressurized dispensing device for discharging a self-heating cosmetic preparation formed from at least two chemical entities adapted to react exothermically on contact and maintained in separate pressurized containers. A warming chamber in combination with the respective discharge valves of the containers. The containers and the warming chamber are at least partially enclosed by a housing having an aperture therein for the discharge of material from the warming chamber and means are provided to operate simultaneously the discharge valves of the containers so as to release simultaneously the contents of each container into the warming chamber where the chemical entities are commingled and interacted exothermically prior to issuance from said discharge spout as a heated product ready for use. In a preferred embodiment the warming chamber is adapted to provide turbulence therein.

3,451,594
TUNDISH NOZZLE CONSTRUCTION

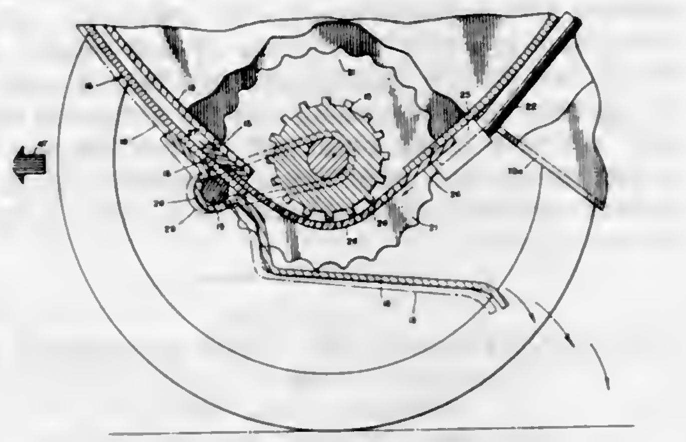
Sigmund W. Stewart, 385 Dorothy Lane, Wyckoff, N.J. 07481
Filed May 17, 1966, Ser. No. 550,775
Int. Cl. B67d *1/08, 5/72, 35/38*
U.S. Cl. 222—152 **2 Claims**



A nozzle for use in tundish ladles consisting of a cylindrical shell of refractory, the lower extremity thereof having concentrically secured thereto a tubular conduit having a plurality of apertures for the ejection of inert gas.

3,451,595
WHEELED VEHICLE VIBRATORY SPREADER FOR GRANULAR MATERIAL

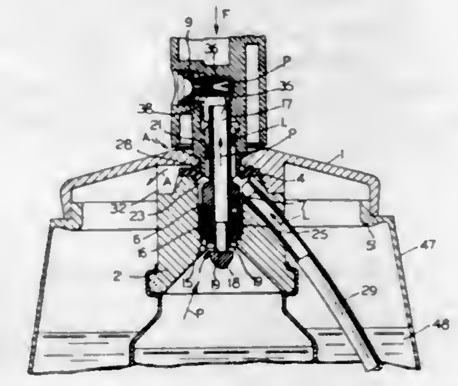
Robert G. Dexter, Lunenburg, Mass., assignor, by mesne assignments, to USS Agri-Chemicals, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Mar. 25, 1966, Ser. No. 537,410
Int. Cl. A01c *15/12;* **B65g** *65/70*
U.S. Cl. 222—177 **7 Claims**



A vehicle vibratory spreader including a hopper supported on a wheel-equipped axle and vibratory shelf member connected to the bottom wall of the hopper having an opening to meter the ejection of materials from the hopper according to ground speed. A pair of cams including a plurality of depressions are fixedly mounted on the axle and cam follower means is rigidly connected to the shelf member whereby rotation of the axle vibrates the shelf member. A control means may be provided for adjusting the extent to which the cam follower enters the depressions to thereby vary the amplitude of vibration and meter spread of materials. To facilitate substantial vibration, resilient means may be connected between the shelf member and both the hopper and a subjacent frame.

3,451,596
INTEGRAL PLUG VALVE ASSEMBLY FOR DISPENSER OF PRODUCTS IN THE FLUID STATE

Jean Marand, Poitiers, France, assignor to Geigy Chemical Corporation, Ardsley, N.Y.
Filed Nov. 28, 1967, Ser. No. 686,009
Claims priority, application France, Nov. 28, 1966, 85,167
Int. Cl. B67d *5/54;* **A62c** *13/34*
U.S. Cl. 222—193 **13 Claims**

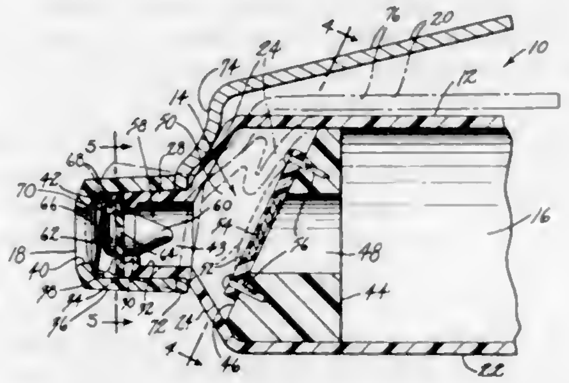


A plug valve assembly for dispensers of fluid products adapted to be attached to a product container for containing the fluid product to be dispensed and adapted to accommodate a propellant cartridge within the product container, said plug valve assembly comprising a hollow valve stem, a pushbutton actuator on the upper end of said stem and having a nozzle therein communicating with said hollow stem, a cap member adapted to fit over a product container and having an aperture therein through which the hollow stem is movable, a support secured to the under side of said cap and having a hollow central portion through which said hollow stem is movable, a dip tube secured in said support and opening into said hollow interior, a fluid product flow path through said hollow stem exteriorly of the hollow thereof from a point adjacent said hollow interior, a first flexible gasket means in said assembly through which said hollow stem passes obturating said fluid product flow path between said fluid product flow path and said hollow interior, a second flexible gasket means in the bottom of said support through which said hollow stem passes, said hollow stem having an aperture therein opening into the hollow of the stem, said aperture being obturated by said second flexible gasket means, and means on said support to which a propellant cartridge can be secured in gas tight relationship to said support.

3,451,597

CONTAINER-DISPENSER WITH INTEGRAL PUMP

Cornelius B. Watson, Jr., Box 832,
Madison, Conn. 06443
Filed Aug. 24, 1967, Ser. No. 663,116
Int. Cl. B65d *35/28*
U.S. Cl. 222—207 **7 Claims**

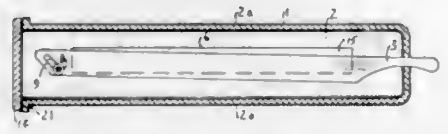


A disposable container-dispenser has a resilient collapsible tubular body containing a lever operated suction pump and a storage compartment for holding a quantity of fluent material to be dispensed by the pump. Check valves associated with the pump cooperate to prevent the retrograde flow of material and air through the pump and to the storage compartment so that the latter compartment is progressively collapsed as material is dispensed therefrom.

3,451,598

MACHINE FOR APPLYING HIGH CONSISTENCY FLUIDS AND SEMISOLIDS

Walter L. Griffith, 77 Lenox St.,
Rochester, N.Y. 14611
Filed May 31, 1967, Ser. No. 643,810
Int. Cl. B67d *3/00;* **A23g** *3/20;* **B05c** *5/00*
U.S. Cl. 222—485 **3 Claims**

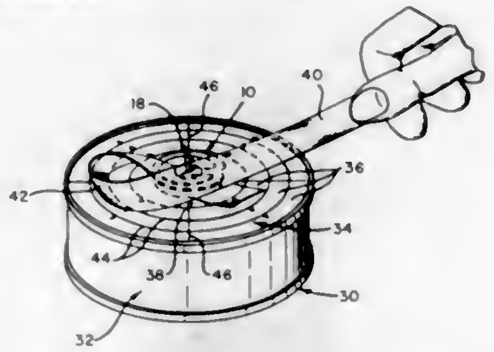


A tubular dispensing valve having a valved longitudinal partition. High consistency fluids are pumped into the tube above the partition and flow through the opening in the partition and out a plurality of nozzles in the tube located below the partition. Cutting blades are also disclosed for cutting furrows in an article prior to depositing the fluid.

3,451,599

APPARATUS FOR MAKING ORNAMENTAL BOWS

Clarence T. Bickner, 957 Manor Road,
El Sobrante, Calif. 94803
Continuation-in-part of application Ser. No. 505,589, Oct. 21, 1965. This application Aug. 23, 1967, Ser. No. 662,813
Int. Cl. A41h *43/00*
U.S. Cl. 223—46 **7 Claims**

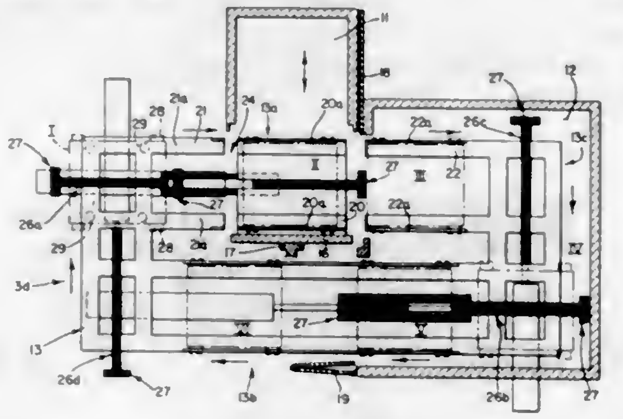


A unitary bow pin holder for use in making ornamental bows, which holder includes means for detachably holding a bow pin with its spike projecting outwardly. The holder also includes means for releasably attaching the same to the face of a supporting member. The releasable attaching means comprises a magnet which is releasably attached by magnetic attraction to a supporting member of magnetic material. The supporting member may comprise the end of a can of any desired shape. In addition, a cap of non-magnetic material may be used at the can end for positioning the magnet therein. If desired, a hole may be formed in the cap through which the magnet extends in cooperating relationship for accurately positioning the bow pin holder at the can end. Also, indicia may be provided on the can end or on the cap to guide a person in forming a bow.

3,451,600

TEXTILE TREATING METHOD

George Alan Carruthers, Lancaster, England, assignor to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1967, Ser. No. 666,701
Claims priority, application Great Britain, Nov. 26, 1966, 53,065/66
Int. Cl. D06c *5/00, 7/00*
U.S. Cl. 223—76 **7 Claims**

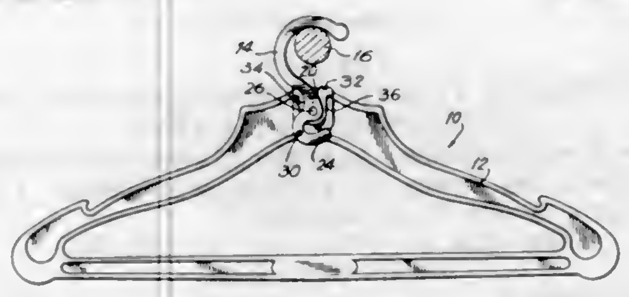


In an automated method of finishing greige goods, preferably made of thermoplastic yarns, greige goods are placed upon boarding forms mounted on a carriage. The carriage is automatically moved to a second position in front of an open autoclave. It then is inserted into the autoclave and the door of the autoclave is closed. The goods undergo dyeing and heat setting in the autoclave, subsequent to which the door is opened and the carriage is removed. The carriage then is passed into a drying chamber, after which the chamber is closed, and the stockings are dried therein. At least two carriages are in the drying chamber at a time. Each time a carriage is inserted into the drying chamber, another is ejected therefrom. Each time the autoclave door closes, the doors are closed on the dryer, so that drying proceeds simultaneously with the treatments in the autoclave. The goods remain in the dryer at least twice as long as they remain in the autoclave.

3,451,601

HANGER CONSTRUCTION

Joseph Y. Pelavin, Brooklyn, and Frank Ioviero, Howard Beach, N.Y., assignors to Droutman Manufacturing Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 8, 1967, Ser. No. 614,593
Int. Cl. A47j *51/098*
U.S. Cl. 223—85 **8 Claims**

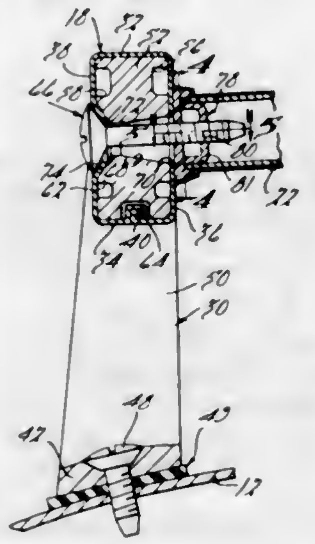


A hanger construction wherein a garment-supporting portion has an upper central part formed with an upwardly directed notch a lower portion of which is adapted to receive a supporting rod which carries the hanger. A hook is located beside the upper central part of the garment-supporting portion, and a connecting means connects the hook to the upper central part of the garment-supporting portion for turning movement relative thereto between a release position displaced from the notch and a locking position extending across the notch over the lower portion thereof, so that when a supporting rod extends through the lower portion of the notch and the hook is in its locking position the hook will extend over the rod locking the latter in the notch. A detent means releasably holds the hook in its locking position to prevent displacement of the hanger from the supporting rod until the detent means is released.

3,451,602

LUGGAGE RACK

John A. Bott, 931 Lake Shore Drive,
Grosse Pointe Shores, Mich. 48236
Continuation-in-part of application Ser. No. 483,915, Aug. 31, 1965. This application June 30, 1967, Ser. No. 650,308
Int. Cl. B60r *9/04*
U.S. Cl. 224—42.1 **18 Claims**



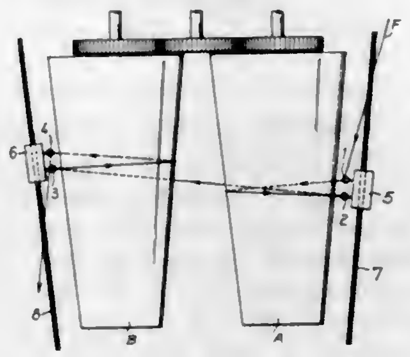
A rack for supporting luggage and the like on the roof portion of an automotive vehicle, the rack comprising a pair of longitudinally extending side rails; a pair of stanchion members for supporting each of the side rails, with each of the stanchion members having an upper end portion adapted for telescopic engagement with one end of one of the side rails; a pair of cross rails extending laterally between the stanchions at the forward and rearward ends of the side rails; a single fastening means disposed at each of the four corners of the rack for securing the adjacent ends of the cross rails and the side rails to the upper end portions of the stanchions, the fastening means being arranged such that the angular relation of the side rails and the stanchions relative to the cross rails may be adjusted to conform with the shape of the vehicle roof portion; a plurality of longitudinally extending luggage supporting molding strips; at least one laterally extending molding strip retaining strap for supporting the molding strips in substantially contiguous relation with the vehicle roof portion, means being provided on the inboard sides of the stanchions for engagement with the laterally outer ends of the strap for securing the same to the vehicle, and means for interconnecting the molding strips with the retaining strap including inter-engageable notched and recessed portions formed on the molding strips and retaining strap.

The purpose of the above abstract is to provide a non-legal technical statement of the disclosure of the contents of the instant patent application so as to serve as a search-ing-scanning tool for scientists, engineers and researchers. Accordingly, this abstract is not intended to be used in understanding the principles of the present invention hereinafter described in detail, nor is it intended to be used in interpreting or in any way limiting the scope or fair meaning of the claims appended hereto.

3,451,603

METHOD AND DEVICE FOR ADJUSTING THE TENSION OF YARN FED TO A YARN-CONSUMING MACHINE

Bernard Francois Helffer, Saint-Andre-les-Vergers, Jean-Pierre A. Raisin, Troyes, and Eugene J. Voisin, Saint-Andre-les-Vergers, France, assignors to Institut Textile de France, Boulogne-sur-Seine, France
Filed May 17, 1966, Ser. No. 550,715
Claims priority, application France, May 18, 1965, 17,408; Mar. 24, 1966, 54,864
Int. Cl. B65h *77/00;* **D04b** *15/46, 15/50*
U.S. Cl. 226—1 **2 Claims**

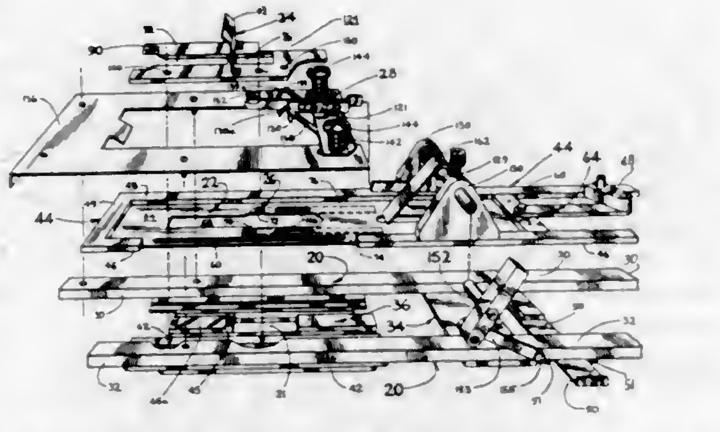


Method and device for feeding a high-stretch yarn to a yarn consuming machine at a constant speed and tension comprising supplying the yarn at an uncontrolled tension, imparting to the yarn a constant speed and a tension which is higher than the decrimping tension, then easing the imparted tension so that the yarn assumes a hysteresis characteristic relative to the stretch/load curve of the yarn produced by the application of the imparted tension so as to achieve a delivery tension which is lower than the decrimping tension but which may be varied without the production of appreciable variation in length of the yarn.

3,451,604

AUTOMATIC FILM FEEDER

Albert F. Gallistel, Wayzata, Minn., assignor to Pako Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 4, 1966, Ser. No. 584,204
Int. Cl. G03b *1/28, 1/22*
U.S. Cl. 226—56 **7 Claims**

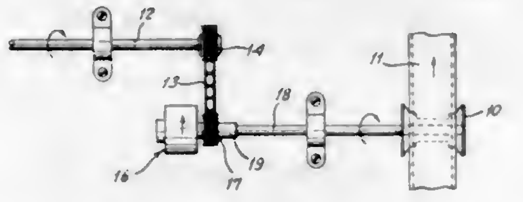


A device for feeding negative film in roll form to a high production photographic printer. A lower film supporting mechanism cooperates with an upper mask assembly to provide a guideway for receiving and directing the film to the printing station of the printer. The film supporting mechanism reciprocates within a frame or slide bed and automatically advances the film on a frame-by-frame basis through the use of small spring loaded pawls adpated to mechanically engage the perforations along one edge of the film. The bottom surface of the masking assembly is designed to serve as a cam-like surface controlling the engagement and disengagement of the pawls.

3,451,605

DRIVING MECHANISM

Everett L. Hanson, Los Angeles, Calif., assignor to De Luxe Laboratories, Inc., New York, N.Y., a corporation of New York
Filed Mar. 14, 1967, Ser. No. 623,101
Int. Cl. G03b *1/24;* **B65h** *17/22;* **F16d** *31/00*
U.S. Cl. 226—76 **4 Claims**



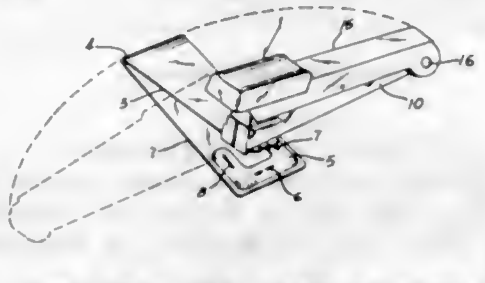
A driving mechanism having a fluid drive unit comprising a rotatable housing which is generally in the form of a body of revolution rotatable about its axis, two sets of opposed spaced blades in the housing, one of the sets of blades being fixedly secured to the housing coaxial thereof and rotatable therewith, the other set of blades being journalled coaxially of the one set of blades and radially therewithin, a shaft drivingly connected to said other set of blades, and a liquid such as oil within the housing interacting with the sets of opposed blades to provide a torque transmitting drive therebetween.

3,451,606

STAPLER

Leo V. Jacobson, 10664 Carroll Wood Way, St. Louis, Mo. 63128
Filed Feb. 4, 1966, Ser. No. 525,217
Int. Cl. B25c *5/02, 5/06*
U.S. Cl. 227—110 **3 Claims**

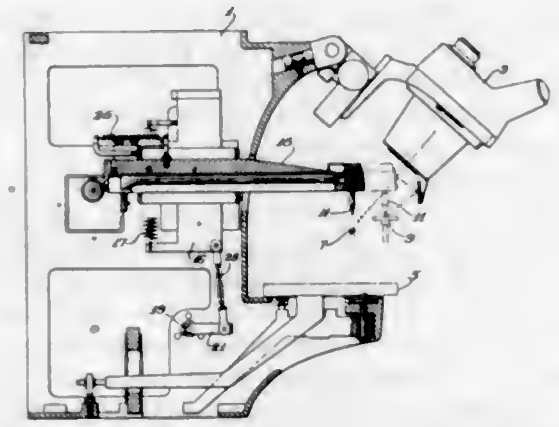
A portable stapler having a base and an arm hinged together and a staple holding magazine mountable on and above the arm in more than one operative position. A pivot is provided through the arm and the staple holding magazine, behind a staple driving blade. Slots adjacent the pivot allow the pivot to move relative to dimples, which hold the staple holding arm in each operative position.



3,451,607

APPARATUS FOR EFFECTING BONDING OF SEMICONDUCTOR PARTS

Charles Fredrick Miller, Anaheim, Raymond O. Zenker, Whittier, and Bobby G. Durant, Westminster, Calif., assignors to Sola Basic Industries
Filed Mar. 14, 1966, Ser. No. 533,998
Int. Cl. B23k *1/06*
U.S. Cl. 228—1 **4 Claims**

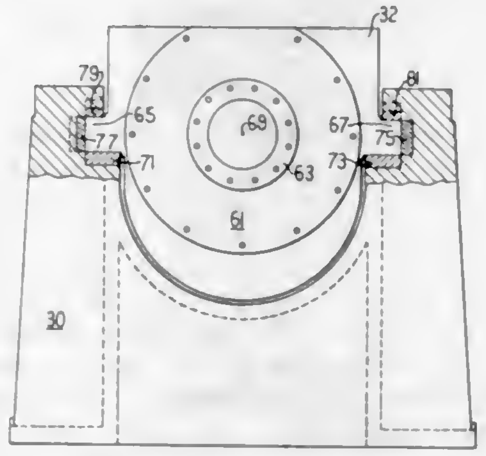


Apparatus for bonding a semiconductor die to a mounting member which imparts a horizontal oscillating movement to the die and simultaneously holds the die in contact with the mounting member so that a gold eutectic bond is promoted between the die and mounting member. Various mechanical horizontal drive oscillators are disclosed.

3,451,608

FRICTION WELDING APPARATUS

Gerald W. Deemie, and Ira H. Sage, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 24, 1967, Ser. No. 677,555
Int. Cl. B23k *27/00*
U.S. Cl. 228—2 **8 Claims**

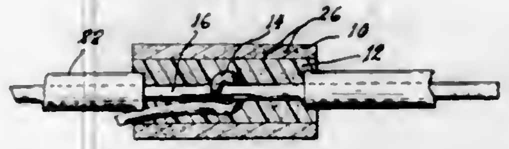


A friction welder having a specially constructed wear resistant slot and rail assembly between the movable carrier and the carrier support for insuring precise concentric alignment between the workpieces to be welded and wherein means are provided for easily and accurately adjusting both the horizontal and vertical clearance between said slot and rails to maintain said alignment should wear occur.

3,451,609

HEAT SHRINKABLE PLASTIC SOLDERING SLEEVE

Glenn D. Gillett, Los Altos, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 24, 1967, Ser. No. 663,174
Int. Cl. B23k *35/14, 35/20*
U.S. Cl. 228—56 **3 Claims**

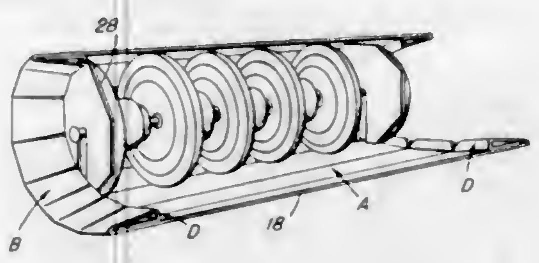


An improved heat shrinkable plastic soldering sleeve having an observable heat detecting means for determining that the plastic soldering sleeve has been applied under predetermined temperature conditions. The improved plastic soldering sleeve comprises a heat shrinkable plastic tube of sufficient width and length suitable for application to a cable or wire and a circular band of solder located within the central interior portion of the plastic tube. The heat detecting means comprises a conventional heat sensitive paint either applied as a coating to the interior surface of the soldering sleeve or alternatively incorporated within the body of the heat shrinkable plastic tube.

3,451,610

SHIPPING AND STORAGE CONTAINER

Robert W. Beichler and William E. Hubbard, Baltimore, Md., assignors to Westvaco Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 31, 1967, Ser. No. 679,368
Int. Cl. B65d *3/04, 5/04*
U.S. Cl. 229—23 **5 Claims**



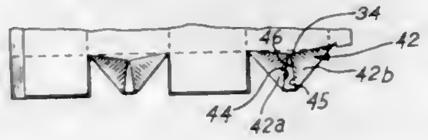
A one-piece shipping and storage container is presented which is scored and cut to form a tubular polygonal structure having a novel end panel feature for housing and retaining the product therein.

3,451,611

PREWRAP CARTON FOR HIGH-SPEED ERECTION

Leonard Adams, Jr., Louisville, Ky., assignor to The Finn Industries, Chicago, Ill., a corporation of Delaware
Filed June 10, 1968, Ser. No. 735,778
Int. Cl. B65d *5/06, 5/08*
U.S. Cl. 229—37 **9 Claims**

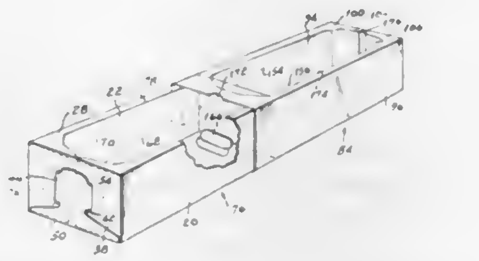
A flat-foldable carton having simulated wrapping spot bonded to the exterior surface of the carton, and the carton having said simulated prewrap mounted in an improved manner around closure flaps which, at least at one end, include a pair of opposed triangular flaps with their apices in end to end relationship, and a pair of opposed rectangular flaps in end closure relationship. The simulated prewrap is wrapped around the angular raw edges of the triangular closures and is bonded to the undersides of such triangular closure flaps. When metallic finish material is used as the prewrap, a gap is provided between the ends of the overlap prewrap on the underside of the triangular closure flaps so that raw board is exposed for cold gluing to said metallic finish material. A carton of this type is opened on a high speed erection machine of the Jones type in an improved manner without tearing or other undesirable actions which would occur on such machine if the simulated prewrap were continuous or unsupported between such closure flaps.



3,451,612

CONVERTIBLE BOX

Yosinori Sinoto, 345 W. 58th St., New York, N.Y. 10036
Filed July 12, 1967, Ser. No. 652,904
Int. Cl. B65d *5/08, 13/00, 25/22, 1/00, 3/00, 5/00*
U.S. Cl. 229—38 **19 Claims**



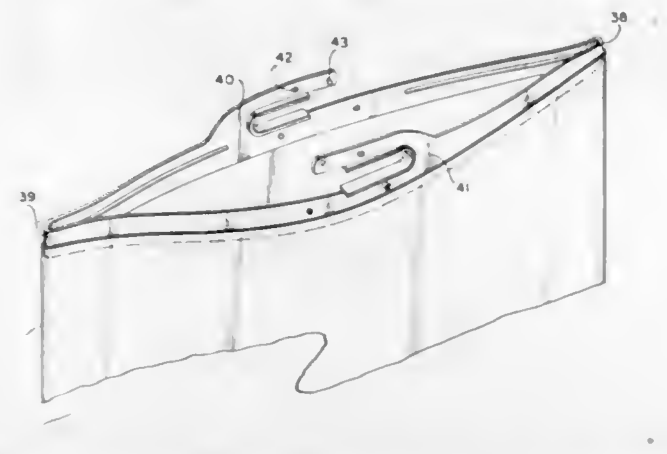
A convertible container normally having a boxlike configuration and adapted to be converted to an easily-carried, baglike container. Each opposite side of the box is provided with a single interior bending line, score or furrow which extends from a point intermediate the corners of the side at one end thereof for a short distance to a terminus from which divergent bending lines, scores or furrows extend to the corners of the side at the other end thereof. When the top and bottom of the container are brought together at the one end, the sides bend outwardly along the furrows to form an easily-carried baglike container. Means is provided for holding the thus collapsed one end closed and for facilitating carrying of the container. Two telescoped containers normally forming a box may be first separated and then converted to two baglike containers joined at the collapsed ends and connected at the closed ends to facilitate carrying of the articles originally packaged in the box.

3,451,613

BAG AND HANDLE MEANS

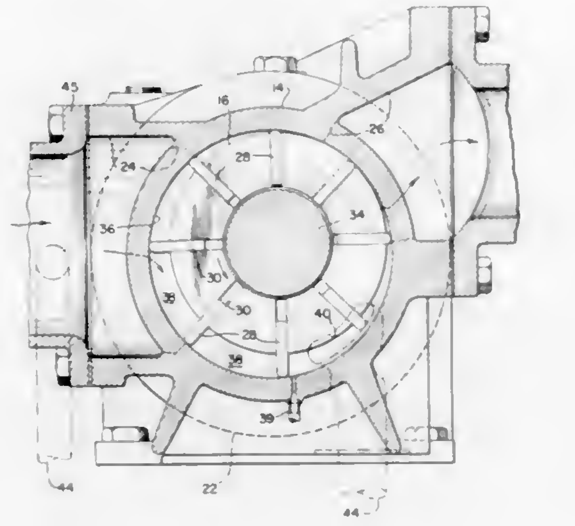
George Vande Sande, Bethesda, Md., assignor to CTP Industries, Inc., Brooklyn, N.Y.
Filed Feb. 19, 1968, Ser. No. 706,486
Int. Cl. B65d *33/06*
U.S. Cl. 229—54 **10 Claims**

The disclosure relates to a reusable plastic bag, and in particular, recloseable handle means for such a bag. The handle members are of a partially overlapping configuration wherein each of the handle members forms a portion of the handle, allowing the handle members to form a complete handle when the members are locked together but enabling the handle members to be easily separated by moving the non-overlapping portions in opposite directions to unlock or open the bag.



3,451,614
CAPACITY CONTROL MEANS FOR ROTARY COMPRESSORS

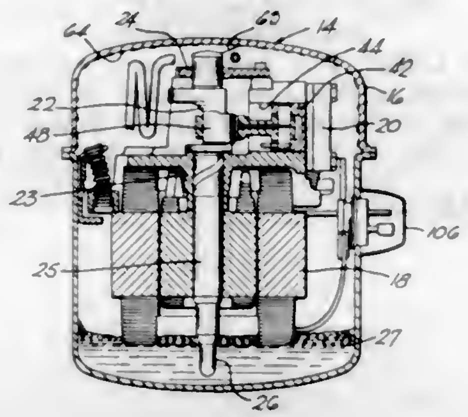
Roy B. Tosh, Fayetteville, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed June 14, 1967, Ser. No. 645,925
Int. Cl. F04c *29/07, 29/10*
U.S. Cl. 230—138 **2 Claims**



The capacity control device for a rotary compressor of the sliding vane type comprises a bypass port means, including a bypass conduit, in an end wall of the compressor and constructed and arranged to communicate with the fluid compression pockets formed between next adjacent vanes prior to substantial compression of the fluid trapped in such pockets and to pass the fluid from the pocket into the bypass conduit which is in communication with the compressor suction or inlet port. The device also includes a valve means consisting of an arcuate plate disposed to overlie the bypass port means and supported for rotation relative to the bypass port means to vary the area at the bypass port means and the fluid flow therethrough. The arcuate plate is connected to an actuating means which, in turn, is connected to a source of rotary power for effecting rotation thereof in response to the demand requirements on the compressor.

3,451,615
COMPRESSOR LUBRICATING SYSTEM

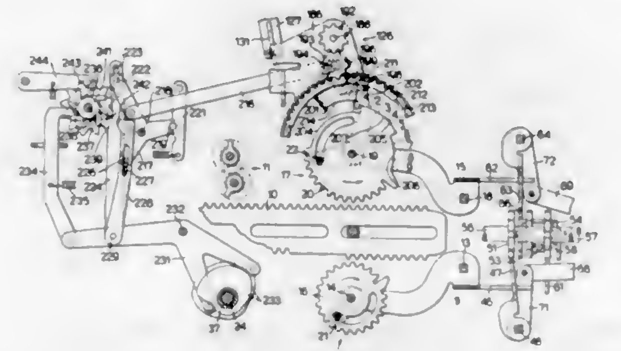
Paul B. Hover, Clinton, Mich., assignor to Tecumseh Products Company, Tecumseh, Mich., a corporation of Michigan
Filed July 12, 1967, Ser. No. 652,789
Int. Cl. F04b *39/02*
U.S. Cl. 230—206 **16 Claims**



By way of information and not limitation, a compressor crankshaft has an eccentric bore which pumps lubricating oil through the crankshaft for distribution to various compressor parts. At the upper end of the crankshaft there is an axially directed port and a generally radially directed port for discharging oil from the bore. These two ports are arranged so that centrifugal force discharges oil from the bore through the radial port at low crankshaft speeds and through both ports at higher crankshaft speeds. Oil discharged at both speeds is directed toward the compressor shell at substantially the same vertical angle.

3,451,616
AUTOMATIC SHORTCUT MULTIPLICATION DEVICE FOR A CALCULATING MACHINE

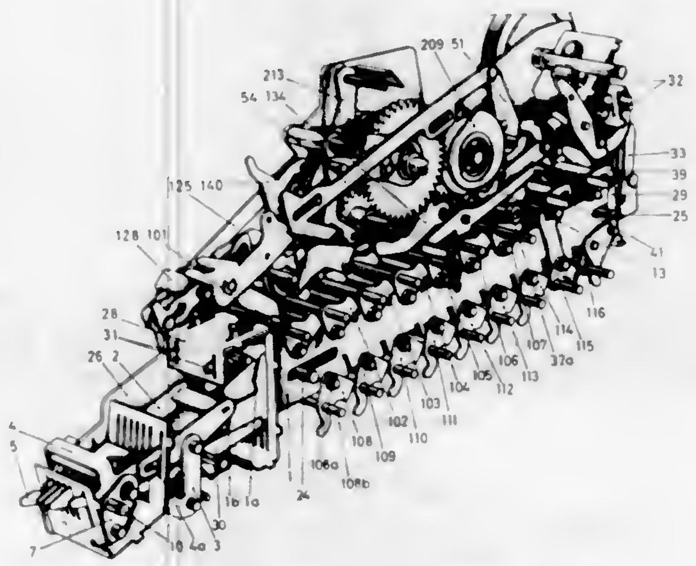
Teresio Gassino, Ivrea, Turin, Italy, assignor to Ing. C. Olivetti & Co., S.p.A., Ivrea, Italy, an Italian corporation
Filed Apr. 1, 1966, Ser. No. 539,457
Claims priority, application Italy, Apr. 10, 1965, 8,940/65
Int. Cl. G06c *29/00*
U.S. Cl. 235—60 **14 Claims**



A shortcut multiplication device for a calculating machine having a multiorder memory provided in each order with a differentially settable set up member and a cyclically operating shaft, comprises a cycle counting member adapted to sequentially engage each one of said set up members, and to be displaced by said shaft step by step along the engaged set up member in a predetermined direction in the case the multiplier figure requires the direct method of multiplication and in the opposite direction in the case the multiplier figure requires the short cut method. Each set up member is provided with an element having a predetermined length and adapted to be engaged by a counter element secured to said control member and having a length equal to the complement to nine with reference to the length of the element. The multiplication starts from left and the multiplier orders not requiring calculating cycles are skipped by the counting member.

3,451,617
PRINTING CALCULATING MACHINES

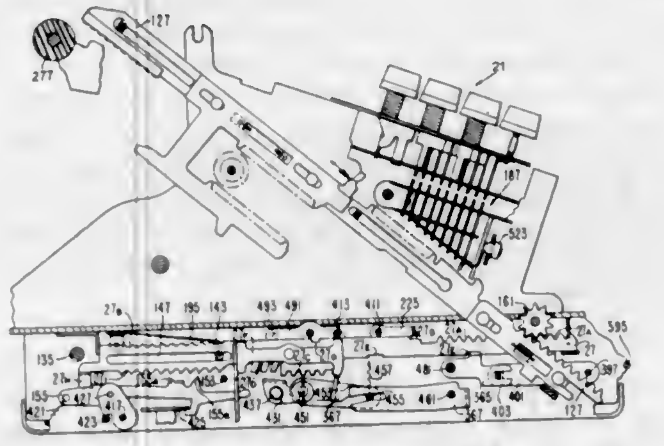
Erik Konrad Grip, Atvidaberg, Sweden, assignor to Facit AB, Atvidaberg, Sweden, a Swedish joint-stock company
Filed Apr. 3, 1967, Ser. No. 627,895
Claims priority, application Sweden, Apr. 21, 1966, 5,428/66
Int. Cl. G06c *27/00, 29/00*
U.S. Cl. 235—60 **7 Claims**



The present invention relates to a printing calculator which carries out all four kinds of arithmetic calculation and prints the results as well as the items (set-up numerals), and which can store set-up as well as computed numerals in accumulating registers.

3,451,618
TEN KEY MULTIPLYING MACHINE

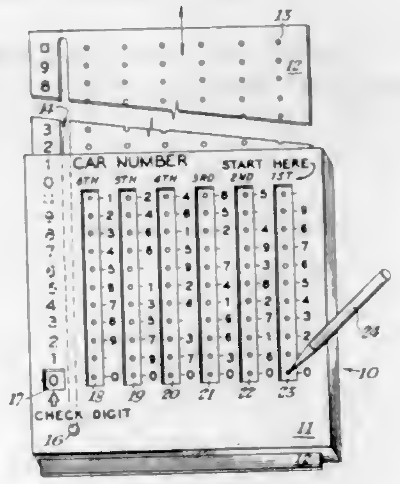
René F. Lucas, Noisy-le-Sec, France, assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 10, 1967, Ser. No. 629,741
Int. Cl. G06c *29/00*
U.S. Cl. 235—60 **24 Claims**



A single-keyboard adder, subtractor and multiplier uses two sets of elements for multiplication: slidable elements for storing one factor, and a pin carriage for storing a second factor. A variably-movable pawl and projection cooperating with the first factor elements control the necessary repeated additions and subtractions of the second factor. A printer has two sections that are coupled together for printing factors and results but uncoupled to suppress the printing of partial products. The totalized result of one operation is transferred to the first factor elements for use in chain multiplication. An interlock device enforces entry of the second factor and prevents multiplication when the factors used would produce a product greater than machine capacity.

3,451,619
CHECK DIGIT CALCULATOR

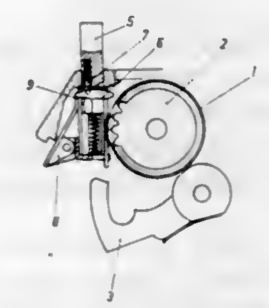
Norman R. Buck, Newton, Mass., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1967, Ser. No. 672,411
Int. Cl. G06c *1/00*
U.S. Cl. 235—61 **9 Claims**



This invention relates to a check digit calculator wherein a number group which is to have a check digit added is computed by the calculator and provides the check digit by the addition of remainders, which remainders are arrived at by the multiplication of each digit of the number group by $[a^{(n-1)}]$, and dividing by a natural number which results in a remaining whole number where the base *a* is any natural number and where *n* in the exponential expression is the number count of a position of a digit within the number group.

3,451,620
SETTING DEVICE FOR PRESETTABLE COUNTERS HAVING ACTUATING KEYS

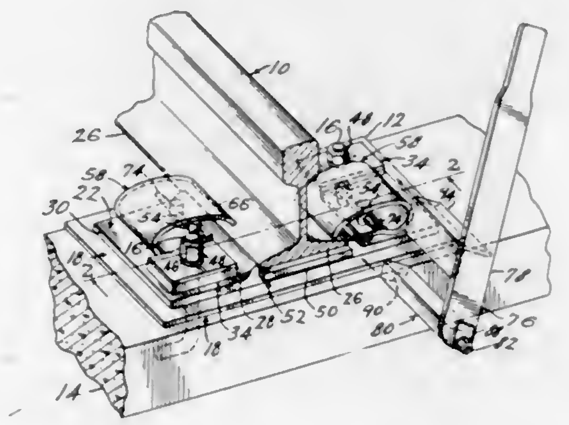
Manfred Georg Roland Vogel and Horst Pfeiffer, Aldingen, Germany, assignors to J. Hengstler, K.G., Zahlerfabrik, Aldingen, Kreis Tuttlingen, Wurttemberg, Germany
Filed July 27, 1967, Ser. No. 656,428
Claims priority, application Germany, Jan. 21, 1967, H 61,620
Int. Cl. G06f *15/18*
U.S. Cl. 235—132 **3 Claims**



A setting device for presettable counters having actuating keys and a resetting means, wherein the catches of the presetting keys do not engage the digit wheels when the keys are actuated without an actuation of the resetting means so that an adjustment is prevented when the counter is ready for operation, accomplished by spring-loaded catches of the keys engaging a disabling bridge, swinging the catches out of the range of the stepping teeth of the digit wheels upon an actuation of the keys when the resetting means has not been actuated. The disabling bridge assembly is swung out of position by the resetting means upon actuation of the same so that the actuation of the keys then causes their catches to engage the stepping teeth of the digit wheels.

3,451,621
RAIL ANCHOR

Donald H. de Splinter, Elyria, Ohio, assignor, by mesne assignments, to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 26, 1967, Ser. No. 641,583
Int. Cl. E01b *9/00, 13/00, 21/04*
U.S. Cl. 238—315 **5 Claims**

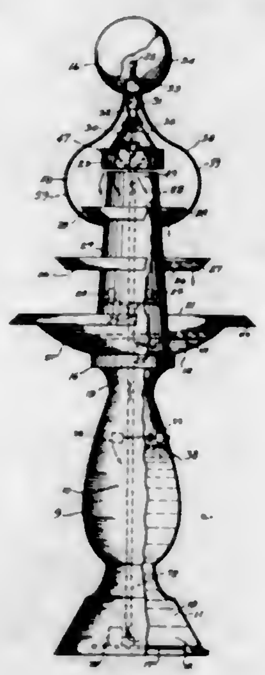


An improved rail anchor has features resulting in a number of advantages over anchors heretofore known. The new rail anchor includes an insulating pad below a rail plate and a second pad between the rail plate and the rail to be anchored. This arrangement achieves improved sound deadening, a minimum of vibration, and a more silent, comfortable ride. The rail anchor also includes a unique insulating block arrangement for affixing the anchor assembly to the base which enables complete sound and electrical isolation to be attained. The springs of the rail anchor are affixed to the rail plate by a post and pin arrangement which also achieves additional advantages for the new rail anchor, including ease of assembly, quick inspection, reliability in the connection, and predetermined, constant spring deflection and force. Finally, the invention provides a unique tool by means of which the springs can be easily and rapidly assembled with the plate to hold the rails resiliently in place.

3,451,622
DECORATOR FOUNTAINS

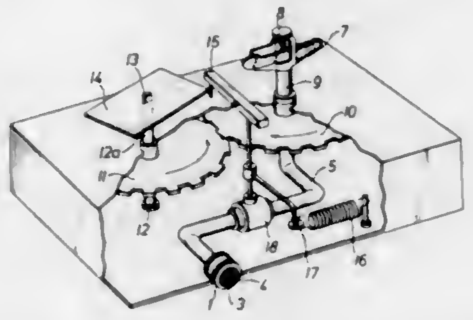
Arthur Forney, 1670 S. Frederica Drive, Clearwater, Fla. 33516
Filed May 12, 1967, Ser. No. 638,039
Int. Cl. B05b *17/08;* **G09f** *13/24*
U.S. Cl. 239—20 **4 Claims**

This invention relates to decorator fountains which can be used for homes, lawns, patios, business institutions, offices, and the like, and which are mounted on casters so that they can be moved from one location to another in a simple manner. The fountains have their own built-in water reservoir and recirculating pump. The water reservoir has automatic replacement for water loss due to evaporation. The fountains are provided with a three-way electric switch which is light without pump, pump without light and pump and light combined.



3,451,623
LAWN SPRINKLER

Robert W. Dibrell, 14523 Quention Road, Houston, Tex. 77045
Filed May 31, 1966, Ser. No. 554,121
Int. Cl. B05b *3/02, 3/14, 15/04*
U.S. Cl. 239—97 **10 Claims**

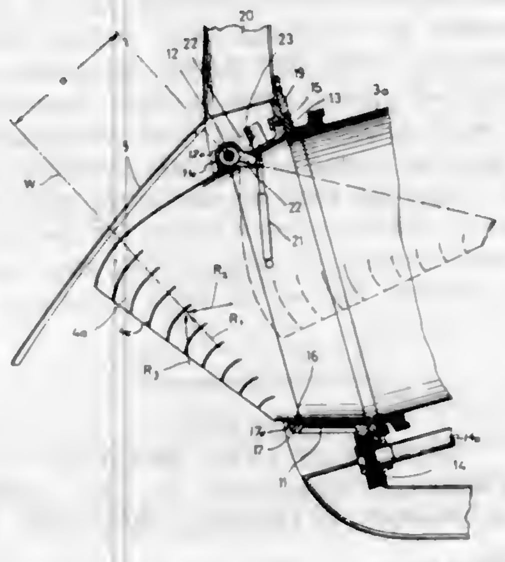


A lawn sprinkling device suitable for spraying water in a variety of patterns conforming to the shape of the area to be sprinkled utilizes a radially automotive nozzle which produces a corresponding rotation of a cam mounted in a position spaced from the nozzle. The cam corresponds to the configuration of the area to be sprinkled, and accordingly, a flow regulator which follows the cam will deliver water to the nozzle in varying amounts corresponding to the distance to be covered by the spray from the nozzle in each position.

3,451,624
APPARATUS FOR DIRECTING FLUID FLOW

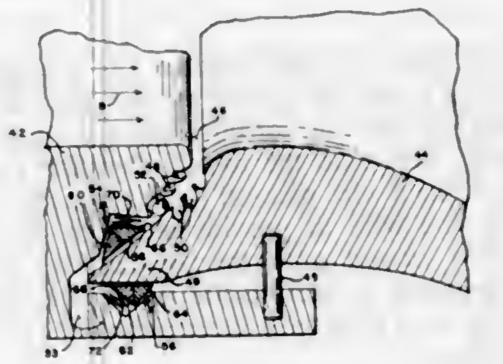
Joseph A. Erich Haberkorn, Riemerling, and Wilhelm F. Löbbecke, Munich, Germany, assignors to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed July 21, 1967, Ser. No. 655,059
Claims priority, application Germany, July 23, 1966, B 88,149
Int. Cl. B64c *15/04, 9/38*
U.S. Cl. 239—265.33 **6 Claims**

A thrust-deflection apparatus which is particularly adapted for cooperation with the exhaust pipe of an aircraft jet engine. A nozzle is positioned adjacent the exhaust orifice of the pipe. Actuating means are provided for shifting the nozzle from an extended position adjacent the exhaust orifice of the exhaust pipe to a retracted position within the exhaust pipe. Rotatable positioning means are included for rotatably turning the nozzle with respect to the axis of the exhaust pipe so as to alter the path of the exhaust jet leaving the nozzle. A safety means is included for preventing operation of the jet engine during certain positions of the nozzle.



3,451,625
NOZZLE CONFIGURATIONS AND METALLIC SEAL DESIGN

Nicholas N. Fruktaw, Hollywood, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 11, 1966, Ser. No. 572,173
Int. Cl. B64c *15/08;* **F16l** *27/06*
U.S. Cl. 239—265.35 **8 Claims**

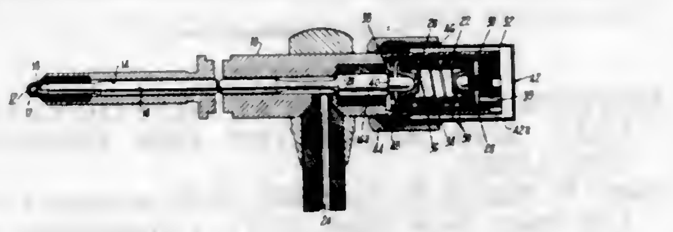


Spring biased sealing means placed between a fixed socket and a movable nozzle. Various configurations and patterns of segmentation of these sealing rings are disclosed. Pockets are provided in facing surfaces of fixed and movable members for trapping metallic molten material. A bag of lubricant is located in a recess. The bag is of such material as to be ruptured at predetermined conditions of heat and pressure.

3,451,626
NONLEAK-OFF FUEL INJECTION NOZZLE

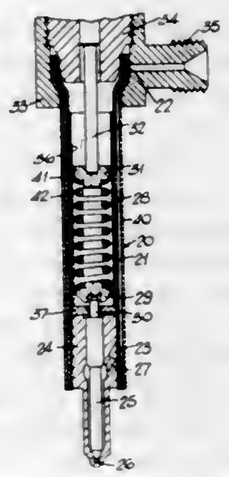
Vernon D. Roosa, West Hartford, Conn. (% The Hartford Machine Screw Company, P.O. Box 1440, Hartford, Conn. 06101)
Filed Jan. 13, 1967, Ser. No. 609,174
Int. Cl. B05b *1/30*
U.S. Cl. 239—533 **6 Claims**

A fuel injection nozzle for internal combustion engines having a guided inwardly opening pressure operated valve in a first chamber in the valve and a second chamber separated from the first chamber by the guide with the second chamber being sealed to prevent leakage and constructed to accommodate the volume of fuel in the spring chamber displaced by the valve when it is lifted from the valve seat.



3,451,627
TUBULAR PART HAVING A PASSAGEWAY FORMED IN THE WALL THEREOF

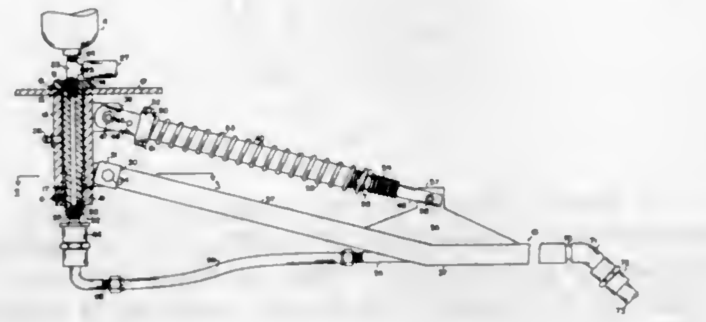
Stanley Frederick Barber, Pinner, England, assignor to C.A.V. Limited, London, England, a British company
Filed Feb. 16, 1967, Ser. No. 616,708
Claims priority, application Great Britain, Mar. 28, 1966, 13,511/66
Int. Cl. B05b *1/32, 1/30, 15/00*
U.S. Cl. 239—533 **2 Claims**



A tubular part having a passageway formed in the wall thereof and formed by a tubular member having a longitudinal slot formed therein, the slot being closed by means of a pair of members, disposed on the external and internal peripheries of the tubular member respectively.

3,451,628
ROTATABLE AND DEPRESSIBLE WASHING APPARATUS

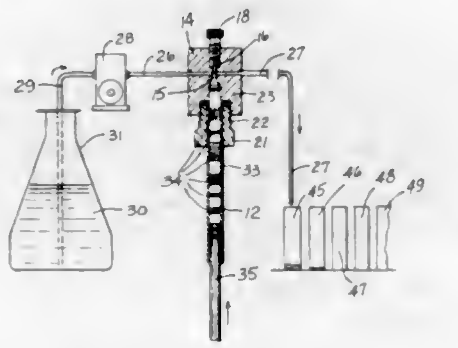
Archie W. Kelley, 203 E. Vado, San Antonio, Tex. 78214
Filed Aug. 8, 1966, Ser. No. 570,932
Int. Cl. B05b *15/08;* **E03b** *7/04;* **B60s** *3/04*
U.S. Cl. 239—587 **5 Claims**



Rotatable and depressible washing apparatus including an elongated arm connected at one end to mounting means, said arm capable of complete rotation and depressible to forty-five degrees below the horizontal plane; one end of a flexible hose is connected to the free end of said arm and liquid dispensing means connected to the second end thereof; a surge tank may be remotely connected to said washing apparatus to prevent knocking within the system upon activation of said liquid dispensing means.

3,451,629
METHOD OF MECHANICAL FRACTIONATION OF GELS AND APPARATUS FOR PERFORMING THE SAME

Jacob V. Maizel, Jr., Scarsdale, N.Y., assignor to Yeshiva University, New York, N.Y., a corporation of New York
Filed June 17, 1966, Ser. No. 558,342
Int. Cl. B02c *19/00, 23/02, 25/00*
U.S. Cl. 241—1 **10 Claims**

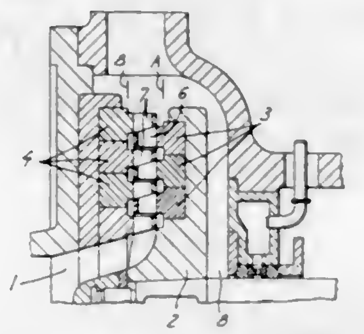


A method of mechanical fractionation of gels is shown which includes the steps of applying pressure to the gel while impinging the same upon a pressure responsive element in the direction of the pressure so as to divide the gel into fractions and applying a pressurized liquid to the pressure responsive area so as to carry away the fractions.

A mechanical fractionator for a gel is disclosed which includes a holding container to support the unfractioned gel, a plunger within the container adapted to apply pressure upon the gel, a measuring mechanism for the pressure to be applied which includes a drive screw, a motor for driving the drive screw, a pressure responsive area adapted to receive the fractioned portions of the gel, and a conduit impinging upon the pressure responsive area adapted to contain a pressurized fluid so as to carry away the fractioned portions of the gel.

3,451,630
BEATING DEVICE FOR THE CONTINUOUS PROCESSING OF MATERIAL STOCK

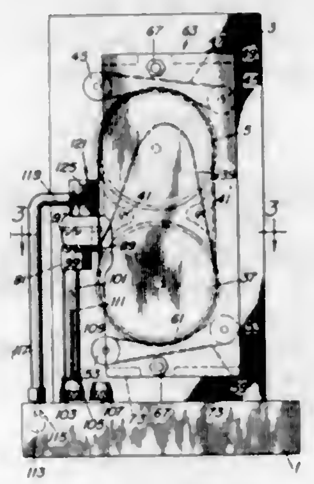
Jarmil Páv, 34 Nad Mazankou, Prague 8, Czechoslovakia
Filed Apr. 28,1964, Ser. No. 363,252
Int. Cl. B02c *1/08, 13/00, 19/12*
U.S. Cl. 241—188 **7 Claims**



1. A beating device for the continuous processing of material stock comprising, in combination, a resonance ring having an axis and a reference plane transverse to its axis; a first plurality of beams projecting in substantially axial direction from said reference plane of said resonance ring and being separated from each other by substantially radial passages and adapted to oscillate at a determined resonance frequency; an exciting ring having an axis and a second reference plane transverse to its axis; a second plurality of beams projecting in substantially axial direction from said second reference plane of said exciting ring and being separated from each other by substantially radial passages, said beams of said exciting ring being of a determined number and having a determined configuration, determined positions and a determined circular pitch such that the beams of said exciting ring provide by cooperation of said passages in said resonance and exciting rings, respectively, a frequency resonant to the determined resonance frequency of the beams of said resonance ring; mounting means mounting said resonance ring and said exciting ring rotatably relative to each other and coaxially with each other with a face of each of said rings adjacent a face of the other of said rings; input means for feeding material stock to said passages of said exciting ring; and output means for deriving the beaten stock from said passages of said resonance ring.

3,451,631
TOROIDAL COIL WINDER

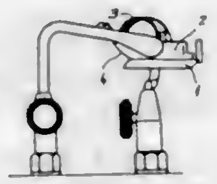
John E. Tillman, Albuquerque, N. Mex., assignor, by mesne assignments, to Leesona Corporation, Warwick, R.I.
Filed Mar. 15, 1966, Ser. No. 534,332
Int. Cl. B65h *81/02*
U.S. Cl. 242—4 **8 Claims**



A toroidal core winding machine has a length of wire wound around a pair of spaced pulleys with the turns of wire passing through the toroid. Forward rotation of the pulleys winds wire onto the toroid. Periodic reversing of the drive permits a wire pick-off means to apply fluid pressure against the wire to provide a length of loose wire which is then wound onto the toroid. The toroid core holder is designed to reciprocate under the influence of tension in the wire to absorb short periods of overtensioning of the wire.

3,451,632
TOROIDAL WINDING MACHINE

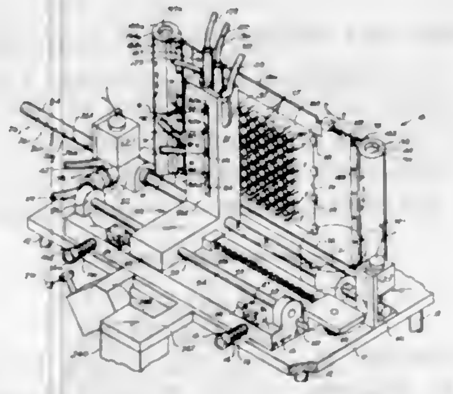
František Jagoš, Prague, Czechoslovakia, assignor to TESLA Narodni podnik, Prague, Czechoslovakia
Filed Nov. 3, 1966, Ser. No. 591,876
Claims priority, application Czechoslovakia, Nov. 12, 1965, 6,759/65
Int. Cl. B65h *81/04*
U.S. Cl. 242—4 **4 Claims**



A shuttleless machine for providing a toroidal core winding. A plurality of conductor loops which initially extend through the toroidal core are released to be pulled onto the core by an electric drive mechanism. The conductor is guided between a pair of jaws one of which is pressed toward the other so that by way of these guide jaws the conductor is maintained under tension while being applied to the toroidal core. In addition, in the electric drive mechanism there is an electric driving motor connected into a circuit which includes a resistor and a switch for connecting the resistor into and out of the motor circuit, the motor running at a slower speed when the resistor is connected into the circuit. The switch is cam-controlled by a cam means which closes the switch when a loose conductor loop is released so that in this way the conductor loops are gently and continuously applied to the toroidal core.

3,451,633
WINDING APPARATUS

James D. Markham, Gahanna, and Charles R. Sanders, Columbus, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 6, 1965, Ser. No. 453,727
Int. Cl. B65h *81/06;* **B21f** *3/00*
U.S. Cl. 242—7.09 **20 Claims**

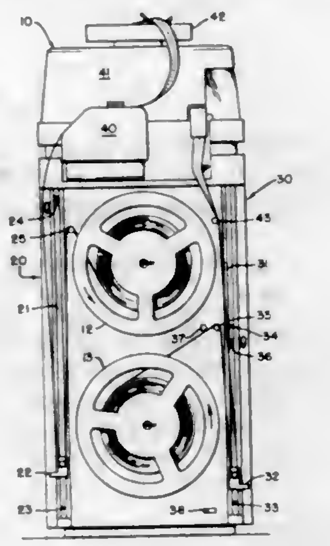


An apparatus for winding wire onto a plurality of coil forms extending from a plate includes a frame for supporting the plate and a wire guide having a plurality of wire guide fingers extending therefrom in the direction of the coil forms. The wire guide is moved to position the fingers adjacent to a first row of the coil forms and the frame is moved in an orbiting motion to orbit each coil form about an associated one of the fingers so that wires paying out from the fingers are wound onto the coil forms. The wire guide is moved axially of the coil forms during the winding operation to facilitate a distribution of the wires onto the associated coil forms. Further, the wire guide is indexable to successively position the guide adjacent to successive rows of the coil forms for successive winding operations. The wire guide fingers are also rotatable to facilitate the wrapping of portions of the wires about associated terminals.

3,451,634
TAPE HANDLING MECHANISM

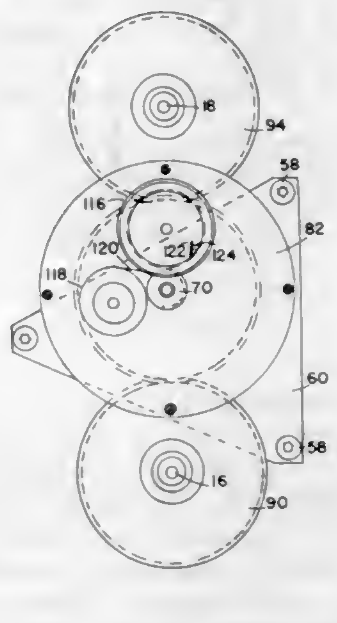
Raymond E. Le Jeune, Morton Grove, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,744
Int. Cl. G11b *15/32;* **B65h** *25/26*
U.S. Cl. 242—55.11 **10 Claims**

A tapewinding and unwinding mechanism for use with pullback tape devices comprising a first tape reel control device including a vertically extending slider track having a length at least half as long as the longest length of tape pulled back by the tape device, a slider mounted in the track for movement against and with the action of gravity, a switch mounted in the slider track for actuation by the slider to control the winding of tape and a stationary tensioner for controlling the tension of the wound tape and a second tape reel control device including a vertically extending slider track, a slider mounted in the track for movement against and with the action of gravity and two switches both mounted in the slider track for actuation by the slider, one for controlling the winding of tape and the other for controlling the unwinding of tape.



3,451,635
INCREMENTAL MAGNETIC TAPE RECORDER EMPLOYING SINGLE SPRING DRIVE MECHANISM

Charles A. Miville, Mount Vernon, N.H., and Fred Hugel, West Acton, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Oct. 5, 1966, Ser. No. 584,583
Int. Cl. G11b *15/30, 15/40*
U.S. Cl. 242—55.13 **11 Claims**

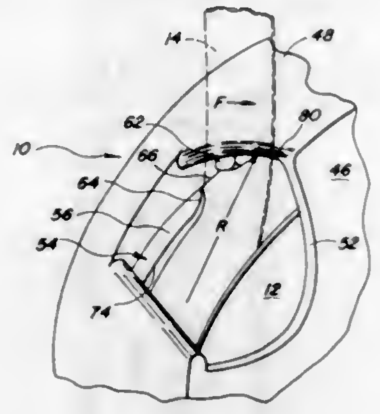


A magnetic tape recorder apparatus having a new drive for data-handling tape recorders which requires very little power for operation and which is particularly suited for use over extended periods of time. The new drive comprises a single capstan for metering tape past the recording head and a single constant torque coil spring for maintaining constant tension on the tape, utilizing no electrical power while the tape recorder is in the standby mode.

3,451,636

FILM GUIDE EDGES ON PROJECTION CARTRIDGE

Leslie J. Bunting, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 1, 1966, Ser. No. 591,153
Int. Cl. G03b *1/04*
U.S. Cl. 242—55.13 14 Claims

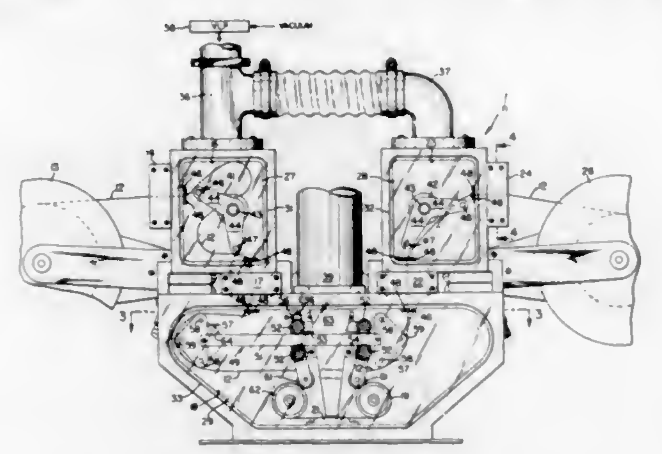


A cartridge adapted to contain a roll of strip material and to be retained on a projector or the like has a passageway in an edge wall thereof for guiding the strip material into or out of the cartridge. The passageway includes guide surfaces for imparting a twist to the strip material to reduce the possibility of scratching the central area thereof as it passes through the passageway.

3,451,637

DIFFERENTIAL PRESSURE WEB TRANSPORT

Bryan F. Kember, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 30, 1967, Ser. No. 678,936
Int. Cl. B65h *59/38, 17/42, 17/50*
U.S. Cl. 242—75.5 11 Claims

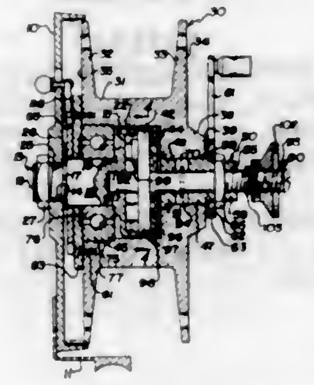


A strip of photographic film is to be scanned by an electron beam in a vacuum, so as to read out the photographic frames in the form of an electric signal for television transmission. The film strip is threaded and fed from atmospheric pressure into an air lock chamber, thence into a vacuum processing chamber, thence back into the air lock, and thence to a take-up reel outside the air lock. The film passes into and out of each chamber through a gate that may be clamped shut to pinch the film and to provide a hermetical seal. The outer gates between the reels and air lock are opened for feeding film only while the inner gates between the air lock and processing chamber are closed, so that the processing vacum is preserved. The air lock is then sealed and evacuated, and the inner gates are opened to feed and withdraw film to and from the processing chamber. In each feeding cycle, sufficient film is stored in the processing chamber to enable continuous processing until the next feeding cycle. The gates are each formed by a pair of rubber tubes positioned on either flat side of the film. The tubes are inflated to high pressure to close the gates, and are deflated to open the gates.

3,451,638

FISHING REEL

Arthur R. Moat, 932 Stanton Ave., Coquitlam, New Westminster, British Columbia, Canada
Filed June 13, 1966, Ser. No. 557,235
Int. Cl. A01k *89/02, 89/00*
U.S. Cl. 242—84.45 6 Claims

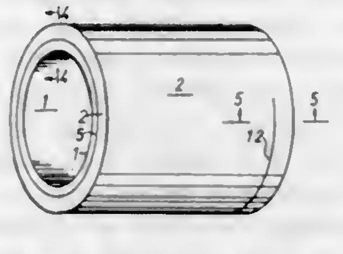


A fishing reel having a spool journalled for rotation upon a boss projecting from a frame. The spool is frictionally engageable by and driven in one direction by a frictional element nonrotatably carried on an axially adjustable drive shaft which is slidably and rotatably connected to the boss for one way rotatable movement only.

3,451,639

TEXTILE TUBE

Rawson Atwood, Rumson, and Joseph W. Calby, Princeton, N.J., assignors to The Dyson-Kissner Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1966, Ser. No. 564,618
Int. Cl. B65h *75/10, 75/12, 75/28*
U.S. Cl. 242—118.32 7 Claims



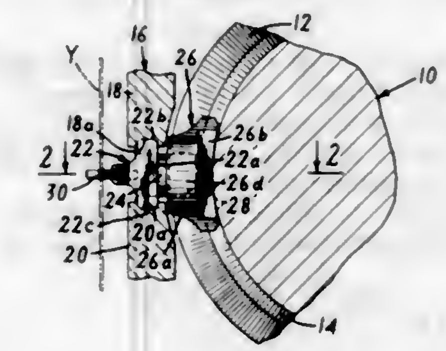
A low cost, disposable textile tube or bobbin comprises an inner cylindrical barrel formed from a relatively strong and rigid material such as metal, plastic, laminated paper or the like, an intermediate cover layer disposed on said barrel and formed from a compressible and advantageously resilient material such as polyurethane foam or the like, and an outer cover of a heat-shrinkable plastic material that has been heat shrunk onto the outer surface of the intermediate cover layer of compressible material.

3,451,640

YARN GUIDE ASSEMBLY

John P. Kieronski, Whitinsville, and Harry B. Miller, Hopedale, Mass., assignors to Whitin Machine Works, Inc., Whitinsville, Mass., a corporation of Massachusetts
Filed Sept. 28, 1967, Ser. No. 671,312
Int. Cl. B65h *57/28*
U.S. Cl. 242—158.3 1 Claim

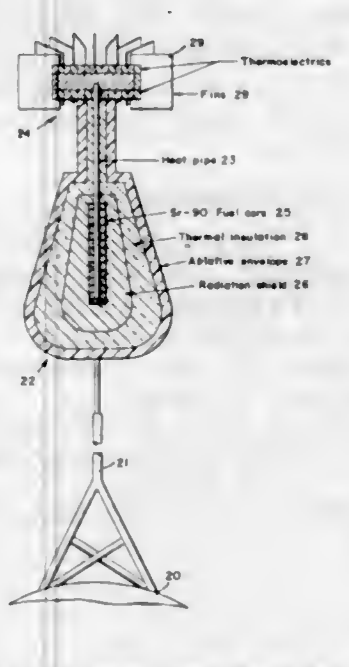
A yarn guide assembly for use in the traverse mechanism of a winding machine comprising a pair of spaced-apart, elongated slide bars having grooves facing each other and constituting parallel slide tracks and a slide element having flange portions received in the tracks on the slide bars for sliding movement. A yarn guide projects from one side of the slide element in a direction generally perpendicular to the plane defined by the axes of the slide bar grooves, and a cam follower projects from the slide element in the other direction.



3,451,641

THERMOELECTRIC CONVERSION SYSTEM

Elias L. Leventhal, Pacific Palisades, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Continuation-in-part of application Ser. No. 422,863, Dec. 31, 1964. This application Feb. 14, 1967, Ser. No. 616,035
Int. Cl. 64g *1/00;* **G21h** *1/10;* **G21d** *7/00*
U.S. Cl. 244—1 6 Claims



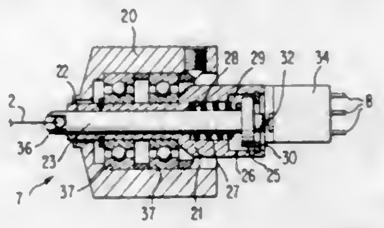
A combination for extracting heat from a nuclear fuel source by means of a heat pipe interconnecting the nuclear heat source with thermal electric converters to more efficiently convert the extracted heat into electrical energy.

3,451,642

RECOVERY SYSTEM FOR TOWED AIRCRAFT

Ernst Wieland, Langenargen, and Albert Dietrich, Markdorf, Germany, assignors to Dornier System G.m.b.H., Friedrichshafen, Germany, a limited-liability corporation of Germany
Filed Mar. 22, 1967, Ser. No. 625,229
Claims priority, application Germany, Apr. 19, 1966, D 49,882
Int. Cl. B64d *3/00, 17/00*
U.S. Cl. 244—3 8 Claims

This invention relates to a recovery system for use with towed aircraft, such as those employed as aerial targets, which prevents destruction of the towed aircraft, and also of impact indicating instruments, radio control signal receivers, and the like carried by the towed aircraft, by crashing of the aircraft on the surface of the earth when the towed aircraft is unintentionally separated from a towing aircraft. The towed aircraft includes

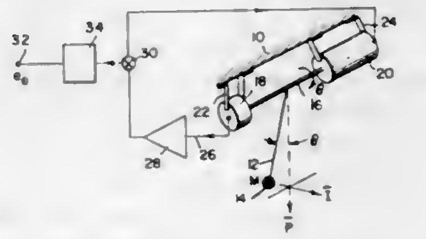


an extendible recovery device and a releasing means which automatically effects the release of the recovery device in dependence upon the amount of tension in the tow line.

3,451,643

STRAPDOWN GUIDANCE SYSTEM

David Sargent, Redondo Beach, and Richard C. Rountree, Long Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Oct. 18, 1966, Ser. No. 587,617
Int. Cl. F42b *15/02;* **G06f** *15/50*
U.S. Cl. 244—3.2 18 Claims

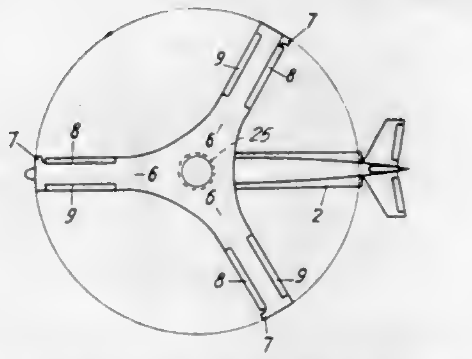


Method and preferred system for compensating out substantially all the rectification error in strapdown guidance systems of missiles and other vehicles by deriving electrical signal correction functions from prior flight test data of identical vehicles, and regenerating those correction functions electrical signals, for insertion in the strapdown system and associated networks as the vehicle mission proceeds.

3,451,644

VERTICAL OR SHORT TAKE-OFF AERODYNE OF HIGH TRANSLATION SPEED

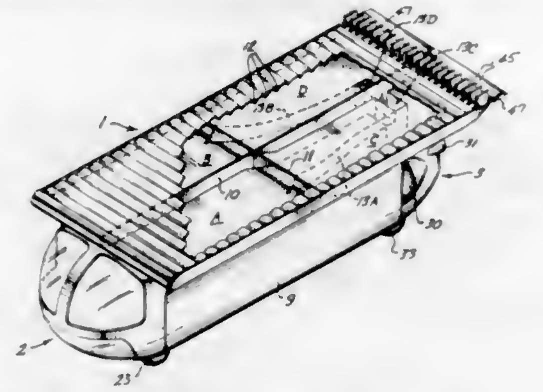
Charles Joseph Marchetti, Neuilly, and Theodor Hugo Laufer, Courbevoie, France, assignors to Societe Charles Marchetti, Paris, France, a corporation of France
Filed Mar. 23, 1966, Ser. No. 536,861
Claims priority, application France, Apr. 8, 1965, 12,421
Int. Cl. B64c *27/24*
U.S. Cl. 244—7 4 Claims



The aircraft disclosed is of the V.T.O.L. type comprising a fuselage, at least one propulsion unit and a rotor comprising three blades. Each blade has a cross section which is symmetrical with respect to a vertical plane containing the longitudinal axis of said blade, and is provided with identical flaps both at the leading and trailing edge. Means are provided for breaking the rotor to position one blade parallel to the fuselage and the two other blades at 120° thereto to form an arrow type wing, whereby the rotor is used as a helicopter rotor for take-off and as a fixed wing during flights of translation.

3,451,645
AERODYNAMIC LIFT VEHICLE

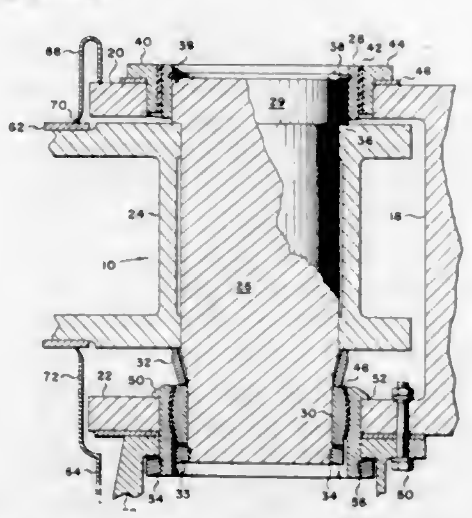
**John R. Wolcott, 13630 2nd Ave. S.W.,
Seattle, Wash. 98166
Continuation-in-part of application Ser. No. 456,929, May 19, 1965. This application Mar. 9, 1967, Ser. No. 641,396
Int. Cl. B64c** *15/00, 29/00, 3/00*
U.S. Cl. 244—12 9 Claims



An aerodynamic lift vehicle is disclosed which has means thereon defining at least one plenum chamber which extends substantially horizontally over a major portion of the vehicle and is open across the top to the ambient surroundings of the vehicle; and also means thereon for pressurizing the gas in the chamber for discharge into the surroundings through the top opening thereof. The top opening has a multitude of elongated airfoils extending in spaced parallel relationship thereacross whose upper surfaces are substantially coplanar with one another and whose lower surfaces are inclined thereto so that a series of elongated nozzles are formed between the air foils which discharge into the surroundings substantially tangentially to the aforesaid upper surfaces thereof. In addition, the latter surfaces arch smoothly from one nozzle to the next so that the discharges from the nozzles interact with one another to generate an overall lift effect across the opening which is adapted in relation to the weight of the vehicle to displace the vehicle in a direction generally perpendicular thereto.

3,451,646
AIRCRAFT WING PIVOT

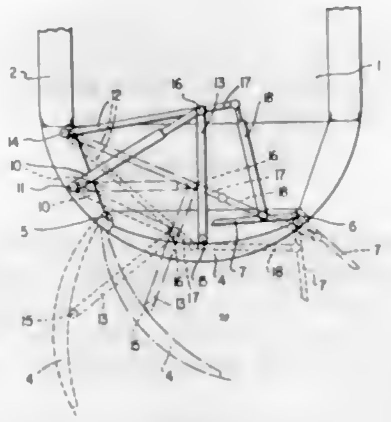
**Morten H. K. Aarnaes, Sherman Oaks, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 25, 1966, Ser. No. 596,915
Int. Cl. B64c** *3/38, 33/02*
U.S. Cl. 244—46 4 Claims



A wing pivot arrangement for pivotally connecting an aircraft wing to a main body structure. The pivot includes a pin engaging the wing and the main body structure such that any axial loads on the pin from bending and shear are transferred directly into the main body structure.

3,451,647
APPARATUS FOR CLOSING A LIFTING PROPULSION UNIT CHAMBER

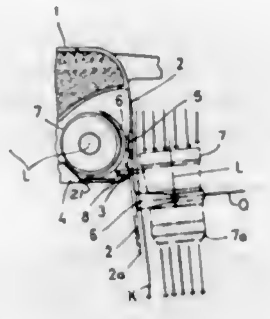
**Anton Buchstaller, Friedrichshafen, Germany, assignor to Dornier-Werke G.m.b.H., Friedrichshafen (Bodensee), Germany, a corporation of Germany
Filed Oct. 18, 1965, Ser. No. 497,277
Claims priority, application Germany, Nov. 26, 1964, D 45,921
Int. Cl. B64b** *1/24*
U.S. Cl. 244—53 6 Claims



This invention relates to an apparatus for closing a discharge opening in a lift engine bay containing a lift engine and having a spoiler flap mounted at the front of the opening, the apparatus also including a closing flap pivotally mounted at one side of the opening, and an auxiliary flap pivotally mounted beside the opening and opposite the closing flap.

3,451,648
AIRCRAFT HAVING MOVABLE ENGINES FOR VERTICAL TAKE-OFF AND LANDING

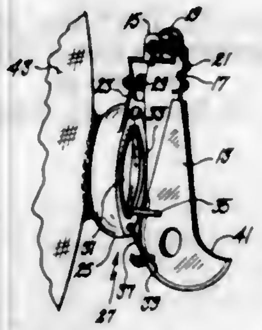
**Otto Ernst Pabst, Ottobrunn, and Joseph A. Erich Haberkorn, Riemerling, Germany, assignors to Bolkow G.m.b.H., Ottobrunn, Germany
Filed Aug. 11, 1967, Ser. No. 660,069
Claims priority, application Germany, Aug. 11, 1966, B 88,428
Int. Cl. B64c** *15/14, 29/00;* **B64d** *29/04*
U.S. Cl. 244—56 8 Claims



The invention concerns an apparatus for moving the lift engines of a vertical take-off and landing aircraft from a storage to an operating position. When in the storage position, the engines are maintained within respective compartments in the fuselage of the aircraft. The engines are stored with their longitudinal axes parallel to the roll axis of the aircraft. In the operating position, the vertical lift engines are located outside of the nacelle of the aircraft. When in this location, the axes of the engines lie along a path generally transverse to the roll axis of the aircraft.

3,451,649
BALLOON PUNCTURING DEVICE

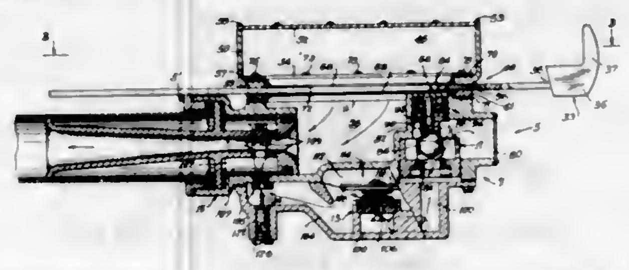
**Bernard Weiss, Framingham, and Roland V. Matson, Billerica, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed June 13, 1967, Ser. No. 646,159
Int. Cl. B64b** *1/62*
U.S. Cl. 244—99 4 Claims



A device for puncturing a balloon in flight after the lapse of a predetermined time period as set on a timing mechanism attached to the balloon surface. A stud member on the moving part of the timer operates to release a spring loaded cutting instrument which then pivots and cuts through the balloon cover fabric releasing the gaseous contents thereof.

3,451,650
MAGNETIC SHUTOFF VALVE PARTICULARLY FOR CONTROLLING A GAS SUPPLY

**Walter Dorwin Teague, Jr., Nyack, and Anthony P. Montalbano, Fresh Meadows, N.Y., assignors to Columbia Gas System Service Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 610,982
Int. Cl. F16k** *31/08*
U.S. Cl. 251—65 8 Claims

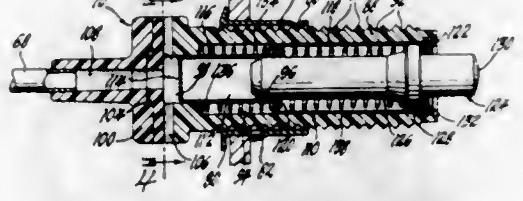


A magnetically operated valve is disclosed for controlling the supplying of gas to a burner unit. The valve is formed by a steel ball resting upon a valve seat. The valve is opened by the action of a magnet which lifts the ball from the seat. The movement of the magnet is under the control of a slide or plate which slides along the magnet opposite the ball, and which has one portion which is nonmagnetic and another portion which is magnetic. When the magnetic portion of the slide is adjacent the magnet, the valve is opened by the action of the magnet moving itself toward the slide and carrying the ball with it. When the non-magnetic portion of the slide is adjacent the magnet, the valve is closed by a spring or gravity urging the ball and magnet away from the slide.

3,451,651
FLUID CONTROL VALVE ASSEMBLY

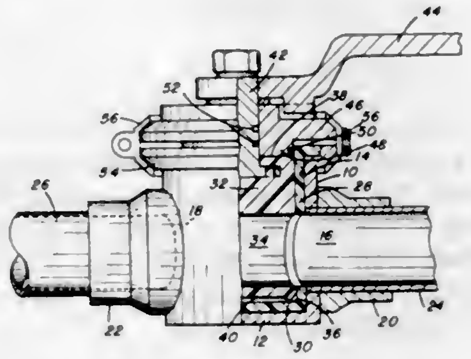
**Gerald L. Rood, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 5, 1966, Ser. No. 584,407
Int. Cl. F16k** *31/62, 31/46*
U.S. Cl. 251—77 3 Claims

A fluid control valve assembly in which the valve is releasably held seated by suitable holding means controlled by a control member such as a brake pedal or the like, the holding means being movable, upon release, by releasing movement of the control member, through a first range of movement away from the valve seat while continuing to hold the valve seated on the valve seat, and movable through a second continuing range of movement away from the valve seat, as the control member continues to release the holding means, to move the valve away from the valve seat. The control valve assembly requires mounting with quick and accurate adjustment relative to the control member so that the control member may move with a determined amount of permissive movement before the valve is unseated. The mounting means includes a mounting bracket and a series of annular ridges formed on the body of the valve assembly and spring detent means receiving the ridged portion of the valve body and securing the valve body to the mounting bracket so that the valve body may be quickly pressed into position with a ratcheting action. The annular ridges may have a helically threaded conformation so that after rough positioning of the valve assembly in a ratcheting manner a final positioning operation may be performed by rotating the valve assembly.



3,451,652
SANITARY VALVE

**man Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 29, 1966, Ser. No. 597,688
Int. Cl. F16k** *5/04, 27/06*
U.S. Cl. 251—192 9 Claims

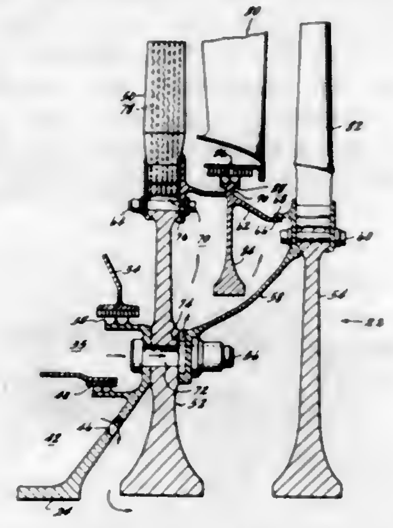


The present invention is directed to a valve construction and more particularly to an improved sanitary stop-cock valve having a rigid "Teflon" liner and a deformable, cylindrical "Teflon" plug which may be easily cleaned and which is of relatively inexpensive construction.

3,451,653
TURBOMACHINERY ROTORS

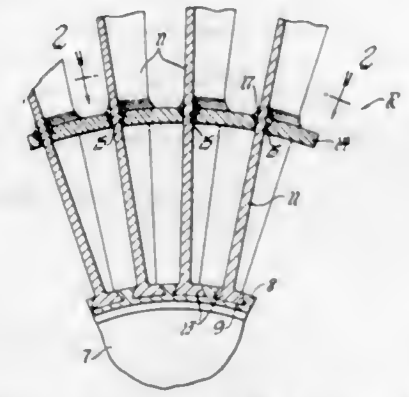
**Bernard L. Koff, Albert P. Sterman, and Robert J. Corsmeier, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Mar. 22, 1967, Ser. No. 625,044
Int. Cl. F01d** *1/04, 5/14*
U.S. Cl. 253—39 6 Claims

A turbine rotor comprises two stages and has first and second bladed discs **52, 54** interconnected by a conical torque member. A heat shield **62** is secured adjacent the periphery of one disc and is telescopingly received by the other disc to define the inner boundary of the gas stream passing through the turbine. A nozzle diaphragm between the two stages of the rotor is provided at its inner surface with a labyrinth type gas seal formed by labyrinth teeth **86** projecting from a ring **88** that is spaced from and connected to the heat shield **62** by a rim **90**. Coolant and lubrication sump pressurization air are directed through the rotor in a manner minimizing pressure differentials on the rotor discs.



3,451,654
BLADE VIBRATION DAMPING

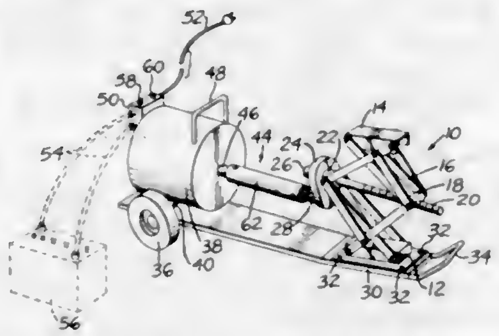
Kenneth O. Johnson, Cincinnati, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 25, 1967, Ser. No. 663,371
Int. Cl. F01d *5/14;* **F04d** *29/26*
U.S. Cl. 253—77 **7 Claims**



A compressor or fan rotor with long blades has means for damping blade vibration comprising a ring with holes through which the blades project at a radius where vibration damping is needed, with a filling of elastomeric material between each blade and the ring. The filling may be self-adhering and cured in place or may be a fabricated body mechanically retained.

3,451,655
MOTORIZED JACK

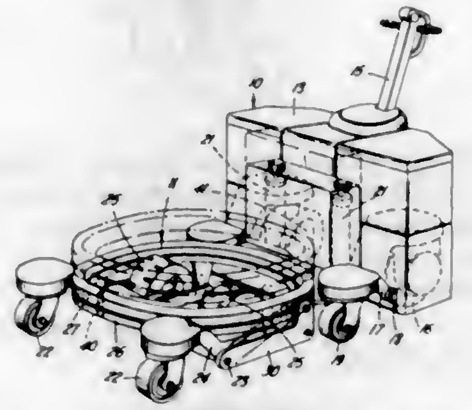
Lawrence P. Scott, 830 Bellaire Ave., Dayton, Ohio 45420
Continuation-in-part of application Ser. No. 596,503, Nov. 23, 1966. This application Oct. 9, 1967, Ser. No. 673,877
Int. Cl. B66f *3/22, 3/44*
U.S. Cl. 254—7 **8 Claims**



Motorized jack structure comprising a platform having wheels near one end, a drive motor on the platform above the wheels, a screw operated jack structure on the other end of the platform, and a flexible drive coupling connecting the motor shaft with the screw of the jack structure.

3,451,656
INDUSTRIAL LIFT TRUCKS

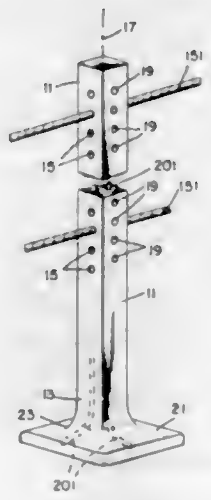
Cecil Goodacre, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, England, a British company
Filed Nov. 21, 1967, Ser. No. 684,709
Claims priority, application Great Britain, Nov. 23, 1966, 52,509/66
Int. Cl. B60p *1/48;* **B25j** *3/00*
U.S. Cl. 254—8 **4 Claims**



An industrial self-propelled wheeled lift truck is provided with a load-carrying lift-platform comprising a lower part carried by support wheels an upper part mounted on the lower part and a bearing between the parts to allow relative rotation therebetween about a vertical axis, the arrangement being such that the truck may be used to transport a flat load carried on the upper part of the lift platform and may also be driven to rotate about the vertical axis of the lift platform whilst the load remains stationary. Preferably two trucks are used together to lift and manoeuvre a single load container.

3,451,657
CAST CONCRETE POST

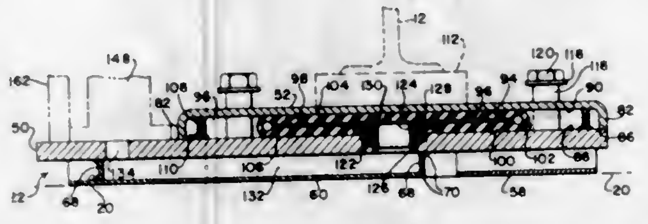
Clifford L. Roberts, 5123 Laurette St., Torrance, Calif. 90503
Filed Aug. 26, 1968, Ser. No. 755,070
Int. Cl. E04c *3/34*
U.S. Cl. 256—19 **8 Claims**



The invention is a novel cast concrete post, the lower portion of which is adapted to be buried in the earth. That portion of the post extending above the earth is provided with a plurality of holes extending therethrough transversely of the longitudinal axis of the post. A number of these holes lie in a plane through this longitudinal axis and further of these holes lie in a plane also through the axis but orthogonal to the first plane. However, the holes in the different planes do not intersect. An integral lower base portion extends outwardly from the lower portion of the post to a plane orthogonal to the longitudinal axis of the post to provide resistance against lateral forces acting on the post above the earth.

3,451,658
JOLTING APPARATUS

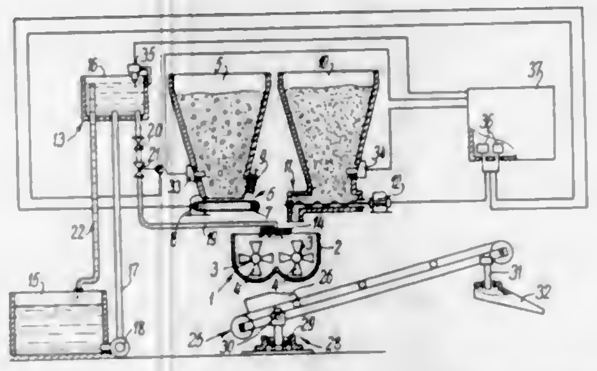
Carl G. Matson, 401 E. Central Blvd., Kewanee, Ill. 61443
Filed Mar. 20, 1968, Ser. No. 714,688
Int. Cl. B01f *11/00;* **B22d** *15/08*
U.S. Cl. 259—91 **20 Claims**



A jolting or settling apparatus has upper and lower parts and an interposed lifting and lowering device including a fluid-pressurizible and exhaustible flexible-walled structure expansible and contractible to abruptly raise and lower the upper part. The structure includes a protective enclosure to minimize the entry of dirt and other foreign matter and the exhaust includes duct means to blow away dirt, etc. Where the table or equivalent is of substantial area, a plurality of similar devices may be sandwiched therein to assure uniform raising and lowering.

3,451,659
PLANT FOR CONDITIONING FREE-FLOWING HARDENING MIXTURE

Petr Nikitich Tobolov, ulitsa Uralskikh Rabochikh 62, kv. 13; Jury Arkadievich Kriger, ulitsa 8 Marta 99, kv. 21; Ivan Petrovich Litvinov, ulitsa Ilicha 16, kv. 37; Ismagil Gareevich Bashirov, prospekt Ordzhonikidze 26, kv. 42; and Mikhail Viktorovich Fildshtein, ulitsa Akademicheskaya 11, kv. 54, all of Sverdlovsk, U.S.S.R.
Filed Nov. 8, 1967, Ser. No. 681,383
Claims priority, application U.S.S.R., Nov. 12, 1966, 1,112,845
Int. Cl. B28c *5/14, 5/16;* **B01f** *13/10*
U.S. Cl. 259—161 **4 Claims**

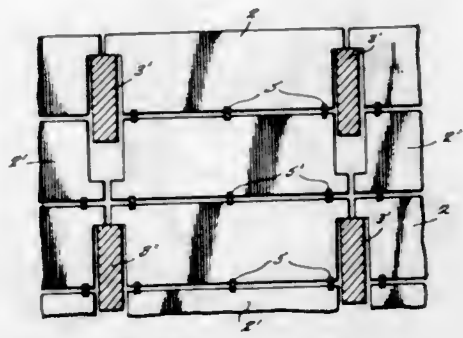


A plant is provided having a horizontal casing into which are fed, in particular manner, components for making casting cores or molds. Mixing shafts are used having blades disposed with a particular helical relationship.

3,451,660
COOLING OF LIQUIDS

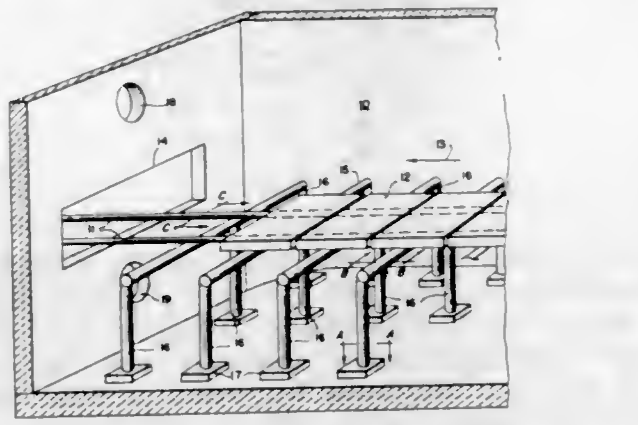
Maurice Hamon, 113 Ave. Franklin Roosevelt, Brussels 5, Belgium
Filed Feb. 18, 1965, Ser. No. 433,641
Claims priority, application Belgium, June 5, 1964, 521,244
Int. Cl. F28c *1/00;* **C10j** *1/08*
U.S. Cl. 261—112 **1 Claim**

A plate assembly for liquid cooling installations comprising: a first liquid trickling plate disposed in a vertical plane; a second liquid trickling plate disposed in said vertical plane beneath said first plate; an intermediate trickling plate disposed in said vertical plane between said first and second plates; stationary mounting means engaging the ends of and supporting said first and second plates, said mounting means being independent of said intermediate plate; a plurality of horizontally-spaced-apart connecting members engaging the lower edge of said intermediate plate and the upper edge of said second plate and supporting said intermediate plate on said second plate, said connecting members and said second plate being the sole means for supporting said intermediate plate; and separate connecting members connecting the upper edge of said intermediate plate to the lower edge of said first plate. The mounting means includes girders with the lower edges of the girders extending lower than the upper edge of the intermediate plate. The ends of the first, second and intermediate plates having channels. The intermediate plate is inverted relative to the first and second plates and the channels in the intermediate plate receives the lower edges of the girders mounting said first plate.



3,451,661
PROTECTING AND INSULATING COVERING FOR FURNACE SUPPORT MEMBERS

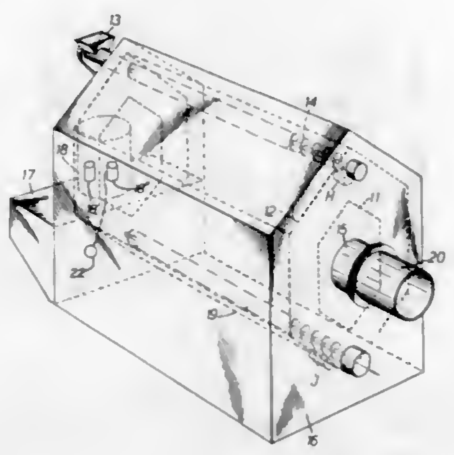
John S. Barker, Great Mollington, near Chester, England, assignor to Morgan Refractories Limited, Neston, Wirral, England,
Filed Jan. 18, 1968, Ser. No. 698,815
Claims priority, application Great Britain, Aug. 14, 1967, 37,291/67
Int. Cl. F27d *5/00, 9/00;* **F16l** *9/14*
U.S. Cl. 263—6 **16 Claims**



An arrangement for protecting and insulating water cooled tubular support members in a furnace of the type used for heating steel ingots after the ingots have been formed into suitable shapes such as billets, blooms or slabs. An inner layer of resiliently deformed insulating material covers the support member. An outer layer of interlocking refractory elements covers the inner layer and (a) holds it in radial compression while (b) the inner layer in turn holds the outer layer in a state of circumferential stress. The refractory elements are designed to permit limited freedom of movement therebetween to accommodate the effects of thermal stresses and vibrational shocks.

3,451,662
BATCH DRIER FOR GRAIN

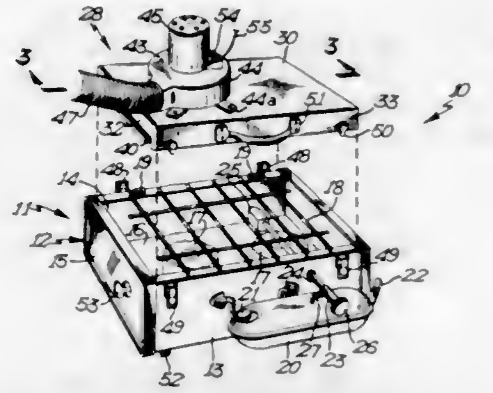
Stephen Frederic Burghard, Wakes Colne, and John Herbert Wyndham Wilder, Wallingford, England, assignors to John Wilder Limited, Wallingford, England, a company of Great Britain
Filed June 8, 1967, Ser. No. 644,655
Claims priority, application Great Britain, June 10, 1966, 25,982/66; Dec. 5, 1966, 54,430/66
Int. Cl. F27b *3/00*; **F26b** *21/10;* **F27d** *19/00*
U.S. Cl. 263—10 **13 Claims**



This invention relates to a grain drier preferably for drying grain in batches rather than continuously. The difficulty with such a drier is to know when the grain is dry so that the passage of heated air through the grain can be stopped.

3,451,663
HEATING DEVICE FOR AIRCRAFT ENGINES

Peter J. Hille, 416 E. 2nd St., Willmar, Minn. 56201
Filed Mar. 14, 1968, Ser. No. 713,225
Int. Cl. F23l *15/00*
U.S. Cl. 263—19 **6 Claims**



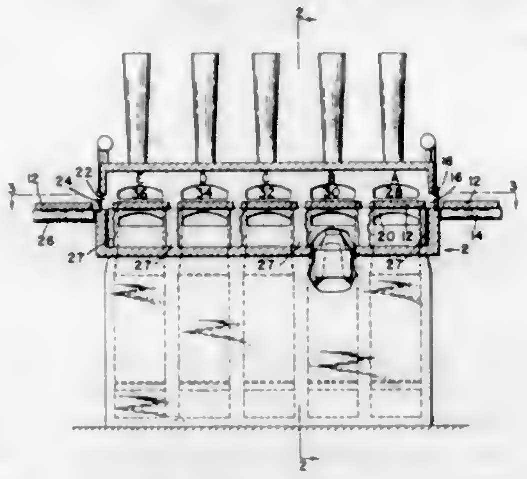
A portable heating device for heating aircraft engines comprising a heater unit including a housing and having a burner mechanism therein connected to a source of fuel. A plenum housing positioned upon the heater unit and having a transverse horizontal partition therein to define the interior of the plenum housing into an upper and lower chamber through which air to be heated passes.

3,451,664
METHOD OF REHEATING A PARTIALLY COOLED CONTINUOUSLY CAST SLAB

Frank A. Alexander, Jr., West Boylston, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 21, 1967, Ser. No. 669,480
Int. Cl. F27b *17/00*
U.S. Cl. 263—52 **2 Claims**

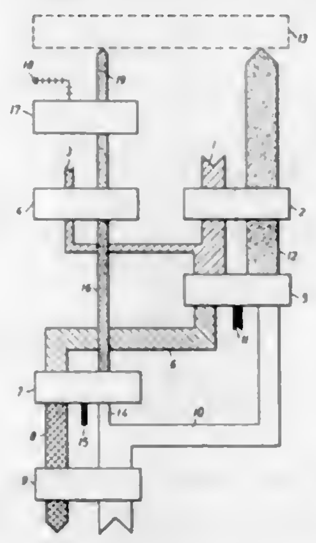
The invention relates to a process for reheating a slab of metal that has just been removed from a continuous casting process whereby the reheated slab may then be sent directly from the reheating furnace to the rolling mill. The reheating process of the present invention is applied to a slab in which the interior thereof is hotter than the exterior. Because of the inverted temperatures, the character of the heating must differ substantially from the conventional type of reheating applied to a cold slab.

The process involves the use of a lean fuel of low flame temperature which is arranged to envelop the slab to bring the exterior of the slab up to rolling temperature, while at the same time the interior of the slab is decreasing to the rolling temperature. A uniform rolling temperature throughout the slab is obtained in less than half the time required to bring a cold slab up to the same temperature.



3,451,665
PROCESS FOR THE PRODUCTION OF A LOW ALKALI CONTENT CEMENT

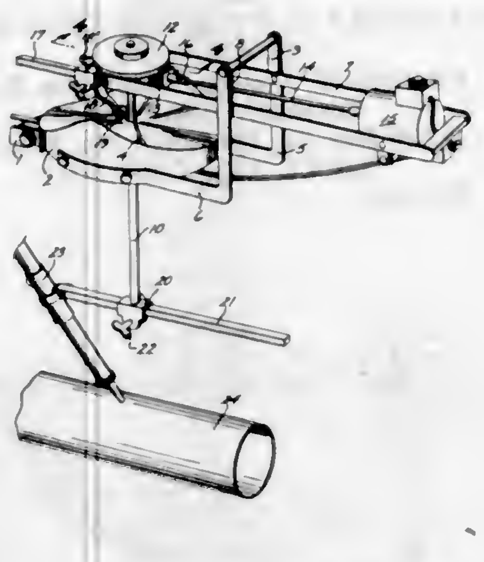
Heinrich Zur Strassen, Rheingaustrasse 126, Wiesbaden-Biebrich, Germany
Filed Aug. 30, 1965, Ser. No. 483,468
Claims priority, application Germany, Aug. 31, 1964, D 45,314
Int. Cl. C04b *7/44*
U.S. Cl. 263—53 **9 Claims**



The process of producing cement of a low alkali content according to this invention is a two-stage process wherein the cement raw material is calcined in a first firing stage under conditions, whereby no alkali is evaporated, and is sintered in a second firing stage. Only the waste gases of the second firing stage contain alkali and are freed therefrom by heat exchange with cement raw material in such a manner that the waste gases are cooled and the alkali therein is condensed but is not precipitated on the preheated cement raw material. The waste gases containing the condensed alkali are freed from said alkali after leaving the heat exchange zone. The substantially alkali-free, preheated cement raw material is either calcined or directly sintered.

3,451,666
CONTOUR PIPE CUTTING MACHINE

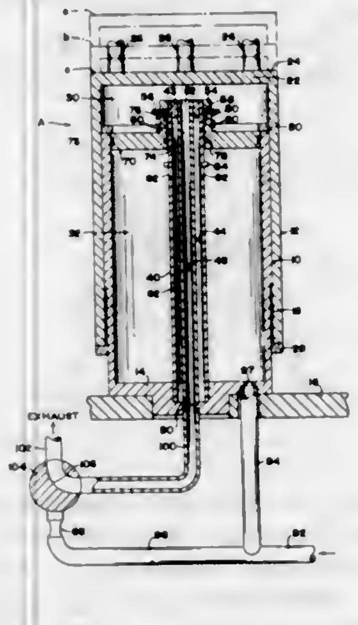
Harry Willis Evans, 1720 W. Francis Drive, Anaheim, Calif. 92801
Filed Sept. 5, 1967, Ser. No. 665,420
Int. Cl. B23k *5/00, 7/00;* **B43l** *11/00*
U.S. Cl. 266—23 **4 Claims**



A contour pipe cutting machine in which a cutting torch is guided by means of a fixed cam to cut a particular pattern in a pipe section, and wherein a motor drive means is mounted on a frame hingedly supported by arms extending from the cam so the motor frame can tilt slightly to compensate for vertical movement of the cam follower.

3,451,667
SELF-CONTAINED DIE CUSHION WITH AIR SAVER

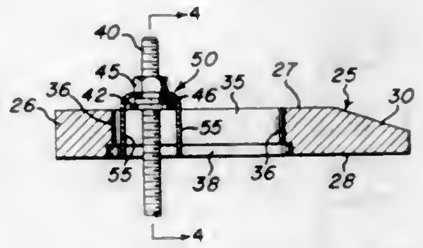
Vincent H. Anderson, Canton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,165
Int. Cl. F16f *9/02;* **F15b** *15/24*
U.S. Cl. 267—1 **12 Claims**



A self-contained die cushion for use on a power press wherein the normal cushion chamber includes a separate reservoir defined by a movable piston carrying a valve element. When the portion of the cushion chamber above the piston is exhausted, the piston automatically moves upwardly, and the valve element seals the reservoir below the piston from being exhausted. When the upper portion is exhausted, the die cushion is dropped into the inoperative position without losing the air in the sealed reservoir.

3,451,668
CLAMPING DEVICE HAVING A CAPTIVE NUT

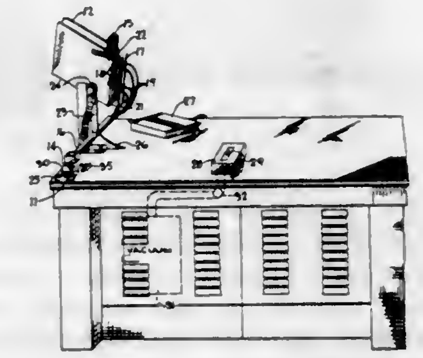
Roland L. Robinson, 202 Park End Drive, Dayton, Ohio 45415
Filed Apr. 24, 1967, Ser. No. 633,098
Int. Cl. B23q *3/02;* **F16b** *39/00*
U.S. Cl. 269—93 **10 Claims**



An elongated workpiece clamp having a longitudinally extending slot for receiving a threaded stud extending upwardly from a table supporting the workpiece, and including an inverted U-shaped sheet metal bracket slidably mounted within the slot and having a head portion rotatably retaining a nut and washer adjacent the top surface of the clamp in sliding alignment with the slot.

3,451,669
MATERIAL HANDLING APPARATUS

Edwin W. Swezey, Hackensack, N.J., assignor to Union Camp Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 23, 1967, Ser. No. 662,749
Int. Cl. B65h *3/08;* **F16h** *27/00*
U.S. Cl. 271—26 **4 Claims**

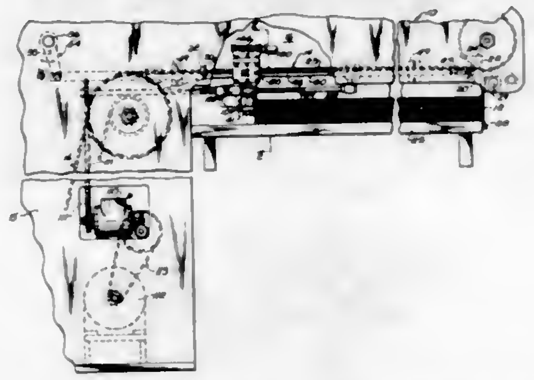


Material handling apparatus comprising an arm with a shaft connected thereto, pick-up means on the arm which holds an object being transported, the shaft connection to the arm creating an arcuate movement of the object being transported through one or more stations or return from a later station to an earlier station, a pulley attached to the shaft and rotating therewith, a belt engaging the pulley, a reciprocating cylinder and piston connected to the belt to move it lengthwise and cause the pulley and shaft to rotate to pivot the arm.

3,451,670
SHEET SLOWDOWN MECHANISM

Alfred J. Staines, Shaker Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,860
Int. Cl. B65h *29/68*
U.S. Cl. 271—68 **10 Claims**

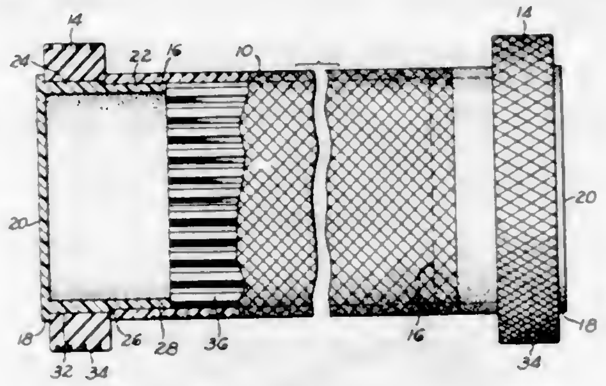
A sheet slow-down mechanism which includes a rotatable driven vacuum wheel operable to apply a braking force to flexible moving sheets to reduce the speed of the sheets is provided. An adaptor unit operable to reduce the speed of rigid, relatively heavy sheets straddles the vacuum wheel and is rotatable relative to the drive shaft of the vacuum wheel between inoperative and operative positions. A sheet blow-down means moves the sheets downwardly relative to the vacuum wheel and adaptor unit and the exhaust of a vacuum pump for applying a suction to the vacuum wheel and adaptor unit is directed to the blow-down means to provide the air blast.



3,451,671

AMUSEMENT DEVICE

Marvin I. May, 960 2nd St.,
Hermosa Beach, Calif. 90254
Filed Sept. 27, 1965, Ser. No. 490,537
Int. Cl. A63b *23/06, 69/00*
U.S. Cl. 272—1 **4 Claims**

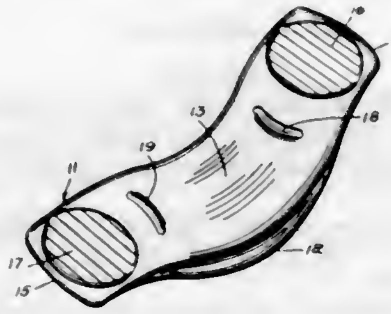


An amusement device having a main central tubular member provided with interior reinforcement means, with two cylindrical wheels of only slightly greater diameter than said tubular member rigidly attached one at each end of said member, in which the major portion of the external surface of the tubular member, as well as the outer surfaces of the wheels, are roughened for traction.

3,451,672

AMUSEMENT AND PHYSICAL FITNESS DEVICE

Aralee Kazdan, New York, N.Y., assignor, by direct and mesne assignments, to Blazon, Inc., New York, N.Y., a corporation of Ohio
Filed Nov. 3, 1966, Ser. No. 595,303
Int. Cl. A63g *1/32, 11/00*
U.S. Cl. 272—30 **12 Claims**

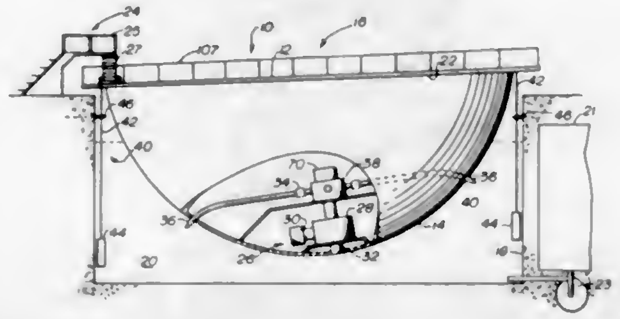


An indoor-outdoor rocking amusement device having a generally elongated, substantially rigid, smoothly curved, continuous walled shell of unitary construction. When viewed from the side in the rocking position, the device has a rounded downwardly protuberant center portion and two outwardly extending end portions that form opposed seat areas.

3,451,673

FLOATINGLY SUPPORTED UNDULATING PLATFORM

Kenneth W. Matson, 2488 Loop Road,
Fortuna, Calif. 95540
Filed Dec. 20, 1965, Ser. No. 514,783
Int. Cl. A63g *1/08, 3/00*
U.S. Cl. 272—35 **16 Claims**

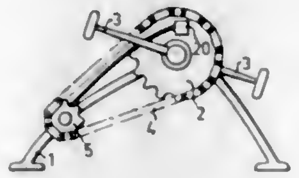


An amusement device suitable for use by a fairly large number of people, comprising a large circular platform floatingly supported upon a body of liquid. The platform is undulated continuously such that a continually rising, sloping surface is presented to the riders thereon. The platform surface motion is imparted by various actuating means associated with the platform, as for instance by downwardly acting liquid jets spaced at selected intervals around the periphery thereof.

3,451,674

ERGOMETER

Claes Erik Gunnar Lundgren and Istvan Janos Antal Lichtneckert, Lund, Sweden, assignors to AB Cykelfabriken Fram, Uppsala, Sweden
Filed Dec. 20, 1965, Ser. No. 514,924
Int. Cl. A63b *21/22, 23/04*
U.S. Cl. 272—73 **3 Claims**

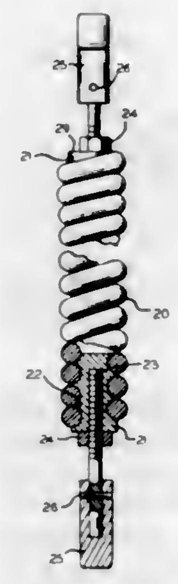


An ergometer for muscular exercise having a brake and a driving mechanism. The brake includes a drum secured to a stationary frame and rotary brake shoes for cooperation with the drum. The driving mechanism includes a shaft journalled centrally in the drum for rotating the brake shoes and a flywheel keyed to the shaft, the cam members being rotatably journalled in the flywheel eccentrically of the shaft and centrifugal weights being keyed to the cam members to turn the cam members for setting the brake shoes into braking contact with the drum in response to the centrifugal force generated upon rotation of the shaft. The weights are disposed symmetrically with respect to the shaft and are interconnected by a lever pivoted to the shaft whereby the force of gravity will act equally on the weights during rotation.

3,451,675

SPRING TYPE EXERCISERS

Ralph A. Burzenski, 5429 N. 25th St.,
Milwaukee, Wis. 53209
Filed Sept. 14, 1966, Ser. No. 579,345
Int. Cl. A63b *21/02;* **F16f** *1/12*
U.S. Cl. 272—83 **1 Claim**

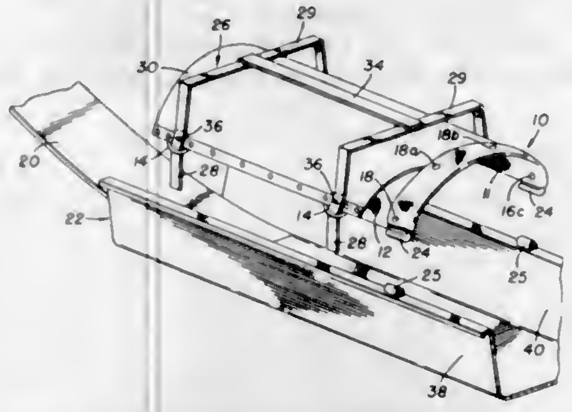


A coil spring type exerciser having a unique handle attachment arrangement associated therewith. The coil spring exerciser is used either by applying tensional forces through the use of the exerciser's hands or feet in conjunction with the major trunk portion of the exerciser's body or without touching the trunk portion of the exerciser's body.

3,451,676

BOWLING BALL RETARDER WITH REPLACEABLE CLOTH COVER

Nathan Fast, 1717 Spartan Drive,
Columbus, Ohio 43209
Filed Sept. 29, 1966, Ser. No. 582,893
Int. Cl. A63d *5/02, 5/10*
U.S. Cl. 273—47 **3 Claims**



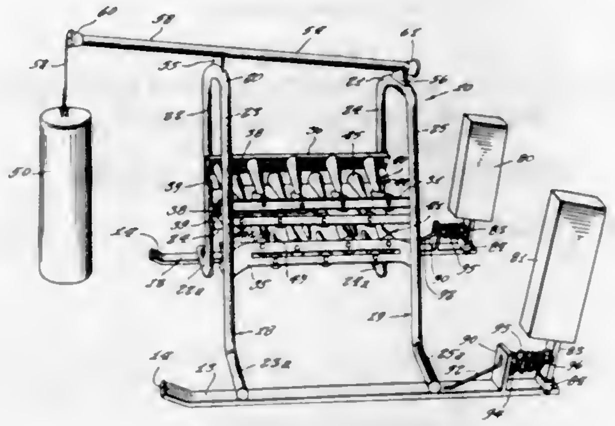
A bowling ball cleaner and retarder including a semi-cylindrical leather sleeve and a washable cloth cover therefor. The cover conforms to the inner surface of the leather sleeve and is attached thereto by loops along the side edges of the cover engaging stationary frame members and by snaps along the front of the cover which secure the cover to a forwardly-disposed bracket.

3,451,677

RESISTER FOOTBALL TRAINER

Zygmund Nedwick, Glen Cove, N.Y., assignor to Athletic Devices, Inc., Glen Cove, N.Y.
Filed Aug. 15, 1966, Ser. No. 572,309
Int. Cl. A63b *71/02, 67/00*
U.S. Cl. 273—55 **3 Claims**

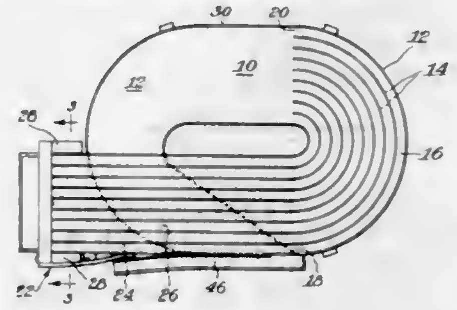
A football, blocking and scrimmage practice apparatus having a frame member mounting a pair of rows of flexible resilient conical shaped elongated resistance members directed toward each other in staggered relation. The frame member for the rows provides a passage for a player whose movement is retarded or resisted by the flexible resistance members. A tubular boom extends beyond the front of the frame member. A tackle dummy is suspended from the front of the boom and is connected to a spring resisting device. The frame members have a pair of skids. Each skid at its rear end pivotally supports a blocking dummy which is spring biased to an upright position.



3,451,678

MARBLE RACEWAY GAME

John F. Gehrts, 1511 Hawthorne St.,
Forest Grove, Oreg. 97116
Filed June 24, 1966, Ser. No. 560,336
Int. Cl. A63f *9/14*
U.S. Cl. 273—86 **2 Claims**

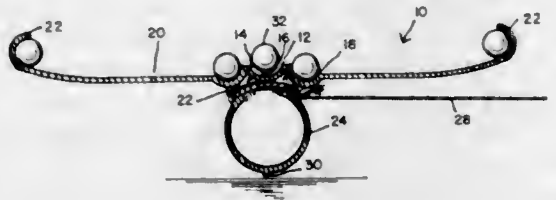


A marble raceway game having an inclined ramp with runways leading into horizontal curved runways at the front end of the device. The curved runways discharge into a rearward end of the device having an extended portion leading laterally to a rearwardly extending discharge chute which discharges the marbles one at a time.

3,451,679

ROTATABLE GAME DISC

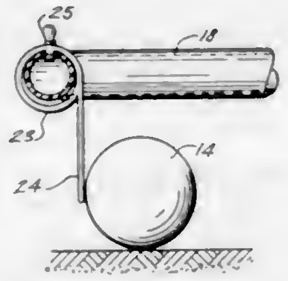
John William Wendland, 63 Inner Drive,
St. Paul, Minn. 55116
Filed Jan. 24, 1966, Ser. No. 522,627
Int. Cl. A63b *67/14*
U.S. Cl. 273—115 **1 Claim**



A game device which depends in part for operation upon the centrifugal force inherent in gyrating disc. The game comprises a disc having a raised central area with a ball pit thereon; a groove in the disc around the raised central area; a curved periphery lip with lip being slightly greater than the diameter of game balls; the area from groove to lip curving from groove to lip; and a handle extending from bottom of disc in the area of the raised portion.

3,451,680
LAWN BALL GAME WITH ELEVATED GOALS

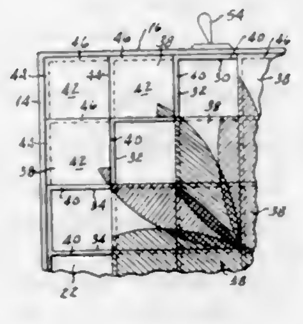
Louis M. Koleske, 2225 Green St.,
Racine, Wis. 53402
Filed Sept. 12, 1966, Ser. No. 578,709
Int. Cl. A63b *71/00*
U.S. Cl. 273—118 **1 Claim**



A lawn ball game having goal targets on opposite sides of the playing field. The goals are circular in shape and may be either secured directly to the playing surface or elevated above it. In the elevated embodiment, a ball passes under a ring having a series of downwardly extending ball checking devices. These devices are secured to the elevated ring by a collar that allows them to rotate when struck by a ball. The collar of each device has a downwardly extending pin that may engage a groove in the elevated ring which permits a check to be made to see that the ball is completely within the target area.

3,451,681
ILLUMINATED PUZZLE

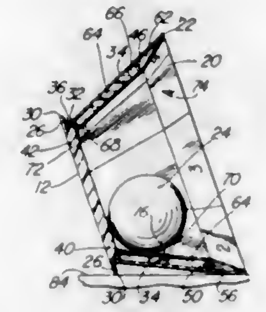
Anthony M. Rossetti, 48 S. 9th Ave.,
Mount Vernon, N.Y. 10550
Filed Aug. 29, 1966, Ser. No. 575,852
Int. Cl. A63f *9/10;* **G09f** *13/00*
U.S. Cl. 273—157 **4 Claims**



In general my invention contemplates the provision of a back-lit illuminated puzzle in which a receptacle has transparent intersecting walls forming a plurality of identical compartments in which respective elements of transparent material having shapes corresponding to the compartment shape are adapted to be assembled to form a picture made up of portions each carried by a corresponding surface of an element. I provide each element with extensions at edges of said surface for concealing the upper edges of the compartment forming walls. I dispose a source of illumination below a light diffusing partition placed above the bottom of the receptacle.

3,451,682
PRACTICE PUTTING CUP

Vernon F. Trimble, 6700 N. Harlem Ave.,
Chicago, Ill. 60631
Filed Oct. 9, 1967, Ser. No. 674,023
Int. Cl. A63b *57/00*
U.S. Cl. 273—176 **10 Claims**

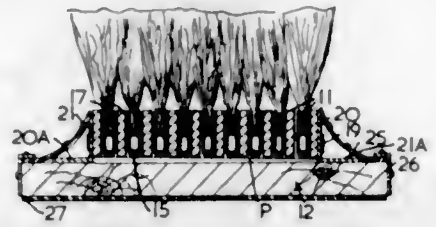


A hollow-walled cup member adapted to be placed on its side on a substantially horizontal surface, to receive a golf ball putted into its open end and be thereby forced or tilted into an upright position and simultaneously score an arbitrary value for the putt through a free-moving playpiece or score ball, within the hollow wall, cooperating in random fall into scoring pockets therein.

The cup comprises a frusto-conical polygon with a plurality of ramp edges around its open top and having a double wall defining a circumferential space containing deflectors, a free-moving scoring ball and score cups. The cup is further provided with a flat bottom having a circumferential outer flanged edge of lesser effective diameter than the diameter of the open top and so constructed that with the cup resting upon a substantially horizontal surface the center of gravity of the cup passes through the wall in close proximity to the flanged edge and at a point removed from the ramp edge at the open end.

3,451,683
GOLF PRACTICE MAT WITH PIVOTABLE BRISTLE ASSEMBLIES

Murray E. Oliver, 728 Broadway Ave.,
Saskatoon, Saskatchewan, Canada
Filed Oct. 22, 1965, Ser. No. 500,629
Claims priority, application Canada, Mar. 10, 1965,
925,266
Int. Cl. A63b *69/36, 57/00*
U.S. Cl. 273—195 **11 Claims**



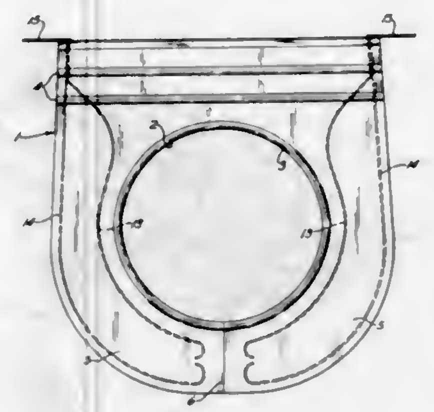
The practice golf mat has a plurality of parallel brush strips and spacer strips, with the brush strips being pivotally secured to a backing member and movable through a limited arc. Tees are provided which are carried by the spacer strips.

3,451,684
RAILROAD JOURNAL BOX SEAL

Frederick W. Holstein, Verona, Pa., assignor to Woodings-Verona Tool Works, Verona, Pa., a corporation of Pennsylvania
Filed Oct. 4, 1967, Ser. No. 672,897
Int. Cl. F16j *15/00, 9/06;* **F02f** *5/00*
U.S. Cl. 277—154 **10 Claims**

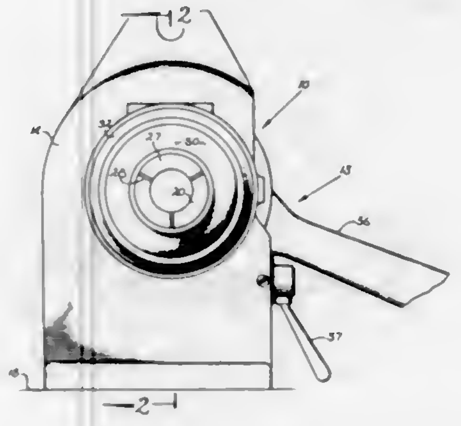
A vertical sheet-like body of a flexible material adapted to fit in the dust guard well of a journal box is provided

with a central opening for a car axle. The lower portion of the body is split radially of the opening to form two arcuate arms disposed end to end and which are capable of being partially straightened temporarily to permit the ends to slide down the opposite sides of an axle when the seal is inserted in the dust guard well.



3,451,685
COLLET APPARATUS

Frank W. Butler, 10354 Van Alden,
Northridge, Calif. 91324
Filed June 9, 1965, Ser. No. 462,625
Int. Cl. B23b *31/36, 5/34, 5/22*
U.S. Cl. 279—5 **7 Claims**

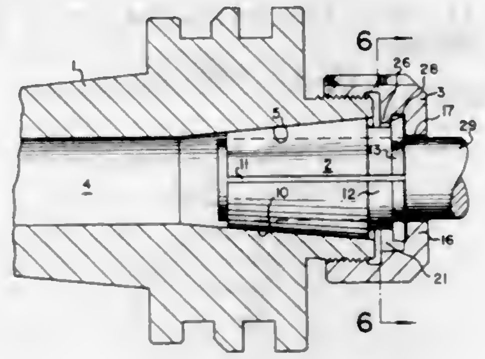


A collet apparatus having a ratcheting mechanism accessible at the rear of the collet housing for both operating the work gripping collet structure to grip and release a workpiece and indexing the collet structure in rotation about its central axis to locate the workpiece in a selected angular position.

3,451,686
CHUCK CONSTRUCTION

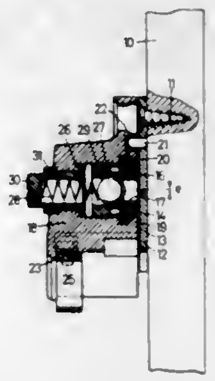
Earl J. Hammond, Frankenmuth, Mich., assignor, by mesne assignments, to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Aug. 2, 1965, Ser. No. 476,521
Int. Cl. B23b *31/12, 5/22, 5/34*
U.S. Cl. 279—51 **5 Claims**

A collet chuck having a tapered chuck body for reception of a correspondingly tapered, axially slit, radially compressible collet terminating at its outer end in a cylindrical locking flange provided by an annular groove adjacent the one end of the collet, and a clamping nut in threaded engagement with the body. The clamping nut has a forward wall provided with an axial opening for the reception of a tool shank and an inner recess having a radius greater than that of the locking flange. Extending radially into the recess is a holding flange formed on a radius greater than that of the locking flange and being axially eccentric with respect to the recess to enable the holding flange to be accommodated in the annular groove of the collet.



3,451,687
TOE SUPPORTING DEVICE FOR A SAFETY SKI BINDING

Reinhold Vöster, Degerloch, and Herbert Hasslacher, Leonberg-Silberberg, Germany, assignors to Vereinigte Baubeschlagfabriken Gretsch & Co. G.m.b.H., Leonberg, near Stuttgart, Germany
Filed Nov. 18, 1966, Ser. No. 595,525
Claims priority, application Germany, Dec. 23, 1965,
V 30,013
Int. Cl. A63c *9/081*
U.S. Cl. 280—11.35 **11 Claims**

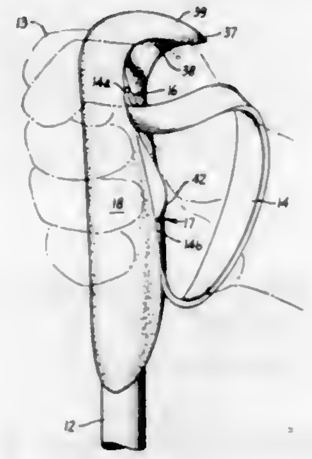


A toe-supporting device for use as a safety ski binding comprising a base plate which is secured to the ski and a toe jaw for holding the toe of a ski boot. The toe jaw is secured to the base plate by curved guide means for guiding the toe jaw so as to be pivotable in an arcuate direction about the center of curvature of the guide means. The center of curvature of the guide is located in front of the guide as seen in the longitudinal direction of the ski and is located outside and in front of the confines of the toe jaw. While pivoting to its releasing position, the toe jaw remains in engagement with and guides the boot and at first carries out only a movement in a substantially lateral direction for a predetermined distance prior to releasing the boot by movement in the forward direction. For this purpose, the arcuate guide is designed so that its center of curvature is spaced from the toe portion of the ski boot a distance which is equal to about three-quarters to one and one-half the width of the ski. The device further includes a releasable locking arrangement for normally maintaining the toe jaw in its central position on the ski. The two associated members of the locking device are preferably disposed slightly eccentrically to each other for the purpose of compensating for any play which might exist between the associated guide members of the arcuate guide.

3,451,688

HANDLE FOR SKI POLES AND THE LIKE

**Robert J. McDonald, 3229 Ardley Ave.,
Oakland, Calif. 94602
Continuation-in-part of application Ser. No. 344,998, Feb. 14, 1964. This application Dec. 6, 1966, Ser. No. 600,007
Int. Cl. A63c** *11/24*
U.S. Cl. 280—11.37 17 Claims

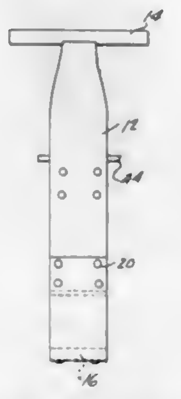


A handle for ski poles having a grip and a strap attached to the handle through the grip, with the attachments being separated and the strap long enough to circumscribe a major portion of the wrist to obtain a novel anchor on the hand of the user which is comfortable and secure.

3,451,689

SKI SLED

**Austin P. Owens, 233 Melrose Drive,
North Syracuse, N.Y. 13212
Filed Oct. 6, 1967, Ser. No. 673,495
Int. Cl. B62b** *13/00, 13/16*
U.S. Cl. 280—21 4 Claims



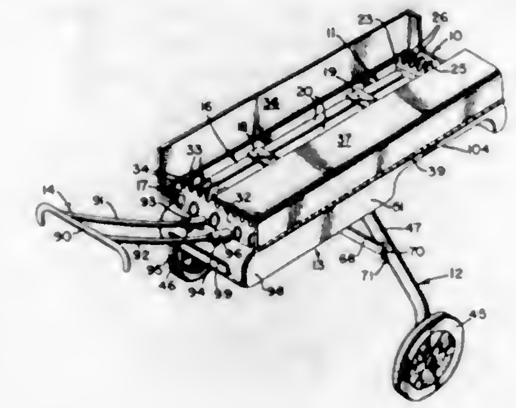
A lightweight, portable ski sled which can be knocked down into a flat condition for convenient storage and transit, but which can be assembled in a matter of minutes by means of hinged connections between the parts of the device. In operative position, the steering column is connected to the runner by a spring hinge for absorbing shock and providing for increased flexibility in maneuvering the sled. Grooves formed in the underside of the runner increase its traction. Optionally, a seat can be mounted between the steering column and runner by means of quick, disconnect joints.

3,451,690

GOLF CLUB CART

**Raymond L. Cravens, 43 Highland Drive,
Bowling Green, Ky. 42101
Filed Dec. 19, 1966, Ser. No. 602,895
Int. Cl. B62d** *21/18;* **B62b** *1/04, 1/20*
U.S. Cl. 280—40 4 Claims

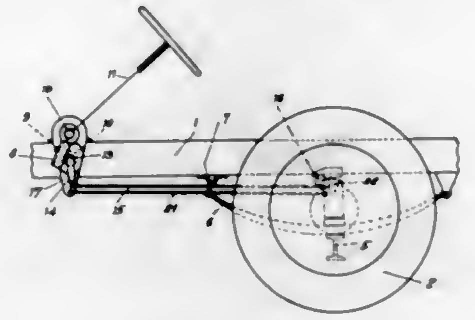
This invention relates to a golf club cart having supporting wheels which are fully retractable into the chassis of the cart to facilitate storage of the cart when not in use. The cart also includes two separate storage areas, one for the iron clubs, and the other for the wood clubs. The storage areas are so constructed that the wood heads are disposed at one end of the cart and the iron heads are disposed at the opposite ends of the cart to distribute the clubs and balance their weight in the cart. Moreover, all the clubs in the storage areas are readily accessible to the player.



3,451,691

STEERING APPARATUS FOR VEHICLES

**Edmond Henry-Biabaud, Paris, France, assignor to Société Anonyme Automobiles Citroen, Paris, France
Filed Mar. 22, 1967, Ser. No. 625,255
Claims priority, application France, Mar. 29, 1966, 55,409
Int. Cl. B62d** *3/02*
U.S. Cl. 280—96 8 Claims



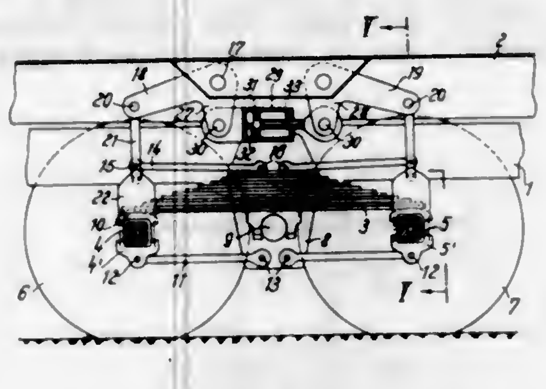
In a vehicle steering apparatus a steering box is pivotally mounted on the chassis and a steering crank is pivotally mounted on the steering box. A first set of mechanical links connects the steering crank to drive a wheel to be steered, while a second set of mechanical links lying adjacent the first set connects the steering box to the axle of the said wheel so as to render the steering insensitive to changes in the spacing between the wheel and the chassis.

3,451,692

DEVICE FOR HYDRAULICALLY BLOCKING THE SPRING MEANS FOR A CRANE SUPPORTING VEHICLE

**Klaus-Friedrich Kappe, Wilhelmshaven, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Jan. 30, 1967, Ser. No. 612,446
Claims priority, application Germany, Feb. 10, 1966, B 85,742
Int. Cl. B60g** *11/46, 25/00*
U.S. Cl. 280—104.5 3 Claims

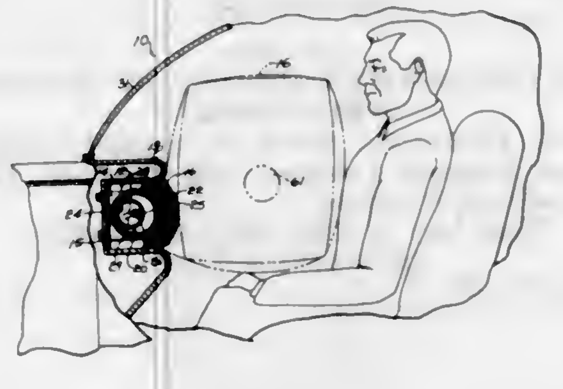
The invention concerns an arrangement for hydraulically blocking the springs of a crane supporting vehicle the frame of which is supported by two axles carried by two pairs of wheels on opposite sides of the vehicle. The blocking arrangement comprises primarily two hydraulically operable cylinder-piston systems on opposite sides of the vehicle. The said cylinder-piston systems are by lever systems and linkage means operatively connected to the said pairs of wheels so as selectively to permit the wheels to move independently of each other or to positively link the wheels of each pair of wheels to each other to thereby substantially block the respective spring pertaining to the respective pair of wheels.



3,451,693

VEHICLE SAFETY METHOD AND APPARATUS

**William R. Carey, Farmington, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 1, 1967, Ser. No. 665,070
Int. Cl. B60r** *21/06*
U.S. Cl. 280—150 14 Claims



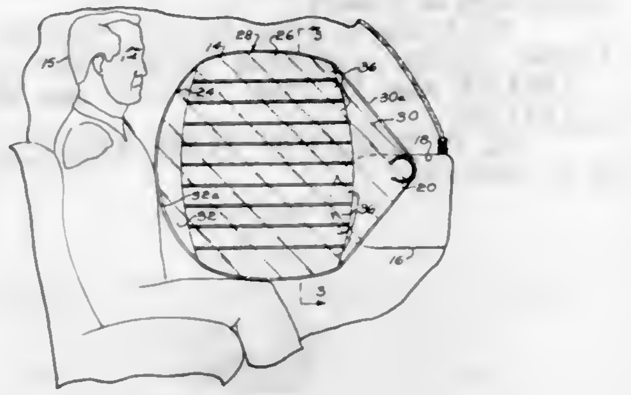
A vehicle safety method and apparatus protects an occupant of a vehicle during a collision. The safety apparatus includes an inflatable confinement which is normally disposed in a substantially collapsed condition and which is adapted to be inflated in response to a collision condition to provide a restraint for the occupant. The confinement is inflated by releasing fluid from a container having a supply of pressurized fluid. The inflatable confinement has means through which the pressurized fluid may escape. The flow of fluid is such that a substantially constant pressure is maintained in the confinement as the occupant and confinement engage and move relatively during a collision so that the acceleration of the occupant is maintained substantially constant.

3,451,694

VEHICLE SAFETY MECHANISM

**David P. Hass, Detroit, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 21, 1967, Ser. No. 669,543
Int. Cl. B60r** *21/06*
U.S. Cl. 280—150 9 Claims

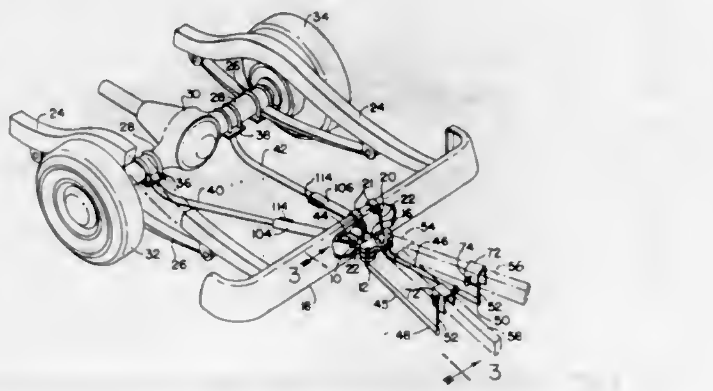
A mechanism for protecting an occupant of a vehicle comprises an inflatable confinement mounted in the vehicle. The confinement is inflated when the vehicle is involved in a crash by release of fluid from a supply. The confinement, when inflated, is positioned to restrain the occupant from a forceful impact with a structural part of the vehicle. The confinement has a cellular construction. Specifically, a plurality of cells are located in an interior intermediate portion thereof. The cells communicate impact and fluid inlet manifolds at the opposite ends thereof. During a crash, the impact manifold immediately in front of the occupant may be collapsed by movement of the occupant thereagainst. The impact may be sufficient to seal certain of the adjacent ends of the cells. The occupant further may cause collapse of the confinement so that the fluid inlet manifold at the opposite ends of the cells seals the other ends of the cells to establish completely sealed cells. The sealed cell or cells exert a force on the occupant which is proportional to the force exerted by the occupant on the particular cell or cells.



3,451,695

TRAILER HITCH ASSEMBLY

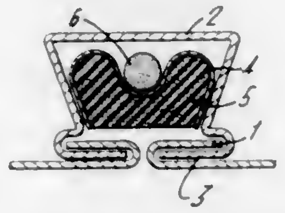
**Nicholas J. Tomen, 9 Churchill St., Chatham, Ontario, Canada
Filed Mar. 6, 1967, Ser. No. 620,989
Int. Cl. B60d** *1/06;* **B62d** *53/06*
U.S. Cl. 280—489 13 Claims



A trailer hitch assembly having a pair of multi-position brackets about the rear axle of an automobile, and secured to and extending from said brackets, two torsion steel spring bars converging at and slidably adjustable within a Y-shaped collar, said collar being secured to a removable hitch head assembly; said head assembly having a central aperture therein to receive a pin having a cylindrical stem and a spherical or ball-like head upon which is mounted the mating socket portion of a conventional trailer, and to the right and left of said central aperture, two sockets adapted to receive, and within which are rotatively locked, a second pair of spring bars, said spring bars extending in a divergent manner rearwards of said automobile and being flexibly fastened to the towbar of the trailer to be towed, the trailer hitch assembly being fully interchangeable from automobile to automobile, regardless of make or year made, without the need for special additional hardware, or the need for special tools.

3,451,696
METHOD FOR SEALING JOINTS AND THE LIKE

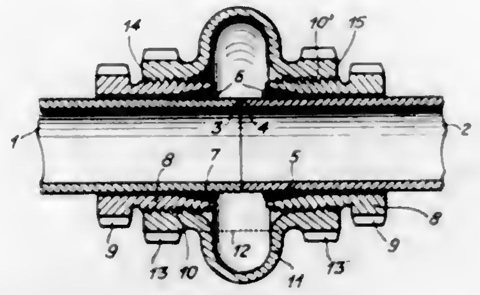
Erik Gustav Hagelin and Eric Folke Odel Lenngren, Norrkoping, Sweden, assignors to United Shoe Machinery Company AB, Abyvagen, Orebro, Sweden, a corporation of Sweden
Filed May 2, 1966, Ser. No. 546,778
Claims priority, application Sweden, May 5, 1965, 5,885/65; May 31, 1965, 7,093/65; Jan. 10, 1966, 2,421/66
Int. Cl. F16l *13/02, 25/00;* **B32b** *5/20*
U.S. Cl. 285—21 **6 Claims**



The subject matter of this disclosure consists in a sealed joint—such as a joint between two conduit-like hollow members, and in a method of forming such joint and sealing the same in situ.

3,451,697
PIPE JOINT

Karl Bula, Lucens, Switzerland, assignor of one-half interest to Hans Jossi, Islikon, Switzerland
Filed Sept. 28, 1966, Ser. No. 582,661
Claims priority, application Switzerland, Oct. 2, 1965, 13,626/65
Int. Cl. F16l *19/00, 21/00*
U.S. Cl. 285—93 **4 Claims**

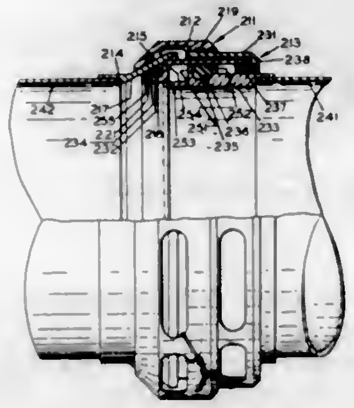


A pipe joint for pipes in abutting relationship held together by an annular pipe gripping member engaging one pipe and a second annular pipe gripping member engaging the other pipe and resilient means to urge the annular members towards one another with deformation as to the two pipe ends.

3,451,698
COUPLING HAVING CONCENTRIC SPHERICAL SURFACES SEALED BY LINE CONTACT

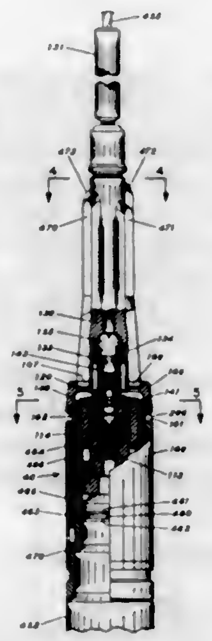
Richard O. Chakroff, 298 Park Blvd., Worthington, Ohio 43085
Continuation-in-part of application Ser. No. 133,974, Aug. 25, 1961. This application July 20, 1966, Ser. No. 566,634
Int. Cl. F16l *27/04, 15/02, 19/00*
U.S. Cl. 285—165 **7 Claims**

The application discloses coupling devices for joining together fluid conduits which may or may not have their longitudinal axes precisely aligned. The disclosed couplings each include a female clamping device, a male clamping device, and an intermediate coupling member which has its two faces formed as annular segments of spherical surfaces, both such spherical surfaces being concentric, and one such spherical surface being a convex spherical surface and the other such surface being a concave spherical surface. The outer faces of the intermediate coupling members are in engagement with their associated female clamping devices at single lines of tangency, and the inner faces of the intermediate coupling members are in engagement with their associated male clamping devices at single lines of tangency. The engagement of the clamping devices with the intermediate coupling members may be through a sealing member consisting, as shown, of a metallic (preferably of a soft metal such as copper) or non-metallic O-ring.



3,451,699
COUPLING DEVICES FOR USE IN OFFSHORE WELL WORK

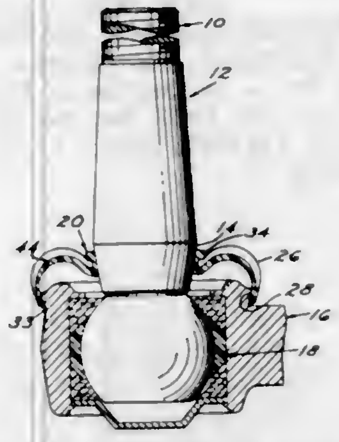
William R. Postlewaite, Menlo Park, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,821
Int. Cl. F16b *7/00*
U.S. Cl. 287—87 **5 Claims**



Coupling devices useful in offshore well work for connecting a guide line to a guide post, which coupling devices incorporate means allowing for separation of the guide line from the guide post when the lateral force applied on the guide post by the guide line exceeds a predeterminable amount.

3,451,700
DUST SEAL FOR BALL JOINTS

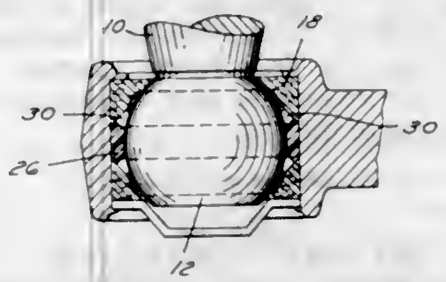
Frederic R. Smith, Whitmore Lake, Mich., assignor to O & S Bearing & Mfg. Co., Whitmore Lake, Mich., a corporation of Delaware
Filed Feb. 13, 1968, Ser. No. 705,135
Int. Cl. F16c *11/06;* **F16b** *7/00;* **B25g** *3/38*
U.S. Cl. 287—90 **10 Claims**



This application discloses improvements in dust seals for ball joint assemblies of a type commonly used in motor vehicle steering linkages. Due to the resiliency and ribbed design of the dust seal, its clamping or sealing surfaces are self-biasing and are relieved or ported to prevent internal pressures from impairing the effectiveness of the seal.

3,451,701
BALL JOINT CONSTRUCTION

Frederic R. Smith, Whitmore Lake, Mich., assignor to O & S Bearing & Mfg. Co., Whitmore Lake, Mich., a corporation of Delaware
Filed Feb. 15, 1968, Ser. No. 705,689
Int. Cl. F16c *11/06*
U.S. Cl. 287—90 **5 Claims**

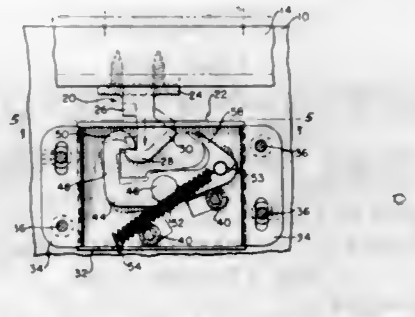


This invention relates to improvements in ball joint constructions of the type commonly used in automotive steering linkages and torque rod ends. The construction disclosed in this patent utilizes an improvement comprising a split retainer ring formed of a plastic material with good bearing characteristics backed by a compressible-expansible lubricant impregnated bearing material. This improvement has resulted in a ball joint construction which provides satisfactory torque or frictional characteristics for a substantially increased or prolonged period of use.

3,451,702
LATCH MECHANISM

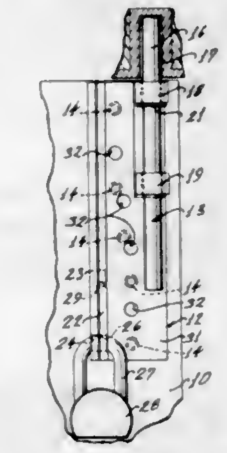
Carl H. Little, Jamestown, N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.
Filed Mar. 14, 1967, Ser. No. 623,033
Int. Cl. E05c *19/10;* **E05f** *1/00*
U.S. Cl. 292—99 **4 Claims**

An improved automatic latch for hingedly mounted doors or covers or lids for cabinets or the like. The latch operates automatically to secure the door or cover upon pressing it into closed position, and releases when the door or cover is subsequently pushed against, thus permitting the latter to swing open under the impetus of an auxiliary spring or the like. The invention features an improved mechanism as aforesaid which is mechanically simplified; non-locking in event of mechanical failure; and which provides long-life improved ease and smoothness of operation.



3,451,703
TAMPERPROOF SLIDE LOCK FOR DOORS

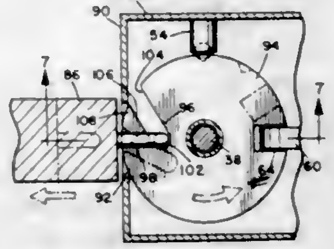
Charles D. Roegner, Rte. 1, Box 371, Mount Olive, Ala. 35117
Filed July 7, 1967, Ser. No. 651,897
Int. Cl. E05c *1/04, 13/02, 19/10*
U.S. Cl. 292—148 **2 Claims**



A tamperproof slide lock for doors and the like having a base plate secured to the door by fasteners such as screws. The bolt is carried by a slide plate and the bolt passes through at least one lug, carried by the base plate whereby the base plate and slide plate are captive and the bolt may be moved from locked to unlocked position by sliding the slide plate relative to the base plate. The slide plate is provided with openings which provide access to the fasteners only when the parts are in an intermediate position, between locked and unlocked position. Openings in the slide plate and base plate permit a padlock or the like to secure the device either in locked or unlocked position, thus preventing the removal of the fasteners in either position.

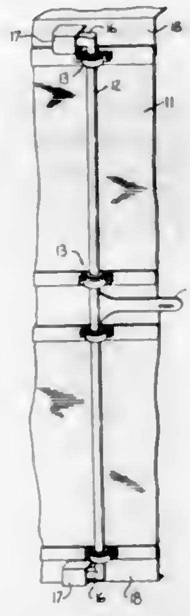
3,451,704
COMBINATION LATCH AND DEAD BOLT LOCK

Lawson B. Cothron, 4886 Jewel, San Diego, Calif. 92109
Filed Jan. 31, 1967, Ser. No. 612,919
Int. Cl. E05c *3/06;* **E05b** *65/06*
U.S. Cl. 292—198 **4 Claims**



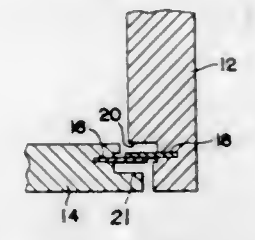
The lock utilizes a pair of orthogonally inter-fitting elements, each of which is slotted at one position to allow the other to move, one element comprising an indexed latch operated by movement of the door and the other being a dead bolt type locking element.

3,451,705
CARGO CONTAINER DOOR LATCHING ARRANGEMENT
Russell L. Turpen, North Richmond, Calif., assignor to Compass Container Company, Inc., Richmond, Va., a corporation of California
Filed Oct. 6, 1966, Ser. No. 584,873
Int. Cl. E05c *3/04*
U.S. Cl. 292—218 **5 Claims**



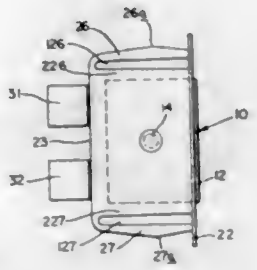
A cargo container door latching arrangement is described which includes a latching rod which is journalled upon the cargo container door by a plurality of bearings which are not subject to freezing or galling. Each of the bearings includes a bracket assembly secured to the door and made up of first and second separable elements which define a bore. A split hinged bushing of tough synthetic material is coaxially mounted within the bore of each of the bracket assemblies between the first and second elements. The latching rod passes through each of these bushings and has coaxially spaced collars which engage ends of the bracket assemblies to limit axial displacement of the rod relative to such bracket assemblies.

3,451,706
MAGNETIC CLOSURE
Max Baermann, Bensberg, Germany (506 Bensberg, Wulfshof, Bezirk Cologne, Germany)
Filed Dec. 27, 1966, Ser. No. 604,683
Int. Cl. E05c *19/16, 17/56*
U.S. Cl. 292—251.5 **4 Claims**



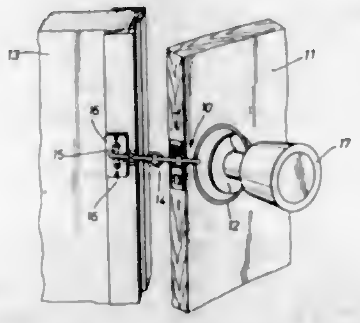
A closure arrangement for a pair of relatively movable members wherein one of the members is provided with a relatively flat elongated surface of a material attractable to a magnet, and the other member is provided with a flexible magnet in elongated relatively flat strip form. One edge portion of the magnet strip is secured to said other member, the opposing edge portion projecting from the member in cantilever fashion. The members are movable relative to each other so that the flat surface of the attractable material is contiguous with the projecting edge portion of the flexible magnet strip when the members are in a normally closed relationship.

3,451,707
MAGNETIC LATCH ASSEMBLY
John K. Barry, Springfield, Pa., assignor to Southco, Inc., Lester, Pa., a corporation of Delaware
Filed Apr. 20, 1967, Ser. No. 632,302
Int. Cl. E05c *19/16, 17/56*
U.S. Cl. 292—251.5 **3 Claims**



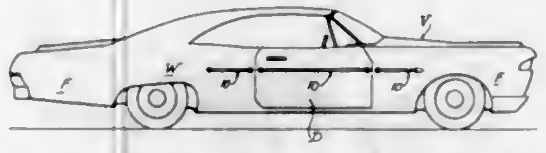
The magnetic latch assembly has its magnet and pole plates enclosed in a rectangular housing of resilient plastic material, and retained therein by a rivet or stud. The forward wall of the housing is of enlarged area, forming flanged portions for abutting against the door frame or panel. Opposite walls of the housing are provided with slots which extend which the front wall rearwardly, forming deformable outer ribs which are thicker at an intermediate point than at the forward and rearward portions. When the resilient plastic housing is pressed into the aperture in the door frame or panel, the ribs of the housing are deformed inwardly for the first portion of the insertion and then snap outwardly during the latter portion due to the resilience of the material. The plastic housing preferably includes, as an integral part of the molded housing, a couple of break-off tabs. After the housing has been fully inserted into the door frame aperture, the breakaway tabs are pressed into the slots to maintain and fortify the outward thrust of the ribs.

3,451,708
SECURITY APPARATUS
Felton D. Brooks, 1309 Todville Road, No. 40, Seabrook, Tex. 77586
Continuation-in-part of application Ser. No. 661,351, Aug. 17, 1967. This application Dec. 4, 1968, Ser. No. 781,012
Int. Cl. E05c *17/36*
U.S. Cl. 292—264 **3 Claims**



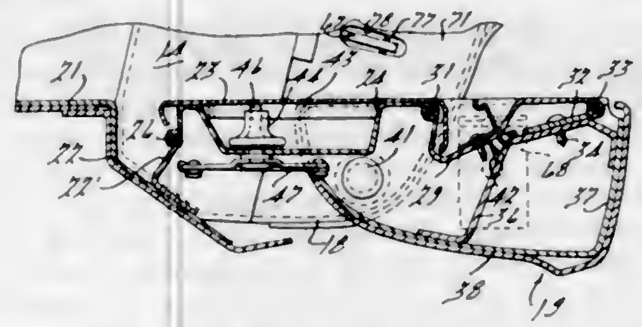
In the representative embodiments of the invention disclosed herein, a metal loop adapted to pass over a door knob is coupled to a stout connecting member of limited length for allowing the door to be only partially opened when the loop is fitted over the door knob. By selectively designing the loop to yield without failing under force, an attempted illegal entry of a door or window secured by the present invention will be safely resisted by the controlled deformation of the loop which absorbs such sudden impacts as well as provides an indication of the attempted entry.

3,451,709
SIDEWALL AND FENDER PROTECTOR
Donald A. Swauger, San Jose, Calif., assignor of fifty-six percent to Fred Beisser, twenty-two percent to Delbert R. Walker, and twenty-two percent to Leward M. Larson, Fort Dodge, Iowa
Filed Oct. 18, 1966, Ser. No. 587,616
Int. Cl. B60r *13/04*
U.S. Cl. 293—1 **1 Claim**



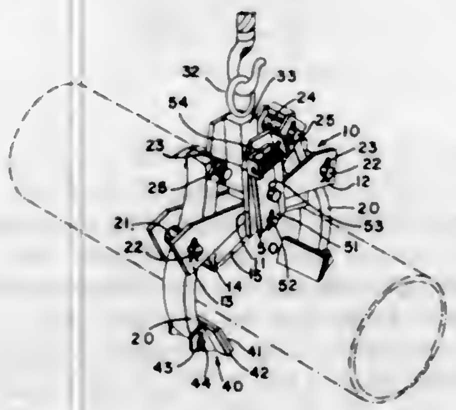
An extruded hollow bumper strip having a flat solid backwall skirted by side beads providing a recess in which a continuous strip of pressure-sensitive adhesive tape mounted on such backwall is concealed and has an adhesive mounting surface extending slightly beyond the side beads for surface contact with the body of a vehicle.

3,451,710
SHIFTABLE BUMPER
Charles L. Savell, Warren, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,271
Int. Cl. B60r *19/02, 21/14*
U.S. Cl. 293—73 **7 Claims**



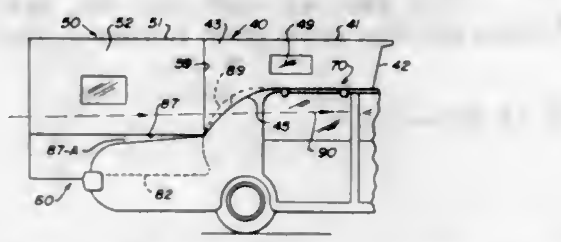
A fold-down rear bumper pivotally secured to the body structure of a motor vehicle of the station wagon type. The bumper is swingable from a first, substantially upright position to a second position wherein the bumper is parallel to the floor of the vehicle cargo area, thereby facilitating access to a low profile cargo area.

3,451,711
PIPE HANDLING APPARATUS
Edgar L. Carpenter, 330 Empire Ave., Modesto, Calif. 95351
Filed Aug. 24, 1967, Ser. No. 662,966
Int. Cl. B66c *1/10*
U.S. Cl. 294—113 **5 Claims**



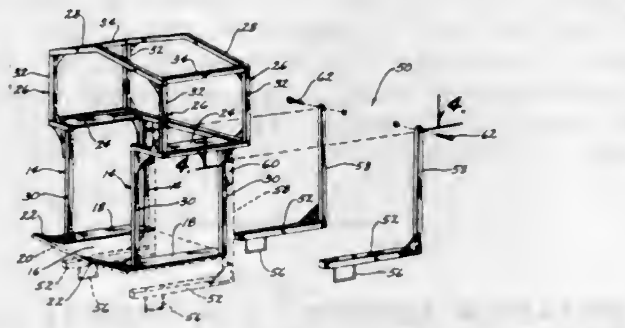
This disclosure describes a set of pipe tongs for lifting and handling heavy sections of pipe, for example, installing the pipe in a narrow open trench or ditch. The tongs include means for automatically releasing the pipe after it is placed in the trench to facilitate withdrawal of the tongs.

3,451,712
AUTOMOBILE TRAVELLING ACCOMMODATION
Louis N. Power, R.R. 2, Salmon Arm, British Columbia, Canada
Filed Apr. 4, 1967, Ser. No. 628,423
Int. Cl. B60p *3/32;* **E04b** *7/16*
U.S. Cl. 296—23 **7 Claims**



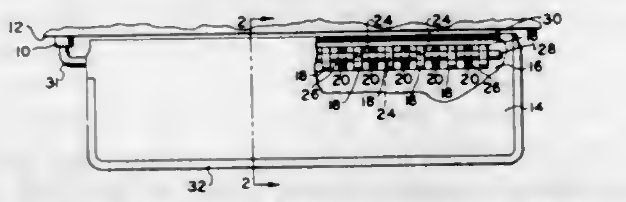
Unitized automobile travelling accommodation structure, or "camper," to be secured to an ordinary automobile. A body unit attachable to an automobile roof, a base unit supported in the car luggage compartment after removal of the lid, and an extension unit supported by the base unit and adjustably securable to the body unit so that the assembled structure is adaptable to a range of different models.

3,451,713
SAFETY ENCLOSURE AND CAB FOR TRACTORS
Donald K. Hollingshead, R.R. 2, Ogden, Iowa 50212
Filed Sept. 15, 1967, Ser. No. 667,890
Int. Cl. B62d *27/02, 29/00, 23/00*
U.S. Cl. 296—28 **7 Claims**



A protective enclosure disposed on the platform of a tractor and having a cab unit substantially enclosing the protective enclosure. The protective enclosure having a frame structure pivotally connected to a support assembly on the axle of the tractor, the support assembly extending under the enclosure structure and upwardly at the rear thereof to limit movement. Members may be included to extend from the axle forwardly to detachably connect to the protective enclosure.

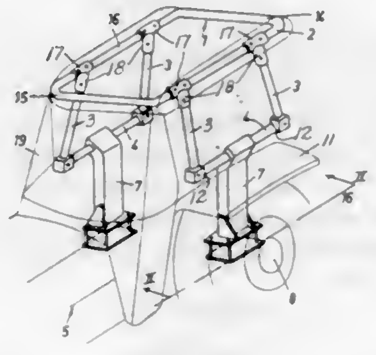
3,451,714
VISOR
James V. Walsh, 32762 Winona Court, Garden City, Mich. 48135
Continuation of abandoned application Ser. No. 320,404, Oct. 31, 1963. This application Aug. 5, 1966, Ser. No. 573,772
Int. Cl. B60j *3/02;* **E05d** *15/00*
U.S. Cl. 296—97 **8 Claims**



A visor for a vehicle including a sheet of foldable material folded along a line to form the body of the visor, hinge elements on each side of the line and spaced to form a continuous hinge bore, and a supported rod engaged in the hinge bore.

3,451,715
TURNOVER PROTECTION FRAME FOR MOBILE WORKING MACHINES, IN PARTICULAR FOR TRACTORS

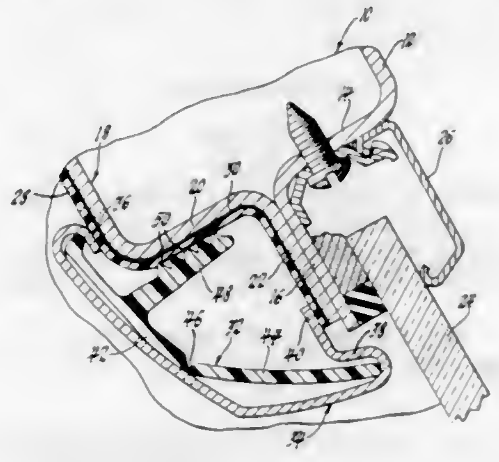
Anton Stuckenberger, Bruckmuhl, Germany, assignor to Firma Georg Fritzmeier KG, Munich, Germany
Filed Dec. 13, 1966, Ser. No. 601,369
Claims priority, application Germany, Dec. 17, 1965, F 47,953
Int. Cl. B62d *25/06*
U.S. Cl. 296—102 **5 Claims**



A safety protective frame for machines such as tractors, mounted to support a canopy over the driver's seat, the mounting form being characterized by vertical supports arranged to give a support sufficiently rigid to avoid severe damage yet not so flexible as to induce injury to a driver under the canopy. The structure is characterized by a mounting frame, vertical support carrying the frame over the tractor and a torsion bar which is mounted on the body of the vehicle.

3,451,716
RETAINER ASSEMBLY FOR VEHICLE BODIES

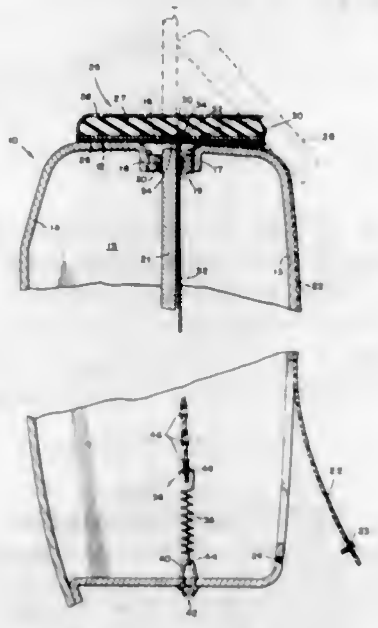
John Clare, Fraser, and William G. Crary, Utica, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,561
Int. Cl. B62d *25/06;* **B60j** *1/18*
U.S. Cl. 296—137 **3 Claims**



A flanged vehicle body header is covered by headlining. A headlining retainer includes a pair of integrally hinged members snapped into a garnish molding mounted on the header. The retainer includes a deflectable serrated extension engaging the headlining to hold the headlining against the flange of the header.

3,451,717
CAR WINDOW ARM REST

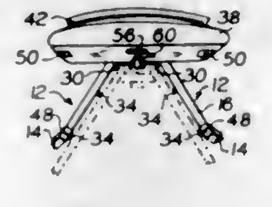
Zoma Vaughn Carter, 2505 W. Main St., Muncie, Ind. 47303
Filed Aug. 28, 1967, Ser. No. 663,851
Int. Cl. B60j *9/00, 1/16, 5/04*
U.S. Cl. 296—153 **4 Claims**



An arm rest or cushion for use on the sill of the window in an automobile door, the arm rest being connected to the door by an elastic and flexible connecting means arranged to urge the arm rest downwardly against the sill to span the window pane socket mouth formed therein. The upper end of the connecting means, which extends through the socket mouth, is connected to the bottom of the arm rest and the lower end of the connecting means is connected to the lower portion of the door at a point intermediate the inner and outer walls of the door.

3,451,718
FOLDING CHAIR WITH HORIZONTAL STACKING

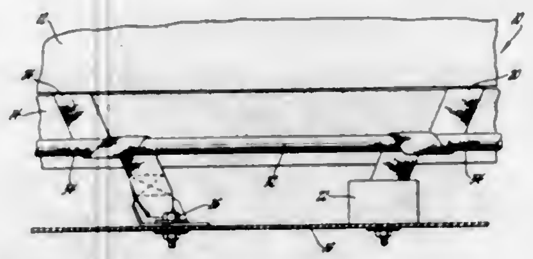
Hans J. Kaufman, Huntington, N.Y., assignor to Stakmore Co., Inc., Owego, N.Y., a corporation of New York
Filed Jan. 16, 1967, Ser. No. 609,486
Int. Cl. A47c *3/04, 7/56*
U.S. Cl. 297—239 **6 Claims**



This invention is an improvement in nesting chairs. The chairs nest horizontally instead of vertically and, when nested, have their legs in contact with the floor. The chair is made with a rigid frame assembly and upstanding back, but with the seat hinged to the frame assembly at the rearward end of the seat so that the seat can swing up substantially parallel to the back of the chair. The frame assembly is exposed when the seat is raised and it has side frames that diverge toward the front. The space between the side is unobstructed at the front for receiving the rearward portion of a similar chair inserted horizontally into this space between the side frames.

3,451,719
SEAT ANCHORAGE

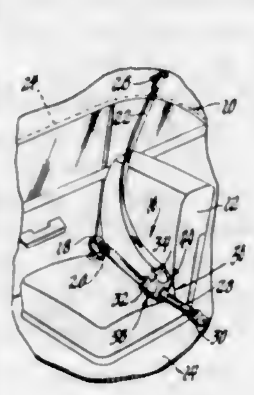
John Z. de Lorean, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,527
Int. Cl. B60r *21/10;* **A47c** *31/00*
U.S. Cl. 297—385 **3 Claims**



A vehicle seat cushion is provided with a rear-mounted transverse bar about which are looped seat belt straps. Upon interengagement of the strap buckles to form a seat belt, the tensioning of the straps about the bar creates a frictional force resisting forward movement of the seat.

3,451,720
VEHICLE PASSENGER RESTRAINT HARNESS

John P. Makinen, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,118
Int. Cl. B60r *21/10;* **A47c** *31/00*
U.S. Cl. 297—389 **6 Claims**

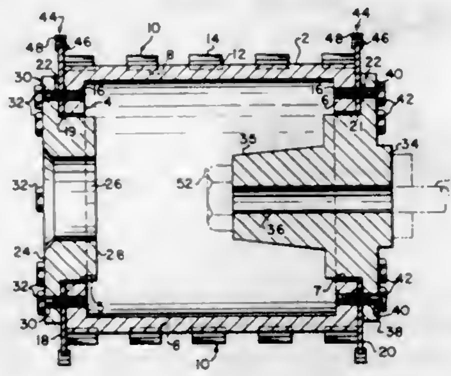


A vehicle seat is provided with a three-point passenger restraint harness comprising a lap strap anchored to the vehicle floor, a shoulder strap anchored to the vehicle roof side rail, and an anchor strap anchored to the vehicle floor. The free ends of the lap and shoulder straps each amount a buckle which is engageable with a buckle assembly mounted on the free end of the anchor strap to form respective lap and shoulder belt portions of the harness. The anchor buckle assembly cannot be engaged with the shoulder strap buckle until after engagement with the lap strap buckle.

3,451,721
COMBINATION SLOTTING AND MILLING TOOL

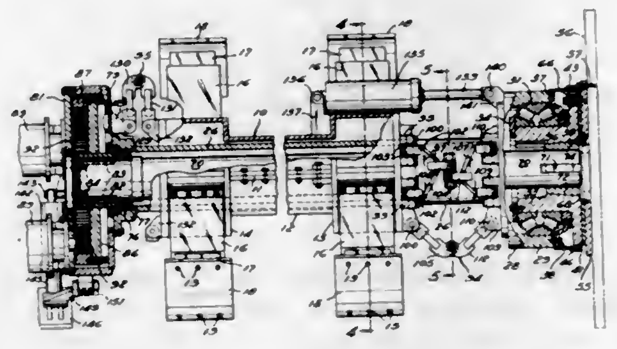
Carle W. Highberg, Murray Hill, and James B. Speirs, Paramus, N.J., assignors to Engelhard Hanovia, Inc., Newark, N.J., a corporation of New Jersey
Filed Mar. 6, 1967, Ser. No. 621,013
Int. Cl. E21c *25/18*
U.S. Cl. 299—89 **2 Claims**

The present invention deals with a combination slotting and milling tool for slotting and milling surfaces of refractory materials such as concrete paving, asphalt paving, brick, granite, slate, etc., having a cylindrical spool-like configuration with abrasive milling means on the cylindrical surface thereof and abrasive slot cutting means on the peripheral rims of the spool-like body.



3,451,722
RESILIENT MOUNTED CUTTER HEAD FOR TUNNELING MACHINE

Victor J. Scaravilli, Beechwood, and Charles J. Delisio, Lyndhurst, Ohio, assignors to S & M Constructors, Inc., Bedford Heights, Ohio, a corporation of Ohio
Original application Apr. 11, 1966, Ser. No. 541,673, now Patent No. 3,383,138, dated May 14, 1968. Divided and this application Dec. 4, 1967, Ser. No. 712,310
Int. Cl. E21c *15/00;* **F16d** *3/10;* **E21b** *17/02*
U.S. Cl. 299—90 **4 Claims**



A tunneling machine having a support frame anchorable in a tunnel bore by four independently hydraulically actuated support feet at each of two axially spaced zones which provide the only anchoring of the support frame in the tunnel and by individual movement selectively position the axis of the support frame with respect to the axis of the tunnel. An elongated movable frame is carried on the support frame by two axially spaced sets of articulated torque arm assemblies which position the movable frame radially with respect to the support frame and transmit torque between the movable frame and the support frame. A cutter head is mounted on the front end of the movable frame by a large thrust bearing and a cutter head support plate is insulated from the remainder of the movable frame by a layer of elastomeric material to absorb and dampen shock transmission between the cutter and the bearing. The cutter head is rotatably driven by an elongated shaft which extends from the cutter head axially through the movable frame to a drive motor assembly at the rear end of the machine. At its rear end the movable frame has selectively operable support feet which allow the movable frame to be supported by its own support feet and the cutter head, while the support frame is advanced along the tunnel by the reversible push cylinders interconnecting the support frame and the movable frame to provide the necessary thrust to the cutter head.

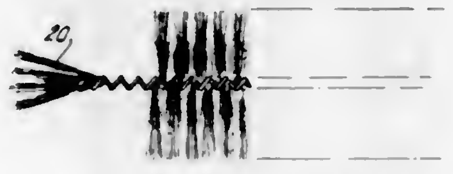
3,451,723
BABY BOTTLE BRUSH WITH TIPPED ENDS

Theodore Marks, Hartsdale, N.Y., assignor to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York

Filed July 26, 1967, Ser. No. 656,227

Int. Cl. A46b *3/18*

U.S. Cl. 300—21 **3 Claims**



A method for making a twisted wire baby bottle type brush. Bristles are applied between two separate wires and the wires are twisted. Pressure may be applied to the end of the brush to provide a brush tip.

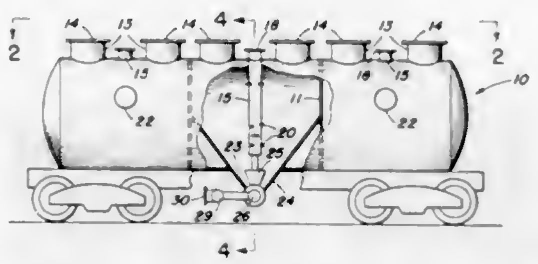
3,451,724
METHOD AND MEANS FOR UNLOADING BULK TRANSPORTED PULVERULENT MATERIALS

Joseph A. Cappelli, Old Bridge, Antonio P. Guattery, and Edward Rebar, Metuchen, and George Sobin, Kenilworth, N.J., and George L. Becht, New York, N.Y.; said Becht assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey, said Cappelli, said Guattery, said Rebar, and said Sobin assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed July 12, 1967, Ser. No. 652,847

Int. Cl. B65g *53/04*

U.S. Cl. 302—14 **8 Claims**



The present invention relates to the unloading of dry pulverulent materials from a railroad tank car or automotive tank truck at its point of destination by introducing a liquid into the tank to form a solution or slurry which is pumped from the tank into the consumers storage facilities.

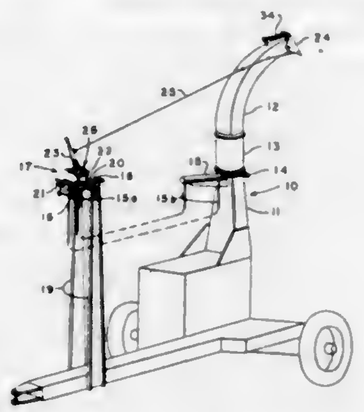
3,451,725
HARVESTER SPOUT CONTROL

Thomas W. Waldrop, Ronks, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Pennsylvania

Filed Jan. 2, 1968, Ser. No. 695,134

Int. Cl. B65g *53/42, 53/04;* **A01f** *12/48*

U.S. Cl. 302—34 **5 Claims**



A harvester spout control device which is adapted to rotate a harvester spout and control an associated deflection member simultaneously in response to operation of a single pivotally mounted lever.

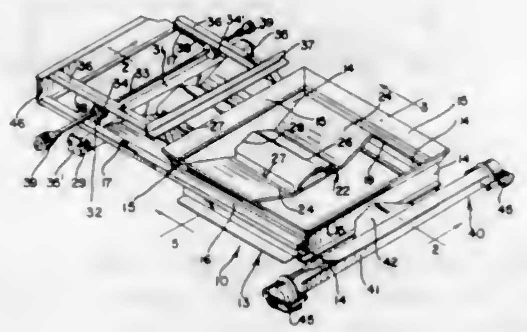
3,451,726
COMBINATION PNEUMATIC AND GRAVITY DISCHARGE GATE

Ernest J. Nagy, Munster, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Jan. 26, 1968, Ser. No. 700,838

Int. Cl. B65g *53/46*

U.S. Cl. 302—52 **5 Claims**



A combination pneumatic and gravity discharge gate for hoppers which includes a four-walled framework connected to the discharge end of a hopper to provide a discharge chamber. A closure member is slidably supported on the frame to close the discharge chamber, the same including a pneumatic hood which in the closed position is connected to a material conveying duct for withdrawing material from the discharge chamber. The hood is withdrawn from the closed position with the closure member through a wall to a position to one side of the discharge chamber and the said closure member includes diverging wall portions which direct material to openings provided in the hood.

A modification includes a second closure member which is disposed above the hooded closure member and is movable from a position underneath the discharge chamber to open the same to provide for gravity discharge with the lower closure member in its non-operative position. The upper closure member is also movable to one side of the discharge chamber whereupon it is disposed in a non-use position over the hooded closure member.

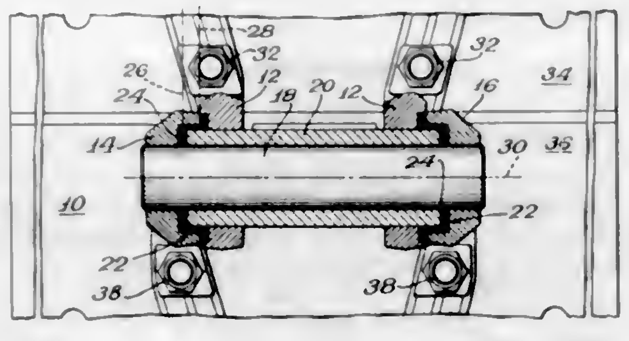
3,451,727
SEALED JOINT WITH METAL LINED BUSHING RECESS

Jack M. Deli, Wheaton, and Robert C. Storck, Glen Ellyn, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed July 5, 1967, Ser. No. 651,180

Int. Cl. B60s *1/62;* **B62d** *25/16;* **F16j** *15/38*

U.S. Cl. 305—11 **17 Claims**



Track link joint having a bushing recess and a pin bushing projecting thereinto, the recess being a counterbore formed in the outer link of the joint and lined with a metal wear facing. A counterbore in the inner link forms a second link recess, the two recesses receiving Belleville spring washers engageable with flanges on the head and foot of the metal liner or facing so as to form a duel sealed joint about the pin bushing and a track pin that is rotatably received in the bushing.

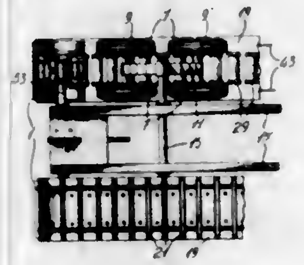
3,451,728
TRACK AND DRIVE ASSEMBLY FOR TRACK-LAYING VEHICLES

Bertrand Bruneau, Sherbrooke, Quebec, Canada, assignor to Cady Industries Limited, St. George, Beauce, Quebec, Canada

Filed Dec. 27, 1966, Ser. No. 604,897

Int. Cl. B60s *1/62;* **B62d** *25/16, 55/08*

U.S. Cl. 305—13 **5 Claims**



A traction drive assembly for a track-laying vehicle having an endless belt provided with spaced transverse teeth and riding lands along the row of teeth for the travel of the pneumatic tires of the vehicle. To prevent untracking, the teeth have lateral ears projecting away from the belt a height greater than the thickness of the tread of the tires and smaller than the distance between the belt and the wheel axle. The teeth successively engage between the contact elements formed at the ends of the spokes of a driving wheel.

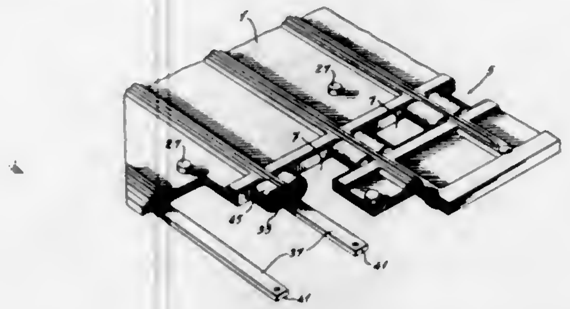
3,451,729
TRACTION BELT FOR LOW HORSEPOWER SNOW VEHICLES

Paul E. Roy, Thetford Mines, Quebec, Canada, assignor to Les Industries de Fibre de Verre de Thetford Inc., Thetford Mines, Quebec, Canada

Filed Dec. 6, 1966, Ser. No. 599,463

Int. Cl. B62d *55/24*

U.S. Cl. 305—38 **4 Claims**



A traction belt adapted to run over the sprocket wheels of a small snow vehicle. It has two longitudinal rows of tooth apertures. The inner face has thin metallic blades transversely embedded in the material of the traction belt between each row of tooth apertures. Finally the outer face of the traction belt has gripping tracks and studs for providing good traction on a snow covered surface.

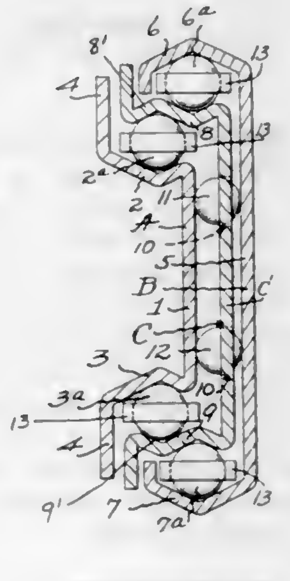
3,451,730
DRAWER SUSPENSION

Alois S. Krispinsky and Howard P. Thomas, Youngstown, and Alfred R. Hamrock, Lowellville, Ohio, assignors to The General Fireproofing Company, Youngstown, Ohio, a corporation of Ohio

Filed Oct. 16, 1967, Ser. No. 675,450

Int. Cl. F16c *35/02, 29/00, 21/00*

U.S. Cl. 308—3.8 **2 Claims**



A progression type file drawer suspension constructed to minimize and distribute lateral forces between the drawer and cabinet as the drawer is moved from closed to open position and vice versa.

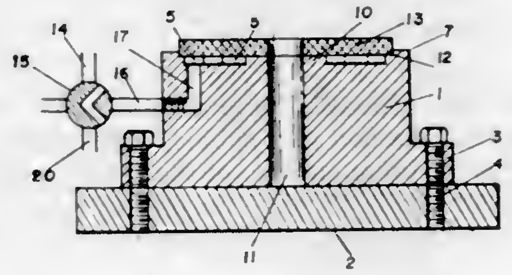
3,451,731
THRUST BEARING

Richard H. Weichsel, Hudson, Ohio, assignor to The Apex Bearings Company, a corporation of Ohio

Filed Mar. 9, 1967, Ser. No. 623,506

Int. Cl. F16c *7/04, 35/00, 1/24*

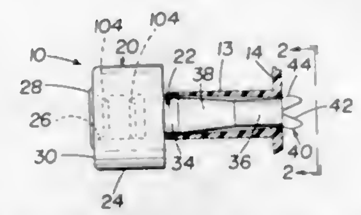
U.S. Cl. 308—9 **6 Claims**



A hub having grooves and channels and a peripheral recess in its upper portion, a porous disc having its outer edge seated in said recess, said disc being composed of copper spheres of approximately 100 mesh and tin particles of approximately 200 mesh pressed together and heated at a temperature of approximately 1535° F. to sinter the tin and cause it to encapsulate the copper spheres to form a myraid of venturi-shaped pores, a work bench rotatable on the disc, and means for forcing a gas into said grooves and channels and thence through the venturi-shaped pores in said disc to form a thin gas film between the disc and work bench. The thickness of the disc is that required to support the static or at rest load of the work bench and the width of the grooves and channels are substantially the same as the thickness of the disc and the depth of the grooves and channels are approximately one-half of the thickness of the disc. Means are also provided to reverse the flow of the gas through the disc to maintain the work bench in a fixed position.

3,451,732
MOLDED ROLLER POST

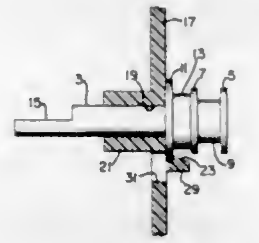
Archie J. Tucker, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 28, 1966, Ser. No. 530,598
Int. Cl. F16c *13/00, 39/00, 35/00*
U.S. Cl. 308—15 **4 Claims**



A roller post adapted to be rotatably supported in a bearing aperture extending through a wall member to guide and/or snub a strip of material moving relative to said wall member comprises a roller head the periphery of which the strip material engages, a stem or body portion which extends axially from the roller head for insertion thorugh a bearing aperture in the wall member to rotatably support the roller post in said wall member, and a snap-in element on the end of the stem opposite said roller head which is compressed to allow the stem to be inserted through said bearing aperture, and which extends to its original diameter to retain the roller post in assembled position in the bearing aperture.

3,451,733
APPARATUS FOR MOUNTING ROTATABLE SHAFT

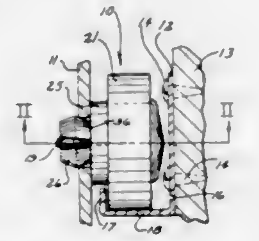
William B. Scott, Jr., New Hartford, and Glenn R. Mundschenk, Utica, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,638
Int. Cl. F16c *35/00, 13/00, 27/00*
U.S. Cl. 308—15 **4 Claims**



Apparatus for rotatably mounting a shaft having a flange positioned thereon to a cabinet. One surface of the flange engages the inner surface of the radio cabinet while the opposite surface is slideably engaged by a deflectable key member to rotatably lock the shaft to the cabinet.

3,451,734
PLASTIC ROLLER

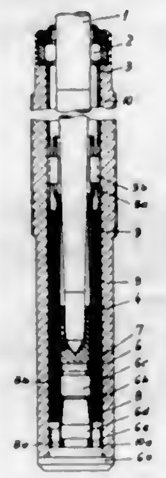
George R. Laure, Kalamazoo, Mich., assignor to The W-L Molding Company, Kalamazoo, Mich., a corporation of Michigan
Filed Feb. 23, 1967, Ser. No. 618,110
Int. Cl. F16c *13/00, 39/00, 35/00*
U.S. Cl. 308—15 **3 Claims**



A plastics roller assembly for use on desk drawers and the like, said roller assembly comprising a wheel which is held in rotatable engagement with an axle. A locking pin extends centrally and axially through the axle for locking the axle into a position of use. In one form of the invention, said pin also holds the wheel in position on the axle.

3,451,735
SPINDLE ASSEMBLY FOR A SPINNING OR TWISTING MACHINE

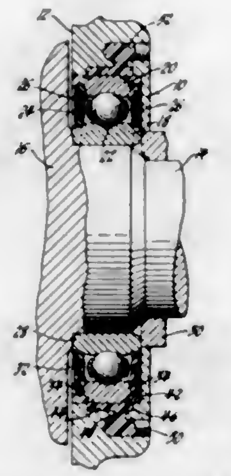
Fritz Stahlecker, Wurttemberg, Germany, assignor to Spindelfabrik Sussen, Schurr Stahlecker & Grill G.m.b.H., Wurttemberg, Germany
Filed Oct. 18, 1967, Ser. No. 676,185
Claims priority, application Germany, Dec. 1, 1966, S 107,208; Aug. 16, 1967, S 111,373
Int. Cl. F16c *35/08*
U.S. Cl. 308—150 **25 Claims**



A spindle assembly for a spinning or twisting machine, wherein the lower end of the center shaft runs in a pivot bearing which is mounted in the bearing housing separately from the upper collar bearing and is held in radial directions within the housing by a tubular, radially resilient connecting element in the form of a basket spring and in the axial direction by a supporting plug which is inserted into the lower end of the housing. In one preferred embodiment of the invention, a convex bearing plate or a ball bearing is interposed between this plug and the pivot bearing, while in another embodiment the pivot bearing itself is divided into a bearing plate for taking up the axial forces and a bearing sleeve for taking up the radial pressures of the lower end of the center shaft.

3,451,736
ANTIROTATION MEANS

Donald R. Riccio, Milan, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,714
Int. Cl. F16c *33/30, 33/00;* **B21d** *53/12*
U.S. Cl. 308—236 **3 Claims**

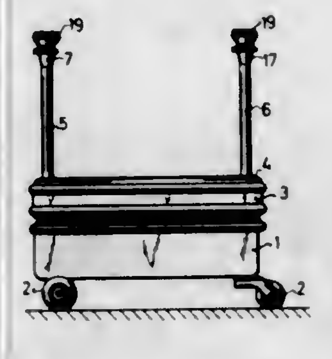


A bearing having two narrow bands of serrations on is outer race which are spaced below the outer surface

of the outer race. The bearing is mounted in a bore and a plastic is injected between the mounting bore and the serrations. When the plastic hardens, the bearing outer race is keyed within the bore both axially and circumferentially. By maintaining the bands of serrations relatively narrow, the bearing may also be mounted in a conventional manner.

3,451,737
TOOL CARRIAGE PARTICULARLY FOR REPAIR SHOPS OR THE LIKE

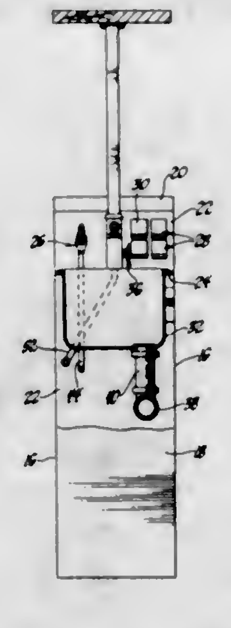
Alfred Zerver, Remscheid, Germany, assignor to Hazet-Werk Hermann Zerver, Remscheid-Vieringhausen, Germany, a corporation of Germany
Filed Sept. 5, 1967, Ser. No. 665,636
Claims priority, application Germany, Sept. 6, 1966, H 60,421
Int. Cl. A47b *53/00, 77/04*
U.S. Cl. 312—201 **2 Claims**



A tool carriage, particularly for repair shops or the like, which comprises a rollable ground box, a liftable cover mounted on the tool carriage. At least one column supports the cover, and at least one intermediate bottom is disposed between the ground box and the cover. Means are provided which permit removal of the column from the ground box.

3,451,738
SCIENCE FURNITURE

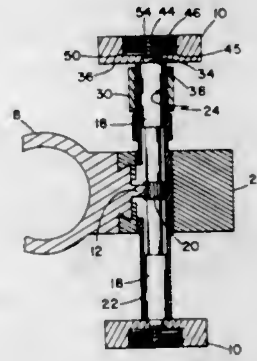
James W. Hobson, Los Angeles, Calif., assignor to Oakland Community College, Bloomfield Hills, Mich., a corporation of Michigan
Filed Aug. 17, 1967, Ser. No. 661,343
Int. Cl. A47b *81/00;* **B01l** *9/02*
U.S. Cl. 312—209 **13 Claims**



A laboratory service core of modular construction in which a generally rectangular cabinet is provided with a recess in the upper surface thereof. Disposed within the recess are like sets of utility supply facilities symmetrically located so that access may be had thereto from opposite sides of the cabinet. A vertically movable shelf has a first position covering the recess and a second position upwardly spaced therefrom to permit access.

3,451,739
ADJUSTABLE FRICTION SLIP DRIVE FOR MICROSCOPES

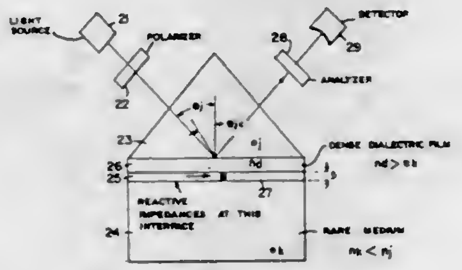
Robert C. Fitzgibbons, San Jose, Calif., assignor to Swift Instruments Inc., Boston, Mass., a corporation of Massachusetts
Filed Oct. 25, 1966, Ser. No. 589,374
Int. Cl. G02b *21/24*
U.S. Cl. 350—84 **4 Claims**



A microscope wherein a tapered, threaded split sleeve embraces a portion of the focusing shaft and a collar threaded on the sleeve is rotatable to compress said sleeve against the shaft with variable force to brake said shaft against rotation and including an adjustable friction drive connection between the focusing knob and focusing shaft adapted to slip to permit rotation of said knob without rotation of said shaft when the resistance to rotation of said shaft exceeds a predetermined amount.

3,451,740
MAGNETO-OPTICAL LIGHT SWITCH ENHANCED BY OPTICAL IMPEDANCE MATCHING DIELECTRIC OVERLAYERS

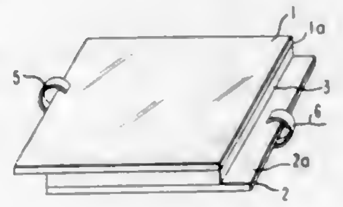
Donald O. Smith, Lexington, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 19, 1965, Ser. No. 448,961
Int. Cl. G02f *1/22*
U.S. Cl. 350—151 **6 Claims**



An apparatus for improving the mode conversion efficiency of the magneto-optical Kerr effects uses a very thin transparent magnetic film and a quarter-wave dielectric film optical impedance matching network positioned at the interface of an optical medium having a high index of refraction and an optical medium having a lower index of refraction to obtain minimum optical loss and maximum magneto-optical coupling by means of total internal reflection of polarized light incident at an angle slightly greater than the critical angle for total reflection to obtain stable reactive optical surface impedances.

3,451,741
ELECTROCHROMIC DEVICE

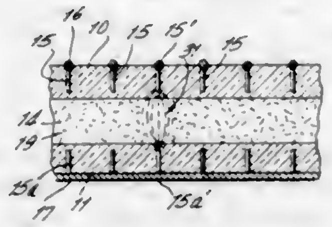
Philip Manos, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 15, 1966, Ser. No. 557,669
Int. Cl. G02f *1/36*
U.S. Cl. 350—160 **11 Claims**



1. A color-reversal electrochromic device comprising:
(A) a unit cell defining a volume having a front transparent area electrode spaced from a facing back area electrode,
(B) means for applying a color-forming potential across said cell with means for reversing electrode polarity,
(C) an electrolytically-conductive color change composition occupying said volume which comprises:
  (1) a reductant/oxidant pair where
    (a) said reductant is a member of a redox couple, that is, said reductant is anodically oxidizable and cathodically regeneratable,
    (b) said oxidant is a member of a redox couple, that is, said member is cathodically reducible and anodically regeneratable,
    (c) at least one of said redox couples is a color change couple, that is, the redox members are differently colored,
  (2) a color control means for preventing visual observation of the redox couple's colored species at the back electrode when the colored species is being electrolytically decolored at the front electrode, and
  (3) a fluid electrolyte which
    (a) solubilizes color-imparting amounts of said redox components
    (b) is inert to the electrodes and the redox components, and
    (c) exclusive of the redox components does not electrolyze in preference to the redox components at color-forming potentials.

3,451,742
MULTIPLE IRIS RASTER

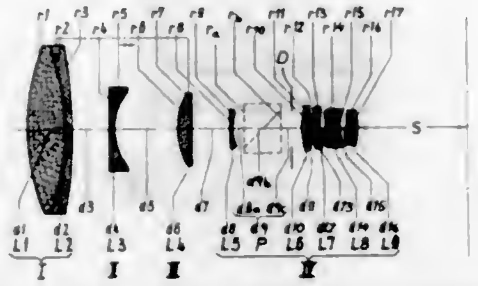
Alvin M. Marks, 153—16 10th Ave., Whitestone, N.Y. 11357
Filed July 25, 1966, Ser. No. 567,456
Int. Cl. G02f *1/36*
U.S. Cl. 350—160 **12 Claims**



1. A multiple iris raster comprising; a first transparent nonconductive plate forming one boundary of the raster, a second transparent nonconductive plate uniformly spaced from the first plate and forming the other boundary of the raster, a nonconductive transparent fluid held between said first and second plates, a plurality of dipole particles in said fluid, a plurality of spaced parallel conductive electrodes secured to said first plate with means for connection to an external circuit, a plurality of spaced parallel conductive electrodes secured to said second plate and perpendicular to the electrodes secured to said first plate with means for connection to an external circuit, and a plurality of conductive pins secured in the first and second plates, each of said pins positioned along said electrodes and in contact therewith, each of said pins mounted normal to the surface of said plates and each pin in one plate mounted opposite to a pin in the other plate.

3,451,743
OPTICALLY COMPENSATED VARIFOCAL OBJECTIVE

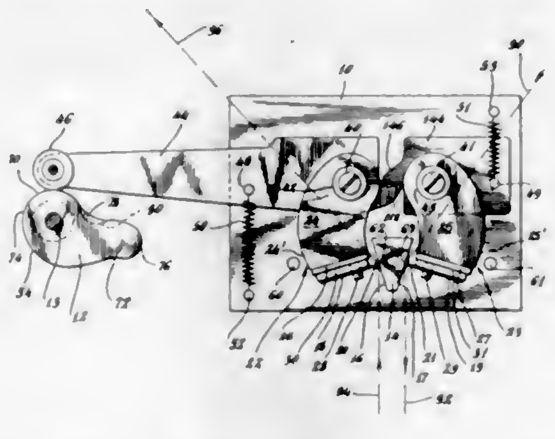
Karl Macher, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co. Optische Werke Kreuznach, Bad Kreuznach, Germany, a corporation of Germany
Filed Dec. 27, 1965, Ser. No. 516,372
Claims priority, application Germany, Dec. 28, 1964, Sch 36,311
Int. Cl. G02b *15/00*
U.S. Cl. 350—176 **4 Claims**



A four-component optically compensated variable-focal-length objective is disclosed. The first and third components are positive and ganged together for concurrent axial displacement. The other components are stationary, the second being negative and the fourth comprising a front negative element to render the preceding portion of the objective nearly a focal and a basic objective member. Varifocal ratios of up to 1:3 with numerical apertures of up to 1.8 are achieved. Four embodiments are disclosed.

3,451,744
SELF-ADJUSTING SLIT MECHANISM

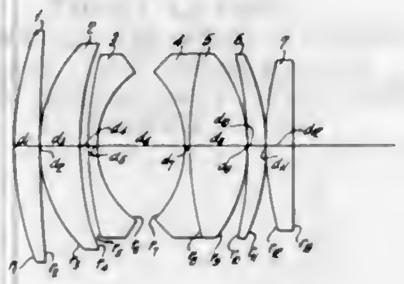
Charles F. De Mey II, West Redding, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed June 17, 1966, Ser. No. 558,481
Int. Cl. G02f *1/30*
U.S. Cl. 350—271 **7 Claims**



1. A self-adjusting optical slit mechanism of variable width, comprising:
means defining a variable position slit jaw;
actuating means for moving said slit jaw means, including a slippable connection having substantial drag between said slit jaw and said actuating means;
means for limiting movement of said slit jaw in a relatively open extreme;
standard position means for limiting movement of said slit jaw in a relatively closed extreme;
moving means for moving said actuating means and for forcing said actuating means to move relative to said slit jaw through said slippable connection when the movement of said slit jaw reaches the open or closed extreme;
whereby said slit jaw means and said actuating means are caused to assume a known standard position relative to each other, so that subsequent movement of said actuating means will cause movement of said variable position slit jaw means in a precisely known tracking manner.

3,451,745
LARGE APERTURE SEVEN-LENS OBJECTIVE LENS SYSTEM

Tomokazu Kazamaki and Yasuo Takahashi, Tokyo-to, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan
Filed Feb. 28, 1966, Ser. No. 530,418
Int. Cl. G02b *9/62, 1/00*
U.S. Cl. 350—176 **1 Claim**



A large aperture objective lens system of focal length F includes seven successive lenses dimensioned and related to satisfy the following conditions:

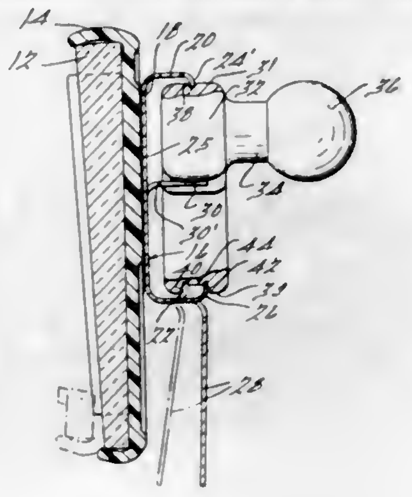
$1.75 \leqq N_1, N_2, N_5, N_6, N_7 \leqq 1.85$
$1.65 \leqq N_3 \leqq 1.75$
$1.58 \leqq N_4 \leqq 1.75$
$F_{1,2} \geqq F/1.55$
$F_{1,2,3} \leqq F/0.32$
$F_{1,2,3,4,5} \geqq F/0.35$
$F/0.65 \leqq F_{1,2,3,4,5,6} \leqq F/0.5$
$0.98 \geqq N_4/N_5 \geqq 0.85$
$0.4F \geqq r_6 \geqq 0.3F$
$0.8F \leqq r_8 \leqq 3.5F$
$0.85F \leqq l \leqq 1.2F$

wherein F1, 2 - - - *n* is the focal length of the first to the *n*th lens, 1 is the length of the lens system and the confronting faces of the fourth and fifth lenses are joined to form a unit surface.

3,451,746
MULTIPLE POSITION DAY-NIGHT REAR VIEW MIRROR ASSEMBLY

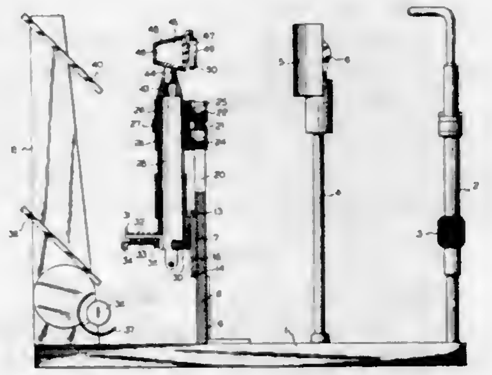
Joseph G. Madge, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,851
Int. Cl. G02b *17/00*
U.S. Cl. 350—281 **8 Claims**

A multiple position rear view mirror assembly including a mirror operatively connected to a resilient, jaw-like clamp for movement therewith, said clamp gripping a mounting member, and a manually operable tab extending from said clamp for overcoming the resilient force of said clamp to adjust the gripping position of said clamp on said mounting member.



3,451,747
APPARATUS FOR MEASURING AND RECORDING THE PUPILS OF THE EYES

Kurt Kirchhubel, Dutenhofen, kreis Wetzlar, Germany, assignor to Oculus-Optikgerate G.m.b.H., Wetzlar, Germany
Filed Apr. 20, 1965, Ser. No. 449,531
Claims priority, application Germany, Apr. 24, 1964, O 10,104
Int. Cl. A61b *3/10*
U.S. Cl. 351—5 **4 Claims**

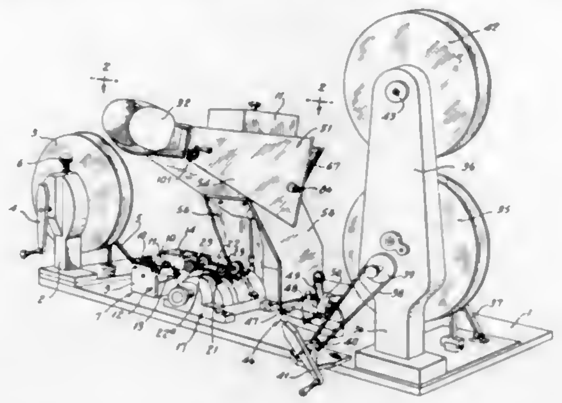


A device for measuring and recording the position of the pupils of a prospective spectacle wearer on a measuring sheet having a frame with a support for the head of the wearer and a measuring sheet having a marking line with two rulers mounted parallel to the marking line. Adjustment means for the rulers and a marking stylus are provided with a system of mirrors on the frame.

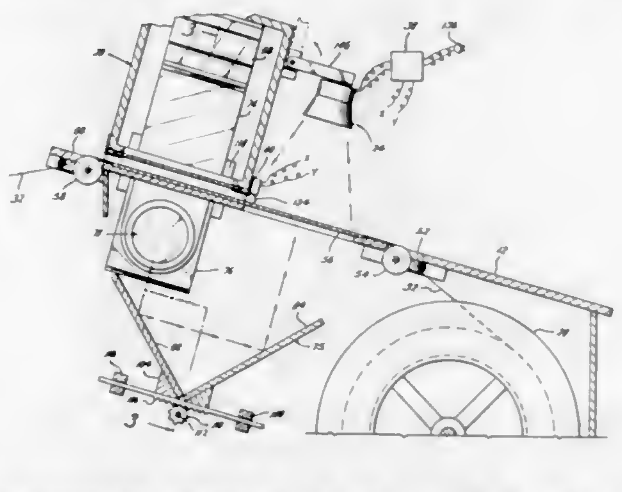
3,451,748
METHOD AND APPARATUS FOR EFFICIENTLY SEGREGATING UNWANTED FILM PRIOR TO PROCESSING

Sol Halprin, Beverly Hills, and Morris A. Smith, Los Angeles, Calif., assignors to Twentieth Century-Fox Film Corporation, New York, N.Y., a corporation of New York
Filed Mar. 30, 1967, Ser. No. 627,059
Int. Cl. C03b *19/18, 21/32;* **G03c** *11/00*
U.S. Cl. 352—38 **10 Claims**

A method and apparatus operable in the dark for segregating unwanted sections of unprocessed exposed negative motion picture film from wanted sections thereof where such film is fed from a take-off roll past a notch sensing buzzer, a film footage counter and a severing knife and splicer to take-up reels for the segragated sections. In this way subsequent processing is limited to the "wanted" sections. The film footage counter has an indicator within a viewing box which is lighted interiorly so that the operator can view the footage indicator while also viewing the film control card which shows him the disposition to be made of the film sections. Such viewing is done without exposing the film to any light, all the while the operator is winding a section of film up on one of the take-up reels and is listening for the sound of the buzzer responsive to the notches in the film edge denoting precise boundaries of film sections.



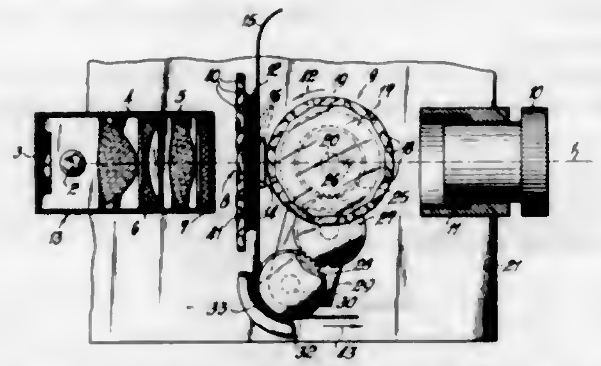
3,451,749
ANIMATION DEVICE
Frederick R. Blattner, 2227 Bellefontaine,
Houston, Tex. 77025
Original application Jan. 9, 1964, Ser. No. 336,827, now Patent No. 3,350,158, dated Oct. 31, 1967. Divided and this application Apr. 20, 1967, Ser. No. 665,651
Int. Cl. G03b *21/38*
U.S. Cl. 352—87 9 Claims



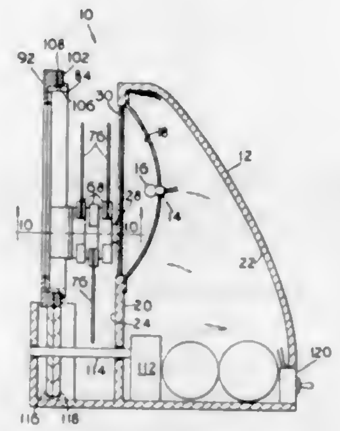
An animation device including a roll of tape and an image transmission system whereby a previously drawn scene on the tape is transmitted to a new section of tape so that further subsequent scenes may be traced with appropriate modifications for animation purposes. Various attachments and modifications may be added for transcribing, viewing and projecting, distorting, and supplementing the animation produced by this technique.

3,451,750
MOTION PICTURE PROJECTOR
Leon W. Wells, Closter, N.J., and Fritz Determann, Braunschweig, Germany, assignors to Panopix Research, Inc., New York, N.Y., a corporation of New York
Filed Mar. 28, 1967, Ser. No. 626,527
Int. Cl. G03b *41/08*
U.S. Cl. 352—117 11 Claims

A motion picture projector having a light source, condenser system and objective lens with a wall extending across the optical axis formed with an aperture through which the optical axis passes. A continuously moving film is transported past the aperture. A rotary polygonal prism is situated on the objective side of the film for the purpose of compensating for movement of the images resulting from the continuous transportation of the film strip. Between the film and the condenser system is located a rotary ring of lenses for maintaining the light source stationary with respect to the projected image. The film movement, rotation of the polygonal prism and rotation of the ring of lenses are mechanically coordinated so that during the movement of one frame of film past the aperture, the polygonal prism will rotate through one face and the ring of lenses will advance one step.



3,451,751
DISPLAY LIGHT
Malcolm D. Stock, 157—27 89th St.,
Howard Beach, N.Y. 11414
Filed Oct. 31, 1966, Ser. No. 595,561
Int. Cl. G03b *21/14*
U.S. Cl. 353—20 10 Claims

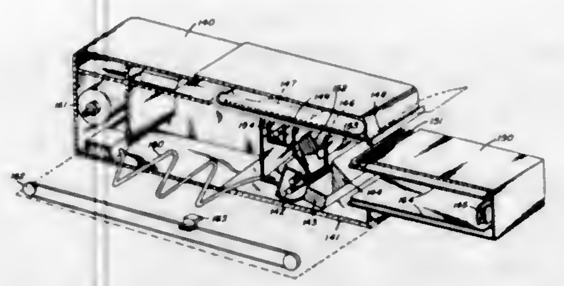


A display device comprising a first polarizing screen adapted to be rotated, a plurality of rotatable holding elements mounted on the housing, the rotatable holding elements adapted to releasably receive birefringent elements. A plurality of spindle gears respectively connected to said plurality of holding elements for providing a continually variable rotatable ratio of birefringent elements, the birefringent elements being in close spaced rotatable relationship. A second polarizing screen adapted to rotate, and a light source providing light which passes through the rotatable first and second polarizing screens and rotatably mounted birefringent elements thereby creating design and color changes.

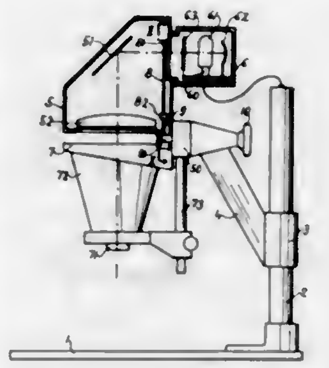
3,451,752
COMPACT DOCUMENT COPIER
Lee F. Frank, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 8, 1966, Ser. No. 556,107
Int. Cl. G03g *15/04*
U.S. Cl. 355—8 7 Claims

A document copier of the xerographic type wherein an optical system and xerographic charging, toning and

fusing means are carried on a common reciprocatable member. The member is simultaneously traversed across a document and an image-receiving sheet to produce a fully developed, right-reading, reproduction of the document on the image-receiving sheet.

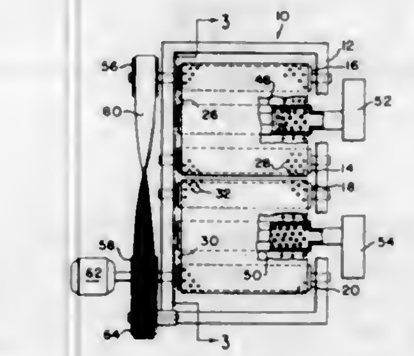


3,451,753
PHOTOGRAPHIC PROJECTION PRINTER
Miroslav Bures and Frantisek Bouchal, Prerov, Czechoslovakia, assignors to Meopta, národní podnik, Prerov, Czechoslovakia
Filed Apr. 26, 1967, Ser. No. 633,818
Claims priority, application Czechoslovakia,
May 6, 1966, 3,056/66
Int. Cl. G03b *27/32, 27/54*
U.S. Cl. 355—67 7 Claims



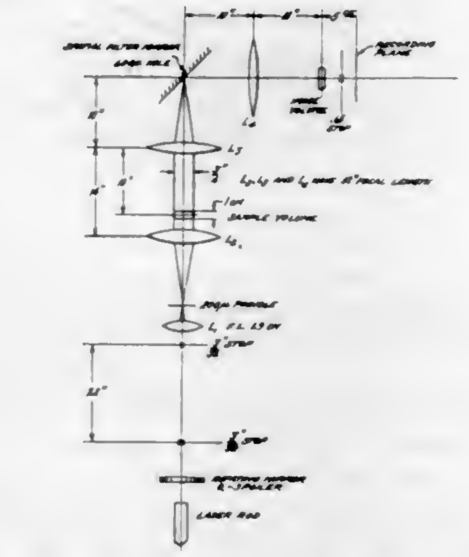
A projection printer or enlarger whose head can be pivoted about a horizontal axis for horizontal or vertical projection, and whose lamp housing is rotatable on the head about a horizontal axis perpendicular to the optical axis of the objective. A linkage connects the lamp housing to the fixed support structure of the enlarger to rotate the lamp housing on the head when the latter is pivoted so that the lamp in the housing maintains its proper vertical position.

3,451,754
SYNCHRONOUS PAPER FEEDING MECHANISM
Robert H. Prew, Amherst, N.H., assignor to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 603,039
Int. Cl. G03b *27/60*
U.S. Cl. 355—73 1 Claim



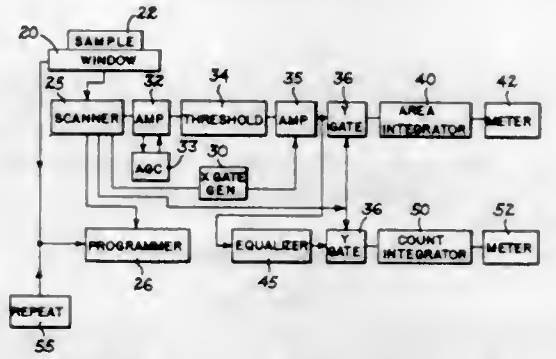
This invention features a synchronous paper feeding mechanism for use with a high aperture reflection copying system having a narrow depth of field. The mechanism includes a pair of perforated conveyor belts which carry the sensitized image-receiving copy sheet and master sheet past a reflection lens system, and a pair of vacuum boxes positioned behind the respective belts for securing the sheets to the belts opposite the lens system and holding the sheets within the depth of field of the lens.

3,451,755
PARTICLE SIZE AND DISTRIBUTION ANALYSIS USING SPATIAL FILTERING TECHNIQUES
Bernard A. Silverman, Natick, Brian J. Thompson, Chelmsford, and George B. Parrent, Jr., Carlisle, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 5, 1964, Ser. No. 387,816
Int. Cl. G01n *15/02;* **G02b** *5/18;* **G06k** *9/08*
U.S. Cl. 356—102 2 Claims



A system for measuring the size and distribution of atmospheric particles without disturbing the particles in which a pulsed ruby laser is focused on a pinhole, recollimated, and directed through the sample. Spatial filtering to remove the background is performed by an inclined mirror having a small opening, and the results are photographed in synchronization with the pulsed laser.

3,451,756
APPARATUS FOR MEASURING THE TRASH CONTENT OF RAW COTTON
Clinton J. T. Young, Alexandria, Va., assignor to Outlook Engineering Corporation, Alexandria, Va., a corporation of Virginia
Filed Apr. 23, 1964, Ser. No. 361,958
Int. Cl. G01n *21/16, 21/32, 21/48*
U.S. Cl. 356—237 15 Claims



An optical-electronic instrument for measuring the trash content of raw cotton includes a scanner and a photo-electric transducer. All areas darker than a preselected threshold level are counted as cotton trash and all trash areas that pass this threshold are given the same weight, irrespective of variations in darkness. Discrimination between trash and background is made on the basis of absolute reflectivity rather than contrast. Standardization areas are included in each scan and compared with interscan black to form reference levels used for internally stabilizing the output. A calibration area is scanned prior to traverse for calibrating the output of instrument.

3,451,757

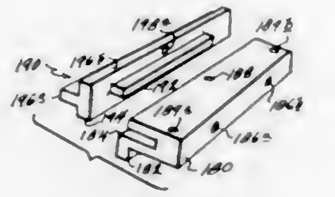
MECHANICAL FLOATING TOOL FOR MASTIC AND THE LIKE

Herbert O. Stroud and Carroll P. Vaughan, Canyon, Tex.; said Stroud assignor to B. O. Broome, Panola, and said Vaughan assignor of twenty-five percent to J. C. Richardson, Jr., and James F. Smith, Jr., Amarillo, Tex.

Filed Nov. 16, 1967, Ser. No. 683,567

Int. Cl. E04f *21/08*

U.S. Cl. 401—139 2 Claims



A device for spreading semi-fluid mastic and like material which includes a dispensing chamber, means for forcing material from the dispensing chamber to a work surface and a spreader which includes an X-shaped blade member which is secured in a bracket at the center and which is resiliently deformed at the ends to feather the edges of the material being applied to the surface and a spreader blade which is grooved to provide even distribution of material on the surface are disclosed.

3,451,758

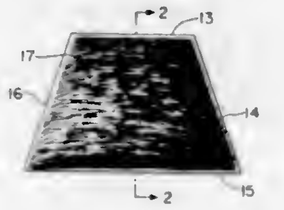
TRAPEZOIDAL SCOURING PAD OF NON-WOVEN FIBROUS MATERIAL

Herbert K. McClain, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 11, 1966, Ser. No. 549,248

Int. Cl. A47l *17/08*

U.S. Cl. 401—201 7 Claims



A scouring pad comprising non-woven, non-absorbent fibers in three dimensional open arrangement having a plan view shape of a trapezoid. Preferably the pad is made of thermo-plastic synthetic fibers and contains a detergent cake.

3,451,759

NONINTERFERING SPARK IGNITER AND ULTRA-VIOLET SENSITIVE FLAME DETECTOR

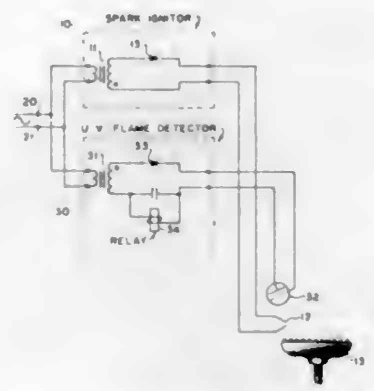
Robert O. Engh, Hopkins, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 679,065

Int. Cl. F23n *5/08;* **G01t** *1/16;* **H01j** *39/12*

U.S. Cl. 431—79 5 Claims

A spark igniter and ultraviolet sensitive flame detector are energized from a common source of AC voltage by means of diodes which render the igniter and detector operative on opposite half cycles of the AC source, to prevent interference between the ultraviolet radiation present in the spark and in a flame.



3,451,760

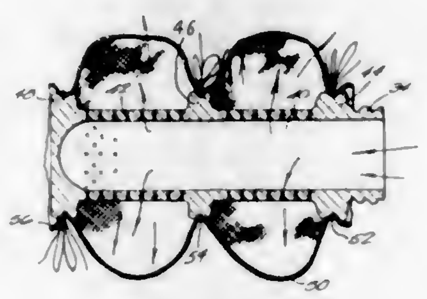
GAS MANTLE HOLDER

Enrique L. Laguinia, 1019 Ongpin St., Manila, Philippines

Filed Aug. 24, 1967, Ser. No. 662,915

Int. Cl. F21h *7/00*

U.S. Cl. 431—112 1 Claim



A gas mantle holder having a hollow material body adapted to be inserted into a conventional lamp receptacle, the body having perforations for the passage of gas, land portions said body, and a mantle supported from said land portions.

3,451,761

CIGARETTE LIGHTER

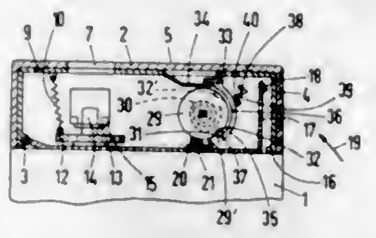
Helmut Bross, Biberttalstrasse 24, Altenberg near Nuremberg 2, Germany

Filed July 25, 1967, Ser. No. 655,786

Claims priority, application Germany, July 25, 1966, B 88,162; Oct. 7, 1966, B 89,238

Int. Cl. F23q *2/08*

U.S. Cl. 431—131 23 Claims



A cigarette lighter in which the ignition means are mounted in the cover and adapted to be operated by lifting or pivoting the cover for a certain distance from the lower part of the lighter, and in which the cover is provided with a flame outlet opening through which the flame passes to the outside when the cover is so lifted or pivoted.

CHEMICAL

3,451,762

PROCESS FOR THE CONTINUOUS COLORING OF FIBRES MADE FROM NATURAL OR SYNTHETIC POLYAMIDES OR OF MATERIALS CONTAINING FIBRES OF THIS TYPE

Udo Winfried Hendricks, Cologne-Stammheim, Ergun Tamer, Bergisch Neukirchen, Mathieu Quaedvlieg, Opladen, Hans Klapper, Leverkusen, and Gunther Boehmke and Otto Schneider, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer, a corporation of Germany

No Drawing. Filed July 9, 1965, Ser. No. 470,901

Claims priority, application Germany, July 25, 1964, F 43,579

Int. Cl. D06p *3/24, 1/10*

U.S. Cl. 8—39 12 Claims

A dye bath preparation and process for continuously coloring natural or synthetic polyamides by dyeing said material in a dye bath containing an active amount of a sulfonated aryl ether of a polyethylene glycol, the corresponding ethanolamine salts of the sulfonate or the corresponding reaction product of the sulfonated polyglycols.

3,451,763

CELLULOSE-CONTAINING FABRICS AND PROCESS THEREFOR

Ernst Weiss, Wattwil, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 6, 1964, Ser. No. 350,095

Claims priority, application Switzerland, Mar. 8, 1963, 2,994/63

Int. Cl. D06m *9/14*

U.S. Cl. 8—115.7 19 Claims

1. A process for producing a fabric with high wet- and dry-crease recovery angles which comprises impregnating a cellulose-containing fabric with a first aqueous solution containing at least one cellulose cross-linking agent and at least one salt which causes cellulose to swell, said salt being selected from the group consisting of zinc chloride, zinc thiocyanate, potassium thiocyanate, and lithium bromide in an amount at least about 5% by weight, curing said fabric at a temperature in the range of from about 60° to about 140° C., washing and drying said fabric, impregnating the dried fabric with a second aqueous solution containing at least one cellulose cross-linking agent, curing said fabric at a temperature of at least about 130° C., and washing and drying said fabric.

3,451,764

PREPARATION OF NEW TUNGSTIC ACIDS

Dalton C. MacWilliams, Alamo, Calif., and Robert D. Hansen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,302

Int. Cl. C01g *41/00*

U.S. Cl. 23—51 7 Claims

New fine-particle sized tungstic acids having the formula $H_{2-a}(NH_4)_aWO_4 \cdot xH_2O$ wherein a has a value between 0.1 and 0.3 and x has a value between 0 and 2 are claimed. Also methods of preparation of such tungstic acids by reaction between a tunstate salt dissolved or dispersed in water and a strongly acidic acid-form cation exchange resin or ammonium salt thereof under conditions to give the new tungstic acids are claimed.

3,451,765

METHOD OF TREATING SPENT PULP LIQUOR BY ADDING GAS-EVOLVING METALS THERETO

Frederick A. Schleindl, % Pyrochemical Corporation, 50 E. 42nd St., New York, N.Y. 10017

No Drawing. Filed Mar. 25, 1964, Ser. No. 354,774

Int. Cl. D21c *11/12*

U.S. Cl. 23—48 10 Claims

1. The method of treating spent liquors from pulp making, comprising the step of adding a finely divided gas-evolving material containing at least one metal above hydrogen in the electromotive series to the spent liquor, whereby said material evolves a gas when mixed with the spent liquors and lowers the viscosity thereof.

3,451,766

PROCESS FOR CONCENTRATING SODIUM DICHROMATE SOLUTIONS

Heinrich Schafer, Cologne-Flittard, and Paul Henkel and Martin Weist, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 280,444, May 14, 1963. This application Oct. 20, 1966, Ser. No. 588,000

Claims priority, application Germany, May 17, 1962, F 36,830

Int. Cl. C01g *37/14*

U.S. Cl. 23—56 15 Claims

1. Process for concentrating sodium dichromate solution which has been obtained by the reaction of sodium monochromate solution with sulfuric acid, which comprises adjusting sodium dichromate dilute solution containing up to about 600 g./l. of $Na_2Cr_2O_7 \cdot 2H_2O$ and up to about 300 g./l. of Na_2SO_4 to an enriched concentration of at least about 800 g./l. of $Na_2Cr_2O_7 \cdot 2H_2O$ to precipitate concomitantly a substantial portion of the Na_2SO_4 content thereof by the step of adding to said dilute solution more highly concentrated sodium dichromate enriching solution having a concentration correspondingly substantially above 800 g./l. of $Na_2Cr_2O_7 \cdot 2H_2O$ in an amount sufficient to provide in the resultant enriched solution said concentration of at least about 800 g./l. of $Na_2Cr_2O_7 \cdot 2H_2O$, concentrating resultant enriched solution obtained from the adding step by the step of evaporating such obtained resultant solution to precipitate concomitantly the remainder substantially of the Na_2SO_4 content thereof, and recovering so-evaporated resultant solution from the evaporating step.

3,451,767

PROCESS OF PREPARING ANHYDROUS SODIUM CARBONATE FROM CRUDE SODIUM BICARBONATE

Walter C. Saeman, Orange, and Judson A. Wood, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation

Filed May 19, 1966, Ser. No. 551,334

Int. Cl. C01d *7/12*

U.S. Cl. 23—63 16 Claims

Crude sodium bicarbonate is mixed with a recycle aqueous stream containing suspended crystals of anhydrous sodium carbonate at 120° to 250° C. and at 60 to 300 p.s.i.a. to produce decomposition gases and to enrich the recycle stream in suspended crystals of anhydrous sodium carbonate. Anhydrous sodium carbonate crystals are separated and the recycle stream is regenerated.

3,451,768

PREPARATION OF DELTA FORM CRYSTALLINE TITANIUM TRICHLORIDE

Luciano Luciani and Gianfranco Corsi, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed June 11, 1965, Ser. No. 463,359
Int. Cl. C01g *23/02*
U.S. Cl. 23—87 **5 Claims**

Highly active delta form crystalline $TiCl_3$ composition produced by reduction of titanium tetrachloride with aluminum metal in the stoichiometric ratio of 3 mols of $TiCl_4$ per gram-atom of aluminum metal, in the absence of any diluent, the reduction process being carried out in a ball mill, using balls having a selected diameter in the range of from 14 to 27 mm., the operating conditions of the ball mill being selected so that the value of the ratio

$$(K_s+K_t)\cdot\frac{K_s}{K_t}\cdot\frac{D}{d}\cdot n^2$$

wherein K_s is the ratio between the weight of the balls in kg. and the volume of the ball mill in liters; K_t is the ratio between the weight of $TiCl_4$ in kg. and the volume of the mill in liters; D is the diameter of the ball mill in centimeters; d is the diameter of the balls in centimeters; and n is the speed of rotation of the mill in r.p.m.; is between 2.5×10^6 and 8.5×10^6, and at a temperature of from 100° C. to 250° C. up to a conversion higher than 85%, the process being completed at a temperature lower than 100° C.

3,451,769

METHOD OF PRODUCING AMMONIUM SALTS AND IRON OXIDE FROM WASTE PICKLE LIQUOR

Hisashi Kishitaka and Yoshihisa Shimamura, Chiba-shi, and Shinya Takata, Tsuyama-shi, Japan, assignors to Kawasaki Steel Corporation, Hyogo-ken, Japan, and Meiwa Chemical Engineering Co., Ltd., Okayama-ken, Japan, a corporation of Japan
Filed Nov. 24, 1965, Ser. No. 509,564
Int. Cl. C01c *1/24;* **C01g** *49/08*
U.S. Cl. 23—100 **11 Claims**

Ammonium salts and ferroso-ferric oxide are recovered from waste pickling liquor by preoxidizing a portion of the waste pickle liquor using free oxygen and NO_2 gas as a catalyst and subsequently combining the preoxidized solution with the remaining unoxidized waste pickle liquor, neutralizing the resultant combination with ammonia and thereafter separating a ferroso-ferric oxide from the ammonium salts.

3,451,770

PROCESS FOR THE PREPARATION OF POTASSIUM SULFATE FROM KAINITE

Alberto Scarfi and Emanuele Gugliotta, Siracusa, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
Filed May 17, 1967, Ser. No. 639,130
Claims priority, application Italy, May 18, 1966, 11,344/66
Int. Cl. C01d *5/00*
U.S. Cl. 23—121 **6 Claims**

Raw kainite is leached at temperatures greater than 90° C. with an epsomite brine into a langbeinite slurry, a portion which is thence reacted with a schoenite brine, whereby there results potassium chloride and epsomite which are separated from each other and an epsomite brine. A portion of the potassium chloride is reacted with magnesium sulfate in the presence of a sulfate brine thus affording schoenite and a schoenite brine which is recycled and the remaining potassium chloride is reacted with said schoenite in the presence of water, whereby there are obtained potassium sulfate and sulfate brine.

3,451,771

PREPARATION OF FERROMAGNETIC CrO_2 BY HEATING CrO_3 IN THE PRESENCE OF O_2 AND Cr_2O_3

Norman L. Cox, Claymont, and William T. Hicks, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 27, 1966, Ser. No. 589,862
Int. Cl. C01g *37/02;* **H01f** *1/34*
U.S. Cl. 23—145 **5 Claims**

Preparation of ferromagnetic CrO_2 by heating CrO_3 at 0.5–5 atmospheres and at 200–350° C. in the presence of oxygen and chromium sesquioxide, the sesquioxide being made by drying chromium (III) hydroxide or hydrated chromium sesquioxide at 200–650° C.

3,451,772

PRODUCTION OF ULTRAPURE TITANIUM NITRIDE REFRACTORY ARTICLES

Neale R. McCabe, Sanborn, and Michael L. Pearce, Lewiston, N.Y., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 14, 1967, Ser. No. 646,050
Int. Cl. C01g *23/00;* **C04b** *35/58*
U.S. Cl. 23—191 **3 Claims**

Pure titanium nitride articles are formed by chemical vapor deposition of a coating upon a substrate that has the desired form of the article, by heating the substrate in a gas stream which consists of a mixture of hydrogen, titanium tetrachloride, and nitrogen for sufficient time to deposit the required amount of titanium nitride coating on the substrate, and subsequently destroying the substrate by chemical or physical means to leave the finished article in a free-standing state.

3,451,773

METHOD OF PRODUCING ELECTROMAGNESIA HAVING IMPROVED ELECTRIC INSULATING POWER

Hans Rudolf Müller, Ranzel, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Bezirk Troisdorf, Cologne, Germany, a corporation of Germany
No Drawing. Filed Mar. 7, 1966, Ser. No. 534,572
Claims priority, application Germany, Mar. 6, 1965, D 46,713
Int. Cl. C01f *5/02*
U.S. Cl. 23—201 **10 Claims**

Method for producing magnesium oxide having improved electrical insulating properties comprising heating magnesium oxide in a non-oxidizing gaseous medium or under vacuum.

3,451,774

METHOD OF PREPARING MAGNESIUM HYDROXIDE

Ivan M. Thompson and John Maskal, Ludington, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,480
Int. Cl. C01d *5/14*
U.S. Cl. 23—201 **3 Claims**

An improved method of preparing magnesium hydroxide formed from dolomitic stone and magnesium chloride-containing brine which comprises continued contacting of the precipitated product with the calcium chloride-containing mother liquor so as to slake the remaining magnesium oxide from the dolomitic stone to magnesium hydroxide. The present method produces a pumpable magnesium hydroxide slurry having a high solids content. The dried magnesium hydroxide product is characterized by unusually high surface area and periclase density.

3,451,775

PREPARATION OF ClF AND $ClSbF_6$

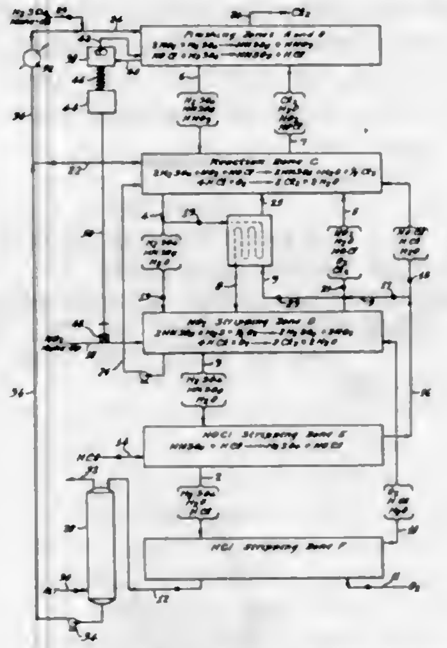
Albert W. Jache, North Haven, Santad Kongpricha, Hamden, and James J. Pitts, New Haven, Conn., assignors to Olin Mathieson Chemical Corporation
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,202
Int. Cl. C01b *7/24, 9/08*
U.S. Cl. 23—205 **1 Claim**

Chlorine monofluoride is prepared by thermal decomposition of its adduct with antimony pentafluoride, in turn obtained by the reaction of chlorine with liquid hydrogen fluoride in the presence of antimony pentafluoride. The improved process avoids the use of expensive elemental fluorine previously employed in the synthesis of chlorine monofluoride.

3,451,776

HALOGEN PRODUCTION

Christiaan P. van Dijk, Westfield, James P. van Hook, Basking Ridge, and Hulbert S. Jongenburger, Milltown, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Jan. 18, 1965, Ser. No. 426,026
Int. Cl. C01b *7/02, 7/10*
U.S. Cl. 23—219 **20 Claims**



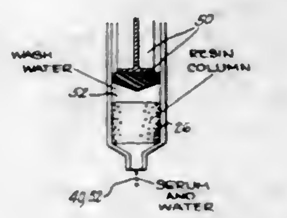
This invention relates to a process for oxidizing a hydrogen halide with oxygen which comprises effecting the reaction in the presence of an oxide of nitrogen catalyst and an excess of sulfuric acid having a concentration of at least 65 percent; in the reaction zone, simultaneously forming a gaseous halogen product and converting a major portion of the oxide of nitrogen to liquid nitrosyl sulfuric acid which, together with the liquid sulfuric acid, forms a liquid mixture; and separately recovering the gaseous effluent and the liquid mixture from the reaction zone. Additional advantages are provided by: (1) autoregenerating the nitrogen and sulfuric reactants; (2) maintaining oxide of nitrogen contaminant level in the gaseous effluent below 5 percent; (3) allowing not more than a 5 percent reduction in the concentration of sulfuric due to water absorption in the reaction zone; and (4) precontacting the gaseous reactants at a higher temperature than that maintained in the reaction zone.

3,451,777

METHOD AND APPARATUS FOR DETERMINING THE THYROID HORMONE CONTENT OF BLOOD

Walter Di Giulio, 539 Marion Ave.,
Ypsilanti, Mich. 48197
Filed Aug. 20, 1965, Ser. No. 481,327
Int. Cl. G01n *33/16*
U.S. Cl. 23—230 **9 Claims**

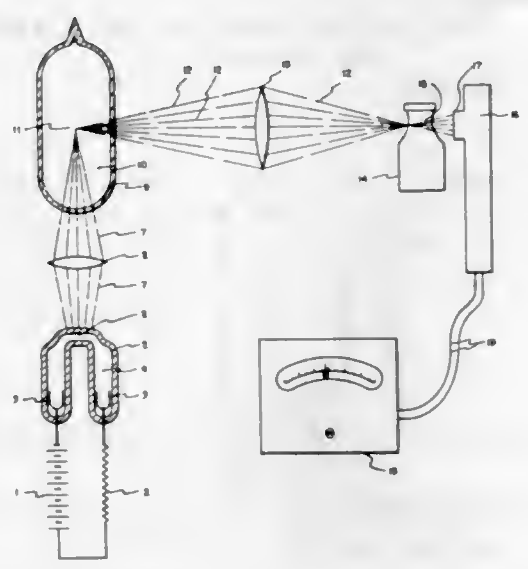
Method and apparatus for determining the thyroid hormone content of blood utilizing a granular resin having an affinity for a radioactive T_3 hormone. A predetermined amount of a radioactive T_3 hormone is mixed with a selected volume of a serum, and a measured quantity of the mixture is introduced into a column of the granular resin so that the mixture is completely contained within the column. An initial count of one minute of the radioactivity of the column containing the mixture is made in a conventional well counter. After a lapse of two minutes, wash water is expressed through the column by a plunger, and a final count of one minute of the column is again made in the conventional well counter. The T_3 resin uptake of the blood sample is determined by a comparison of the two readings.



3,451,778

METHOD OF LABELING

Robert E. Fearon, 530 S. Lewis Ave.,
Tulsa, Okla. 74104
Filed July 6, 1965, Ser. No. 469,678
Int. Cl. G01n *31/00*
U.S. Cl. 23—230 **6 Claims**



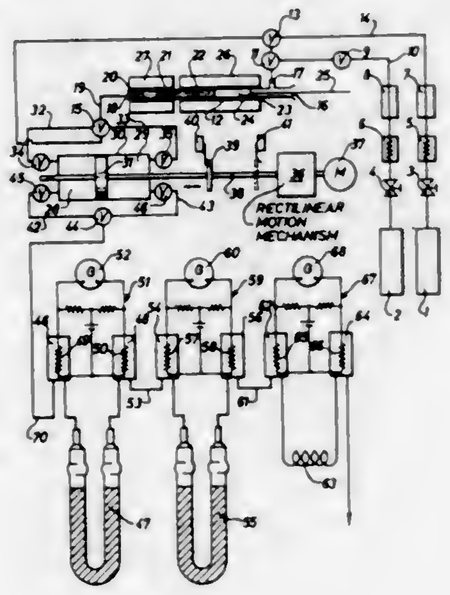
A method is taught for chemically "labeling" material such as chemical reagents, drugs, plastics, paints, lubricants, and the like, which comprises adding to such material a chemical compound of a noble gas and thereafter sensing, with respect to such material, a distinctive property of such chemical compound.

3,451,779

APPARATUS FOR ELEMENTARY ANALYSIS

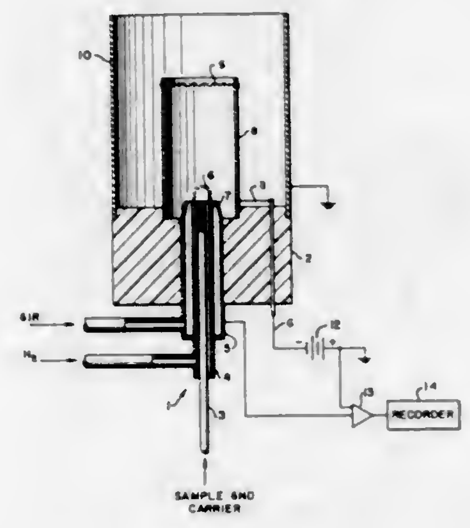
Keichiro Hozumi, Sakyo-ku, Kyoto, Japan, assignor to Yanagimoto Manufacturing Co., Ltd., Kyoto, Japan, a corporation of Japan
Filed Oct. 20, 1965, Ser. No. 498,344
Claims priority, application Japan, Dec. 2, 1964 (utility model), 39/93,530; June 30, 1965, 40/3,939
Int. Cl. G01n *31/12*
U.S. Cl. 23—253 **5 Claims**

Apparatus for analyzing organic elements comprising a chamber for effecting combustion of organic samples, means for pumping the combustion products and a carrier gas to gas analyzing means and means for analyzing the constituents of the combustion gas. The means for analyzing the constituents of the combustion gas include a water detector, a carbon dioxide detector and a nitrogen detector.



3,451,780
FLAME IONIZATION DETECTOR

Basil O. Prescott and Harold L. Wise, Houston, and Dwayne A. Chesnut, Bellaire, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 18, 1966, Ser. No. 528,602
Int. Cl. G01n *31/12*
U.S. Cl. 23—254 **8 Claims**

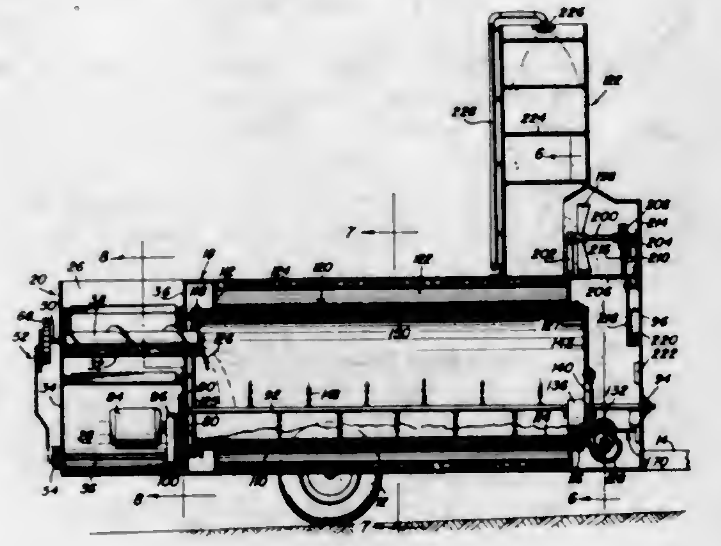


A flame ionization detector wherein the sensitivity is improved by generating an electric field about the flame and burner jet by means of an electrode located out of the path of the flame and hot combustion gases and to which is connected a source of DC voltage, and utilizing the burner jet of an electrode located thereat as the collector electrode.

3,451,781
MANURE DRYER UNIT

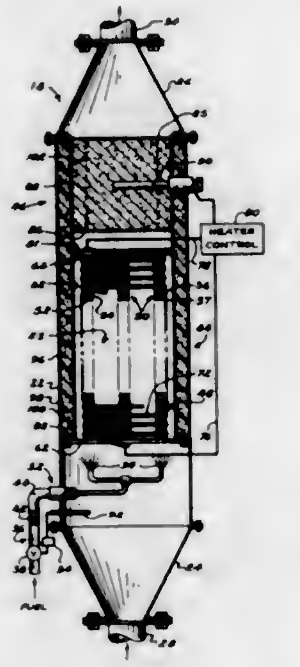
Richard Greene, 30 Park St., Spencer, N.Y. 14883
Filed Oct. 18, 1965, Ser. No. 497,372
Int. Cl. C05f *3/06*
U.S. Cl. 23—259.1 **15 Claims**

A mobile drying unit for converting wet manure into a dry, pelletized fertilizer. The manure is controllably fed from a hopper into one end of a tumbler rotated about an axis, the inclination of which is varied in accordance with the moisture content of the material discharged from the lower end of the tumbler. The material is agitated and heated as it progresses through the tumbler while volatiles are removed by a forced draft at the discharge end of the tumbler. The solid residue of the manure is then conveyed to a pelletizer.



3,451,782
CATALYTIC REACTOR

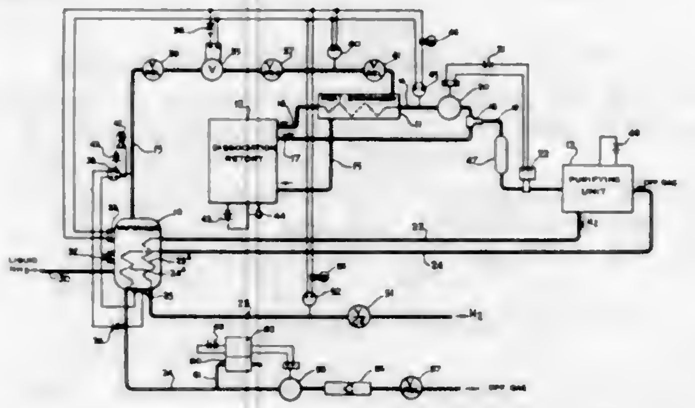
William Paul Jensen, Springfield, Va., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed May 14, 1965, Ser. No. 455,768
Int. Cl. B01j *7/00, 9/00*
U.S. Cl. 23—281 **1 Claim**



A catalytic reactor comprising a housing containing a bed of catalytic material, a gas inlet at the lower end thereof and an outlet at the upper end thereof. Oxygen-containing gas enters the housing at the lower end and is intermixed with an oxygen-combustible fuel, the flow rate of which is controlled to be less than the stoichiometric quantity corresponding to the available oxygen. Electrical heating elements are provided to preheat the gas-fuel mixture to a predetermined temperature prior to its passage through the bed of catalytic material. In order to control the energy input during preheating, a temperature-sensing means is inserted in the bed of catalytic material, and through suitable control means, varies the degree of gas-fuel mixture preheat.

3,451,783
HYDROGEN GENERATOR

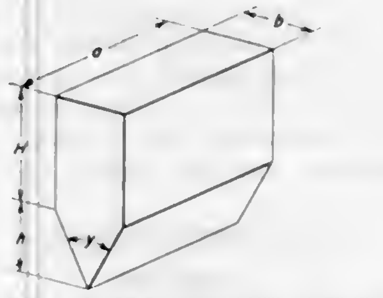
Martin F. Collins, Jersey City, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,435
Int. Cl. C01b *1/04;* **B01d** *53/22*
U.S. Cl. 23—281 **1 Claim**



A generator for producing hydrogen from ammonia comprising, a dissociation retort wherein ammonia is dissociated by application of heat, a purifying unit wherein hydrogen is separated from dissociated ammonia at a temperature lower than the temperature of the dissociated ammonia emerging from said retort, a first and a second conduit for conducting dissociated ammonia from the retort, means for cooling dissociated ammonia in the first conduit to a temperature lower than the temperature at which hydrogen is separated from dissociated ammonia in the purifying unit, means for combining dissociated ammonia from the first and second conduits in a proportion to produce a predetermined resultant temperature of the combination, a third conduit for conducting dissociated ammonia combined from the first and second conduits to the purifying unit, a catalytic oxygen removal means in the third conduit for the elimination of traces of oxygen which may be present in the dissociated ammonia passing through the third conduit, and means for conducting hydrogen and the remainder of the dissociated ammonia from the purifying unit through the vaporizer and out of the generator.

3,451,784
FLUIDIZED BED REACTOR

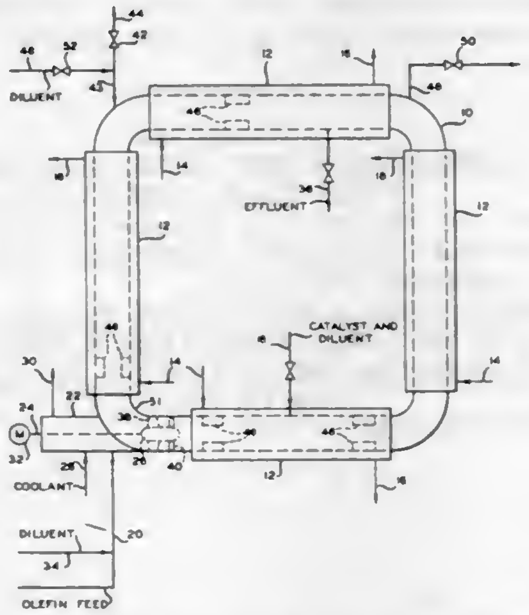
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Oct. 28, 1965, Ser. No. 505,555
Int. Cl. B01t *1/14, 1/00*
U.S. Cl. 23—284 **7 Claims**



A fluidized bed reactor having an upper portion and a lower portion, the upper and lower portion having equal lengths; considered from top to bottom, the width of the upper portion being substantially constant and the width of the lower portion decreasing; the vertical cross-section of the lower portion in a plane parallel to the width thereof being substantially triangular. In general, the upper portion of the vessel is in the form of a rectangular parallelepiped and the lower portion in the form of a triangular prism sharing a common base. Thus the volume of the lower portion of the vessel may be varied by varying its height while maintaining constant the horizontal cross-sectional area of the upper portion whereby the residence time of solids in the lower portion may be varied without changing gas flow rate within the reactor.

3,451,785
PRESSURE RELIEF SYSTEM FOR PRESSURE VESSELS

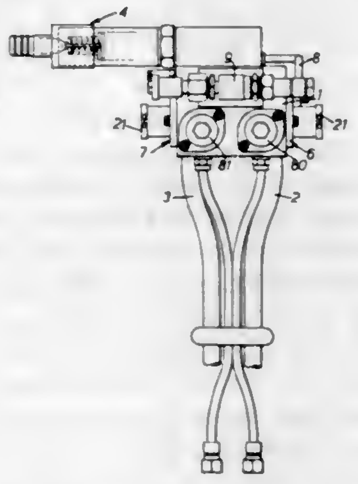
Raymond G. Rohlfing and Stanley J. Marwil, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Original application July 6, 1961, Ser. No. 122,282, now Patent No. 3,244,681. Divided and this application Oct. 15, 1965, Ser. No. 508,621
Int. Cl. B01j *3/00, 9/16*
U.S. Cl. 23—285 **5 Claims**



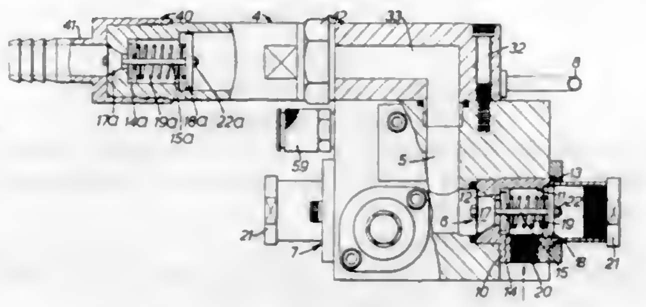
In a pressure vessel or reactor such as a polymerization loop reactor, a continuous flow of diluent is introduced into a conduit between the system relief valve and the reactor to prevent solids such as polymer from building up in and clogging the relief valve.

3,451,786
DEVICE FOR MIXING AND DISPENSING INGREDIENTS

Alan P. Perrin, Kenley, England, assignor to Perameters Company Limited
Filed Feb. 8, 1966, Ser. No. 525,935
Claims priority, application Great Britain, Feb. 11, 1965, 5,946/65
Int. Cl. B01j
U.S. Cl. 23—285 **9 Claims**



A dispenser for mixing and dispensing the ingredients for producing a foamed polyurethane body comprising a housing having a mixing chamber, an inlet thereto for a preexpanding agent, tt least two valved inlets thereto for a polyol, an isocyanate, and a catalyst, and a valved outlet from the chamber. The valves at the inlets and outlets operate so as to prevent expansion of the material in the housing with the outlet valve opening only at a pressure in excess of the pressure at which the preexpanding agent will volatilize. This abstract is intended neither to limit nor define the scope of the invention.



3,451,787

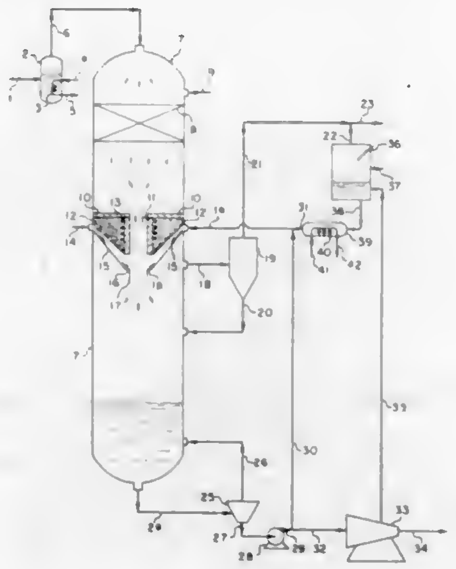
APPARATUS FOR CONDENSATION OF PURE SOLID MELAMINE

Jerome H. Marten, East Brunswick, N.J., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Original application Feb. 11, 1964, Ser. No. 344,020, now Patent No. 3,290,308, dated Dec. 6, 1966. Divided and this application Apr. 29, 1966, Ser. No. 546,408

Int. Cl. B01j *9/04*

U.S. Cl. 23—288 **6 Claims**



Apparatus is provided for condensation of pure solid melamine from a process gas stream containing melamine vapor. The process gas stream is passed downwards through a vertically oriented vessel provided with an internal substantially horizontal gas baffle which extends inwards from the wall of the vessel and preferably terminates at a central opening, from which a vertical baffle depends downwards to define a restricted gas flow path in which the gas stream is accelerated to high velocity. A layer of insulation is provided on the lower surface of the horizontal baffle and on the outer surface of the vertical baffle, to maintain the baffles at high temperature and prevent deposition of solid melamine. An aqueous quench liquor is projected substantially transversely into the high velocity gas stream below the lower terminus of the vertical baffle, and pure solid melamine free of melamine procursors or decomposition products is condensed into the aqueous liquor. Product pure solid melamine particles are removed from the resulting aqueous slurry.

3,451,788

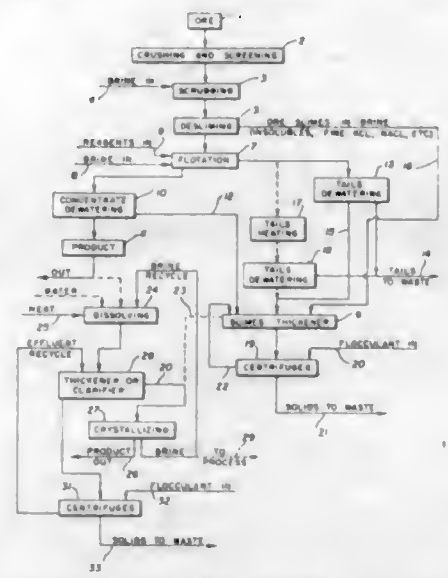
METHOD OF SLIMES ELIMINATION IN POTASH ORE TREATMENT

Randal E. Smith, Carlsbad, N. Mex., assignor, by mesne assignments, to Ideal Basic Industries, Inc., Denver, Colo., a corporation of Colorado

Filed Jan. 18, 1965, Ser. No. 426,258

Int. Cl. B01d *9/02;* **B03d** *3/06;* **C01d** *3/14*

U.S. Cl. 23—299 **7 Claims**



Sylvinite ore processing for sylvite recovery, including a desliming stage, thickening of the slimes material, passing the underflow of the thickening stage to a continuous centrifuging stage with flocculant introduction into the slimes material under treatment therein, thereby inducing high settling rates for contained clay producing clean separation from associated brine, and returning the centrate to another treatment stage.

3,451,789

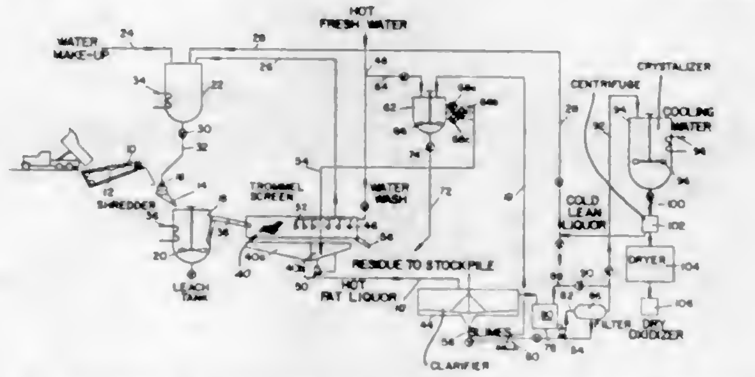
OXIDIZER RECOVERY PROCESS

Meldon J. McIntosh, North Ogden, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Apr. 21, 1965, Ser. No. 449,721

Int. Cl. C01b *11/18*

U.S. Cl. 23—302 **15 Claims**



A process for recovering oxidizers from solid propellant, safely and inexpensively. The propellant is reduced in size to expose crystals of oxidizer dispersed throughout said propellant, contacted with leach water to leach out oxidizer therefrom, and the oxidizer recovered from the leach water.

3,451,790

METHOD OF SEPARATING NEPTUNIUM AND URANIUM VALUES

Sidney Katz, Oak Ridge, and George I. Cathers, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 14, 1968, Ser. No. 728,911

Int. Cl. C01g *57/00*

U.S. Cl. 23—326 **9 Claims**

A method of separating neptunium values from a mixture containing neptunium hexafluoride together with

uranium hexafluoride comprising contacting said mixture with sodium fluoride at a temperature of 100° to 250° C., thereby sorbing these hexafluorides on the sodium fluoride, converting the neptunium to a state in which it is more strongly sorbed than uranium hexafluoride, and selectively desorbing the uranium hexafluoride by heating the sodium fluoride to a temperature of 250° to 350° C.

3,451,791

COBALT-BONDED TUNGSTEN CARBIDE

Geoffrey W. Meadows, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of applications Ser. No. 516,825, Nov. 24, 1965, and Ser. No. 582,924, Sept. 29, 1966. This application Aug. 16, 1967, Ser. No. 660,986

Int. Cl. B22f *3/00;* **C22m** *1/04, 33/02*

U.S. Cl. 29—182.8 **21 Claims**

Hard metal compositions of tungsten carbide bonded with from 1 to 30 percent by weight of cobalt useful as cutting tools or bits for cutting or shaping very hard materials and a process for preparing the bonded compositions by heating an intimately mixed cobalt/tungsten carbide powder to a temperature above 1000° C. and consolidating the powder to a density in excess of 95 percent of its theoretical density.

3,451,792

BRAZED TITANIUM STRUCTURE

Thomas Kennedy Redden, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 14, 1966, Ser. No. 586,665

Int. Cl. B23k *35/26;* **C22c** *15/00*

U.S. Cl. 29—194 **1 Claim**

Article members of titanium base alloys selected from those alloys nominally identified by weight as 6% Al-4% V-balance Ti; 5% Al, 2.5% Sn, balance Ti; and 6% Al, 2% Sn-4% Zr, 2% Mo, balance Ti can be brazed into an improved titanium structure below the beta transus temperature of such titanium base alloys through the use of a brazing alloy consisting essentially of, by weight, 47–48% Ti, 47–48% Zr and 4–6% Be.

3,451,793

MAGNETIC THIN FILM WIRE WITH MULTIPLE LAMINATED FILM COATING

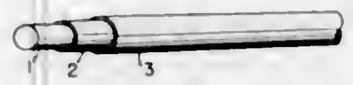
Akira Matsushita, Kawasaki-shi, Japan, assignor to Toko Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Dec. 12, 1966, Ser. No. 601,021

Claims priority, application Japan, Feb. 12, 1966, 41/8,233

Int. Cl. H01b *1/02*

U.S. Cl. 29—194 **7 Claims**



1\. A magnetic thin film wire comprising a conductor core wire, at least one first film of an iron-nickel alloy containing 50 percent of iron and 50 percent of nickel, and at least one second film of an iron-nickel alloy containing 21 percent of iron and 79 percent of nickel, said first and second films being deposited to envelope the conductor core wire in alternate laminated layers.

3,451,794

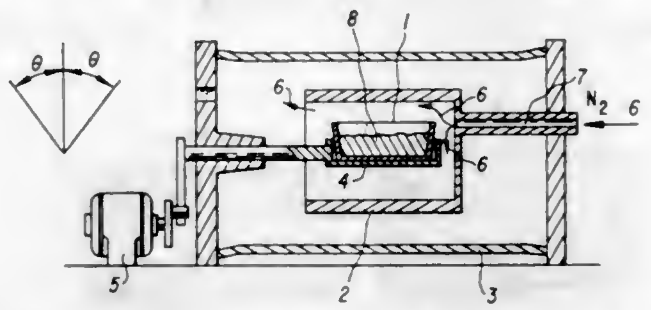
METHOD FOR MELT-CASTING INFRARED TRANSMITTING GLASSES

Robert Joe Patterson, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 29, 1966, Ser. No. 546,295

Int. Cl. C03b *19/06*

U.S. Cl. 65—18 **1 Claim**



Disclosed is a method of casting infrared transmitting glass including the steps of rocking a container having heated glass contained therein to average the material composition of the glass to create glass which is substantially free of optical inhomogeneities and simultaneously directing a gas flow across the surface of the glass during the rocking to cause the glass to be substantially free of absorption bands producing oxides.

3,451,795

PROCESS FOR STRENGTHENING GLASS CONTAINERS

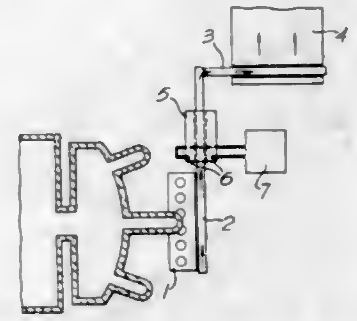
Sidney Maurice Budd, Edgware, England, assignor to United Glass Limited, Staines, England, a company of the United Kingdom

Filed Sept. 2, 1965, Ser. No. 484,568

Claims priority, application Great Britain, Sept. 4, 1964, 36,317/64

Int. Cl. C03c *17/06, 21/00*

U.S. Cl. 65—30 **9 Claims**



Glass containers of increased mechanical strength and abrasion resistance are prepared by (a) forming the containers in a forming machine, (b) spraying all external surfaces of the containers while still hot with a solution of a tin compound, e.g., stannic chloride, in an organic solvent, and (c) subjecting the treating containers while still hot to annealing. Preferably the solution also contains titanium tetra-n-butoxide, bismuth trichloride or titanium tetrachloride.

3,451,796

METHOD OF TREATING STRENGTHENED GLASS SURFACE TO INCREASE ACID DURABILITY

Ellen L. Mochel, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

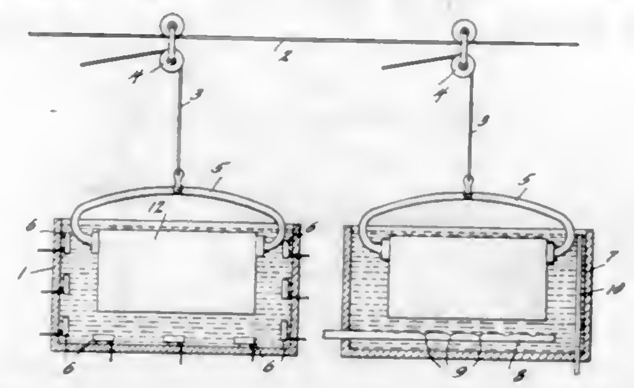
No Drawing. Filed May 16, 1966, Ser. No. 550,181

Int. Cl. C03c *15/00*

U.S. Cl. 65—31 **3 Claims**

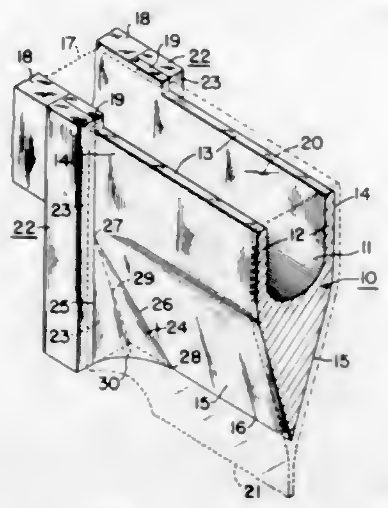
This invention relates to a method for increasing the acid durability of chemically strengthened glass articles by exposing the surface of the article to an atmosphere containing sulphur oxide so as to dealkalize the surface and thus increase its acid durability.

3,451,797
METHOD OF TEMPERING GLASS
Max Meth, 2 S. Montgomery Ave.,
Atlantic City, N.J. 08401
Filed Apr. 12, 1966, Ser. No. 542,067
Int. Cl. C03b *27/00*
U.S. Cl. 65—116 **4 Claims**



A method of tempering glass in which the article at ambient temperatures is immersed in molten metal maintained at a critical temperature in the range between 2000° F. and 2300° F. and held in said metal until the glass has reached a temperature immediately below its bending point, the glass being removed and subjected to rapid cooling.

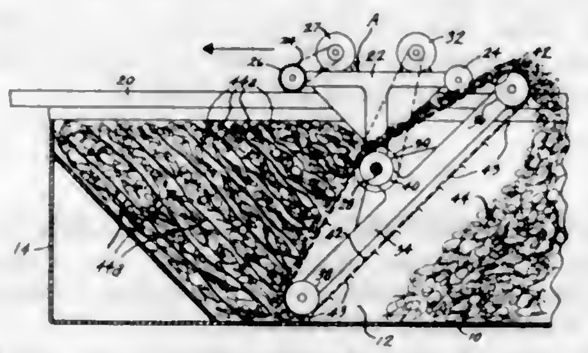
3,451,798
SHEET GLASS EDGE CONTROL DEVICE
Raphael A. Simon, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 4, 1966, Ser. No. 539,903
Int. Cl. C03b *17/00*
U.S. Cl. 65—199 **14 Claims**



In the overflow-downdraw process of forming sheet glass, maximum usable width and thickness uniformity are obtained by providing an edge attachment surface for the downwardly flowing glass while thinning edge portions thereof.

3,451,799
COMPOSTING METHOD FOR AEROBIC DIGESTION OF ORGANIC WASTE MATERIAL
Victor Brown, Elmhurst, Ill., assignor, by mesne assignments, to Metropolitan Waste Conversion Corporation, Wheaton, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 497,035, Oct. 18, 1965. This application June 2, 1967, Ser. No. 643,084
The portion of the term of the patent subsequent to June 6, 1984, has been disclaimed and dedicated to the public
Int. Cl. C05f *11/00*
U.S. Cl. 71—9 **2 Claims**

A composting method which produces complete aerobic digestion of waste organic material, such as garbage, performed in an apparatus of batch-type which is capable of operation through the entire range of mesophilic and thermophilic digestion as well as cooling-out and partial drying.



3,451,800
PRODUCTION OF GRANULAR SEWAGE SLUDGE
John W. Hudson, Atlanta, and Gerald D. Ferguson, Decatur, Ga., assignors, by mesne assignments, to USS Agri-Chemicals, Inc., Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,390
Int. Cl. C05f *7/00*
U.S. Cl. 71—12 **4 Claims**

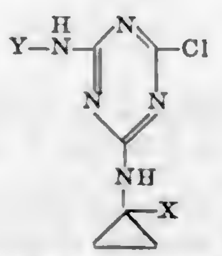
Sewage sludge which contains woolly fiber distributed therethrough is ground until about 95 percent of the material will pass a 50-mesh screen, and to the ground material is added about ½ to 1 percent of starch by weight, the mass being then heated by steam to a temperature of about 185–200° F. while tumbling the mass to form granules and then drying the granular product. The dried sewage sludge granules are smooth and have rounded non-dusting exterior surfaces.

3,451,801
CATIONIC POLYMERS
Fred N. Teumac, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 23, 1965, Ser. No. 481,942
Int. Cl. A01n *11/04, 17/10*
U.S. Cl. 71—66 **12 Claims**

New cationic polymer compositions are prepared in the reaction between a divalent sulfur-containing diamine and an ethylenedihalide. The polymers thus formed are terminated by amino groups, halogen, or a mixture of amino groups and halogen. The new cationic polymers are chelating agents for polyvalent metal ions.

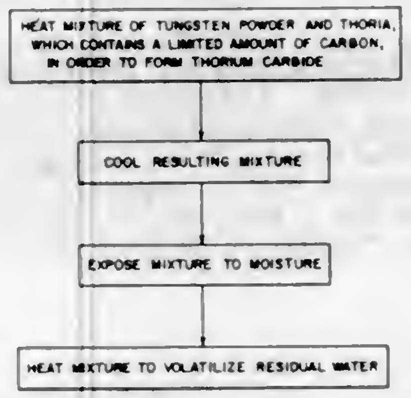
3,451,802
TRIAZINE HERBICIDES
Ralph P. Neighbors, Olathe, and Lee V. Phillips, Overland Park, Kans., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 27, 1966, Ser. No. 560,906
Int. Cl. A01n *9/22;* **C07d** *55/12*
U.S. Cl. 71—93 **2 Claims**

New triazine herbicides represented by the structural formula



in which X is methyl or hydrogen and Y is cyclopropyl, 1-methylcyclopropyl, isopropyl or ethyl show increased selective phytotoxicity over conventional triazines and are used preferably to control weeds in corn (*Zea mays*).

3,451,803
METHOD OF REMOVING CARBON FROM MIXTURES OF TUNGSTEN POWDER AND THORIA AND INSURING A UNIFORM DISPERSION OF THORIA
Nicholas F. Cerulli, North Caldwell, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1966, Ser. No. 593,527
Int. Cl. C22c *1/05;* **B22f** *1/00*
U.S. Cl. 75—.5 **10 Claims**


HEAT MIXTURE OF TUNGSTEN POWDER AND THORIA, WHICH CONTAINS A LIMITED AMOUNT OF CARBON, IN ORDER TO FORM THORIUM CARBIDE
COOL RESULTING MIXTURE
EXPOSE MIXTURE TO MOISTURE
HEAT MIXTURE TO VOLATILIZE RESIDUAL WATER

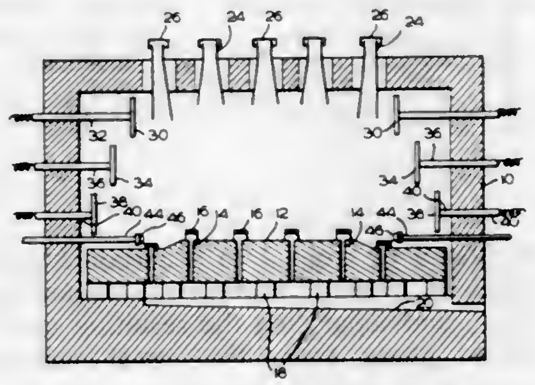
1. The method of removing carbon from a mixture of tungsten powder and thoria while simultaneously insuring a uniform dispersion of said thoria in said tungsten powder, wherein the carbon in said mixture is present either as an impurity, or as an additive, or as both an impurity and an additive, in such amount that the total gram-moles of thoria in said mixture are at least and preferably more than one-third of the total gram-atoms of carbon in said mixture, which method comprises:

(a) heating said mixture in an inert atmosphere or a vacuum at a predetermined temperature for a sufficient time to react all of said carbon in said mixture with thoria in said mixture to form thorium carbide;
(b) cooling said reacted mixture;
(c) exposing said cooled mixture to moisture for a sufficient time to hydrolyze all of the formed thorium carbide; and
(d) heating said hydrolyzed mixture under non-reactive conditions at a temperature of at least 100° C. for a sufficient time to volatilize residual water.

3,451,804
METHOD IN CONNECTION WITH ROASTING, ESPECIALLY WITH SULPHATIZING OR CHLORIDIZING ROASTING
Rolf Einar Malmstrom, Pori, and Heikki Tanner and Matti Saari, Kokkola, Finland, assignors to Outokumpu Oy, Helsinki, Finland, a corporation of Finland
No Drawing. Filed Apr. 11, 1967, Ser. No. 629,886
Claims priority, application Finland, Apr. 13, 1966, 946/66
Int. Cl. C21b *1/02;* **C22b** *1/06, 1/08*
U.S. Cl. 75—7 **5 Claims**

A method in connection with roasting especially with sulphatizing or chloridizing roasting according to which after a suitable roasting time the processed material is removed from the roasting apparatus and the material is separated into two or more fractions in a suitable manner, so that for example one of the said fractions, the smaller one in quantity, contains mainly unreacted material, while the main part of the fully reacted material is contained in the other fraction. By returning only that fraction which contains mainly unreacted material back to treatment, the treatment time of the entire quantity can be considerably reduced.

3,451,805
ELECTROTHERMAL REDUCTION OF OXIDE ORES OR OTHER OXIDE COMPOUNDS
Robert C. Nicaise and Pascal J. J. Donneau, Neerpelt, Belgium, assignors to Compagnie des Metaurx d'Overpelt-Lommel et de Corphalie, S.A., Brussels, Belgium
Filed June 11, 1965, Ser. No. 463,381
Claims priority, application Luxembourg, June 18, 1964, 46,353
Int. Cl. C22b *5/12, 19/04*
U.S. Cl. 75—14 **3 Claims**



An enclosed reducing space is provided with a plurality of groups of electrodes arranged at different levels and sufficiently separated from one another to avoid short circuits between the different groups, the electrodes being spaced apart an increasing distance at progressively lower levels to vary the specific voltages impressed on a charge acting as a resistor therebetween. Joule effect heat is produced for liquefying completely the non-volatile materials resulting from the reduction operation, and the specific voltages applied to the charge decrease at progressively lower levels of the charge corresponding to the decrease in resistivity of the charge as the zinc oxide and carbon content of the charge are diminished so as to provide a more effective distribution of the electric current in the charge. Means is provided for increasing the refractoriness and resistivity of the lower part of the charge, and a combustive gas is introduced at the lower part of the charge to provide the heat for completing the metallurgical operation.

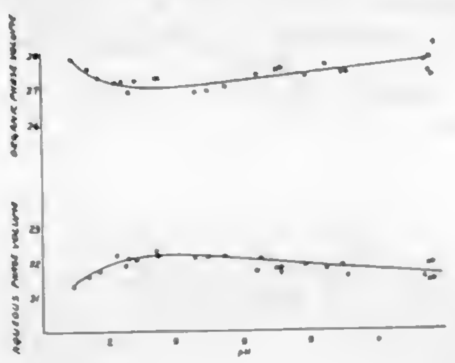
3,451,806
PROCESS FOR THE SECONDARY PRODUCTION OF LEAD
Leonard L. Cogen, Newark, and William J. Koepplin, Summit, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 8, 1966, Ser. No. 563,700
Int. Cl. C22b *13/02, 7/00*
U.S. Cl. 75—63 **6 Claims**

A method for controlling the operation of a secondary lead blast furnace by maintaining the CO/CO_2 ratio in the top gases within the range of 0.15 to 0.30 by adjusting the relative proportions of the charge materials and/or the degree of oxygen enrichment in the blast to the furnace.

3,451,807
SOLVENT EXTRACTION PROCESS FOR THE RECOVERY OF METAL VALUES
William G. Scribner, Kettering, Ohio, and George K. Schweitzer, Knoxville, Tenn., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,622
Int. Cl. C22b *3/00, 15/00;* **C07f** *15/00*
U.S. Cl. 75—117 **18 Claims**

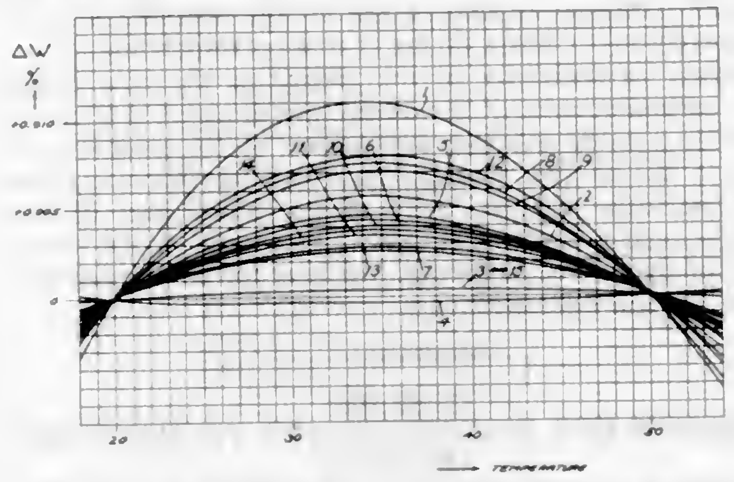
1. The method of extracting of metal values selected from the class consisting of the metals of Groups II–A, II–B, and III–B of the Periodic Arrangement of Elements,

copper (II), lead (II), chromium (III), iron (III), cobalt (II), nickel (II) and manganese (II) from aqueous solutions containing said values, which comprises contacting the aqueous solution with a solution of trifluoroacetylacetone in an alkanol of from 4 to 8 carbon atoms as the organic phase to transfer said metal values from the aqueous phase, and separating the resulting metal value-loaded organic phase from the metal value-depleted aqueous phase at an equilibrium pH of 4 to 7.



3,451,808
COPPER-MANGANESE ALLOYS AND ARTICLES MADE THEREFROM

Konrad Thielmann, Wissenbach, Hessen, Germany, assignor to Isabellen-Hutte Heusler K.G., Dillenburg, Germany, a corporation of Germany
Filed Dec. 6, 1966, Ser. No. 599,548
Int. Cl. C22c *9/00;* **H01c** *13/00*
U.S. Cl. 75—161 **10 Claims**



An alloy especially useful for high precision resistor material consisting essentially of about 6 to about 11% manganese, about 0.1 to about 8% germanium and the balance being a metal from the group consisting of copper and silver. The alloy is characterized by having a temperature-resistance curve considerably more flattened than the temperature-resistance curve of "Manganin."

3,451,809
METHOD OF SINTERING MARAGING STEEL WITH BORON ADDITIONS

Rasipuram Subramanya Kalyana Raman, Madras, India, and Victor Allen Tracey, Solihull, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 8, 1968, Ser. No. 711,482
Int. Cl. B22f *3/16;* **C22c** *39/20, 39/54*
U.S. Cl. 75—205 **3 Claims**

A mixture of finely divided powders for compaction and sintering to form components of maraging steel composition contains from 0.02% to 0.20%, by weight, of boron. The boron functions to reduce linear shrinkage during the sintering operation.

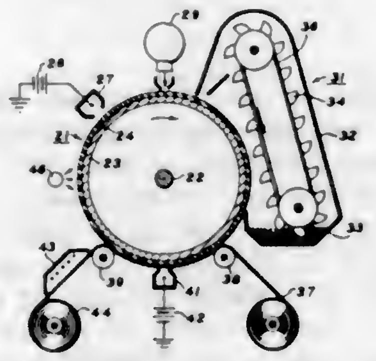
3,451,810
METHOD OF MANUFACTURING OXYGEN ELECTRODES BY SINTERING Ag AND AN Ag-Cd ALLOY

Dexter William Smith, Shirley, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
No Drawing. Filed Aug. 1, 1967, Ser. No. 657,535
Int. Cl. B22f *3/12;* **H01m** *13/06*
U.S. Cl. 75—214 **8 Claims**

An oxygen electrode is manufactured by mixing silver in particle form with particles of an alloy of silver and cadmium the alloy having a gamma-brass structure and being present in proportions up to 7.5%, and the electrode being manufactured from the mixture by pressing and sintering.

3,451,811
ELECTROPHOTOGRAPHIC IMAGING PROCESSES USING ELECTRICALLY PHOTOSENSITIVE PHOTOCHROMIC MATERIALS

Carl Brynko, West Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 1, 1965, Ser. No. 468,899
Int. Cl. G03g *13/04, 5/06, 13/08*
U.S. Cl. 96—1 **12 Claims**



An image is formed on the surface of a dry imaging member comprising a photochromic material which exhibits a change in electrical conductivity upon exposure to electromagnetic radiation capable of converting at least a portion of the photochromic material from one photochromic state to another by exposing the dry imaging member to a source of said electromagnetic radiation, charging the surface of the member and developing the surface with electroscopic marking material.

3,451,812
METHOD OF MAKING COLOR SCREEN FOR CATHODE RAY TUBE

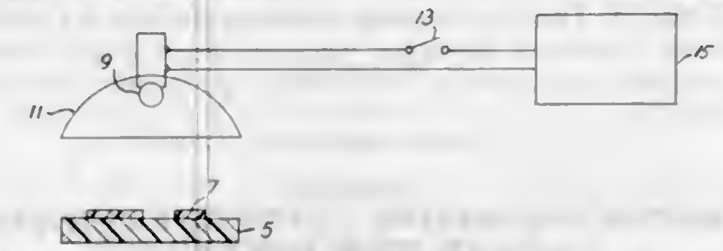
Michio Tamura, Fujisawa-shi, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Jan. 26, 1966, Ser. No. 523,158
Claims priority, application Japan, Jan. 29, 1965, 40/4,657
Int. Cl. G03c *7/04*
U.S. Cl. 96—36.1 **4 Claims**

A method for forming a cathode ray tube for the reproduction of color and having an electron gun and grid elements adjacent the screen of the tube comprising exposing a master face panel having photosensitive materials by the electron beam, and deflecting the beam by first and second color deflection voltages corresponding to first and second colors and then developing the master face panel to leave void areas corresponding to a third color. A photo-plate is formed by exposing it through the master face panel and a photo-mask is formed from the negative photo-plate formed from the master face panel. The mask and master face panel are mounted relative to the light source and positioned so that the

shadow of the mask and the image of the master face panel are aligned. The master face panel is then removed and a face panel to be constructed is positioned in the same place as the master face panel and is exposed through the mask. The face panel is then developed forming the third color phosphor on the panel. First and second color phosphors are then deposited between alternative strips of the third phosphor material.

3,451,813
METHOD OF MAKING PRINTED CIRCUITS

Layton C. Kinney, Chicago, and Edwin H. Tompkins, Riverside, Ill., assignors, by mesne assignments, to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 316,425, Oct. 15, 1963. This application Oct. 3, 1967, Ser. No. 672,522
Int. Cl. G03c *5/00;* **B44d** *1/18*
U.S. Cl. 96—36.2 **13 Claims**



A technique for producing a printed circuit by forming a pattern of a photoflash sensitive conducting metal precursor such as silver oxide, copper oxide, nickel formate or copper powder on a substrate and photoflashing high intensity radiation for a short duration such as 0.2 to 30 milliseconds onto the pattern to convert it to a coherent conducting metal circuit adherent to the substrate. Preferably, the reaction is conducted in the presence of an oxygen excluding atmosphere to prevent oxidative recombination of the metal film. The precursor may be fusible metals, decomposable metal compounds or reducible metal compounds. The oxygen excluding atmosphere and/or the reducing agent may be provided by a photoflash pyrolyzable organic resin binder for the conducting metal precursor.

3,451,814
NOVEL PHOTOGRAPHIC PRODUCT AND PROCESS

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 25, 1963, Ser. No. 297,658
Int. Cl. G03c *5/54*
U.S. Cl. 96—29 **8 Claims**

Processes for preparing an image viewable alternatively either as a positive or as a negative reproduction, wherein an exposed photosensitive element is developed with an aqueous alkaline processing composition, and a superposed sheet material comprising a thin reflective metal layer on a substantially transparent support is contacted with unexhausted alkaline material from said composition for a time sufficient to provide an imagewise removal of a portion of said metal to form said image.

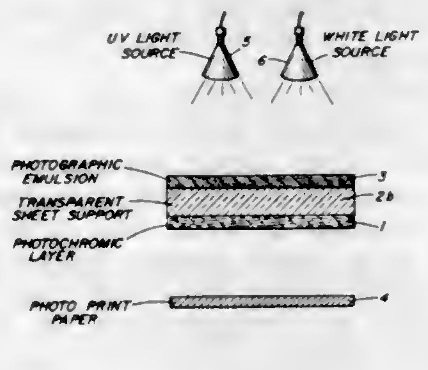
3,451,815
NOVEL PHOTOGRAPHIC PRODUCT AND PROCESS

Meroe M. Morse, Boston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 25, 1963, Ser. No. 297,657
Int. Cl. G03c *5/54, 9/08*
U.S. Cl. 96—29 **3 Claims**

Procedure for preparing light-polarizing images by developing an exposed photosensitive element with an aqueous alkaline processing composition, exhausting alkali in exposed areas, and transferring unexhausted alkali to a superposed light-polarizing sheet material reactive with the alkali, whereby to produce an imagewise altering of the light-polarizing properties of the sheet material.

3,451,816
PHOTOGRAPHIC DODGING METHOD

Bernard Leo Williams, Martinsville, N.J., and George Henry Dorion, New Canaan, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed June 16, 1965, Ser. No. 464,301
Int. Cl. G03c *5/06, 1/78*
U.S. Cl. 96—44 **2 Claims**



A method of dodging photographic film using an article of manufacture which is a photographic film comprising in permanent integral laminated arrangement a substantially transparent support sheet, with a photochromic layer on one side and a photographic emulsion layer on the other side.

3,451,817
COMBINED FORMALDEHYDE AND BIS-BISULFITE ALDEHYDES AS HARDENERS

Charleton C. Bard and Howard W. Vogt, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 1, 1966, Ser. No. 591,142
Int. Cl. G03c *5/30, 1/30*
U.S. Cl. 96—66 **7 Claims**

1. An aqueous prehardener solution for prehardening gelatino silver halide coated on a photographic element, said solutions having a pH in a range from about 2 to 7 and comprising:

(1) formaldehyde in the concentration range of from about 2 to about 56 grams per liter of said solution and

(2) a bis-bisulfite adduct of a dialdehyde in which the aldehyde groups are separated by a linear chain of from 2 to 3 carbon atoms at a concentration of from about 1 to about 100 grams per liter of said solution.

3,451,818
COMPOSITE ROLLFILM ASSEMBLY FOR USE IN THE DIFFUSION TRANSFER PROCESS

Richard R. Wareham, Marblehead, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 19, 1966, Ser. No. 543,716
Int. Cl. G03c *3/02;* **G03b** *19/04*
U.S. Cl. 96—78 **5 Claims**

1. An assembly of photographic materials for use in a camera adapted for photography according to the diffusion transfer process comprising:

(a) a strip of negative photographic film wound into a helical coil, the leading end of said strip being adjacent the outer convolution of said coil and the trailing end of said strip being adjacent the inner convolution of said coil; and

(b) a strip of image-receiving material helically wound upon said coiled strip of negative film such that the trailing end of said image-receiving strip is adjacent but unattached to said leading end of said negative film strip, the leading end of said image-receiving strip being adjacent the outer convolution thereof.

3,451,819
PHOTOSOLUBLE SILVER HALIDE EMULSION MADE SPONTANEOUSLY DEVELOPABLE WITH AMINE BORANES

Eugene Frederick Haugh, Old Bridge, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,421
Int. Cl. G03c *1/06*
U.S. Cl. 96—95 **10 Claims**

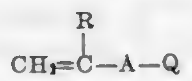
A photosoluble emulsion layer comprising before imagewise exposure to actinic radiation, a dispersion of light-sensitive silver halide crystals having intimately associated therewith a silver salt of an organic compound of lower solubility in water than silver chloride, said associated silver halide crystals dissolving more slowly in 10% aqueous sodium thiosulfate than untreated silver halide crystals at a predetermined pH; characterized in that the silver halide crystals are made spontaneously developable in ordinary photographic silver halide developing solution by treatment with at least one amine borane compound. A silver halide positive image can be intensified to a metallic silver image easily and conveniently.

3,451,820
DISPERSIONS OF LIPOPHILIC COLOR-COUPLING COPOLYMERS

Jacob Quentin Umberger, Holmdel, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 1, 1965, Ser. No. 510,965
Int. Cl. G03c *1/10*
U.S. Cl. 96—100 **10 Claims**

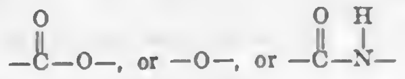
A color-forming dispersion comprising an aqueous gelatin solution having dispersed therein

(1) A color-coupling lipophilic copolymer prepared by free-radical initiated addition polymerization of an ester of acrylic acid, methacrylic acid or maleic acid and an ethylenically unsaturated monomer of the formula



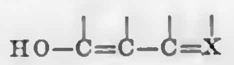
$$CH_2=\overset{R}{\overset{|}{C}}-A-Q$$

where R is hydrogen or lower alkyl, A is a bivalent radical of



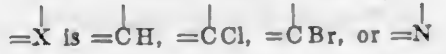
$$-\overset{O}{\overset{\|}{C}}-O-,\ \text{or}\ -O-,\ \text{or}\ -\overset{O}{\overset{\|}{C}}-\overset{H}{\overset{|}{N}}-$$

and Q is an organic color-forming radical containing the group



$$HO-\overset{|}{C}=\overset{|}{C}-\overset{|}{C}=\overset{|}{X}$$

where



$$=\overset{|}{X}\ \text{is}\ =\overset{|}{C}H,\ =\overset{|}{C}Cl,\ =\overset{|}{C}Br,\ \text{or}\ =\overset{|}{N}$$

said ethylenically unsaturated monomer being further characterized by containing at least one amidehydrogen group, and said copolymer being dissolved at a concentration of 10%–50% by weight in

(2) an organic solvent for said copolymer having a boiling point below 200° C. and having a water-solubility no greater than that of methyl acetate.

3,451,821
INCREASING THE UTILIZATION OF HOPS AND IMPROVING FLAVOR CONTROL OF MALT BEVERAGES AND THE LIKE

Paul H. Todd, Jr., and Leonard R. Worden, Kalamazoo, Mich., assignors to Kalamazoo Spice Extraction Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,272
Int. Cl. C12c *9/02*
U.S. Cl. 99—50.5 **15 Claims**

A process of flavoring a fermented beverage by adding to the wort during the boil the non-volatile non-isomerizable hop extract fraction obtained by extracting hops with an organic solvent and separating therefrom the isomerizable and volatile portions. The isomerizable portion, humulone, may be separated by lead salt precipitation prior to isomerization or isomerized at a pH of 10–11 while present in the fraction. When the humulone is isomerized in the fraction the isohumulone can then be removed by adjusting the pH to 7–8. Lupulone may be removed from the fraction by stirring with water at a pH of at least 9. The isohumulone and essential oils are added to the fermented beverage whereas, the lupulone, when removed, may be added to the beverage during fermentation.

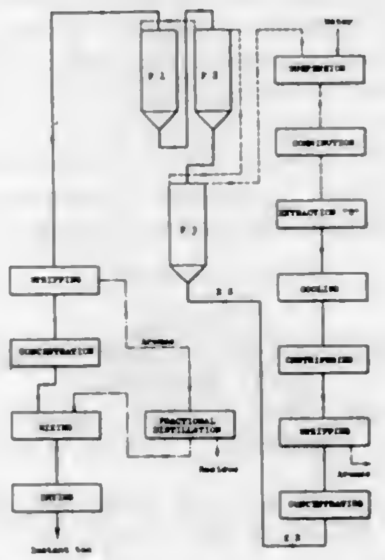
3,451,822
PROCESS FOR MAKING A PUFFABLE CHIP-TYPE SNACK FOOD PRODUCT

Robert B. Fast, Glen Rock, Clyde E. Spotts, Fair Lawn, and Roland A. Morck, Glen Rock, N.J., assignors to National Biscuit Company, a corporation of New Jersey
Filed Sept. 9, 1965, Ser. No. 486,128
Int. Cl. A23l *1/12*
U.S. Cl. 99—100 **10 Claims**

A crispy chip-type snack food in the form of a half-product otherwise known as a potato collet made from precooked starchy vegetable matter such as potato puree extruded at high pressure through a die plate. The extrudate is cut to form segments which are flattened between large rotating flaking rolls and then conveyed to a drier preparatory to storage and subsequent deep fat frying.

3,451,823
EXTRACTION PROCESS

Abraham R. Mishkin and William C. Marsh, Marysville, Alfred W. Fobes, Columbus, and Joseph L. Ohler, Marysville, Ohio, assignors to Afico S.A., a corporation of Switzerland
Filed Nov. 17, 1965, Ser. No. 513,643
Claims priority, application Switzerland, Nov. 24, 1964, 15,124/64
Int. Cl. A23f *3/02*
U.S. Cl. 99—77 **13 Claims**



A process for preparing a tea extract which comprises extracting dry tea with water at relatively elevated temperatures to produce a first extract, comminuting a quantity of at least partially extracted tea and adding water thereto to provide a pumpable slurry, heating the slurry at a higher temperature and under pressure to provide a second extract and combining the first and second extracts.

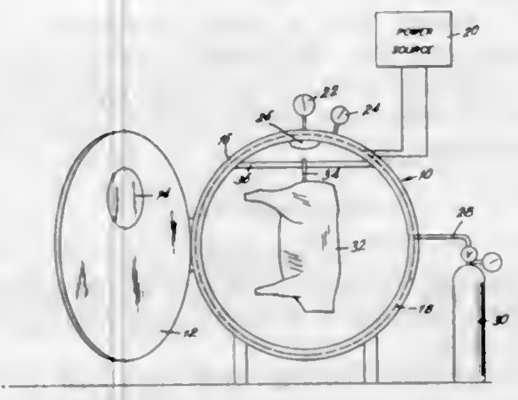
3,451,824
PROCESS OF DISCOLORATION IN CHERRIES WITH EDTA

Ellsworth W. McLeod, Inkster, Mich., assignor to Frigid Food Products, Incorporated, Detroit, Mich., a corporation of Michigan
No Drawing. Filed July 8, 1966, Ser. No. 563,724
Int. Cl. A23b *7/14*
U.S. Cl. 99—103 **9 Claims**

Prevention of discoloration in cherries due to the presence of tannin by treating the cherries with .2–8% EDTA, its alkaline and alkaline earth salts after conventional brining.

3,451,825
METHOD FOR ACCELERATING THE AGING OF FRESHLY SLAUGHTERED MEAT

Heinz R. Schreiner, Tonawanda, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 9, 1964, Ser. No. 416,997
Int. Cl. A22c; A23j
U.S. Cl. 99—107 **3 Claims**



Accelerated aging of freshly slaughtered meat may be accomplished without adversely affecting the rapid tenderization of the meat by exposing it for 12 to 48 hours to an atmosphere containing at least 70% oxygen, at a pressure of 30 to 80 p.s.i.g. and a temperature of 34 to 44° C.

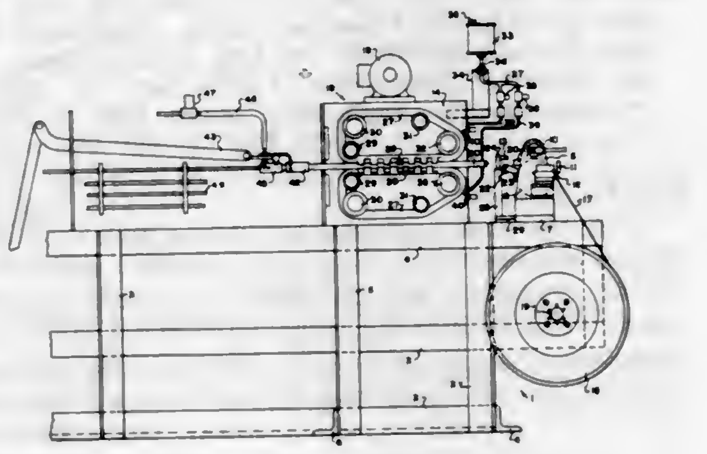
3,451,826
METHOD OF COATING FRUITS AND VEGETABLES WITH A THIN FILM OF LECITHIN AND METHOD OF MAKING LECITHIN EMULSION FOR SAID PURPOSE

Tjebbo Jakob Mulder, Amsterdam-Buitenveldert, Netherlands, assignor to Lecifruit N.V., Amsterdam-Buitenveldert, Netherlands
No Drawing. Filed Nov. 15, 1965, Ser. No. 507,658
Claims priority, application Netherlands, Nov. 16, 1964, 6413312
Int. Cl. A23b *7/16*
U.S. Cl. 99—168 **7 Claims**

A lecithin emulsion for coating fruits and vegetables is prepared by separating the phosphatides in commercial lecithin by treatment with an organic solvent, hydrolyzing the phosphatides in said solvent with an alkali, whereafter the pH value is adjusted to 6.9–7.4 with acid. The emulsion so prepared may be well diluted down and still give good even and complete cover when applied to fruits and vegetables.

3,451,827
METHOD OF COATING THE INTERIOR OF A SAUSAGE CASING

Douglas J. Bridgeford, Danville, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 22, 1965, Ser. No. 509,117
Int. Cl. A22c *13/00*
U.S. Cl. 99—176 **4 Claims**



A thin-walled continuous tube of indefinite lengths is coated internally by shirring said tube on a mandrel having a longitudinal passage while introducing a solution, emulsion, or dispersion of an adherent coating material in a liquid carrier through said mandrel to coat the interior of the tube.

3,451,828
PROCESSES FOR DEHYDRATING HEAT SENSITIVE SOLID MATERIALS

Sheldon Baer, South Euclid, Michael J. Toth, Lakewood, and John W. Dunning, Cuyahoga, Ohio, assignors to International Basic Economy Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 462,539, June 9, 1965. This application Aug. 14, 1968, Ser. No. 752,517
Int. Cl. A23b *1/04, 3/04;* **B01d** *1/00*
U.S. Cl. 99—199 **16 Claims**

A process is presented for removing moisture from a heat sensitive material such as moisture-bearing cottonseed meats by preparing a fluidized mixture of ground wet raw material in a fluid having a higher boiling point than water, in this case preferably cottonseed oil, mixing the first material with a previously dehydrated heated slurry of the same heat sensitive material, in this case cottonseed meat slurry, to drop the temperature of the mixture and form a second mixture, and thereafter explosively release the moisture from said material by flash cooling said second mixture and applying a low pressure of about two inches of mercury, and maintaining the flash cooling of the second mixture for at least about 20 seconds to provide for the spontaneous release of substantially all of the moisture from the material.

3,451,829
OPTICAL CROWN GLASSES

Heinz Bromer, Kreis Wetzlar, and Norbert Meinert, Wetzlar, Germany, assignors to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany
Filed Apr. 12, 1966, Ser. No. 542,035
Claims priority, application Germany, Apr. 29, 1965, L 50,618
Int. Cl. C03c *3/30*
U.S. Cl. 106—47 **2 Claims**

Optical crown glasses with anomalous partial dispersions are presented. Said glasses are prepared from mixes consisting of aluminum phosphates from 45–55%

by weight, alkaline earth phosphates from 5–10% by by weight, alkali oxides from 10–20% by weight, alkaline earth oxides, Zn, Cd from 15–30% by weight and up to 10% by weight of TiO_2.

3,451,830
FLUORIDE-CONTAINING GLASS ELECTRODE COMPOSITIONS

Kazuyuki Nishimoto, Ibaraki-shi, Osaka-fu, and Yoshio Iida, Hirakata-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
No Drawing. Filed Dec. 1, 1966, Ser. No. 598,219
Claims priority, application Japan, Dec. 3, 1965, 40/75,202
Int. Cl. C03c *3/30*
U.S. Cl. 106—52 **5 Claims**

Glass electrode compositions having high electrical potential, extremely low electrical resistance and other desirable properties are prepared by substituting monovalent metal fluoride for monovalent metal oxide, and/or substituting barium fluoride for barium oxide and/or substituting lanthanum fluoride for lanthanum oxide in conventional compositions which consist essentially of silicon dioxide, monovalent metal oxide, cesium oxide, lanthanum oxide, zirconium oxide and divalent metal oxide such as barium oxide. The sum of the metal fluorides may not exceed 20 mol percent and may not be less than 2 mol percent.

3,451,831
PROCESS FOR AGGLOMERATING VITRIFIABLE MASSES AND THE PRODUCTS THEREOF

André Miche, Mont-sur-Marchienne, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
No Drawing. Filed June 22, 1965, Ser. No. 466,120
Claims priority, application Luxembourg, July 24, 1964, 46,611; Nov. 7, 1964, 47,308
Int. Cl. C03c *3/04*
U.S. Cl. 106—52 **10 Claims**

Subjecting to an atmosphere of an acid gas an essentially homogeneous admixture which comprises a vitrifiable mass suitable for glass manufacture and includes at least one metal hydroxide results in an essentially homogeneous agglomerate when the metal hydroxide is incorporated in the vitrifiable mass in the form of a concentrated aqueous solution.

3,451,832
RETARDED GYPSUM PLASTER COMPOSITIONS

Richard Andreas Kuntze, Scarborough, Ontario, Canada, assignor Domtar Limited, Montreal, Quebec, Canada
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,613
Int. Cl. C04b *11/14*
U.S. Cl. 106—111 **15 Claims**

A gypsum plaster composition containing as a set retarder a condensation product of an aliphatic amino-soil with formaldehyde, or an aliphatic dicarboxylic acid in which the two carboxyl groups are separated by a chain of five carbons.

3,451,833
ORGANOSILICON BINDERS

Eckhard Bonitz, Frankenthal, Pfalz, and August Rettig, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen am Rhine, Germany
No Drawing. Filed Sept. 30, 1965, Ser. No. 491,897
Claims priority, application Germany, Oct. 14, 1964, B 78,909
Int. Cl. C09j *3/16;* **C08h** *15/00*
U.S. Cl. 106—287 **4 Claims**

Organosilicon binders comprising (a) organosilanol, polycondensation product or reaction product thereof and (b) organometallic silanolate or organometallic siloxanate.

3,451,834
PROCESS FOR PREPARING IMPROVED TITANIUM DIOXIDE PIGMENT COMPOSITIONS

Harold A. Kerry, Whittier, and Melvin J. Mirliss, North Long Beach, Calif., assignors, by mesne assignments, to American Potash & Chemical Corporation, a corporation of Delaware
No Drawing. Filed Dec. 9, 1964, Ser. No. 417,233
Int. Cl. C09c *1/36, 1/62, 3/00*
U.S. Cl. 106—300 **4 Claims**

A process for treating titanium dioxide pigment particles whereby they may be readily wet by liquid vehicle components of surface coating compositions. The improved particles are prepared by contacting them, while in a dry state, with certain volatile aliphatic organic treating compounds and then drying the particles to remove substantially all of the volatile treating compound therefrom.

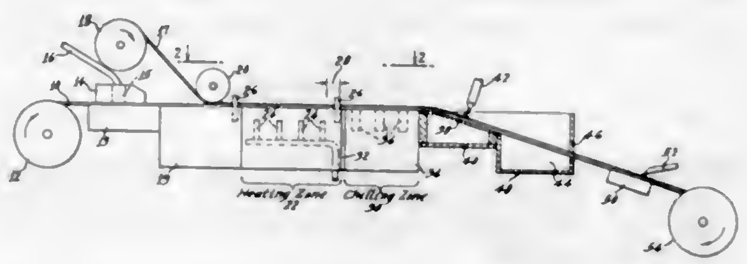
3,451,835
READILY DISPERSIBLE INORGANIC PIGMENTS

Karl-Werner Ganter, Krefeld-Bockum, Joachim Nentwig, Krefeld, Hans Zirngibl, Duisburg, and Hans-Joachim Kappey and Horst Bornefeld, Krefeld-Bockum, and Walter Deissmann, Krefeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 467,761, June 28, 1965. This application June 28, 1967, Ser. No. 649,744
Claims priority, application Germany, July 28, 1964, F 43,592
Int. Cl. C09c *3/02*
U.S. Cl. 106—308 **7 Claims**

Pigments coated with a minor proportion of a particular surfactant. The surfactant is the reaction product of a polyol having about 3 to 4 hydroxyl groups and 2 to 6 carbon atoms with about 1 to 5 mols of alkylene oxide per mol of polyol.

3,451,836
METHOD OF CONTINUOUSLY BONDING A NARROW SOLDER STRIPE ON METAL STRIP MATERIAL

Howard E. Spooner, Lincoln, and Theodore A. Wozniak, Barrington, R.I., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,627
Int. Cl. C23c *17/00, 1/12, 1/06*
U.S. Cl. 117—4 **4 Claims**



1. The method of continuously bonding a preformed flexible, narrow and thin solder stripe onto and longitudinally of a wider metal strip material, comprising the steps of continuously pulling the strip and stripe material toward each other, wipe-wetting at least one of the stripes and a narrow preselected longitudinal area of the strip having a width corresponding to that of the stripe with a liquid flux in an amount sufficient to wet but insufficient to cause any readily noticeable lateral flow of flux beyond the width of the stripe upon subsequent compression of the stripe to the strip material, superposing the solder stripe onto and longitudinally of the preselected longitudinal area of the strip, compressing the stripe onto the strip under the compression insufficient to dimensionally deform the solder stripe but sufficient to cause the

stripe to adhere to the strip while pulling the combined stripe and strip, progressively heating the combined stripe and strip by pulling through a heating zone until the solder stripe melts at the end of the heating zone, maintaining the solder in its molten condition for only a short period during which it is still capable of lateral confinement solely by its molten surface tension, thereafter immediately chilling the solder to a solidus condition by pulling through a chilling zone, thereafter rinsing and cooling the combined stripe and strip by pulling the combined stripe and strip through a rinsing and cooling zone, thereafter passing by pulling the combined stripe and strip through a liquid bath and therein dissolving any incidental flux remaining on the strip, said pulling of the stripe and strip being continuous and uniform throughout the said steps.

3,451,837
DECORATIVE COATING FOR HARDBOARD

Alfred N. Mork, Riverside, Calif., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 9, 1966, Ser. No. 556,264
Int. Cl. B44d *1/14;* **B44c** *5/04*
U.S. Cl. 117—12 **4 Claims**

Decoratively coated hardboard is provided by applying to the hardboard a multicoat coating system which can be dried and cured in one baking operation. The coating system is made up of a filler coat, a pigmented base coat, an undertone printing coat, a toptone printing coat, and a clear protective coat superposed on and applied in sequence to the hardboard.

3,451,838
PROCESS OF COATING PLASTICS WITH ORGANOPOLYSILOXANES AND ARTICLES MADE THEREBY

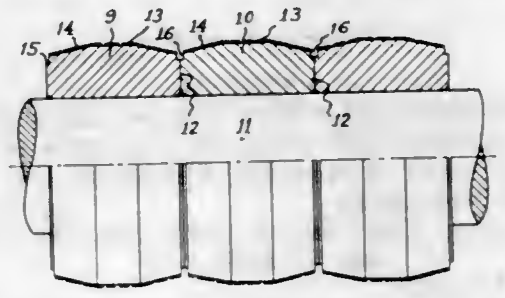
Alfred J. Burzynski and Carl A. Johnson, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Dec. 3, 1965, Ser. No. 511,353
Int. Cl. B44d *1/22, 1/44;* **B32b** *27/08*
U.S. Cl. 117—33.3 **12 Claims**

Process of providing a hard, acetone resistant, heat resistant and mar resistant coating on articles having a polycarbonate or acrylic surface by applying to the surface a solvent-soluble, further curable organopolysiloxane in an organic solvent and thereafter evaporating the solvent and finally curing the organopolysiloxane. The solvent-soluble, further curable organopolysiloxane is made in a certain way by heating methyltrialkoxysilane or mixture of methyltrialkoxysilane and phenyltrialkoxysilane in water at 50–80° C. for 1 to 10 hours to form a partial condensation product, heating this product at about 80° to 300° C. to remove alkanol by-product and water, and thereafter heating the product below the gel point at from about 90° to 140° C. to provide the solvent-soluble, further curable organopolysiloxane.

3,451,839
PROCESS FOR THE METALLIZATION OF ANNULAR PIECES

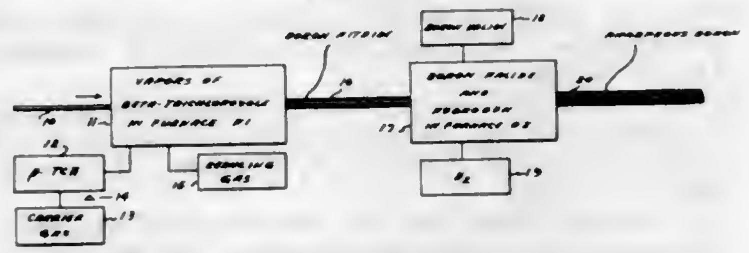
Andre Cauvin, Port-Marly, France, assignor to Societe Anonyme Simca Automobiles, Paris, France
Filed May 12, 1965, Ser. No. 455,253
Claims priority, application France, May 15, 1964, 974,623
Int. Cl. B05c *3/20;* **B05b** *13/06;* **B44d** *1/52*
U.S. Cl. 117—43 **2 Claims**

A process is disclosed for the metallization of annular pieces. Each annular piece has two faces and an exposed surface. The pieces are strung on a mandrel with the exposed surfaces in alignment and simultaneously metallized. Each annular piece is provided with a continuous indentation or furrow at at least one planar intersection of a face and its exposed surface such that when the pieces are aligned on the mandrel a circular groove of square section creates a disruption on the outer surface of the aligned pieces. This allows the annular pieces to be easily separated after metallization without damaging the coating.



3,451,840
WIRE COATED WITH BORON NITRIDE AND BORON

Ralph L. Hough, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 6, 1965, Ser. No. 493,582
Int. Cl. C23c *13/02;* **B44d** *1/14, 1/42*
U.S. Cl. 117—69 **5 Claims**



A filament comprising a tungsten wire successively coated with layers of boron nitride and boron. Such filaments are useful wherever high strength-to-weight components are needed.

3,451,841
CERAMIC FOAM

Patrick N. Kesten, Davison, and Karl Schwartzwalder, Holly, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,042
Int. Cl. B28b *19/00;* **C04c** *41/06;* **C03c** *7/02*
U.S. Cl. 117—98 **9 Claims**

A high strength, porous ceramic foam is disclosed. The open-celled porous ceramic structure has a fused porous crystallized glass coating on the cell-defining walls of the foam structure. The crystallized glass coating increases the strength of the structure without decreasing the porosity of the structure.

3,451,842
METHOD OF IMPREGNATING A FOAMED PLASTIC AND THE IMPREGNATED FOAMED PLASTIC

Fredrik Wilhelm Anton Kurz, Nysatravagen 12, Lidingo, Sweden, and Sverre Wikne, Salhus, Bergen, Norway
No Drawing. Filed Mar. 4, 1964, Ser. No. 349,473
Claims priority, application Norway, Mar. 7, 1963, 151,256
Int. Cl. B44d *1/06*
U.S. Cl. 117—98 **3 Claims**

1. A method of making a non-flammable insulating material of porous structure, which comprises impregnating a body of open-pored foamed plastic material with a slurry of an inorganic settable material and bituminous materials and carrying out such impregnation to such an extent that the walls of the pores of said plastic body are covered with the impregnating material, while the

pores remain open, and causing the settable inorganic material to set to form a skeleton of hardened inorganic material covering the pore walls while leaving the pores open.

3,451,843
METHOD OF CHROMIZING METAL

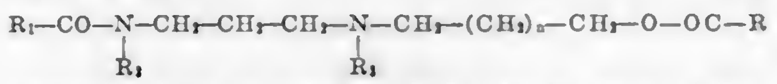
John J. Eckenrod, Pittsburgh, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey
No Drawing. Filed Jan. 9, 1967, Ser. No. 607,919
Int. Cl. B05c *3/09*
U.S. Cl. 117—113 **1 Claim**

This invention relates to chromizing ferrous and nickel-base alloys, and in particular, to avoiding the use of expensive reagent-grade chromous chloride in such chromizing process. In accordance with the invention, there is used in a molten-salt-bath chromizing process a bath containing halides of alkali metals and/or alkaline-earth metals, together with 0.5 to 10% of ferrous halide, e.g., ferrous chloride, and ferrochromium, preferably finely divided to the extent of 20 to 35 mesh, is added to the molten salt bath in amounts sufficient to initiate and sustain the chromizing reaction.

3,451,844
CATIONIC ACTIVE AGENT AND A METHOD FOR SOFTENING A WASHABLE TEXTILE FABRIC THEREWITH

Helmut Kirschnek, Leverkusen, and Mathieu Quaedvlieg, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 6, 1966, Ser. No. 519,002
Claims priority, application Germany, Jan. 20, 1965, F 45,004
Int. Cl. C21h *1/00;* **C08j** *1/38;* **D06m** *3/02*
U.S. Cl. 117—139.5 **4 Claims**

Cation active compounds of the type exemplified by the formula

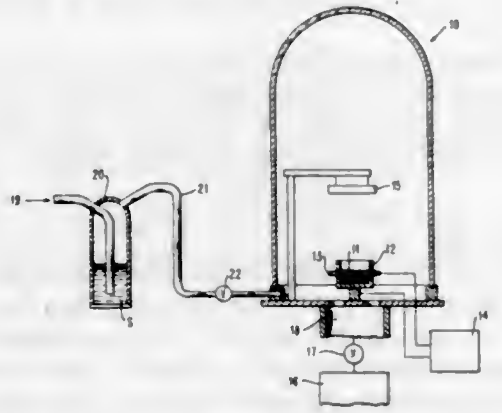


$$R_1{-}CO{-}\underset{R_2}{N}{-}CH_2{-}CH_2{-}CH_2{-}\underset{R_3}{N}{-}CH_2{-}(CH_2)_n{-}CH_2{-}O{-}OC{-}R$$

wherein R_1 and R_4 are individually defined as alkyl radicals of 11–21 carbon atoms; R_2 is hydrogen or methyl; R_3 is an alkyl radical of 1–4 carbon atoms; and *n* is an integer of 0–2; and a method for softening washable textiles by utilizing said compounds.

3,451,845
METHOD FOR PRODUCING THIN FILMS OF RARE EARTH CHALCOGENIDES

Claus C. Schuler, Oberrieden, Switzerland, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed May 31, 1966, Ser. No. 554,086
Int. Cl. C23f *17/00;* **C23c** *13/02;* **C07f** *11/00*
U.S. Cl. 117—201 **12 Claims**

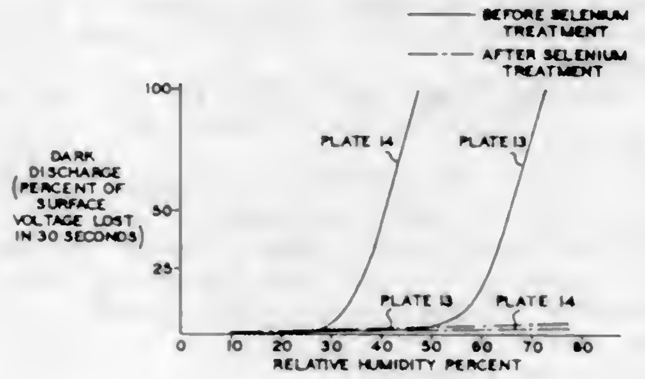


Thin films of a rare earth chalcogenide (for example, EuS) are produced in situ by vapor-depositing a pure rare-earth metal (for example, Eu) onto an inert substrate in an ultra-high vacuum and then admitting a gaseous chalcogenide-hydrogen (for example, H_2S, H_2Te or H_2Se) under one to two atmospheres of pressure into the chamber to slowly produce the reaction

$$Eu+[H_2S \text{ or } H_2Te \text{ or } H_2Se]\rightarrow EuS \text{ or } EuTe \text{ or } EuSe+H_2\uparrow$$

3,451,846
PROCESS OF MAKING XEROGRAPHIC PLATE

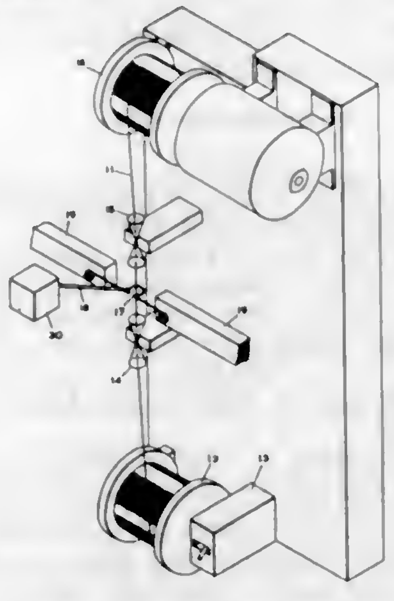
Richard L. Lane, Penfield, and Robert N. Jones, Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 13, 1966, Ser. No. 549,840
Int. Cl. C03c *21/00;* **G03g** *15/00*
U.S. Cl. 117—201 **6 Claims**



A method of improving the humidity stability and abrasion resistance of a xerographic glass binder plate having photoconductive particles dispersed in a glass binder. The method comprises exposing the plate to a source of selenium maintained at a temperature above about its melting point, and maintaining the glass binder plate at a temperature below about the softening point of the glass, and maintaining these conditions for a time sufficient to diffuse selenium into the surface of the glass plate.

3,451,847
METHOD OF COATING METALLIC WIRE OR STRIP WITH GLASS

Raymond Sidney Ashpole and Sydney Tom Wells, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Feb. 17, 1966, Ser. No. 528,143
Claims priority, application Great Britain, Feb. 17, 1965, 6,919/65
Int. Cl. B44d *1/42*
U.S. Cl. 117—231 **4 Claims**



A method of applying a glass insulating coating to a metal wire or strip, including forming a bead of molten glass on a loop or frame of heated material, or between two electrodes, passing the wire or strip through the bead to coat it with molten glass, and allowing the glass to solidify.

The method is particularly applicable to fine wires, for example, circular-section wires down to 0.025 mm. diameter, and to thin strip, and coatings of 0.005 mm. thickness have been produced, in a single pass, with good electrical insulating properties.

The resultant insulated wire or strip may be used continuously at temperatures up to 450° C. (842° F.).

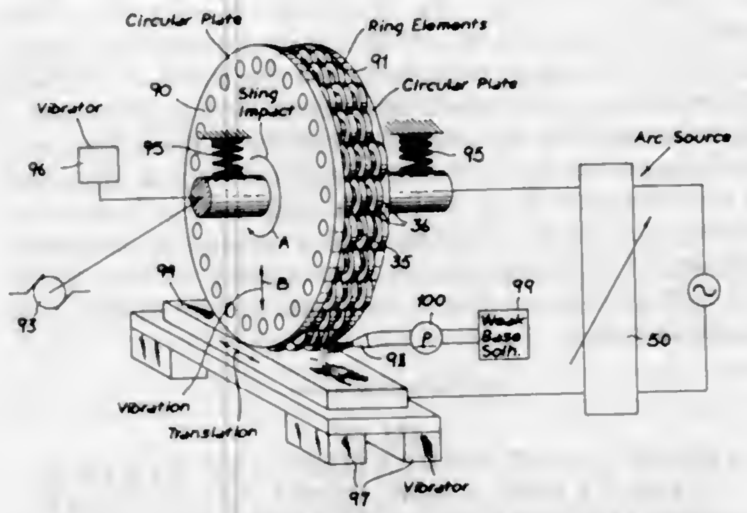
3,451,848
METHOD OF COATING MAGNET WIRE WITH A POLYTRIMELLITAMIDE

James R. Stephens, Gary, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Mar. 31, 1966, Ser. No. 538,966
Int. Cl. B44d *1/42*
U.S. Cl. 117—213 **5 Claims**

The varnishing of wire having a coat of polytrimellitamide is accomplished by annealing the coated wire at an elevated temperature and then applying the varnish as a solution in a solvent. An improved process which allows a lower annealing temperature involves treating the annealed coated wire with acetone, ethanol or formic acid prior to the varnishing.

3,451,849
METHOD OF AND APPARATUS FOR THE DESCALING OF METALS

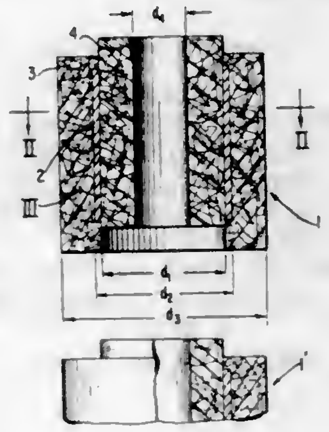
Zdzislaw Unterschuetz, Walecznych st. nr. 17/19; and Eustachy Naru zewicz, Zywiecka st. nr. 7/7, both of Gdansk, Poland; and Tadeusz Kaus, Wladyslawa Lokietka st. nr. 30, Sopot, Poland
Filed Sept. 9, 1964, Ser. No. 395,239
Int. Cl. C23g *3/00;* **B23d** *79/00;* **B08b** *1/02*
U.S. Cl. 134—1 **19 Claims**



A method of and a system for descaling metallic surfaces wherein a multiplicity of impact elements are slung against a metallic surface while an electric pulse is applied between the workpiece and the impact elements on contact of the latter with the surface; the impact element or the workpiece is set in vibratory motion transverse to the surface while a weak-base solution may be supplied to increase the rate of descaling.

3,451,850
ELECTROCHEMICAL GENERATOR OF LOW COLLISION IMPACT ENERGY

Michel Guy Marie Jochaud du Plessix, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Folie-Romainville, France, a company of France
Filed Jan. 29, 1968, Ser. No. 701,444
Claims priority, application France, Feb. 6, 1967, 93,807; Dec. 29, 1967, 134,357
Int. Cl. H01m *35/16, 1/02*
U.S. Cl. 136—6 **18 Claims**



Electrochemical cells of low collision impact energy designed for use especially in suspension in sounding balloons operating at high altitudes to reduce to negligible the danger of collision impact damage to high altitude aircraft, including concentric inner and outer relatively rigid cylinders of low specific density, for example, synthetic foam, between which thin electrodes, separator and electrolyte enclosed in a flexible envelope and forming an electrochemical cell surround the inner cylinder, being maintained under uniform pressure thereon by the outer cylinder which latter also may comprise plastic synthetic tape rather than a foam frame, leads from each individual generator cell extending externally of the envelope for electrical connection, a plurality of such cell assemblies being stackable in superposed relationship for vertical suspension and being interconnected to form a battery of light weight low collision impact energy. Heating means for the cells as by current from solar cells is also provided.

3,451,851
NEGATIVE ZINC ELECTRODES FOR SECONDARY CELLS

Douchan Stanimirovitch, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme) Romainville, Seine-St-Denis, France, a company of France
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,618
Claims priority, application France, Dec. 28, 1965, 44,024
Int. Cl. H01m *43/02, 13/06, 9/04*
U.S. Cl. 136—30 **16 Claims**

The disclosure relates to negative zinc electrodes for secondary cells, preferably of the alkaline type and to means for counteracting zinc proliferation or treeing as well as zinc passivation simultaneously during cyclic charging and discharging of such cells to increase the useful life by the use of finely divided zinc powder as the active material of the negative zinc electrode and of jellifying and swelling agents or products directly incorporated into the zinc powder prior to its application as a paste to a carrier, for example, or by incorporation of other types of swelling agents or products into the zinc powder via the electrolyte of the cells by addition thereof to such electrolyte, or by both procedures. Various additives having required jellifying and/or swelling effect are disclosed, as are various methods of incorporation of such additives or agents. Naphthol compounds are included.

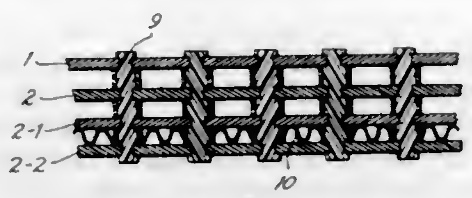
3,451,852
METHOD OF PRODUCING ELECTRICITY IN A FUEL CELL USING A HYDRAZINE FUEL AND GROUP 8 METAL PHOSPHIDES AS CATALYSTS

Edward F. Steigelmann, Park Forest, Ill., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Jan. 25, 1966, Ser. No. 522,830
Int. Cl. H01m *27/04, 43/04*
U.S. Cl. 136—86 **1 Claim**

A method of producing electricity in a fuel cell including Group 8 metal phosphides as catalysts for fuel cell anodes with an oxygen counter electrode, a basic electrolyte and hydrazine fuel.

3,451,853
PLATE ASSEMBLY, CELL AND METHOD FOR MAKING SAME

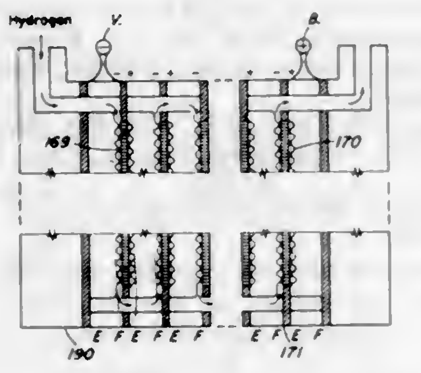
Dieter Spahrbier, Frankfurt am Main, Germany, assignor to Varta Aktiengesellschaft Hagen, Westphalia, Germany, a corporation of Germany
Filed May 13, 1966, Ser. No. 549,910
Claims priority, application Germany, May 13, 1965, V 28,464
Int. Cl. H01m *27/02*
U.S. Cl. 136—86 **15 Claims**



A fuel battery comprising a plurality of electrode plates held as a stack of plates in prepositioned spaced relationship and distance-setting bodies rigidly connecting said plates to each other and sealing the space between said plates from each other. The distance-setting bodies preferably have a gasket. A process for making such stack of plates.

3,451,854
CONCENTRATION FUEL CELL

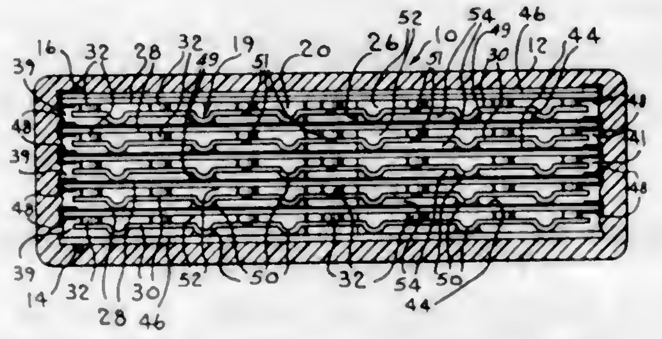
Wolfgang Krostewitz, Green Brook, N.J., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,754
Int. Cl. H01m *27/02*
U.S. Cl. 136—86 **1 Claim**



The present invention provides a fuel cell comprising a fuel chamber and oxidizer chamber, an electrolyte chamber having electrolyte therein, the electrolyte chamber being hermetically sealed from the first two chambers by a first closed electrode separating the electrolyte chamber from the oxidizer chamber, and by a second closed electrode separating the fuel chamber from the electrolyte chamber. Each of the electrodes are composed of a material selectively permeable to only one of the cell reactants and substantially impermeable to the others, their impurities, and reaction products.

3,451,855
DEFERRED ACTION BATTERY

Kenneth R. Jones, Mequon, and Leonard J. Burant and Donald R. Wolter, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Continuation of application Ser. No. 287,171, May 29, 1963. This application Sept. 13, 1966, Ser. No. 579,171
Int. Cl. H01m *17/06*
U.S. Cl. 136—90 **20 Claims**



In an improved action battery having cells, each comprising an anode, a cathode, reactive space therebetween, and means for providing ingress of electrolyte to the reactive space, improved structural features which may include nonreactive space for thermal purposes, a unique unitary casing, unique communicating chambers between the spaces, unique electrode configurations to define the spaces without distortion of the electrodes, and combinations of these and other features.

3,451,856
TETRAFLUOROETHYLENE-COATED CATALYTIC NONPOROUS METALLIC FUEL CELL ANODE AND PROCESS OF MAKING SAME

Edward O. Fraase, Woodstock, and Glenn A. Marsh, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Jan. 28, 1965, Ser. No. 428,853
Int. Cl. H01m *27/06*
U.S. Cl. 136—120 **17 Claims**

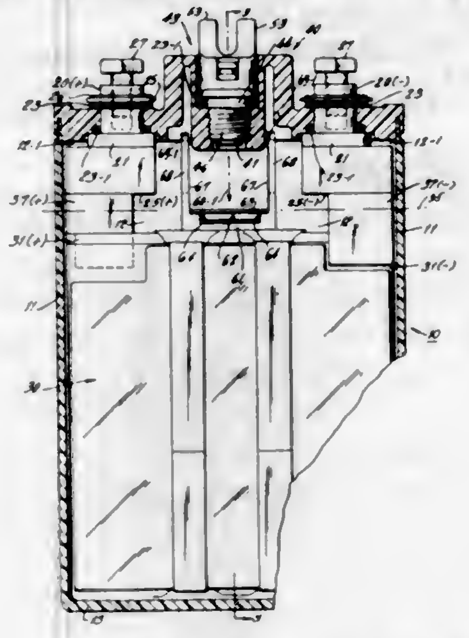
1. In the method of preparing a fuel cell electrode wherein an electrochemical catalyst is electrolytically deposited on the surface of a nonporous, impermeable, metal substrate, the improvement in combination therewith which consists essentially of coating the thus formed catalyst-substrate combination with a thin film of tetrafluoro-ethylene resin, the thickness of said film being sufficiently small so as not to affect the catalytic properties of said electrochemical catalyst deposited on said substrate and said film containing about 10^{-5} to 10^{-3} gm. of resin per cm.^{2} of the electrode, whereby the adhesion of said electrochemical catalyst to said substrate is improved.

13. An anode for a fuel cell consisting essentially of a noble metal catalyst deposited on a nonporous, impermeable metal substrate and a thin coating of tetrafluoroethylene resin bonded onto the outer surface of the noble metal deposit.

3,451,857
LIQUID LEVEL INDICATORS AND PARTICULARLY LEVEL INDICATORS FOR INDICATING THE ELECTROLYTE LEVEL IN VENTED RECHARGEABLE BATTERIES

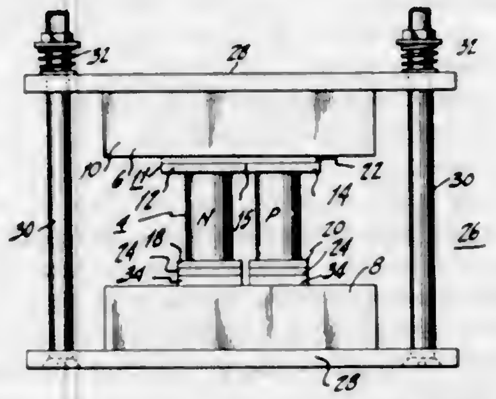
Le Roy Christian, Garrison, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed June 21, 1967, Ser. No. 647,726
Int. Cl. H01m *31/04*
U.S. Cl. 136—182 **8 Claims**

For indicating the level of liquid, such as the electrolyte in the casing of a vented rechargeable battery, a light-reflecting inner layer reflects an exterior light beam through an overlying outer light transmitting layer only when the liquid in the casing is at a level high enough to fill the space between the two layers. The outer layer impedes transmission of the light from the inner light reflecting layer when the liquid drops below a level at which it fills the space between the two layers.



3,451,858
THERMOELECTRIC DEVICE WITH GRAPHITE ELEMENTS

Andrew G. F. Dingwall, Cedar Grove, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 502,946
Int. Cl. H01v *1/30*
U.S. Cl. 136—205 **1 Claim**

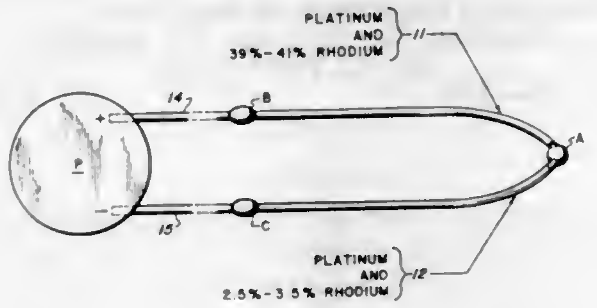


1. A thermoelectric device comprising at least two semiconductor thermoelements of opposite type conductivity and means for electrically connecting said thermoelements, each of said thermoelements having two ends, at least one of the ends of one of said thermoelements being bonded to a first contacting member of a material other than graphite, a first graphite member bonded to the other end of said one thermoelement, a second graphite member engaged with said first graphite member, a second contacting member of a material other than graphite bonded to said second graphite member, and means for resiliently pressing said graphite members together.

3,451,859
NOBLE METAL THERMOCOUPLE HAVING BASE METAL COMPENSATING LEADS

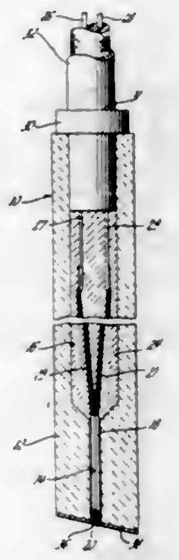
Edward D. Zysk, Livingston, Eugene E. Osovitz, Englishtown, and Robert W. Stephans, Paterson, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Aug. 31, 1967, Ser. No. 664,793
Int. Cl. H01v *1/10*
U.S. Cl. 136—227 **6 Claims**

The present invention deals with a noble metal thermocouple comprising platinum-rhodium vs. platinum-rhodium as thermocouple legs, with each leg having connected thereto a base metal compensating lead closely approximating the E.M.F. output of its respective thermocouple leg, measured against a common standard thermocouple element, over the range of about 0° C. to about 1000° C. Thus, when the compensating leads are each connected to their respective thermocouple legs, the E.M.F. output of the couple formed by the base metal leads, over the range of from about 0° C. to about 1000° C. at the connection points between the leads and the thermocouple legs, will closely approximate the E.M.F. output of the noble metal thermocouple in this temperature range. The thermocouple is capable of measuring temperatures to about 1750° C.



3,451,860
THERMOCOUPLE WITH REDUCING ATMOSPHERE PRODUCING SHEATH

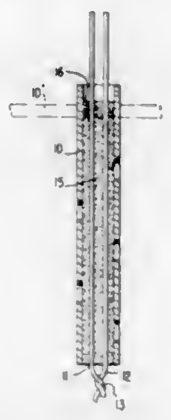
Karl Schwartzwalder, Holly, and Morris Berg, Grand Blanc, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 17, 1965, Ser. No. 514,580
Int. Cl. H01v *1/02*
U.S. Cl. 136—230 **5 Claims**



A thermocouple assembly having a fast temperature response for measuring temperatures up to 4000° F. for a period of time up to 15 minutes is disclosed. The thermocouple assembly has a temperature sensing junction which is positioned in a strong ceramic insulator which has been impregnated with an oxidizable material. The temperature sensing junction has a thin ceramic coating on the end thereof. The oxidizable material in the impregnated insulator oxidizes at high temperatures to form a reducing atmosphere about the thermocouple junction which prevents the junction from being oxidized at high temperatures. The thin ceramic coating permits the thermocouple to have a temperature response of the order of 50 milliseconds or less and protects the thermocouple junction from being eroded when the thermocouple passes through gas at high speed.

3,451,861
SHEATHED CONDUCTOR WITH HERMETIC SEAL

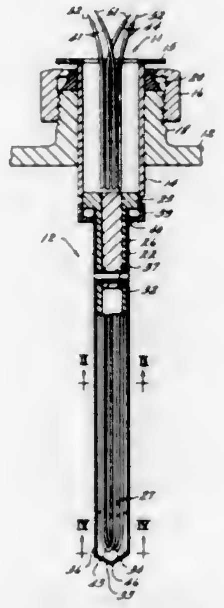
William D. Gordon, Lynn, and Robert S. Norman, Marblehead, Mass., assignors to General Electric Company, a corporation of New York
Filed Feb. 23, 1967, Ser. No. 618,168
Int. Cl. H01v *1/08*
U.S. Cl. 136—230 **3 Claims**



A sheathed conductor having a primary insulant is hermetically sealed with a finely pulverized mixture of glass, such as Corning Glass Code 1990, and 30%–40% by weight of magnesium oxide. The mixture is cold pressed, heated to the working point of the glass, and then cooled.

3,451,862
TEMPERATURE SENSOR PROBE

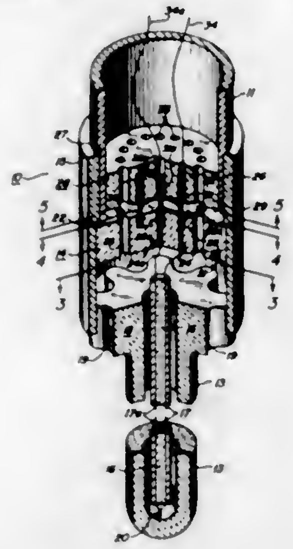
Nathan S. Burgess, Jr., Westchester, and Carroll W. de Lisse, Deer Park, Ohio, assignors, by mesne assignments, to the United States of America
Filed Sept. 6, 1966, Ser. No. 577,330
Int. Cl. H01v *1/02*
U.S. Cl. 136—231 **9 Claims**



A temperature sensing probe is disclosed which comprises a hollow relatively stiff structural core and a loose fitting thin-walled shroud covering the core. Core design is disclosed wherein the leading edge of the core has a thickness which is large relative to that of the remainder of the probe, thereby promoting even temperature distribution throughout the core and minimizing distortion thereof. Means for securing sheathed thermocouple leads to the core are also disclosed.

3,451,863
SINGLE-CAST IMMERSION THERMOCOUPLE FOR CONTINUOUS MEASUREMENT OF MOLTEN METAL TEMPERATURES

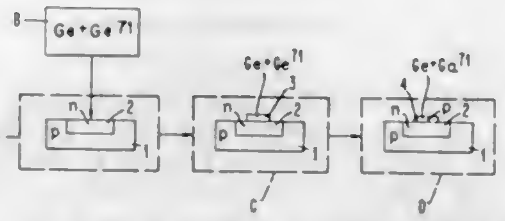
Kenneth H. Gee, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed July 7, 1965, Ser. No. 470,117
Int. Cl. H01v *1/04*
U.S. Cl. 136—234 **6 Claims**



A disposable air-cooled thermocouple assembly including a protection tube having an enlarged upper shoulder, a mounting collar disposed around and extending upwardly from the protection tube shoulder, a connector block assembly mounted within but spaced from the upper end of the mounting collar and having a pair of contact members, an insulator disposed within the protection tube, and thermoelement wires extending from the connector block contact members downwardly through the insulator to the lower end of the protection tube where they join to form a hot junction. The assembly mounting collar is adapted to fit the lower end of a housing which includes thermocouple lead wires and a connector block having contacts that connect with the lead wires and are adapted to mate with the contacts of the thermocouple assembly connector block. Apertures in the housing connector block allow cooling and purging air conveyed to the housing to pass to the disposable thermocouple assembly. Apertures in the thermocouple assembly connector block permit air from the housing to pass through the assembly to the shoulder of the protection tube which contains means to allow the air to pass from the thermocouple assembly.

3,451,864
METHOD OF GROWING DOPED SEMICONDUCTOR MATERIAL FROM A SOURCE WHICH INCLUDES AN UNSTABLE ISOTOPE WHICH DECAYS TO A DOPANT ELEMENT

Sol Krongelb, Somers, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 6, 1965, Ser. No. 511,641
Int. Cl. H01l *7/34, 7/36*
U.S. Cl. 148—1.5 **13 Claims**



1. Method of growing a doped semiconductor material comprising the steps of:

establishing a source of semiconductor material selected from the group consisting of elemental and compound semiconductors;

including in said source an unstable isotope which decays to a dopant element after semiconductor material growth; and

growing said doped semiconductor material.

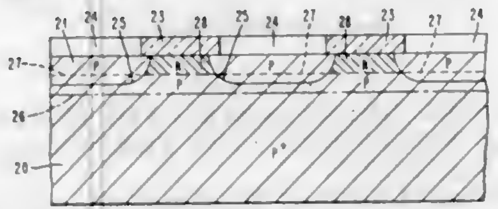
3,451,865
CORROSION-PROOFING PRIMER COATING AND METAL ARTICLE COATED THEREWITH

John Bretz, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed June 3, 1966, Ser. No. 554,974
Int. Cl. C23f *7/26;* **C08f** *21/02*
U.S. Cl. 148—6.16 **10 Claims**

Metal coating compositions are prepared from (A) a composition consisting essentially of one part of a polymeric polyol, about 0.05–5.0 parts of an epoxy aryl ether, and about 0.1–2.0 parts of phosphoric acid; (B) about 0.01–1.5 parts of a dilute aqueous solution of an inorganic, water-soluble chromium compound containing hexavalent chromium; and (C) about 4–30 parts of a filler. These compositions are particularly useful as protective primers over which paints may be applied.

3,451,866
SEMICONDUCTOR DEVICE

Walter E. Mutter, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application May 24, 1963, Ser. No. 283,028, now Patent No. 3,319,311, dated May 16, 1967. Divided and this application May 5, 1967, Ser. No. 636,335
Int. Cl. H01l *7/36, 11/00, 3/12*
U.S. Cl. 148—33.5 **7 Claims**



An intermediate structure in the fabrication of a semiconductor device which includes a body of semiconductor material of one conductivity type and a layer of semiconductor material of the opposite conductivity type contiguous with the body and defining a PN junction therewith. A region of the one conductivity type extends through at least a selected portion of the layer into the portion of the body thereunder. The impurity surface concentration in the region of the one conductivity type is sufficient to inhibit inversion of the surface to the semiconductor material of the opposite conductivity type.

3,451,867
PROCESSES OF EPITAXIAL DEPOSITION OR DIFFUSION EMPLOYING A SILICON CARBIDE MASKING LAYER

Ernest A. Taft, Jr., Schenectady, and Peter V. Gray, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 31, 1966, Ser. No. 554,021
Int. Cl. H01l *7/44, 7/36;* **B44d** *1/52*
U.S. Cl. 148—175 **12 Claims**

1. A method of producing a semiconductive device comprising the steps of:

providing a monocrystalline silicon wafer of predetermined conductivity;

forming a layer of silicon carbide over selected areas of a surface of said wafer, said layer being effective to mask said selected areas;

establishing an atmosphere containing an element capable of producing a different conductivity in silicon; and

heating said wafer in said atmosphere to diffuse said element into said wafer only at surface regions not covered by said silicon carbide to convert a region of said silicon to a different conductivity.

5. A method as claimed in claim 1 wherein

said region of said silicon of different conductivity is provided by epitaxially depositing from a source a layer of silicon of opposite conductivity on the surface regions not covered by said silicon carbide layer.

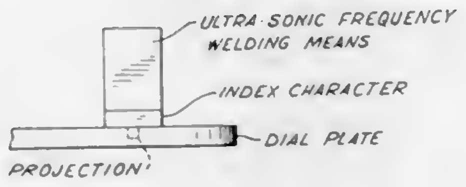
3,451,868
WATER-BEARING EXPLOSIVE COMPOSITIONS GELLED WITH POLYMERIC AMIDE-ALDEHYDE AND METHOD OF MAKING SAME

Marvin L. Peterson, Woodstown, N.J., assignor to E. I. du Pont de Nemours and Co., Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 4, 1967, Ser. No. 636,010
Int. Cl. C06b *1/00*
U.S. Cl. 149—60 **28 Claims**

A water-bearing explosive composition comprising a mixture of water, fuel, inorganic oxidizing agent and a gelling agent. The gelling agent is present in an amount of about from 0.1 to 5% by weight of the explosive composition and said gelling agent is an aldehyde-crosslinked substituted or unsubstituted poly(acrylic amide). The explosive composition is made by mixing water, fuel, inorganic oxidizing agent and gelling agent. The gelling agent added is composed of about 0.5 to 10%, by weight, based on the weight of the aqueous phase of the composition, of a soluble polymer comprising units of an aliphatic acrylic amide, e.g., acrylamide, crosslinked by about from 0.2 to 5%, by weight, based on the weight of the amide of an aliphatic aldehyde, e.g., formaldehyde. The acrylic amide can be added as polymer, or an acrylic amide monomer can be added to the mixture and said monomer polymerized to the corresponding poly(acrylic amide), then crosslinked.

3,451,869
METHOD OF ULTRASONICALLY WELDING PLASTIC INDEX CHARACTERS TO A PLASTIC CLOCK DIAL PLATE

Jean Nydegger, Macolin, Bern, Switzerland
Filed Apr. 5, 1965, Ser. No. 445,717
Claims priority, application Switzerland, Apr. 6, 1964, 4,312/64
Int. Cl. B32b *27/08*
U.S. Cl. 156—73 **2 Claims**

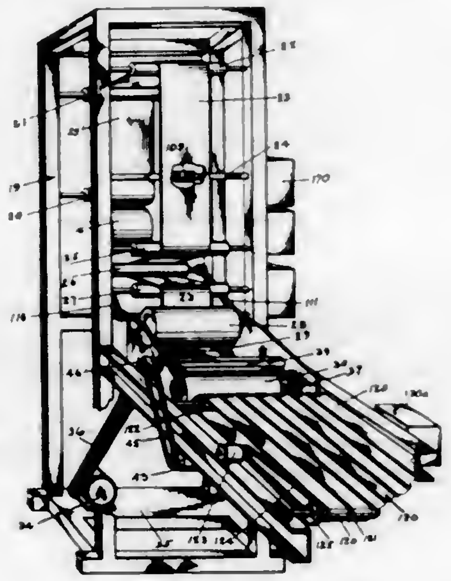


A method for manufacturing a clock dial in which index characters are welded ultrasonically on a dial plate, the index characters and dial plate being respectively constituted of synthetic thermoplastic resin material of which the hardness of the index characters is substantially greater than that of the dial plate.

3,451,870

CONTINUOUS PLASTIC BAG MAKING MACHINE

Melvin A. Pearson, Indianapolis, Ind., assignor, by mesne assignments, to Capital Paper Company, Indianapolis, Ind., a corporation of Indiana
Filed Aug. 24, 1964, Ser. No. 391,533
Int. Cl. B32b *31/18, 31/04;* **B31b** *21/60*
U.S. Cl. 156—250 **9 Claims**

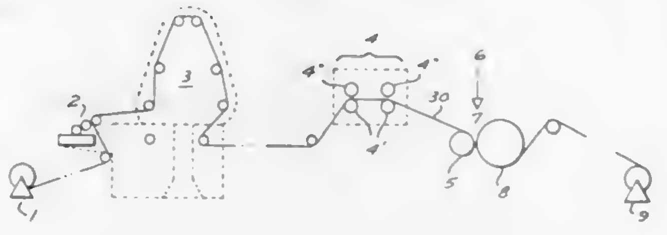


A machine continuously making heat sealed members such as bags from a tape of at least a two ply thickness of a thermoplastic film, wherein the tape is continuously fed over a rotating member and extends by a forward end portion therebeyond; a heated wire is brought down across and against the tape over said member to melt together in a line the plies thereof; and while the molten state exists, pulling the forward end portion away from said tape, at a faster speed than that of the tape behind the melted line; the melted film portion flowing to make a seal between the plies on both the tape advancing end and the trailing end of the severed portion.

3,451,871

METHOD OF TREATING METALLIC SURFACES

Heinrich Bauer, Grevenbroich, Hans Römgens, Monchen-Gladbach, and Hans-Jürgen Sontag and Franz Zeppelzauer, Grevenbroich, Germany, assignors to Rheinische Blattmetall Aktiengesellschaft, Grevenbroich, Germany, and Dessau Vetaphone Gesellschaft, Hamburg, Germany
Filed May 25, 1965, Ser. No. 458,715
Claims priority, application Germany, May 26, 1964, R 37,966; May 27, 1964, R 37,976
Int. Cl. C23b *11/00*
U.S. Cl. 156—244 **13 Claims**

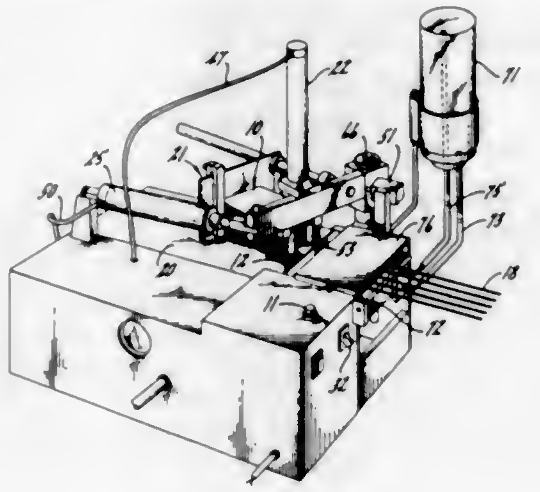


A method of treating at least one surface of a metal member, such as for instance an elongated sheet metal member, so as to improve the adherence of a cover layer thereto, in which the surface is subjected to the action of a high voltage, high frequency alternating field established between the member and a rotating electrode spaced therefrom.

3,451,872

METHOD AND APPARATUS FOR REMOVING BACKING SHEETS FROM THIN LAMINATES

Edwin F. Townsend, Palos Hills, Ill., assignor to Easco Leasing Corporation
Filed Dec. 9, 1965, Ser. No. 512,763
Int. Cl. B32b *31/18*
U.S. Cl. 156—254 **22 Claims**



A powered machine for stripping the backing sheets from individual adhesive-coated appliques is described in which individual labels in a confined stack are moved corner-first into a fixed stripping blade, and in which the stripped corner of the backing sheet is caught in the nip of a pair of pull-through rollers to cause the entire applique to be drawn across the blade, stripped and delivered for use. Powered solvent applying means are used for activating the adhesive on the applique.

3,451,873

METHOD FOR CROSSLINKING POLYPHENYLENE SULFIDE POLYMERS AND PREPARING LAMINAR STRUCTURES

Ian R. Harrison, Cleveland Heights, Ohio, and Harry A. Smith and Carl E. Handlovits, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 1, 1967, Ser. No. 613,106
Int. Cl. C08g *43/00;* **C09j** *3/16, 5/06*
U.S. Cl. 156—325 **2 Claims**

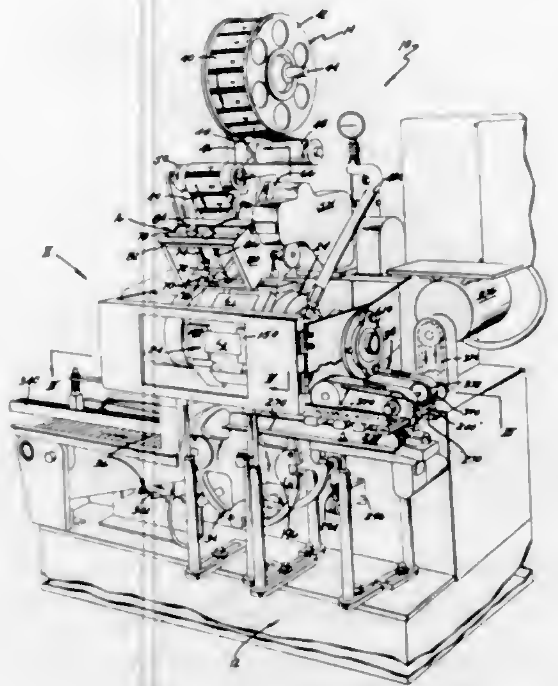
The present invention concerns a novel method for crosslinking polyphenylene sulfide or sulfoxide polymers which comprises mixing the polymer and a reactive metal, both in a finely divided state, fluidizing the mixture and curing the mixture, by the application of heat. The present invention also concerns a method of laminating various materials which comprises introducing the above mixture between the laminar structures, such as ceramics and metals, heating under pressure the sandwich formed, and postcuring for from 4 to 72 hours at 300° to 400° C.

3,451,874

LABELING MACHINE

William H. Solomon, Grand Rapids, Donald J. Van Weelde, Coopersville, and Carrel M. Forward, Grand Rapids, Mich., assignors to Oliver Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Oct. 21, 1965, Ser. No. 500,047
Int. Cl. B26d *5/38;* **B65c** *9/02*
U.S. Cl. 156—354 **16 Claims**

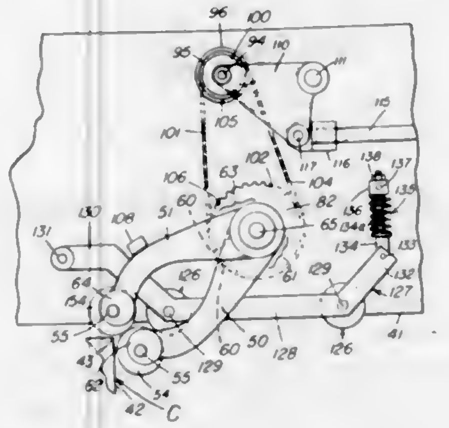
A labeling machine for controllably cutting individual labels from a repeat pattern tape, transferring the labels from the cut off to an applicator, and accurately applying the labels to individual advanced articles, the transfer and article advancing machine components being intermittently driven to be stationary during transfer and application.



3,451,875

TAPE APPLYING MECHANISM EQUIPPED WITH MEANS TO ELIMINATE A TAPE FOLD

Winton Loveland, Freeport, and Saul Warshaw, New York, N.Y., assignors to Loveshaw Corporation, Farmingdale, N.Y., a corporation of New York
Filed Oct. 20, 1965, Ser. No. 498,979
Int. Cl. B65b *51/06*
U.S. Cl. 156—468 **6 Claims**

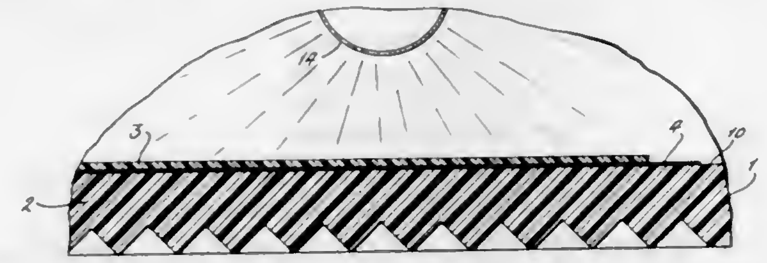


A gummed tape applying device for carton closing machines. It includes a pair of pivoted swinging arms opposed to each other with one ahead of the other in the direction of travel of the carton through the machine. Each swinging arm has a tape-engaging member which will wipe the tape progressively against carton outside faces including end walls and folded closing side flaps with end portions of the latter opposed in a longitudinal zone along which the tape is to be applied. Additional tape-engaging wipe-on means is floatingly supported in a position to intervene the wipe-on members of the swinging arms when the latter are spread apart in their tape applying action. This additional wipe-on means is elastically loaded to bias it toward the carton longitudinal zone so as to hold down substantially to a common plane the opposed end portions of the folded flaps as the arm wipe-on members wipe down thereagainst a length of the tape ahead of and behind this loaded wipe-on means. This prevents a loose loop of the tape being formed at the trailing carton corner over which it will be lapped that may otherwise be caused by spring up of the folded flap end portions as the back parts of the latter pass beyond the back arm wipe-on member.

3,451,876

PLASTIC LIGHT-TRANSMITTING PANEL

Eugene F. Edelmann, Bridgeton, and Richard S. Hawes III, Creve Coeur, Mo., assignors to K-S-H, Inc., a corporation of Missouri
Filed May 28, 1964, Ser. No. 370,887
Int. Cl. B44f *1/04;* **B32b** *27/30, 27/06*
U.S. Cl. 161—2 **1 Claim**

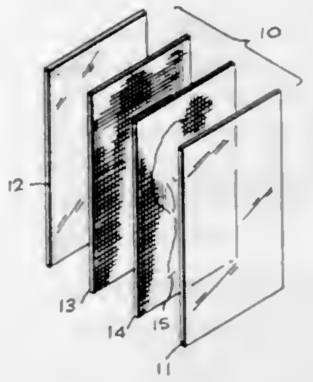


A panel for use in fluorescent lighting fixtures includes a light-transmitting polystyrene base with broad faces, a thin film of polyvinyl fluoride adhesively secured to a broad face of the base and an ultraviolet screening agent between the free surface of the film and the face of the base to which the film is adhered.

3,451,877

ARTICLES FOR CREATING UNIDIRECTIONAL VISION EFFECTS

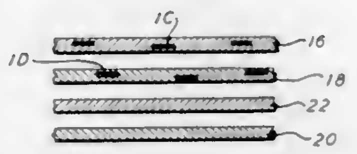
Nathan B. Herschman, Los Angeles, Calif.
(7331 Independence Ave., Canoga Park, Calif. 91303)
Filed Sept. 7, 1965, Ser. No. 485,222
Int. Cl. B44f *1/00*
U.S. Cl. 161—3 **5 Claims**



A panel assembly permits relatively undiminished vision therethrough from one side, while greatly diminishing vision therethrough from the opposite side. An opaque open mesh grid defines a plurality of light-porous openings and is provided with a bright, eye-attractive light reflective image on an obverse side thereof. A darkly colored translucent panel of reduced transparency is positioned on the reverse side of the grid. In one embodiment, the panel assembly is provided with a second opaque grid of the same dark color as the translucent panel between the translucent panel and the first opaque grid in registration therewith. In another embodiment, the opaque grid is provided directly on a surface of the translucent panel with a light reflective layer provided on the other side of the opaque areas of the grid and the brightly image positioned on the light reflective layer.

3,451,878
LAMINATED ARTICLE WITH DECORATIVE DOTS DISPERSED THERETHROUGH

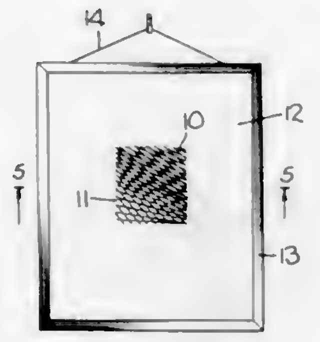
Frederick S. T. Fung, 29 Charlton St., Lunenburg, Mass. 01462, and Randall H. Doughty, 225 Walton St., Fitchburg, Mass. 01420
Filed Mar. 29, 1965, Ser. No. 443,241
Int. Cl. B44f *5/00;* **B32b** *29/00*
U.S. Cl. 161—5 **5 Claims**



1. A heat and pressure consolidated laminated article comprising a plurality of fibrous sheets impregnated and bonded together with a thermosetting resin, decorative particles disposed in one of said sheets and impregnated with said thermosetting resin, said decorative particles comprising paper particles having a decorative coating thereon, said paper particles having a Gurley densometer value in the range of less than 70 seconds and greater than 20 seconds for 400 milliliters of air.

3,451,879
TECHNIQUE FOR PRODUCING STRING COMPOSITIONS

Sue Fuller, 44 E. 63rd St., New York, N.Y. 10021
Filed Feb. 2, 1965, Ser. No. 429,728
Int. Cl. B44f *3/00*
U.S. Cl. 161—5 **9 Claims**

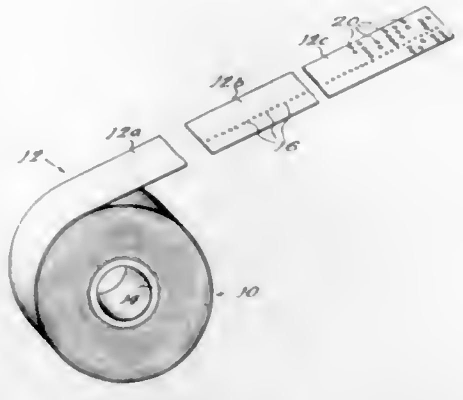


A method and the resulting article of forming a string decorative panel. A colored string is wound upon a notched light transmitting plastic matrix forming an abstract pattern which is subsequently embedded in light transmitting plastic.

3,451,880
DATA TAPE WITH POSITION IDENTIFICATION MEANS

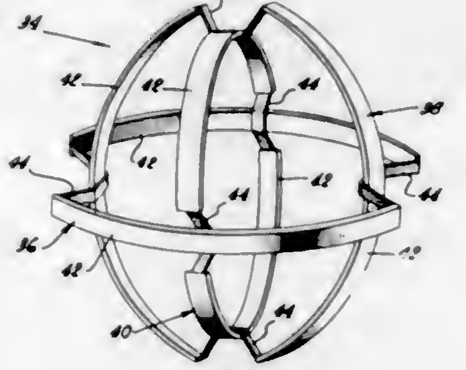
Lewis D. Kay, Palatine, Ill., assignor to Uarco Incorporated, a corporation of Illinois
Filed Feb. 10, 1964, Ser. No. 343,690
Int. Cl. B44f *1/00;* **B32b** *3/10;* **G01d** *15/34*
U.S. Cl. 161—6 **1 Claim**

A color coded data processing tape which has a metallic core and will receive punched information holes offset from the center line of the tape, colors on opposite sides of the tape being different enabling the front end of the tape to be distinguished from the trailing end of the tape.



3,451,881
GEODESIC STRUCTURE

Benjamin P. Gurule, 356 W. Ave. 43, Los Angeles, Calif. 90065
Filed Dec. 20, 1965, Ser. No. 515,114
Int. Cl. D04d *7/04*
U.S. Cl. 161—7 **10 Claims**

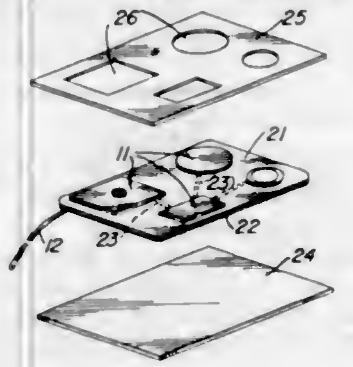


A self-supporting geodesic structure composed of three or more similar elongated bands each being made up of a series of connected structural elements one less in number than the number of bands. The geodesic bands are interengaged with each of the structural elements of each band overlying or underlying an element of another band so as to define a space container with alternating elements of bands under tension and compression to provide support energy for the structure.

3,451,882
FLAT-FOLDED INFLATABLE REPLICAS OF THREE-DIMENSIONAL ARTICLES

Robert N. Propoggio, 325 N. Scoville, Oak Park, Ill. 60302
Filed Mar. 10, 1966, Ser. No. 533,572
Int. Cl. A63h *33/30*
U.S. Cl. 161—17 **3 Claims**

The hollow formation made of flexible plastic film, shaped as a replica of a predetermined three-dimensional object, collapsed to substantially flat form and mounted between a pair of flat sheets, one of said sheets having an opening therein registering with the base outline of the collapsed formation and through which the said formation evolves to a three-dimensional shape upon being inflated.



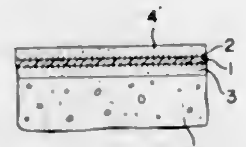
3,451,883
METHOD FOR SHAPING A MATERIAL IMPREGNATED WITH A NITROCELLULOSE-PLASTICIZER HYDROSOL AND THE RESULTING SHAPED ARTICLE

Mark Plunguian, Newark, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 9, 1966, Ser. No. 571,190
Int. Cl. B32b *23/18;* **B44d** *1/00;* **B29c** *1/00*
U.S. Cl. 161—46 **13 Claims**

A process for preparing form-stable, shaped articles of nitrocellulose is taught wherein a filler material is impregnated with a nitrocellulose-plasticizer hydrosol and shaped while wet. Shaping can be effected by, e.g., casting or thermoforming. The filler material can be fibrous, particulate or in web form shaped articles that can be made include combustible cartridge cases and flash paper.

3,451,884
WATERPROOF PILE COATED SHEET FOR LAMINATING

Takamitsu Anno, Tokyo, Kohei Masuda, Yokkaichi-shi, Kikuo Hachiya, Tokyo, and Takeo Hattori, Yokkaichi-shi, Japan, assignors, by direct and mesne assignments, of one-half each to Mitsubishi Petrochemical Company Limited, Tokyo, Japan, and Koken Kaihatsu Kabushiki Kaisha, Tokyo, Japan
Filed July 30, 1965, Ser. No. 476,045
Claims priority, application Japan, Aug. 5, 1964, 39/43,944
Int. Cl. B32b *19/08, 19/02, 13/12*
U.S. Cl. 161—53 **2 Claims**

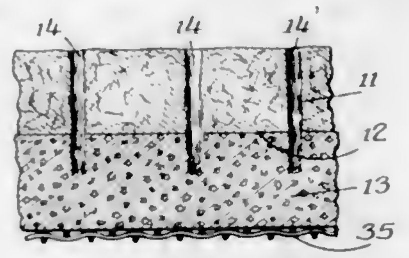


A waterproof sheet is provided which consists of a film base of a substance such as ethylene-vinyl acetate copolymer or ethylene-propylene copolymer, there being asbestos piles extending into and embedded in the film. A hydraulic cement layer can be connected to the sheet through the intermediary of the asbestos piles.

3,451,885
NEEDLED COMPOSITE WEB AND METHOD OF MAKING THE SAME

Joseph J. Klein, New York, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 208,235, July 9, 1962. This application Sept. 24, 1964, Ser. No. 398,907
Int. Cl. B32b *5/18, 5/06*
U.S. Cl. 161—80 **19 Claims**

11. A composite web material comprising a nonwoven fibrous web, a sheet of flexible foam, and an open mesh woven fabric adjacent to said flexible foam, said web being needled to said sheet of foam, the needled fibers of said web extending into but not through said foam sheet, and said open mesh fabric being attached to the free surface of said foam opposite said fibrous web.



3,451,886
METHOD OF MAKING IMPROVED GLASS FIBER MATERIAL AND LAMINATES THEREOF

William J. Eakins, Wilbraham, Mass., assignor to A. Wimpfheimer & Bro., Inc., Stonington, Conn., a corporation of New York
No Drawing. Filed Apr. 21, 1966, Ser. No. 544,075
Int. Cl. B32b *17/02, 27/38*
U.S. Cl. 161—93 **17 Claims**

A method for treating glass fibers for making glass-resin composites and laminates whereby the glass fibers are treated with a hydrolyzed solution of an organo-chromic chloride and an organo-silane.

3,451,887
BLENDS OF CELLULOSE ACETATE AND POLYOLEFIN FIBERS IN TOW FORM

George P. Touey and Robert C. Mumpower II, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 65,941, Oct. 31, 1960. This application Mar. 22, 1963, Ser. No. 267,325
Int. Cl. A24f *13/04;* **D01d** *5/22;* **D01f** *3/36*
U.S. Cl. 161—168 **2 Claims**

A filter material intermediate for preparing improved tobacco smoke filter elements therefrom wherein said filter intermediate consists of a tow blend of crimped continuous filaments of a polyolefin and crimped continuous filaments of a cellulose ester, the tow being further characterized in that the cellulose ester filaments comprise 15–90% of the combination and are susceptible to being fused together at random points of contact by the addition of high boiling organic ester type plasticizers.

3,451,888
BLEACHING PULP HAVING HIGH CONSISTENCY WITH OZONE HAVING MOISTURE CONTENT NEAR 100%

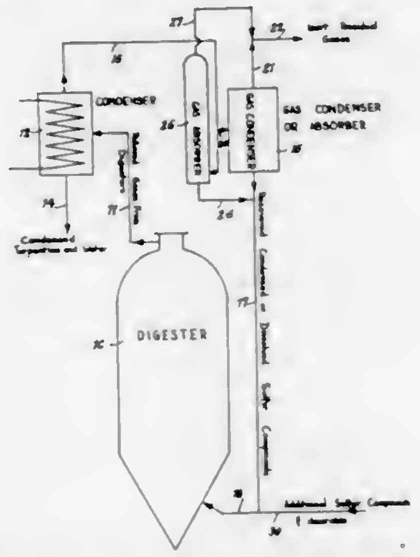
Bernard Ancelle and Marcel Plançon, Lyon, France, assignors to Progil, Paris, France, a corporation of France
Filed Apr. 28, 1966, Ser. No. 545,919
Claims priority, application France, Apr. 30, 1965, 45,940
Int. Cl. D21c *9/10, 9/16*
U.S. Cl. 162—65 **8 Claims**

A method of bleaching paper-making pulp which is an aqueous slurry having a dry consistency of 30–65% by passing a gaseous stream containing ozone which has a moisture content near 100% through the pulp.

3,451,889

METHOD OF DIGESTING WOOD BY THE KRAFT PROCESS UTILIZING ORGANIC SULFIDES

Adalberto Tirado, Mario Guevara, and Virgilio Gonzalez, Tlalpan, Mexico, assignors to Fabricas de Papel Loreto y Pena Pobre SA., Villa Obregon, Mexico, a corporation of Mexico
Filed Aug. 28, 1964, Ser. No. 393,495
Int. Cl. D21c *3/20*
U.S. Cl. 162—72 **6 Claims**



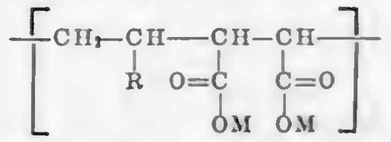
Wood pulp is produced by the kraft process operated by utilizing an alkaline cooking liquor containing not more than about 90% sodium sulfide, the balance of the sulfidity of the liquor being furnished by organic sulfur-containing compounds containing two sulfur-connected valences and comprising either pure mercaptans or organic sulfides or disulfides or compounds recovered from the gases relieved from the digesters.

3,451,890

ROSIN SIZE COMPOSITIONS

Joseph H. Stump, Jr., Pensacola, Fla., assignor to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 521,510, Jan. 19, 1966. This application Mar. 11, 1966, Ser. No. 533,409
Int. Cl. D21h *3/40;* **D21d** *3/00*
U.S. Cl. 162—168 **19 Claims**

A paper size composition comprises an alkali metal salt of rosin and about 0.1 percent to 15 percent, based on the weight of the rosin salt, of a polymeric polycarboxylic acid salt having repeating units of the structure.



$$\left[-\mathrm{CH_2}-\underset{\mathrm{R}}{\underset{|}{\mathrm{CH}}}-\underset{\mathrm{O{=}\underset{\underset{OM}{|}}{C}}}{\underset{|}{\mathrm{CH}}}-\underset{\mathrm{\underset{\underset{OM}{|}}{C}{=}O}}{\underset{|}{\mathrm{CH}}}-\right]$$

wherein R represents hydrogen, a lower alkyl group, a lower alkoxy group, or an aryl group and each M represents an alkali metal or ammonium. Illustrative of the useful polymeric polycarboxylic acid salts are the salts of methyl vinyl ether-maleic anhydride copolymers, ethylene-maleic anhydride copolymers, and styrene-maleic anhydride copolymers.

3,451,891

PROCESS FOR THE PRODUCTION OF GLUTAMIC ACID

Roger L. Harned, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 17, 1965, Ser. No. 514,700
Int. Cl. C12d *13/00, 13/06*
U.S. Cl. 195—47 **11 Claims**

Glutamic acid is produced from saccharide material containing excess growth factors (biotin) by absorbing the latter with microorganisms and then sterilizing said saccharide material containing said microorganisms and then using said sterilized saccharide material still containing the sterilized microorganism cells as the carbon source in a fermentation medium for producing glutamic acid.

3,451,892

PROCESS FOR THE PREPARATION OF STEROIDAL COMPOUNDS

Hershel L. Herzog, Glen Ridge, and Adriano Afonso, East Orange, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,076
Int. Cl. C12b *1/00;* **C07c** *169/00*
U.S. Cl. 195—51 **5 Claims**

A 3-hydroxy-19-nor-$\Delta^{1,3,5(10)}$-analog of a sterol or an ether or ester derivative thereof upon treatment with a microorganism capable of utilizing a sterol as a sole carbon source is converted to a 3-hydroxy-17-keto-19-nor-$\Delta^{1,3,5(10)}$-C-18-steroid or an ether thereof. Microorganisms useful in this process include certain species within the genera Corynebacterium Nocardia, Proactinomyces, Pseudomonas, and Mycobacterium. Examples describe in detail the preferred species of the process, i.e. the preparation of estrone by the microbiological action of Corynebacterium sp., ATCC 14887 (*Nocardia restrictus*) on each of 19-nor-1,3,5(10) - cholestatrien-3-ol, 19-nor-1,3,5(10)-campestatrien-3-ol, 19 - nor - 1,3,5(10)-stigmastatrien-3-ol and the acetate esters thereof. Also described is the conversion of the 3-methoxy ethers of the foregoing to estrone methyl ether via the action of Corynebacterium sp. ATCC 14887 (*Nocardia restrictus*).

3,451,893

METHOD OF RAPIDLY DETECTING MICROORGANISMS

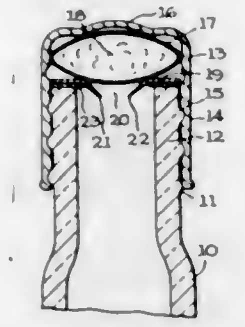
Robert G. Sanders, Minneapolis, Minn., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Sept. 27, 1966, Ser. No. 582,275
Int. Cl. C12k *1/06, 1/10*
U.S. Cl. 195—103.5 **9 Claims**

A method of rapidly detecting microorganisms by "poising" a mixture of an enzyme and a substrate whereby a given enzyme common to the microorganism is mixed with a selected substrate in predetermined concentrations to provide an equilibrium condition with respect to the production of an enzyme-substrate complex the condition being characterized by the production of minimum amounts of an end product, the microorganism is then added to the enzyme-substrate system to rapidly produce measurable amounts of end product.

3,451,894

GAS CAP FOR CULTURE TUBES

Ernest J. Anandam, Knoxville, Tenn., assignor to The University of Tennessee Research Corporation, Knoxville, Tenn., a corporation of Tennessee
Filed Apr. 28, 1967, Ser. No. 634,770
Int. Cl. C12b *1/00, 1/20*
U.S. Cl. 195—127 **7 Claims**

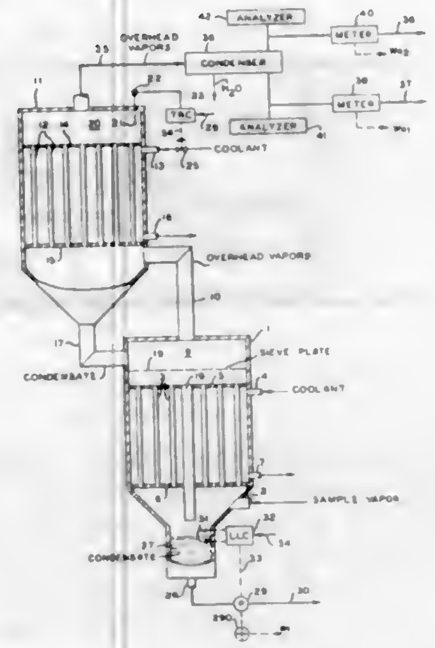


A cap for culture tubes for tubercle bacilli and other capnophilic bacteria comprising a cylindrical screw cap within which is a rupturable capsule containing CO_2.

3,451,895

CONTINUOUS SAMPLING AND ANALYZING SYSTEM WITH LIQUID-VAPOR SEPARATOR AND FLOW MEASURING MEANS

Paul U. Webb, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 610,996
Int. Cl. B01d *3/42, 3/14*
U.S. Cl. 196—132 **11 Claims**

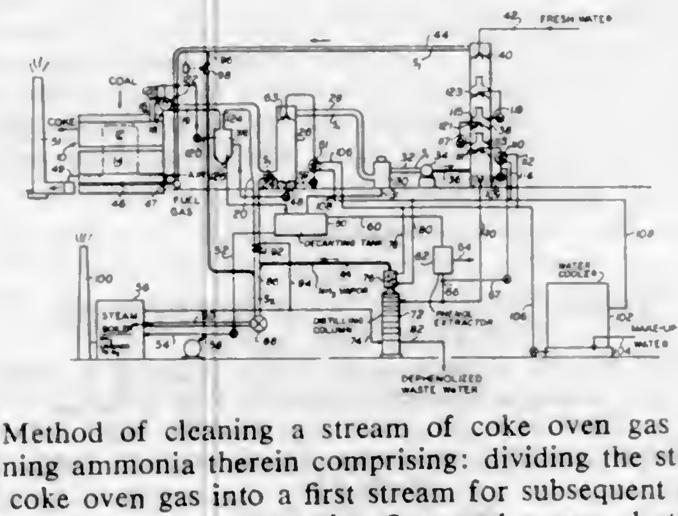


A continuous sampling system having a liquid-vapor separating vessel which maintains a vapor or liquid sample at a predetermind temperature level different than the incoming sample temperature thereby separating same into liquid and vapor portions. A liquid level controller manipulating a positive-displacement metering pump maintains the liquid level in said vessel at a constant level. The portion of sample having boiling point higher than the predetermined temperature is determined by measuring the speed of said pump. The portion of sample having boiling point lower than the predetermined temperature is determined either by measuring the flow of the sample entering said vessel or by measuring the flow of vapors passing overhead from said vessel.

3,451,896

METHOD OF CLEANING A STREAM OF COKE OVEN GAS AND APPARATUS THEREFOR

Erich F. Schön, Bochum, Germany, assignor to Otto Construction Corporation, New York, N.Y., a corporation of New York
Filed Apr. 7, 1967, Ser. No. 629,263
Int. Cl. C10b *49/02, 47/10*
U.S. Cl. 201—15 **10 Claims**

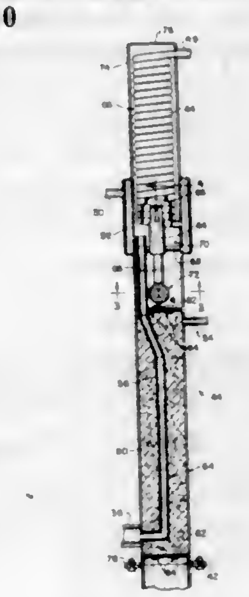


Method of cleaning a stream of coke oven gas containing ammonia therein comprising: dividing the stream of coke oven gas into a first stream for subsequent combustion in coke oven heating flues and a second stream for subsequent conversion to waste gases which are vented to the atmosphere, scrubbing the first stream with aqueous media to cleanse the gas and remove ammonia therefrom so as to form aqueous ammonia liquor, and passing the cleansed first stream to the heating flues and burning it therein to provide heat for destructive distillation of coal in the coke oven coking chambers. Method additionally contemplates distilling the aqueous ammonia liquor to form ammonia vapor, admixing the ammonia vapor with the second stream of coke oven gas, and passing the ammonia-rich second stream to a conversion zone and converting the stream to waste gas. Apparatus for effecting the foregoing method is also described.

3,451,897

APPARATUS FOR RECONCENTRATING GLYCOL AND THE LIKE

John W. Welch, Farmington, N. Mex., assignor to American Tank and Steel Corporation, Farmington, N. Mex., a corporation of New Mexico
Filed Feb. 2, 1967, Ser. No. 613,613
Int. Cl. B01d *3/42, 1/04*
U.S. Cl. 202—160 **3 Claims**

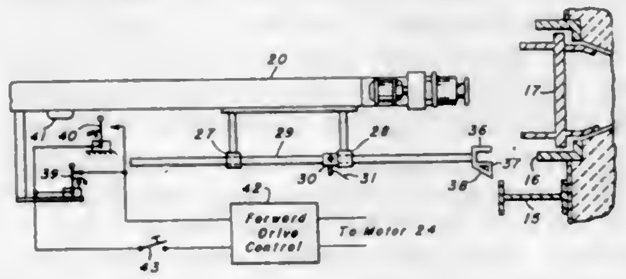


A gas treatment system includes a contactor and a reconcentrator for glycol used to absorb water vapor from the gas. Wet glycol from the contactor is preheated and supplied to a still column to which heated vapors are also supplied from a reboiler. As a result of heat transfer in the still column, water vapor rises from the column and liquid glycol descends to the reboiler for reuse in the contactor. Vapors from the still column are condensed, accumulated, and readmitted to the column in liquid form under the control of a thermostatically controlled valve. The valve is controlled in accordance with the vapor temperature to maintain the still top temperature at a desired level.

3,451,898

DEVICE FOR ALIGNING DOOR-HANDLING MECHANISM WITH A DOOR

Samuel J. Lo Presti, Clairton, and Wilfred F. Mohney, West Mifflin, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed July 17, 1967, Ser. No. 653,945
Int. Cl. C10b *25/00;* **F23m** *7/00*
U.S. Cl. 202—248 **9 Claims**



A device for aligning the door extractor of a coke pusher machine with a coke oven door. Includes a rod mounted on the extractor ram to engage parts around the door ahead of the ram. A system of limit switches stops operation of the ram if the rod does not engage properly because of misalignment.

3,451,899

PURIFICATION OF ACETONITRILE BY AN AZEOTROPIC DISTILLATION METHOD

Harold Russell Sheely, West Newton, Mass., assignor, by mesne assignments, to The Badger Company, Inc., Cambridge, Mass., a corporation of Delaware

Filed Dec. 21, 1965, Ser. No. 515,500

Int. Cl. C07c *121/32;* **B01d** *3/36*

U.S. Cl. 203—69 **11 Claims**

Crude aqueous acetonitrile usually obtained as bi-product from acrylonitrile manufacture is purified by distillation with an entraining agent in a column still in a manner to separate most of the HCN vapors overhead, accumulating concentrated acetonitrile bottoms, and trapping all intermediate impurities at an intermediate height of the still, withdrawing the same as a side stream, purifying all azeotropic components, and returning a solution of the entraining agent and the acetonitrile in a recycle stream to an intermediate point of the column.

3,451,900

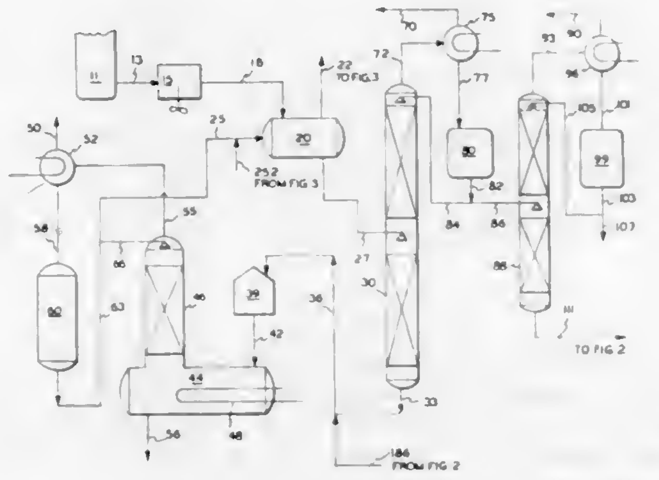
ADIPONITRILE RECOVERY BY MULTISTAGE VACUUM DISTILLATION

Werner Gey, Offenbach, Wolfgang Philipp, Dornigheim, Ewald Dittrich, Grosskrotzenburg, Horst Corsepius, Frankfurt, and Peter Bonders, Offenbach, Germany, assignors to Vickers-Zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen, a corporation of Germany

Filed June 14, 1966, Ser. No. 557,429

Int. Cl. C07c *121/26;* **B01d** *3/10, 3/40*

U.S. Cl. 203—75 **9 Claims**



There is disclosed a method for the production of pure adiponitrile from a reaction product containing adiponitrile, cyclopentanone, 2-cyan-cyclopenten-(1)-yl-amine and other components higher boiling than adiponitrile wherein cyclopentanone and 2-cyan-cyclopenten-(1)-yl-amine are distilled from the adiponitrile, the improvement which comprises subjecting the reaction product to a distillation for separation into a distillate comprising adiponitrile and all lower boiling components and a residue comprising components higher boiling than adiponitrile, and thereafter submitting said distillate to a multistage vacuum distillation process for separating the lower boiling impurities from the adiponitrile.

3,451,901

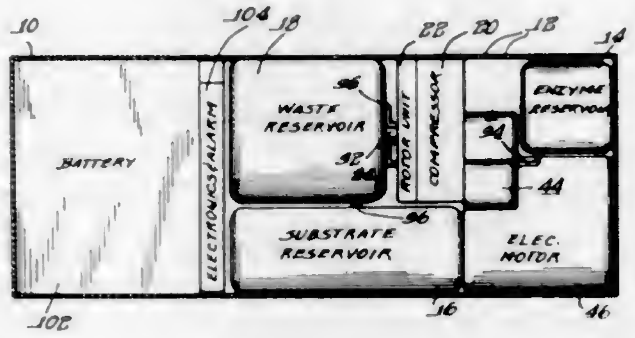
METHOD OF DETECTING NERVE GASES

Harvey N. Seiger, East Brunswick, and Robert J. Dagnall, Bound Brook, N.J., assignors to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey

Filed Oct. 11, 1966, Ser. No. 585,805

Int. Cl. G01n *27/26;* **B01h** *1/00*

U.S. Cl. 204—1 **5 Claims**



1. A method of detecting nerve gases comprising providing an enzyme capable of being inhibited or poisoned by a nerve gas, and a substrate capable of activation by the enzyme, combining the enzyme and the substrate in an electrochemical cell to establish therein a substantially constant electrical condition, continuously supplying enzyme and substrate to said electrochemical cell to maintain said electrical condition therein, exposing the enzyme-substrate system to air suspected of contamination with a nerve gas, and utilizing any change in said electrical condition to activate signalling means.

3,451,902

PROTECTIVE LOCALIZED AREA RESIN COATINGS FOR ELECTROPLATING

Steven Levinos, Vestal, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 543,070, Apr. 18, 1966. This application July 5, 1966, Ser. No. 562,466

The portion of the term of the patent subsequent to June 25, 1985, has been disclaimed

Int. Cl. C23b *5/48*

U.S. Cl. 204—15 **4 Claims**

1. In a process of electroplating an aluminum sheet with a metal selected from the group consisting of copper and chromium, said electroplating being carried out at an acid pH, the improvement which comprises employing as the cathode an oxide-free aluminum sheet having coated thereon a protective layer comprising a film-forming, alkaline-soluble acrylic resin containing on a mole basis from about 80% to about 99% of acrylate units and from about 1 to about 20% of acrylic acid units, said resin being capable of forming a strong, adhesive bond with the aluminum surface and wherein said resin is capable of being completely removed from the aluminum surface subsequent to the electroplating operation by subjecting same to an alkaline medium maintained at a pH of at least 7.5.

3,451,903

CONDUCTOR ROLL AND METHOD OF MAKING THE SAME

Shuro Matsuoka, Hiroshima-shi, Japan, assignor to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

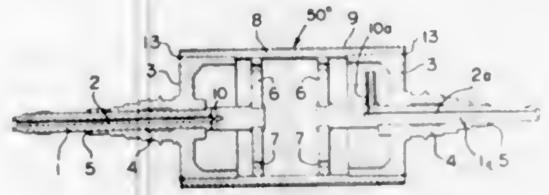
Filed Mar. 29, 1966, Ser. No. 538,393

Claims priority, application Japan, Apr. 9, 1965, 40/20,931

Int. Cl. C23b *5/56*

U.S. Cl. 204—25 **5 Claims**

An electrically conductive roller includes a pair of axially spaced shafts each having a widened portion or boss which is arranged at respective ends of an electroformed copper roller cylinder or shell. The bosses are fixed to the shell by a shrinkage fit and the outer surface of the shell is plated with an abrasion and corrosion-proof metal. The conductive roll is manufactured by the electrodeposition of pure copper over a cylindrical conductor in order to form a layer of relatively great thickness. The conductor is then removed from the deposited copper to provide the outer copper shell. The inner and outer surfaces of the copper shell are then finished to the desired dimensions by machining and shaft elements having bosses are secured into the respective ends of the shell by means of a shrinkage fit preferably with the temperature maintained not higher than 200° C. Thereafter, the outer surface of at least the shell is electro-plated with an abrasion and corrosion resistant metal.



3,451,904

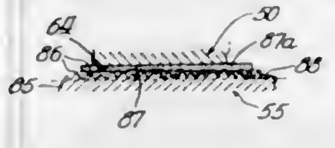
METHOD OF MAKING A THERMOELECTRIC ASSEMBLY COMPRISING ANODIZING AND IMPREGNATING AND COATING WITH DIMETHYL SILICONE FLUIDS

Andrew P. Boehmer, Des Plaines, and Boubene M. Jaremus, Barrington, Ill., assignors to Borg-Warner Corporation, a corporation of Illinois

Original application Jan. 30, 1962, Ser. No. 169,805, now Patent No. 3,332,807, dated July 25, 1967. Divided and this application Sept. 22, 1966, Ser. No. 606,475

Int. Cl. H01v *1/28;* **C23f** *17/00*

U.S. Cl. 204—38 **1 Claim**



1. The method of making a thermoelectric assembly comprising the steps of providing a metal plate which is both electrically conductive and thermally conductive, submerging the metal plate in a dilute sulphuric acid solution, maintaining the acid solution at a predetermined temperature, applying a direct current voltage between the plate and the acid solution for oxidizing the surface of said plate to provide an anodized surface thereon, removing the plate from the acid solution, rinsing the plate, submerging the plate in a dimethyl silicone fluid, placing the silicone fluid and the submerged plate in a vacuum chamber, reducing the air pressure in said chamber, then allowing atmospheric air to enter said chamber to increase the air pressure on the surface of said silicone fluid and force the fluid into the interstices of the anodized surface of the metal plate to seal the anodized surface, applying a highly viscous dimethyl silicone fluid coating to the already-impregnated anodized surface to improve the thermally conductive and dielectric properties of the anodized surface, and operatively attaching said impregnated and coated metal plate to thermoelectric elements to produce a thermoelectric assembly.

3,451,905

ELECTROLYTIC PROCESS FOR THE PREPARATION OF OLEFINE OXIDES

Walter Krönig and Johann Grolig, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 1, 1966, Ser. No. 530,788

Claims priority, application Germany, Mar. 4, 1965, F 45,416

Int. Cl. C07d *1/08;* **B01k** *3/02, 3/10*

U.S. Cl. 204—80 **10 Claims**

Electrochemical conversion of an olefin to olefin oxide in which an electric current is passed from a cathode to an anode through an aqueous electrolyte and the olefin to be converted is introduced into the electrolyte adjacent the anode and in which a diaphragm of polyacrylonitrile fibers is maintained in the electrolyte separating the anode from the cathode during the electrochemical conversion; and electrochemical oxidation cell containing an aqueous electrolyte, an anode and a cathode spaced from each other, means for introducing an olefine adjacent the anode, and a polyacrylonitrile diaphragm separating the anode and cathode.

3,451,906

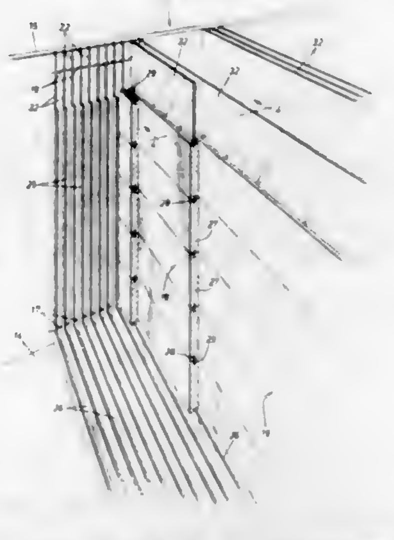
RESPACING OF ELECTRODES IN ELECTROLYTIC CELLS FOR THE PRODUCTION OF THE HALATES, PERHALATES OR HYPOHALITES OF ALKALI METALS

John W. S. Weed, Buckingham, Quebec, Canada, assignor to Electric Reduction Company of Canada Ltd., Toronto, Ontario, Canada

Filed Oct. 29, 1965, Ser. No. 505,646

Int. Cl. B01k *3/02*

U.S. Cl. 204—82 **5 Claims**



Electrolysis is carried out in an electrolytic cell containing electrodes held in spaced apart relationship with respect to each other by a first set of spacers. After the electrodes are partially consumed they are shifted to another part of the cell or to another cell where the spacers are positioned closer together than the first set of spacers, and electrolysis is carried out using the partially consumed electrodes.

3,451,907

PHOTOCHEMICAL PROCESS FOR PREPARING OXYGEN-CONTAINING PERFLUORINATED COMPOUNDS

Dario Sianesi, Gian Carlo Bernardi, and Adolfo Pasetti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,340

Claims priority, application Italy, Nov. 18, 1965, 25,551/65

Int. Cl. B01j *1/10;* **C07d** *1/06*

U.S. Cl. 204—158 **4 Claims**

1. A process of reacting in the liquid phase at least one perfluorinated compound having conjugated terminal double bonds with molecular oxygen by activating with

U.V. light having a wavelength between 1000 and 4000 A., at a temperature between −78° and +50° C., under pressures between 0.1 and 10 atmospheres.

3,451,908
METHOD FOR PREPARING POLYOXYPERFLUOROMETHYLENIC COMPOUNDS

Dario Sianesi, Giancarlo Bernardi, and Giovanni Moggi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed July 13, 1967, Ser. No. 653,012
Claims priority, application Italy, July 19, 1966, 16,704/66
Int. Cl. C07c *51/38, 53/14*
U.S. Cl. 204—158 6 Claims

Process of preparing linear polyethers with a —COF terminal group. Involves reacting perfluoropropylene with oxygen in gaseous phase in the presence of ozone.

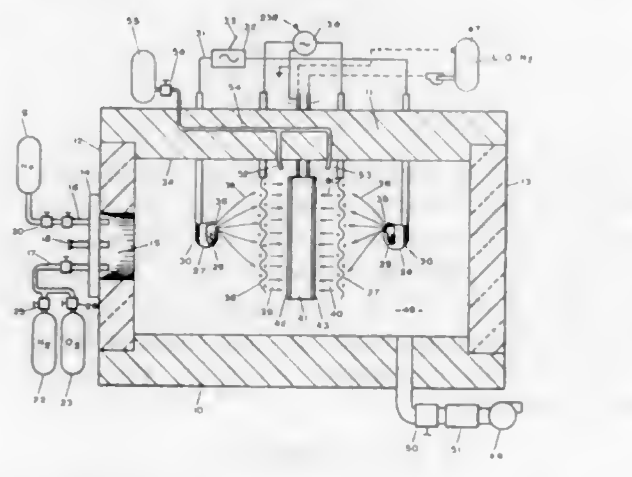
3,451,909
ALKYLATION PROCESS

Frank J. Chloupek, South Holland, Ill., and Robert A Sanford, Louisville, Ky., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,164
Int. Cl. C07c *3/24;* **B01j** *1/10*
U.S. Cl. 204—162 8 Claims

An improved alkylation process comprising illuminating a paraffin-olefin mixture with ultraviolet light having a wave length of about 1000 to 3000 A. and a dosage of about 5 to 500 kwh./hr./pound of feed, and contacting the irradiated mixture with a solid catalyst comprising catalytic amounts of transition metal on a solid adsorptive support under alkylation conditions.

3,451,910
METHOD OF SYNTHESIZING A HIGH ENERGY YIELDING SOLID MATERIAL

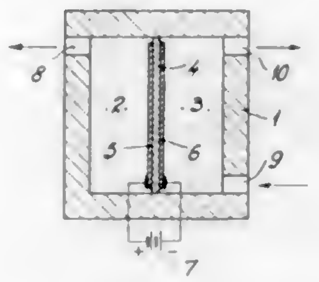
Emil J. Hellund, South Laguna, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 29, 1964, Ser. No. 400,276
Int. Cl. B01k *1/00*
U.S. Cl. 204—168 8 Claims



1. The method of synthesizing a high energy yielding solid material, that includes forming a vapor consisting of long chain hydrocarbon molecules with carbon numbers between about 20 and 35, mixing said vapor with a plasma in a reaction zone, confining oxygen and nitrogen in gaseous state at low pressure in said zone to form said plasma, subjecting said zone to an electrical field at low pressure to produce a glow discharge for sustaining the plasma, presenting a surface to said zone for receiving deposition of material therefrom and in solid form, and removing heat from said surface and from material deposited there-on.

3,451,911
PROCESS FOR THE PRODUCTION OF ISOTOPES

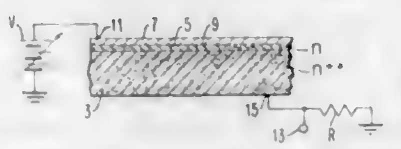
Helmut Tannenberger, Geneva, and Herbert Schachner, Le Grand-Lancy, Geneva, Switzerland, assignors to Compagnie Francaise de Raffinage, Paris, France
Filed Dec. 1, 1965, Ser. No. 510,826
Claims priority, application Switzerland, Dec. 2, 1964, 15,515/64
Int. Cl. B01d *59/42, 59/38, 59/00*
U.S. Cl. 204—180 3 Claims



A method has been provided for modifying the ratio of isotopes of oxygen in favor of heavy isotopes. The method comprises the steps of: introducing oxygen consisting of at least two oxygen isotopes of different atomic weights into a cathode chamber of a series of electrolytic cells; ionizing a part of oxygen by electrochemical reduction at a cathode of a cell at a cell working temperature between 600° and 1000° C.; conveying oxygen ions through an electrolyte to an anode of a cell, said electrolyte consisting essentially of zirconium oxide, thorium oxide or hafnium oxide as a base oxide and, as a modifying oxide therefore, an oxide selected from the group consisting of ytterbium oxide, aluminum oxide, calcium oxide, scandium oxide, and yttrium oxide, said electrolyte being permeable to oxygen ions but impermeable to gases in said electrolyte cell; conveying away from the anode of a cell electrochemically oxidized oxygen ions impoverished in heavy isotopes, and collecting at the cathode of the cell, oxygen remaining in a cathode zone enriched in heavy isotopes; repeating the steps above in a plurality of cells by using in the next cell the oxygen collected in said cathode zone of the previous cell and recovering oxygen enriched in a heavier isotope.

3,451,912
SCHOTTKY-BARRIER DIODE FORMED BY SPUTTER-DEPOSITION PROCESSES

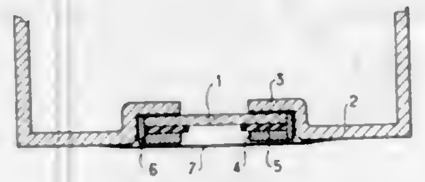
Francois M. D'Heurle, Ossining, Leo Esaki, Chappaqua, and Hajime Seki, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 15, 1966, Ser. No. 565,517
Int. Cl. C23c *15/00;* **H01l** *5/00*
U.S. Cl. 204—192 17 Claims



Schottky-barrier diodes are fabricated by sputter-deposition processes to substantially eliminate contamination at the metal-semiconductor junction to achieve reproducible device characteristics and to obtain large area contacts whereby the current-carry capacity of such diodes is substantially increased.

3,451,913
DISSOLUBLE WALL STRUCTURE

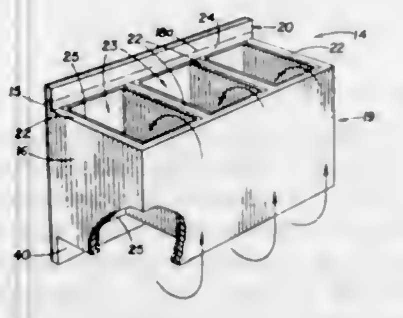
Emile Laborde and Jean Zilberman, Paris, France, assignors to C.I.T.—Compagnie Industrielle des Telecommunications, Paris, France
Filed Mar. 3, 1966, Ser. No. 531,593
Claims priority, application France, Mar. 3, 1965, 7,798
Int. Cl. C23b *1/02*
U.S. Cl. 204—248 7 Claims



A wall element intended to constitute an assembly to be pierced by electrochemical corrosion comprising two metallic parts of different metals, separated by an insulating medium and connected externally by a conductor. Upon submersion of the element into an electrolyte, e.g., the sea, an electric current passes between the metallic parts causing an electrolytic attack and a subsequent piercing of the wall element.

3,451,914
BIPOLAR ELECTROLYTIC CELL

John E. Colman, Oakville, Ontario, Canada, assignor to Electric Reduction Company of Canada, Ltd., Islington, Toronto, Ontario, Canada
Filed Aug. 31, 1966, Ser. No. 576,396
Int. Cl. B01k *3/06*
U.S. Cl. 204—268 11 Claims



1. For use in an electrolytic process which requires an electrolysis zone, and in which upward flow of the electrolyte is induced in the electrolysis zone due to the generation there of gas bubbles during the process, a bipolar electrolytic cell having at least three electrodes arranged adjacent one another, at least one electrode being intermediate two other electrodes and being a bipolar electrode comprising:

an anodic structure and a cathodic structure, the structures being in electrically conductive communication with each other and being constructed of suitable anodic and cathodic materials respectively,

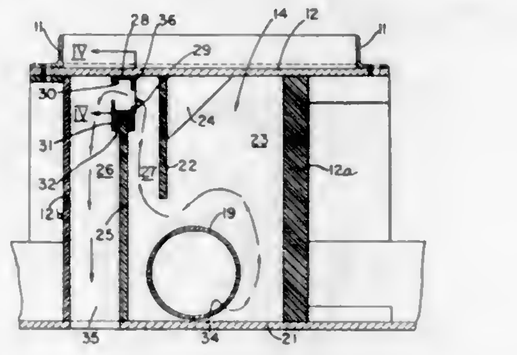
one structure having remote from the other structure a first portion adapted to be generally active electrolytically and to define an electrolysis zone with the next adjacent electrode, and having a second portion proximate to the other structure, said portions being in electrically conductive communication with each other,

said one structure being provided with at least one substantially vertical channel intermediate said portions and generally encompassed by said one structure, said channel communicating at its upper end and at its lower end with the electrolysis zone adjacent said first portion such that the electrolyte induced to flow upwardly in said electrolysis zone due to the generation there of gas bubbles can flow back downwardly through said channel,

and means for protecting the inside surface of said channel against attack by the electrolyte.

3,451,915
ELECTROLYTIC CELL WITH COVER INCLUDING FEEDING MEANS

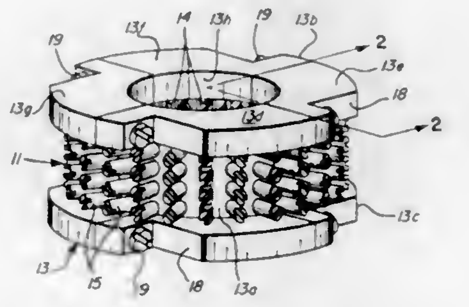
Göthe O. Westerlund, Vancouver, British Columbia, Canada, assignor to Chemech Engineering Ltd., Vancouver, British Columbia, Canada, a corporation of Canada
Filed Sept. 21, 1966, Ser. No. 581,079
Claims priority, application Canada, July 11, 1966, 965,100
Int. Cl. B01k *3/00*
U.S. Cl. 204—275 8 Claims



1. An enclosed electrolytic cell including a combined cover and electrolyte distributor comprising:
- (a) an elongated manifold extending along the longitudinal axis of said cover,
- (b) baffles within said manifold to divide said manifold into an inlet compartment, an outlet compartment, and at least one intermediate compartment between said inlet compartment and said outlet compartment, said compartment being interconnected along a substantially sinusoidal pathway,
- (c) liquor inlet means to the inlet compartment of said manifold, and
- (d) outlet means from said manifold to said cell, said outlet means extending from said outlet compartment of said manifold.

3,451,916
APPARATUS FOR MANUFACTURING PRINT HEADS

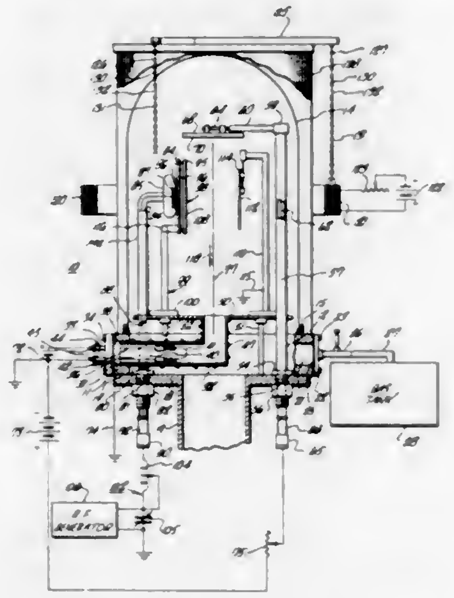
Lloyd J. Lapointe, West Hartford, and Ralph L. Parker, Rockville, Conn., assignors to Royal Typewriter Company, Inc., a corporation of Delaware
Filed Feb. 17, 1966, Ser. No. 528,283
Int. Cl. C23b *7/08*
U.S. Cl. 204—281 3 Claims



A master die for molding single element print heads having a hollow cylindrical housing segmented into a number of pie shaped sections and a plurality of individual replaceable type slugs arranged in a desired pattern of rows and columns in the housing assembly, and a process of electroforming an intermediate die element from the master die, and electroforming a production die matrix from the intermediate die element. A cylinder wall of the production die matrix axially split between two columns of characters is expanded and separated from the die element and then adjusted to coincide with the dimensions of the bore of the master die whereby a production print head electroformed or molded from the production die matrix may be readily disassembled therefrom by outwardly expanding the sides of the production matrix and removing the print head.

3,451,917
RADIO FREQUENCY SPUTTERING APPARATUS

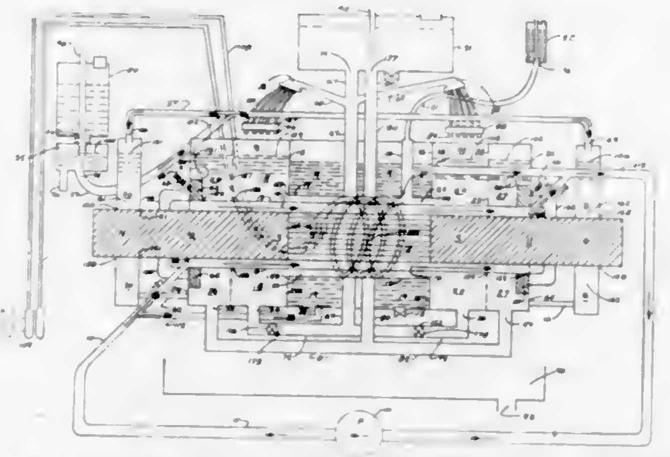
Roger M. Moseson, Rochester, N.Y., assignor, by mesne assignments, to The Bendix Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,510
Int. Cl. C23c *15/00*
U.S. Cl. 204—298 **17 Claims**



An apparatus for radio frequency sputtering of insulative materials from a target electrode. A pair of insulating layers are positioned on opposite sides of an interleaved electrically conductive planar electrode to form the target.

3,451,918
ELECTROPHORETIC FRACTIONATION APPARATUS

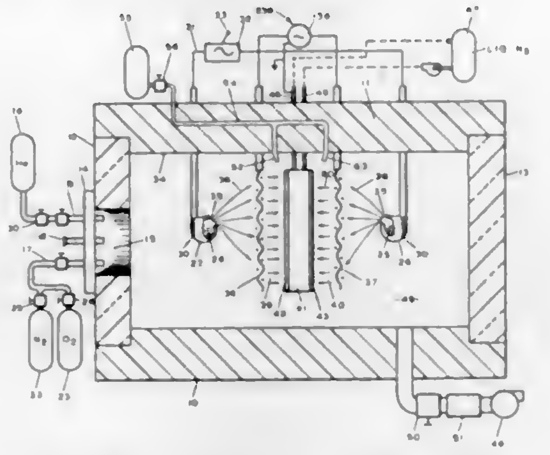
Alexander Kolin, Los Angeles, Calif., assignor to The Regents of The University of California, a corporation of California
Filed Oct. 22, 1965, Ser. No. 500,817
Int. Cl. B01k *5/00;* **B01d** *13/02*
U.S. Cl. 204—299 **9 Claims**



A stabilized spiral magnetic-electrophoretic apparatus is provided for separating fractions of a chemical or biological substance. The apparatus is constructed so that the separated fractions of the substance may be collected continuously, and it includes a new and improved structure for introducing the electrophoretic buffering medium and the substance to be separated, so as to provide a longitudinal spiral flow with respect to the axis of an annular passage.

3,451,919
APPARATUS FOR SYNTHESIZING A HIGH ENERGY YIELDING SOLID MATERIAL

Emil J. Hellund, South Laguna, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 29, 1964, Ser. No. 400,274
Int. Cl. B01k *1/00*
U.S. Cl. 204—312 **9 Claims**



1. Apparatus for synthesizing a high energy yielding solid material, comprising chamber means containing a reaction zone for receiving an electrically insulating material in vapor form and a gas capable of conversion to a plasma, electrical means for raising the energy of the gas in said zone to convert the gas to plasma state, said electrical means including high voltage electrode structure proximate said zone, means for effecting condensation of the vapor and plasma in solid combined form, said last named means including a condensate receiver and a heat sink for withdrawing heat from said receiver during said condensation, said electrode structure including a grid electrode to pass said vapor, another electrode spaced from said grid electrode, said condensate receiver including a cooled electrically insulative portion interposed between said other electrode and said grid electrode and having a surface presented toward but spaced from the grid to receive said condensate, means for supplying said vapor to pass through said grid and into said zone and for supplying said gas, and means for maintaining vacuum conditions in said reaction zone during said condensation.

3,451,920
DEWAXING OF MINERAL OILS

Albert N. De Vault and Marvin M. Johnson, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 14, 1966, Ser. No. 586,635
Int. Cl. C10g *43/12, 43/14;* **B01j** *2/28*
U.S. Cl. 208—33 **9 Claims**

The use of a hydrogenated butadiene-styrene random copolymer dewaxing aid in a solvent dewaxing process.

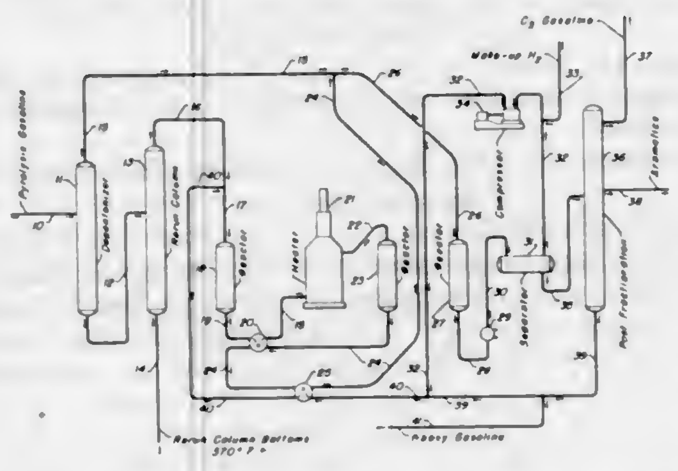
3,451,921
COKE PRODUCTION

Milton Janes, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 25, 1965, Ser. No. 427,928
Int. Cl. C10g *37/04;* **C10b** *57/04, 55/00*
U.S. Cl. 208—46 **6 Claims**

Heavy high boiling fractions obtained in the cracking of petroleum distillates in the presence of steam and at essentially atmospheric pressure and termed "pyrolysis fuel oil" can be employed as the charging stock in a delayed coking operation to give a high yield of coke, which after calcining to remove volatile matter and stabilize shrinkage thereof can be employed to manufacture graphite electrodes having an unusually low coefficient of thermal expansion.

3,451,922
METHOD FOR HYDROGENATION

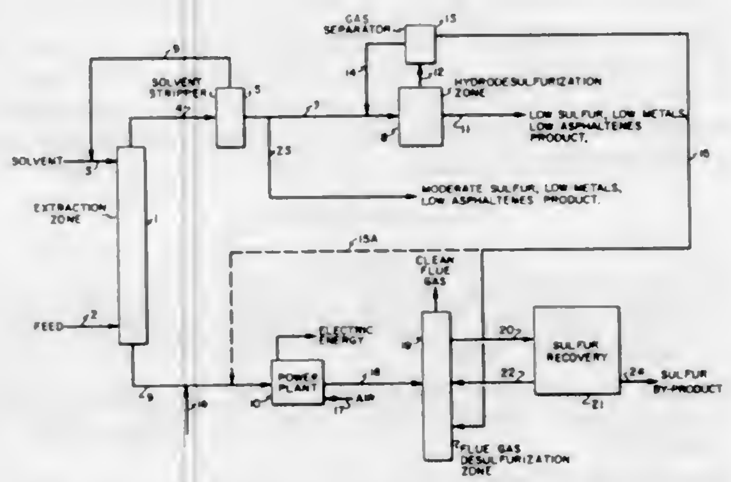
Robin J. Parker, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,554
Int. Cl. C10g *23/04, 23/02, 31/14*
U.S. Cl. 208—57 **3 Claims**



Method for stabilizing pyrolysis gasoline via hydrogenation. The C_5 and C_6–370° F. fractions of the gasoline are separately treated with hydrogen as follows: the heavier fraction is first hydrogenated over palladium catalyst and then desulfurized over nickel catalyst; this hydrogenated heavy fraction is mixed with the light fraction and the mixture subjected to hydrogenation over palladium catalyst.

3,451,923
PROCESS FOR THE UTILIZATION OF HIGH SULFUR HEAVY OIL STOCKS

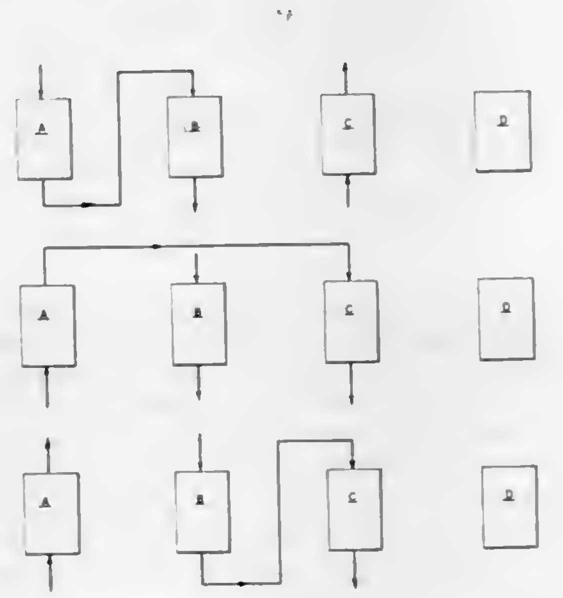
Albert B. Welty, Jr., and Stewart H. Hulse, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,312
Int. Cl. C10g *31/14, 23/02*
U.S. Cl. 208—211 **11 Claims**


GAS SEPARATOR
SOLVENT STRIPPER
HYDRODESULFURIZATION ZONE
LOW SULFUR, LOW METALS, LOW ASPHALTENES PRODUCT
MODERATE SULFUR, LOW METALS, LOW ASPHALTENES PRODUCT
SOLVENT
EXTRACTION ZONE
FEED
CLEAN FLUE GAS
ELECTRIC ENERGY
POWER PLANT
AIR
SULFUR RECOVERY
SULFUR BY-PRODUCT
FLUE GAS DESULFURIZATION ZONE

An integrated process utilizes heavy oil stocks containing at least 1 wt. percent sulfur by separating them into 2 fractions: (1) a lower boiling fraction of low sulfur, low asphaltene and low metal content and (2) a higher boiling fraction of high sulfur, asphaltene and metal content. The lower boiling fraction is hydrodesulfurized to recover a premium fuel oil or cat cracking stock and H_2S. The higher boiling fraction is burned as fuel and the flue gas from the combustion of this fraction contains a high concentration of SO_2. The SO_2 is reacted with the H_2S from the hydrodesulfurization step to produce elemental sulfur and thus avoiding sulfur oxide air pollution.

3,451,924
N-PARAFFIN SEPARATION PROCESS

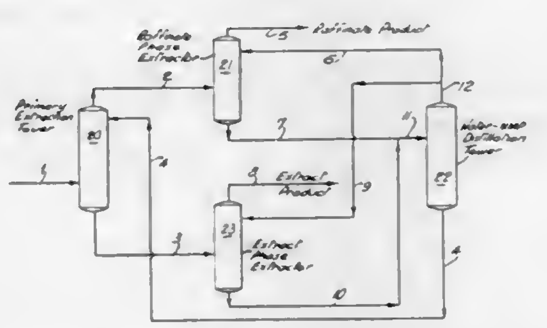
Friedrich G. Helfferich, Berkeley, and Rene A. Loth, Walnut Creek, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,324
Int. Cl. C10g *25/04*
U.S. Cl. 208—310 **7 Claims**



A continuous cyclic vapor-phase process for the separation of n-paraffins from a hydrocarbon mixture by means of operating at least three molecular sieve beds in such a manner that each of the beds in turn is completely saturated with n-paraffins, purged of non-adsorbed feed stock and desorbed of n-paraffins.

3,451,925
SOLVENT EXTRACTION OF HYDROCARBONS WITH N-METHYL-2-PYRROLIDONE

Herbert C. Morris, Groves, Tex., John I. Nixon, deceased, late of Bridge City, Tex., by Roberta Lois Nixon, administratrix, Bridge City, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 624,970
Int. Cl. C10g *21/20, 21/02*
U.S. Cl. 208—324 **4 Claims**



A solvent extraction process for the separation of a hydrocarbon mixture into raffinate product of decreased aromaticity and extract product of increased aromaticity by liquid-liquid extraction with N-methyl-2-pyrrolidone containing not more than 1.0 volume percent water as a primary solvent. The water content of the N-methyl-2-pyrrolidone solvent is controlled by separation of the N-methyl-2-pyrrolidone from extract and raffinate phases by re-extraction with a secondary solvent.

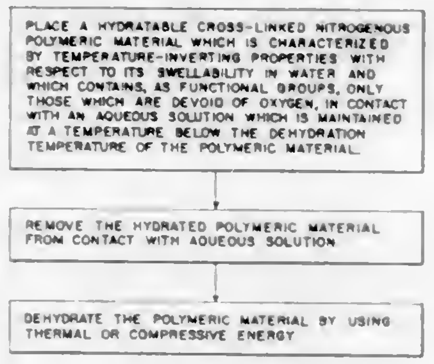
3,451,926
SOLVENT EXTRACTION PROCESS

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Mar. 30, 1967, Ser. No. 627,016

Int. Cl. C02b *3/06, 1/18*

U.S. Cl. 210—59 4 Claims


PLACE A HYDRATABLE CROSS-LINKED NITROGENOUS POLYMERIC MATERIAL WHICH IS CHARACTERIZED BY TEMPERATURE-INVERTING PROPERTIES WITH RESPECT TO ITS SWELLABILITY IN WATER AND WHICH CONTAINS, AS FUNCTIONAL GROUPS, ONLY THOSE WHICH ARE DEVOID OF OXYGEN, IN CONTACT WITH AN AQUEOUS SOLUTION WHICH IS MAINTAINED AT A TEMPERATURE BELOW THE DEHYDRATION TEMPERATURE OF THE POLYMERIC MATERIAL
REMOVE THE HYDRATED POLYMERIC MATERIAL FROM CONTACT WITH AQUEOUS SOLUTION
DEHYDRATE THE POLYMERIC MATERIAL BY USING THERMAL OR COMPRESSIVE ENERGY

Pure water may be removed from an aqueous solution containing dissolved inorganic salts by contacting the solution with a solid cross-linked nitrogenous polymeric material containing both hydrophilic and hydrophobic moieties and characterized by inverse temperature swellability properties with respect to water at a temperature at which said material becomes hydrated; removing said polymeric material from said solution; and dehydrating said polymeric material.

3,451,927
FABRIC CONDITIONER

John Barry Tune, Higher Bebington, Cheshire, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed July 1, 1965, Ser. No. 468,918

Int. Cl. D06m *13/40, 13/46*

U.S. Cl. 252—8.75 2 Claims

A composition for use in the rinsing of washed fabrics to provide a soft, anti-static finish on synthetics, particularly nylon, which consists essentially of employing quaternary ammonium cationic fabric softening agents in conjunction with alkyl ethanolamides such as tallow ethanolamide and tallow diethanolamide, and also this composition modified by the inclusion of 1,3-diphenyl pyrazoline optical brightening agent, thereby to provide enhanced whitening of both natural and synthetic fabrics.

3,451,928
PROCESS FOR PRODUCTION OF DETERGENT TABLETS

Charles Frederick Fischer, Jersey City, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 16, 1964, Ser. No. 352,300

Int. Cl. C11d *3/06, 3/16*

U.S. Cl. 252—135 14 Claims

A strong, rapidly disintegratable, non-tacky improved detergent tablet comprising a polyphosphate and an organic detergent is produced by treating the compressed composition with a critical amount, 0.04% to 0.2% by weight of the tablet of water and then immediately heating the tablet in less than eight seconds to a surface temperature above 850° F. with dry heating to obtain a tablet having substantially the same moisture content as before the contact with water.

3,451,929
PHOSPHORUS-CONTAINING SALTS OF PARTICULAR ACID AND AMINO REACTION PRODUCTS

Edwin J. Latos, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,338

Int. Cl. C10m *1/44, 3/38, 5/24*

U.S. Cl. 252—32.5 9 Claims

Phosphate salts of the reaction product of a polyhalopolyhydropolycyclicdicarboxylic acid or derivative with a polyamine or alkanolamine can be prepared using a stoichiometric excess of from 3 to 30 moles of reaction product per mole of phosphate. These products are useful as extreme pressure additives to lubricating oil.

3,451,930
LUBRICANT COMPOSITION FOR HIGHLY STRESSED GEARS

George A. Mead, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 16, 1966, Ser. No. 579,833

Int. Cl. C10m *3/42*

U.S. Cl. 252—32.7 4 Claims

A lubricating oil composition capable of satisfactory lubrication of gears subjected to very high loads consists of a major proportion of a lubricating oil base and a minor proportion of a synergistic mixture of an alkaline earth metal salt of a hydrocarbon sulfonic acid, a Group II metal salt of a dialkyl dithiophosphoric acid, and a halogenated hydrocarbon of from 35 to 75 weight percent halogen content.

3,451,931
METAL-CONTAINING DETERGENT-DISPERSANTS FOR LUBRICANTS

Donald J. Kahn, Metuchen, Frieder S. Furer, Wayne, and Max L. Robbins, South Orange, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 333,614, Dec. 26, 1963. This application Aug. 30, 1966, Ser. No. 575,971

Int. Cl. C10m *1/32, 3/20, 5/20*

U.S. Cl. 252—32.7 20 Claims

An overbased detergent-dispersant for an oil composition is prepared by reacting a metal base, such as barium hydroxide or calcium hydroxide, with an acidic gas such as CO_2, H_2S, or SO_2 in the presence of an amide, imide or ester derived from a high-molecular-weight monocarboxylic or polycarboxylic acid of from 40 to 250 carbon atoms and from an organic nitrogen-containing compound having at least one amino group or hydroxy group, including alkylene polyamines, hydroxyalkyl amines and N-hydroxy alkyl morpholinones. Useful compositions are prepared by blending these reaction products into fuels and lubricants.

3,451,932
ORGANIC OXIDIZABLE MATERIAL CONTAINING PHENOL PHOSPHOTHIONATE AS AN ANTIOXIDANT

Bernard R. Meltsner, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application May 20, 1966, Ser. No. 551,538. Divided and this application July 23, 1968, Ser. No. 746,759

Int. Cl. C10m *1/48;* **C08c** *11/66;* **C08f** *45/58*

U.S. Cl. 252—46.6 15 Claims

Organic material normally subject to oxidative degradation such as polypropylene is stabilized by the addition of a tris(3,5-dihydrocarbyl-4-hydroxyphenyl)phosphothionate such as tris(3,5 - di - tert-butyl-4-hydroxyphenyl) phosphothionate. Effectiveness is synergistically improved by adding dihydrocarbyl thiodialkanoates such as dilauryl-thiodipropionate.

ERRATUM

For Class 252—47.5 see:
Patent No. 3,451,166

3,451,933
FORMAMIDO-CONTAINING ALKENYLSUCCINATES

Norman A. Leister, Huntingdon Valley, Pa., assignor to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

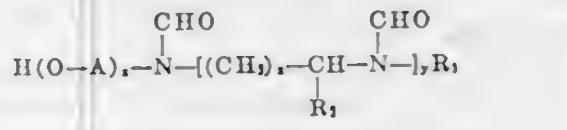
No Drawing. Filed Aug. 11, 1967, Ser. No. 659,888

Int. Cl. C10m *1/36;* **C10l** *1/22;* **C07d** *51/70*

U.S. Cl. 252—51.5 13 Claims

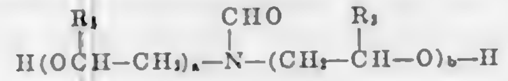
The novel formamido-containing alkenylsuccinates of this invention are useful as dispersants, corrosion inhibitors and anti-wear agents particularly in lubricating oil and fuel compositions. The formamide compounds are prepared by reacting (1) an alkenylsuccinic anhydride, an alkenylsuccinic acid or an alkenylsuccinamic acid and (2) at least one formamido-containing hydroxy compound having the formulas:

(A)



$$\mathrm{H(O{-}A)_a{-}\overset{\overset{CHO}{|}}{N}{-}[(CH_2)_x{-}\underset{\underset{R_2}{|}}{CH}{-}\overset{\overset{CHO}{|}}{N}{-}]_y R_1}$$

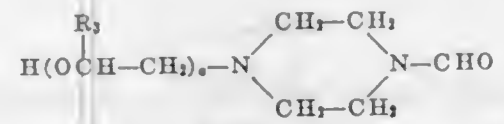
(B)



$$\mathrm{H(O\overset{\overset{R_2}{|}}{C}H{-}CH_2)_b{-}\overset{\overset{CHO}{|}}{N}{-}(CH_2{-}\overset{\overset{R_3}{|}}{C}H{-}O)_c{-}H}$$

or

(C)



wherein

A is alkylene

R_1, R_2 and R_3 are hydrogen or hydrocarbon

a, b, c, x, y and *z* are integers and *y* may be zero.

3,451,934
PROCESS OF MAKING MOLDED MAGNETIC MATERIAL

Harold C. Hubbard, Lansing, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Ohio

Continuation-in-part of application Ser. No. 480,869, Aug. 19, 1965. This application Feb. 9, 1968, Ser. No. 710,425

Int. Cl. H01f *1/26*

U.S. Cl. 252—62.54 1 Claim

A process for making magnetic molding material for use in fabricating cores for magnetic devices, such as the friction electromagnet in an electrical brake, wherein finely divided metallic magnetic particles containing iron are highly dispersed in and individually coated with an electrically insulating binder material. The binder material, such as phenol formaldehyde resin in powder form, is first added to a solvent such as acetone which is a solvent for said binder but a non-solvent for said particles. Then, while said binder is dissolving in said solvent, the magnetic particles are added to the binder-solvent mixture. The iron particles are broken up and highly dispersed in said mixture by the dissolving action of the solvent on the binder. The resultant dispersion is then dried and powdered to render it conveniently moldable to the desired shape of the finished article.

3,451,935
GRANULAR ENZYME-CONTAINING LAUNDRY COMPOSITION

Arnvid S. Roald, Wezembeek-Oppem Brabant, and Nicolaas T. de Oude, Brussels, Belgium, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of applications Ser. No. 544,705, Apr. 25, 1966, and Ser. No. 620,603, Mar. 6, 1967. This application Apr. 12, 1967, Ser. No. 630,199

Int. Cl. C11d *3/066, 11/00, 1/86*

U.S. Cl. 252—135 17 Claims

Powdered enzymes, which are cleaning aids, are attached to granular carriers which comprise partially-hydrated hydratable salts such as sodium tripolyphosphate. The attachment is done in the presence of water which effects the partial hydration. The granular carrier with the attached enzyme is useful in pre-wash soaking and in conjunction with detergent compositions.

3,451,936
SURFACTANT COMPOSITIONS FROM ACTIVE HYDROGEN ORGANIC COMPOUNDS, FATTY ACID ESTERS AND ALKYLENE OXIDES, AND RELATED MANUFACTURING PROCESS

Luciano Nobile, Emanuele Condorelli, Tullio La Noce, and Anteo Poma, Milan, Italy, assignors to Ledoga S.p.A., Milan, Italy

No Drawing. Filed June 14, 1965, Ser. No. 463,894

Claims priority, application Italy, Apr. 24, 1965, 9,056/65

Int. Cl. C11d *1/44*

U.S. Cl. 252—152 4 Claims

A 100% surfactant composition is prepared by simultaneously reacting at temperatures from 70° to 200° C., at pressures generally lower than 5 atm., in the presence of an alkaline catalyst, for a maximum time of 150 minutes, an active hydrogen compound, a fatty acid ester (preferably a natural or synthetic triglyceride) and an alkylene oxide in the ratio respectively of 10–50:50–90: 100–300 parts by weight.

3,451,937
PHOSPHONATE COMPOUNDS

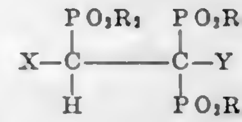
Oscar T. Quimby, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Original application Sept. 23, 1965, Ser. No. 489,637, now Patent No. 3,400,148, dated Sept. 3, 1968. Divided and this application May 16, 1968, Ser. No. 739,962

Int. Cl. C11d *1/60*

U.S. Cl. 252—152 4 Claims

1. A detergent composition consisting essentially of (A) a water soluble organic detergent and (B) ethanehydroxytriphosphonic acid or a salt thereof having the structural formula:



$$\mathrm{X{-}\underset{\underset{H}{|}}{\overset{\overset{PO_3R_2}{|}}{C}}{-}{-}{-}\underset{\underset{PO_3R_2}{|}}{\overset{\overset{PO_3R_2}{|}}{C}}{-}Y}$$

wherein X and Y are each H or OH so that when X is H, Y is OH; and when Y is H, X is OH; and wherein each R is H, alkali metal, or lower alkyl radicals having from 1 to about 6 carbon atoms thereof, the proportion of (A) and (B) being in the range of from about 2:1 to about 1:10, by weight.

3,451,938

SOLID ALKALI METAL POLYPHOSPHATE WATER CONDITIONING COMPOSITION CONTAINING HEXACHLOROBENZENE OR 1,2,4,5 - TETRACHLOROBENZENE

Ewald Henry Krusius, South River, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 11, 1966, Ser. No. 563,974

Int. Cl. C02b *5/04, 3/06*

U.S. Cl. 252—181 10 Claims

Solid water conditioning compositions having controlled dissolution properties consisting essentially of a polyphosphate and either hexachlorobenzene or 1,2,4,5-tetrachlorobenzene, in an amount sufficient to retard the rate of dissolution of the solid polyphosphate composition.

3,451,939

THRESHOLD COMPOSITIONS AND METHODS

Paul H. Ralston, Bethel Park, Pa., assignor to Calgon Corporation, a corporation of Delaware

No Drawing. Filed Apr. 13, 1966, Ser. No. 542,190

Int. Cl. C02b *5/00*

U.S. Cl. 252—181 8 Claims

This invention relates to synergistic compositions and the use thereof for inhibiting the formation of scale in water systems. In particular, it relates to certain combinations of polyphosphates and methylene phosphonates.

3,451,940

PROCESS FOR THE FIXATION OF HIGH LEVEL RADIOACTIVE WASTES

George L. Stukenbroeker, Metuchen, and Ernest Suriani, Freehold, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 22, 1967, Ser. No. 625,016

Int. Cl. G21f *9/06*

U.S. Cl. 252—301.1 9 Claims

This invention relates to a method in which radioactive waste solutions can be incorporated into silicate-type minerals via a thermite reaction. Nitrate solutions of radioactive materials are treated with sulfuric acid, evaporated to form a sulfate mass which is then reacted with silicon or silicon and silicon dioxide as a thermite mixture to form a polysilicate mass highly insoluble to water leaching.

3,451,941

TERBIUM ACTIVATED CALCIUM AND MAGNESIUM GERMANATE PHOSPHORS

William A. McAllister, Morristown, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 17, 1965, Ser. No. 508,220

The portion of the term of the patent subsequent to July 12, 1983, has been disclaimed

Int. Cl. C09k *1/04*

U.S. Cl. 252—301.4 10 Claims

Luminescent composition consisting of calcium and/or magnesium orthogermanate activated by terbium plus lithium, or by terbium plus lithium plus manganese. The gram-atom ratio of various activator constituents to germanium are specified. The composition displays good temperature dependence characteristics.

3,451,942

CATALYST-REJUVENATION PROCESS

Ralph J. Bertolacini, Chesterton, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 6, 1965, Ser. No. 512,572

Int. Cl. B01j *11/02*

U.S. Cl. 252—411 8 Claims

The process is for the rejuvenation of a catalyst comprising a hydrogenation-dehydrogenation component and an acid-acting inorganic oxide support wherein the crystallites of the hydrogenation-dehydrogenation component have become enlarged through use for the conversion of hydrocarbons. After a major portion of the accumulated coke has been removed from the catalyst, it is subjected to the rejuvenation process. The process comprises: treating the catalyst with a nitrogen-oxide-affording material under conditions that will cause the material to react with the hydrogenation-dehydrogenation component; treating the catalyst with an oxygen-containing gas under conditions that will cause the oxygen to react with the hydrogenation-dehydrogenation component; and treating the catalyst with a hydrogen-containing gas under conditions to reduce the hydrogenation-dehydrogenation component. The nitrogen-oxide-affording material may be concentrated nitric acid or a gas containing at least one member selected from the group consisting of NO, NO_2, N_2O, and N_2O_3. An arsenided-nickel-on-fluorided-silica-alumina hydrocracking catalyst may be rejuvenated advantageously by this process.

3,451,943

REGENERATION OF A COBALT HYDROGENATION CATALYST

Albert E. Ruscilli, Wheelersburg, Ohio, assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation of application Ser. No. 371,102, May 28, 1964. This application Nov. 3, 1966, Ser. No. 591,924

Int. Cl. C07c *29/14;* **B01j** *11/66*

U.S. Cl. 252—420 1 Claim

An Oxo reaction carbonyl products stream is hydrogenated with a fixed bed cobalt hydrogenation catalyst until the catalyst becomes undesirably inactive, following which the catalyst is flushed with water under conditions effective for hydrolysis of organic cobalt salts causing catalyst inactivation, after which the catalyst is reduced with hydrogen to an active cobalt catalyst for further hydrogenation of the Oxo reaction carbonyl products stream.

3,451,944

RICE HULL METHOD, APPARATUS AND PRODUCT

Harvey E. Finch, San Bruno, Calif., assignor of one-half to Richard Redlick, Portola Valley, Calif.

Filed Nov. 27, 1964, Ser. No. 414,184

Int. Cl. C01b *31/08, 31/10;* **F27b** *15/00*

U.S. Cl. 252—421 10 Claims

Method for making a carbonized product useful as a filter medium from rice hull. The rice hulls are fed continuously to a combustion zone of hot swirling gases where the hulls are partially burned and carbonized while dispersed, after which the carbonized particles are removed. The product has a skeletal silica in the form of a lattice structure with carbon dispersed therein.

3,451,945

CATALYST FOR VAPOR PHASE OXIDATION OF HYDROCARBONS

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Original application Aug. 30, 1965, Ser. No. 483,862, now Patent No. 3,401,198, dated Sept. 17, 1968. Divided and this application Dec. 6, 1967, Ser. No. 706,735

Int. Cl. B01j *11/06, 11/82;* **C07c** *27/14*

U.S. Cl. 252—437 7 Claims

Useful catalysts are provided for the oxidation of gaseous hydrocarbons, as unsaturated hydrocarbons to form unsaturated aldehydes and carboxylic acids, that contain molybdenum, tellurium, a Group II–A metal, phosphorous and oxygen, for example, molybdenum oxide, tellurium oxide and an alkaline earth metal phosphate.

3,451,946

IMPROVED COBALT MOLYBDATE CATALYST FOR OXIDIZING OLEFINS

Charles E. Ziegler, Therwil, Basel-Land, Switzerland, and Jamal S. Eden, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Original application Jan. 27, 1964, Ser. No. 340,506. Divided and this application July 8, 1966, Ser. No. 571,674

Int. Cl. B01j *11/32, 11/82*

U.S. Cl. 252—439 6 Claims

An improved catalyst containing a major proportion of cobalt molybdate, tellurium oxide and rhenium oxide or perrhenic acid is useful in oxidizing propylene at high conversions to produce acrylic acid and acrolein in improved yields.

3,451,947

SELECTIVE CRACKING CATALYST

Malden Ward Michael, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 5, 1966, Ser. No. 547,737

Int. Cl. B01j *11/40,* **C10g** *11/04*

U.S. Cl. 252—453 9 Claims

1. A composition comprising (1) a substantially sodium-ion-free amorphous aluminosilicate cogel characterized by a pore volume ranging from about 0.05 cc./g. to about 0.50 cc./g. in an amount ranging from an amount sufficient to be effective up to about 70% by weight of said total composition, and containing from about 2 to 15% of a minor amount of salt of a non-Group I cation, other than aluminum, said alumina content ranging from about 8% up to about 30% by weight of said cogel, and (2) a low alumina composition, containing from about 8 to 15% of alumina, in an amount ranging from about 90% to about 30% by weight of said total composition.

3,451,948

METHOD OF TREATING FLUIDIZABLE PARTICLES

Charles E. Scott, Chester, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 21, 1966, Ser. No. 559,070

Int. Cl. C01b *33/28*

U.S. Cl. 252—455 5 Claims

Calcined kaolin is transformed into a mixture of crystalline sodium zeolite and amorphous aluminosilicate, which finely comminuted mixture is dispersed in aqueous sodium silicate and spray-dried. The spray-dried particles are rapidly mixed with an aqueous solution containing anions of a strong acid stoichiometrically equivalent to 60–110% of the sodium ion of the sodium silicate to provide a pH 5.5–8.5 solution. Then the particles are ion-exchanged by counter-current flow of hot ammonium salt solution, thus providing fluidizable particles comprising crystalline ammonium zeolite in an amorphous aluminosilicate matrix.

3,451,949

CATALYST FOR REFORMING HYDROCARBONS

Haldor Frederik Axel Topsoe, 73 Baunegardsvej, Hellerup, Denmark; Emil Sorensen, 54 Haraldsborgvej, Roskilde, Denmark; and Erik Mogensen, 10 Bredesvinget, Virum, Denmark

No Drawing. Filed Jan. 10, 1964, Ser. No. 336,869

Claims priority, application Denmark, Jan. 15, 1963, 184/63

Int. Cl. B01j *11/22*

U.S. Cl. 252—455 7 Claims

The present invention relates to a process for the preparation of gas mixtures containing hydrogen, carbon monoxide and carbon dioxide, as well as nitrogen by reforming hydrocarbons in the gaseous phase by means of oxygen containing gases such as carbon dioxide, oxygen, air or preferably steam, or mixtures thereof, in the presence of a catalyst impregnated on a porous carrier or support, the catalyst being active nickel and/or nickel oxide, and an activator or promotor in the form of alkali metals or alkaline earth metals or compounds thereof, and catalysts therefor.

3,451,950

METHOD FOR IMPROVING THE ADHESION TO METALS OF THERMOSETTABLE EPOXY RESIN

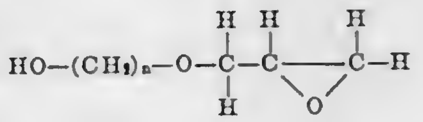
James A. Clarke and Romeo Lopez, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,051

Int. Cl. C08g *43/00;* **C09j** *3/16;* **B32b** *15/08*

U.S. Cl. 260—2 4 Claims

This invention relates to a method of improving the adhesion of thermosettable epoxy resins having a plurality of 1,2-epoxide groups per molecule to metals by the addition to 100 parts of epoxy resin, prior to curing thereof, of from about 3 to about 8 parts by weight of a hydroxyalkyl glycidyl ether of the formula:



wherein *n* is an integer from 1 to 6.

3,451,951

PROCESS FOR THE PREPARATION OF MEMBRANE-SHAPED HIGH MOLECULAR ARTICLES

Yukio Mizutani, 1021 Oaza-Tokuyama; Wataru Tesima, 447 Oaza-Kusigahama; Sumio Akiyama, 3973 Oaza-Tokuyama; Reiichi Yamane, 6684 Oaza-Tokuyama; and Hirobumi Ihara, 6666 Oaza-Tokuyama, all of Tokuyama-shi, Yamaguchi-ken, Japan

No Drawing. Continuation-in-part of application Ser. No. 155,495, Nov. 28, 1961. This application Jan. 17, 1967, Ser. No. 609,775

Claims priority, application Japan, Apr. 15, 1961, 36/13,367

Int. Cl. C08j *1/34;* **C08f** *47/14*

U.S. Cl. 260—2.2 8 Claims

A process for the preparation of a membrane-shaped high molecular article adapted for the introduction of an ion-exchange group in which a fine powder of thermoplastic high molecular substance having a particle size of less than 30μ is admixed with a liquid monomer mixture comprised of a monomer having a functional group suitable for the introduction of an ion-exchange group, a cross-linking agent, and a polymerization initiator. The resulting paste is shaped in the form of a membrane and then heated at a temperature at which the thermoplastic substance is melted to form a homogeneous phase while at the same time the monomer in the mixture is polymerized.

3,451,952

ISOCYANATE CURED TERPOLYMERS AND PROCESSES FOR MAKING SAME

Robert J. Slocombe, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application July 27, 1961, Ser. No. 127,123, now Patent No. 3,257,360, dated June 21, 1966. Divided and this application Oct. 21, 1965, Ser. No. 500,257

Int. Cl. C08f *27/10, 47/10;* **C08g** *22/44*

U.S. Cl. 260—2.5 6 Claims

The specification discluoses polyurethanes prepared from (i) organic polyisocyantes and (ii) terpolymers of vinyl chloride, vinyloxyethanol, and monoolefinically unsaturated fumaric esters. Polyurethane foams can be prepared by including a blowing agent during the reaction.

3,451,953

HYDROPHILIC POLYURETHANE FOAMS FROM ALCOHOL ALDEHYDES

Joerg Sambeth and Alexis Archipoff, Carouge, Geneva, and Jean Pierre Godechot, Geneva, Switzerland, assignors to Elekal, Paris, France

No Drawing. Filed Nov. 28, 1966, Ser. No. 597,237
Claims priority, application Switzerland, Nov. 27, 1965, 16,354/65
Int. Cl. C08g *22/44, 22/16*
U.S. Cl. 260—2.5 **5 Claims**

This specification discloses hydrophilic polyurethane foams. The foams are prepared by reacting a hydroxy containing aldehyde with the ingredients conventionally used to prepare polyurethane foams.

3,451,954

HYDROPHILIC POLYURETHANE FOAMS FROM QUATERNARY AMMONIUM SALTS OF N-DISUBSTITUTED AMINO ALCOHOLS

Joerg Sambeth and Alexis Archipoff, Carouge, Geneva, and Jean Pierre Godechot, Geneva, Switzerland, assignors to Elekal, Paris, France

No Drawing. Filed Nov. 28, 1966, Ser. No. 597,238
Claims priority, application Switzerland, Nov. 27, 1965, 16,353/65
Int. Cl. C08g *22/44, 22/16*
U.S. Cl. 260—2.5 **5 Claims**

This specification discloses hydrophilic polyurethane foams. The foams are prepared by reacting a quarternary ammonium salt of an N-disubstituted amino alcohol with the ingredients conventionally used to prepare polyurethane foams.

3,451,955

COATING COMPOSITION COMPRISING A BLEND OF THE REACTION PRODUCT OF A HIGHLY METHYLATED HEXAMETHYLOL MELAMINE WITH A FREE HYDROXYL GROUP CONTAINING COPOLYMER BLENDED WITH A GLYCERIDE OIL MODIFIED ALKYD RESIN OR CERTAIN ACRYLIC TERPOLYMERS

Jerry Norman Koral, Stamford, and John Christos Petropoulos, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,098
Int. Cl. C09d *3/76, 3/66*
U.S. Cl. 260—21 **10 Claims**

A composition of matter comprising a blend of the reaction product of a highly methylated hexamethylol melamine and a copolymer of a monovinyl aromatic monomer having pendant free hydroxyl groups and a resinous material such as a glyceride oil modified alkyl resin or certain acrylic terpolymeric materials.

3,451,956

POLY (AMIDE-UREA) RESIN

Jack L. Harrier, Lansing, and Lawrence D. Spaulding, Park Forest, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,083
Int. Cl. C08g *22/04;* **C09d** *3/64*
U.S. Cl. 260—22 **10 Claims**

Oil-modified poly (amide-urea) resins, suitable for use as air-dry coatings, are prepared from unsaturated nonhydroxylated triglycerides, non-anhydride-forming organic dicarboxylic acids, and organic polyisocyanates by a two-stage process wherein the triglyceride and the acid are first reacted to form an acidolysis reaction product mixture which is then reacted with the polyisocyanate.

3,451,957

IMPREGNATING AND COATING COMPOSITIONS AND ARTICLES AND PRODUCTS TREATED THEREWITH

George A. Pritchard, deceased, late of Atlantic Beach, Fla., by Nelle W. Pritchard, sole legatee and devisee, 328 10th St., Atlantic Beach, Fla. 32003, and Leon E. Van Zile, 303 10th St., Atlantic Beach, Fla. 32003

No Drawing. Filed Feb. 3, 1967, Ser. No. 613,972
Int. Cl. D21h *5/00;* **C08g** *17/14*
U.S. Cl. 260—22 **5 Claims**

Compositions of matter consisting essentially of soybean oil alkyd resin solution, paraffinic-kerosene solution (or kerosene) and liquid anionic-dialkylolamine composition may be diluted with mineral spirits, and/or water and laminated and corrugated paper board contacted therewith to provide liquid-resistant impregnations and/or coatings therefor. The compositions cause no softening of the adhesives commonly employed to secure together the laminae of the boards, and the boards are stronger and will not tend to crack when scored and folded into the forms of containers, and the like. The invention also includes the boards so impregnated and/or coated.

3,451,958

COMPOSITIONS COMPRISING POLYVINYL CHLORIDE AND EPOXIDIZED METHYL ESTERS OF MALEINIZED FATTY ACIDS

William L. Riedeman, West Windsor Township, Mercer County, and Andrew Lupichuk, Hamilton Township, Mercer County, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original application Jan. 18, 1962, Ser. No. 167,161. Divided and this application June 7, 1965, Ser. No. 462,085
Int. Cl. C08f *45/38, 45/58*
U.S. Cl. 260—23 **5 Claims**

1. The plasticized resin composition which comprises poly(vinyl chloride) resin containing, as plasticizer and stabilizer, 1–100 parts by weight, 100 parts of resin, of the epoxidized, completely methylated ester of maleinized fatty acid, said acid being selected from the group consisting of oleic and tall oil fatty acids, and being maleinized to the extent of essentially 1 mole of maleic moiety per mole of oleic acid in the case of oleic acid and in the case of the tall oil fatty acids to a range of essentially 1 to 1.5 moles of maleic moiety per mole of unsaturated fatty acid in said tall oil fatty acid and said ester containing 0.5% to 1.3% by weight of oxirane oxygen.

3,451,959

REACTION PRODUCTS OF STABILIZED ROSIN AMINE AND EPOXY RESINS

Kurt J. Wasserman, 341 E. Skyline Lakes Drive, Wanaque, N.J. 07465

No Drawing. Continuation-in-part of application Ser. No. 436,932, Mar. 3, 1965. This application June 29, 1967, Ser. No. 649,818
Int. Cl. C08g *30/14*
U.S. Cl. 260—24 **7 Claims**

A resinous reaction product produced by reacting stabilized rosin amines with epoxy resins to formulate surface coatings and adhesives.

3,451,960

PREPARATION OF STABLE DISPERSIONS OF FINELY DIVIDED HALOGEN-CONTAINING VINYL POLYMERS

Richard Frederick Schmidt, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 12, 1966, Ser. No. 549,479
Int. Cl. C08f *47/16, 1/88, 29/56*
U.S. Cl. 260—29.6 **4 Claims**

An aqueous solution of a strong electrolyte having evenly dispersed therethrough finely divided halogen-containing vinyl polymer, said halogen-containing vinyl polymer having been prepared by emulsion polymerization of a vinyl halide and/or a vinylidene halide followed by washing with a water soluble alcohol until the emulsifier used during polymerization process is separated from the particulate halogen-containing vinyl polymer particles.

3,451,961

VINYL RESIN COMPOSITIONS

Dale Robert Dill, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 422,517, Dec. 31, 1964. This application June 14, 1967, Ser. No. 645,899
Int. Cl. C08f *45/36;* **C08g** *51/38*
U.S. Cl. 260—31.8 **8 Claims**

This invention relates to the use of a plasticizer comprising 7-(2,6,6,8 - tetramethyl - 4 - oxa - 3 - nonyl)benzyl phthalate in vinyl floor compositions.

3,451,962

PROCESS FOR IMPROVED SULFUR-VULCANIZATION OF MIXTURES OF ELASTOMERS CONTAINING ETHYLENE PROPYLENE TERPOLYMERS

Hans W. Auler and Gerhard Proske, Stolberg, Germany, assignors to Englebert Aktiengesellschaft, Aachen, Germany, a corporation

No Drawing. Filed Apr. 28, 1966, Ser. No. 551,834
Claims priority, application Germany, May 14, 1965, E 29,298
Int. Cl. C08c *9/08;* **C08f** *29/10*
U.S. Cl. 260—33.6 **6 Claims**

EPDM can be co-vulcanized in blends with highly unsaturated elastomers (e.g., NR, SBR, etc.), in spite of the wide discrepancy in curing rates between these two types of elastomers, by using a delayed action accelerator (e.g., sulfenamide type, especially in combination with diphenylguanidine), preferably along with a retarder. With such an accelerating system, the deterioration in physical properties (dilution effect), usually noticed upon vulcanization of a fast-curing highly unsaturated elastomer blended with increasing amounts of slow-curing EPDM, is avoided.

3,451,963

POLYMERIZATION OF LACTAMS

Paul A. Tierney, Ballwin, and Ross M. Hedrick, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,682
Int. Cl. C08g *20/10, 20/12, 51/04*
U.S. Cl. 260—37 **18 Claims**

An improved base-catalyzed, initiated, substantially anhydrous anionic polymerization process for lactams comprising forming an N-halometallic lactam catalyst by reacting a metal lactam with a metal halide and catalyzing the polymerization of the monomeric lactam with the N-halometallic lactam.

3,451,964

SINGLE PACKAGE ROOM TEMPERATURE VULCANIZING SILICONE ELASTOMER COMPOSITIONS

Charles E. Creamer, North Tonawanda, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 24, 1966, Ser. No. 529,665
Int. Cl. C08g *47/04, 47/10*
U.S. Cl. 260—37 **20 Claims**

A room temperature curable aminosilicon composition comprising an anhydrous mixture of (A) an aminosiloxane having an average of about two silicon-bonded amino end-blocking groups and (B) an organosilicon compound having at least three silicon-bonded amino end-blocking groups which (1) in the absence of an acid catalyst but in the presence of water at room temperature will form a silicone gum and which (2) in the presence of an acid catalyst and water at room temperature cures to a silicone elastomer, alternatively, said silicone gum may be stably formed first and then room temperature cured in the presence of an acid catalyst and water to a silicone elastomer.

3,451,965

ONE-PACKAGE ROOM TEMPERATURE CURABLE POLYSILOXANE COMPOSITIONS

Frederick M. Lewis, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,157
Int. Cl. C08g *51/74, 47/04*
U.S. Cl. 260—46.5 **4 Claims**

Polysiloxanes containing silanic hydrogen and a platinum or platinum compound catalyst are cured in the presence of atmospheric moisture. The compositions are made by mixing a polysiloxane containing silanic hydrogen with a platinum or platinum compound catalyst. The compositions are storable in the absence of moisture and are cured by exposure to atmospheric moisture. The compositions of the present invention are useful as potting compounds for high frequency, capacitance tuned circuits.

3,451,966

POLYCARBONATE-CARBAMATES OF ALKYLIDENE DIPHENOLS AND DIHYDROXYDIPHENYL SULFONES

James T. Gregory and Arthur B. Robertson, Akron, and Wiliiam A. Keim, Barberton, Ohio, assignors to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 8, 1966, Ser. No. 592,731
Int. Cl. C08g *20/30*
U.S. Cl. 260—49 **7 Claims**

Polycarbonate-carbamate polyesters of (a) alkylidene diphenols, (b) dihydroxydiphenyl sulfones, (c) carbonic acid, and (d) biscarbamate acids possess enhanced resistance to solvent stress cracking. These polyesters contain more alkylidene diphenol moieties than sulfone moieties, usually in ratios of from 3 to 15 to 1 and at least twice as many carbonate as carbamate groups.

3,451,967

PROCESS FOR THE POLYMERIZATION OF TRIOXAN UTILIZING A FLUOROARSENATE

Herbert May, Windsor Tower, N.Y., and Brian John Kendall-Smith, Birmingham, and John Alan Dodd, Staffs, England, assignors to British Industrial Plastics Limited, London, England, a corporation of the United Kingdom

No Drawing. Continuation-in-part of application Ser. No. 508,590, Nov. 18, 1965, now Patent No. 3,395,124, dated July 30, 1968. This application Nov. 21, 1966, Ser. No. 595,667
Claims priority, application Great Britain, Nov. 23, 1964, 47,553/64
Int. Cl. C08g *1/20, 1/18, 1/04*
U.S. Cl. 260—67 **11 Claims**

A process for preparing high molecular weight oxymethylene homopolymers and copolymers suitable for molding, by polymerizing trioxan in the presence of certain hexafluoroarsenates and related compounds.

3,451,968

COMPOSITION COMPRISING UREA-FORMALDEHYDE RESIN, TRIESTER OF H_3PO_4, AND ALKYL PHOSPHITE

James K. Akiyama, Mountain View, Calif., assignor to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed July 26, 1965, Ser. No. 474,982

Int. Cl. C08g *9/10*

U.S. Cl. 260—71 **8 Claims**

A faster cure of urea formaldehyde resins is obtained by employing a latent catalyst which will rapidly release the acid necessary for curing on exposure to heat. The latent catalyst of this invention comprises a mixture of a triester of phosphoric acid, e.g., a trialkyl phosphate and as an activator therefor a trialkyl phosphite.

3,451,969

POLYURETHANES CROSS-LINKED WITH TETROLIN-1,4-DIOL

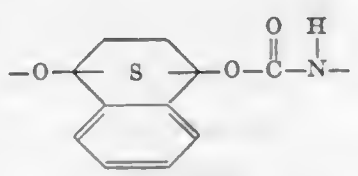
Perry A. Argabright, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,079

Int. Cl. C08g *22/04, 22/18, 51/74*

U.S. Cl. 260—75 **10 Claims**

The present invention relates to compositions containing the formula:



and to processes for their manufacture. Said compositions are useful in coating formulations, to form foamed compositions, in adhesives, casting materials, and for other purposes.

3,451,970

PROCESS OF PREPARING POLYETHYLENE TEREPHTHALATE USING METAL SILICATES AS CATALYST

Mary E. Carter, Philadelphia, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 14, 1966, Ser. No. 593,738

Int. Cl. C08g *17/13*

U.S. Cl. 260—75 **11 Claims**

Process ot preparing polyethylene terephthalate comprising carrying out a direct esterification reaction between terephthalic acid and ethylene glycol in the presence of a metal salt of silicic acid and polycondensing the resulting product.

3,451,971

PROCESS FOR THE PRODUCTION OF POLYETHYLENE TEREPHTHALATE FREE OF OBJECTIONABLE COLORATION

Stanley D. Lazarus, Petersburg, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 441,353, Mar. 19, 1965. This application May 21, 1968, Ser. No. 730,907

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 **9 Claims**

Colorless polyesters useful for making films and filaments are produced by polymerization in admixture with antimony trioxide catalyst and an oxygen-containing oxidizing agent capable of oxidizing metallic antimony to trivalent antimony. The amount of oxidizing agent used corresponds to between about 0.5 equivalent and about 6 equivalents of oxygen per mole of antimony trioxide present in the polymerization system.

3,451,972

PROCESS FOR PREPARING POLYETHYLENE TEREPHTHALATE USING NICKEL HYDROXIDE AND NICKEL PHENOXIDES AS POLYCONDENSATION CATALYSTS

Mary J. Stewart, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 13, 1966, Ser. No. 601,324

Int. Cl. C08g *17/015, 17/013*

U.S. Cl. 260—75 **6 Claims**

Process for preparing polyethylene terephthalate comprising carrying out an ester-interchange reaction between ethylene glycol and dimethyl terephthalate and polycondensing the reaction product thereof in the presence of nickel hydroxide or a nickel salt of phenol or an alkyl substituted phenol.

3,451,973

PREPARATION OF POLYETHYLENE TEREPHTHALATE USING CYANIDE ESTERIFICATION CATALYST

Mary J. Stewart, Riddlewood, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 3, 1967, Ser. No. 613,770

Int. Cl. C08g *17/04, 39/02*

U.S. Cl. 260—75 **5 Claims**

Process of preparing polyethylene terephthalate comprising carrying out a transesterification reaction between dimethyl terephthalate and ethylene glycol in the presence of a cyanide selected from the group consisting of cadmium cyanide, zinc cyanide, and calcium cyanide.

3,451,974

PROCESS FOR MOISTURE CONDITIONING OF NYLON

George E. Munn, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 1, 1965, Ser. No. 510,971

Int. Cl. C08g *53/20, 20/00*

U.S. Cl. 260—78 **5 Claims**

Conditioning nylon to equilibrium moisture content by contacting nylon with water at about 100° C. for 5 to 25% of the time necessary to reach equilibrium moisture content at 100° C. and subsequently contacting said nylon with atmospheric steam at a preselected temperature for about 5 to 25% of the time necessary to reach equilibrium moisture content.

3,451,975

PROCESS FOR POLYMERIZING LACTAMS

Istvan Gaspar and Antal Schnitta, Budapest, Hungary, assignors to Licencia Talalmanyokat Ertekesito Vallalat, Budapest, Hungary

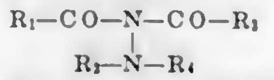
No Drawing. Filed Apr. 12, 1965, Ser. No. 447,523

Claims priority, application Hungary, Apr. 17, 1964, GA–736; Apr. 5, 1965, Schi–84

Int. Cl. C08g *20/10*

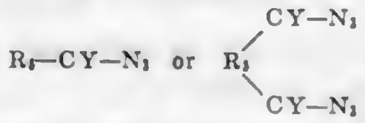
U.S. Cl. 260—78 **6 Claims**

Process for polymerizing lactams containing more than 6 members, which comprises melting the lactam, adding thereto an activator of the general formula



$$\begin{array}{c} R_1\text{—CO—}\underset{\displaystyle R_2\text{—N—}R_4}{\overset{}{\underset{|}{N}}}\text{—CO—}R_3 \end{array}$$

wherein R_1 is an alkyl, aryl or hydroaromatic radical, R_2 is acyl, R_3 is an alkyl, aryl or —NH— aryl radical, and R_4 is hydrogen or —CO—NH—C_6H_5 and/or an activator of the general formula



$$R_5\text{—CY—}N_3 \quad \text{or} \quad R_5\begin{matrix}\diagup \text{CY—}N_3 \\ \diagdown \text{CY—}N_3\end{matrix}$$

wherein R_5 is alkyl, aryl, hydroaryl or amino, and Y is oxygen or sulphur; the amount of the activator is 0.1 to 8% by weight. Known catalysts are also employed. The polymerization of the thus obtained mixture is carried out at temperatures ranging from 125 to 190° C.

3,451,976

CONTINUOUS ANIONIC POLYMERIZATION OF LACTAMS

Bennie M. Lucas, Hackensack, N.J., assignor to The Polymer Corporation, Reading, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 271,026, Apr. 5, 1963. This application Oct. 10, 1966, Ser. No. 585,361

Int. Cl. C08g *20/10, 20/14*

U.S. Cl. 260—78 **8 Claims**

Finely divided polylactam particles are continuously produced in a reaction vessel by means of anionic polymerization techniques. The reaction is conducted while the reactants are suspended in a carrier liquid that is denser than the lactams but less dense than the polylactam particles. This permits continuous withdrawal of polymerization products from the reaction zone by gravimetric means.

3,451,977

PROCESS FOR POLYMERIZING 2-METHYLENE GLUTARONITRILE

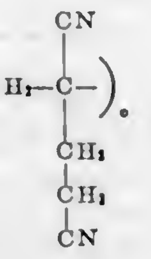
John M. Hoyt and Karl Koch, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 27, 1964, Ser. No. 385,470

Int. Cl. C08f *3/74, 15/40, 15/22*

U.S. Cl. 260—78.4 **11 Claims**

1. A process for preparing homopolymers comprising recurring units of the following formula



$$\left(\text{CH}_2\text{—}\overset{\displaystyle \text{CN}}{\underset{\displaystyle \underset{\displaystyle \underset{\displaystyle \text{CN}}{|}}{\underset{\displaystyle \text{CH}_2}{\underset{|}{\text{CH}_2}}}}{\underset{|}{\overset{|}{\text{C}}}}}\text{—}\right)_n$$

wherein *n* is an integer of at least 10 which consists essentially of the steps of polymerizing substantially pure 2-methylene glutaronitrile at a temperature below about 0° C. in the presence of an anionic catalyst system selected from the group consisting of sodium cyanide in an organic solvent, sodium in liquid ammonia and organo metallic compounds selected from the group consisting of organo alkali and organo alkaline earth metal compounds, under an inert atmosphere.

3,451,978

VINYLIDENE FLUORIDE INTERPOLYMERS

John R. Chalmers, Wallingford, Pa., and Frederic B. Stilmar, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 1, 1966, Ser. No. 530,799

Int. Cl. C08f *15/40*

U.S. Cl. 260—78.5 **21 Claims**

Normally solid interpolymers of

(a) Vinyl fluoride or vinylidene fluoride or mixtures thereof,

(b) About 0.05 to about 1.5 moles, per mole of (a) of tetrafluoroethylene, and

(c) About 0.01 to about 0.7 mole, per mole of (a) of at least one monovinyl ester of an aromatic carboxylic acid derived from benzene or naphthalene.

3,451,979

CHAIN TERMINATED COPOLYMERS OF STYRENE AND MALEIC ANHYDRIDE OF LOW MOLECULAR WEIGHT

Irving E. Muskat, Miami, Fla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 144,562, Oct. 12, 1961. This application June 27, 1966, Ser. No. 560,896

Int. Cl. C08f *21/02, 1/80*

U.S. Cl. 260—78.5 **4 Claims**

Copolymers of styrene and maleic anhydride prepared from approximately equimolar amounts of the two monomers. The copolymers have a molecular weight of about 400 to 750 and are chain terminated with certain aralkyl radicals such as cumenyl and P-cymenyl radicals. Said copolymers are useful in surface coating compositions.

3,451,980

ANAEROBIC ADHESIVE

Arthur M. Brownstein, Morristown, N.J., assignor to Princeton Chemical Research, Inc., Princeton, N.J., a corporation

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,803

Int. Cl. C09j *3/14, 5/10*

U.S. Cl. 260—78.5 **22 Claims**

1. A composition suitable for use as an anaerobic adhesive comprising a mixture of (1) a diester of a tetracarboxylic aromatic acid, wherein the alcoholic moiety of said ester contains a carbonyl group in conjugation with an olefinic unsaturation and (2) a monoester of a polycarboxylic acid, wherein the alcoholic moiety of said ester contains a carbonyl group in conjugation with an olefinic unsaturation.

3,451,981

POLYMERIZATION OF VINYL CHLORIDE AND MIXTURES OF VINYL ACETATE AND ETHYLENE USING TERTIARY ALKYL PER-3-ALKENOATES AS CATALYSTS

Louis J. Rekers, Wyoming, Irving L. Mador, Cincinnati, and Ragnar S. Solvik, Wyoming, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 470,899, July 9, 1965. This application June 29, 1966, Ser. No. 561,378

Int. Cl. C08f *1/60, 3/30, 3/04*

U.S. Cl. 260—87.3 **10 Claims**

Polymerization processes for vinyl chloride and mixtures of vinyl chloride and ethylene using as catalysts tertiary alkyl per-3-alkenoates, and more particularly tertiary butyl-per-3-butenoate, at temperatures of 50° to 250° C. and pressures of 10,000 to 45,000 p.s.i.

3,451,982

TERPOLYMERS OF ETHYLENE, A VINYL ESTER AND AN UNSATURATED AMIDE

George A. Mortimer, La Marque, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 4, 1965, Ser. No. 477,306

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.73 **6 Claims**

Substantially random addition terpolymers of ethylene, a vinyl ester and an unsaturated amide prepared by polymerizing the monomers at elevated temperatures and pressures in the presence of a free-radical-generating catalyst.

3,451,983

PROCESS FOR PYROLYZING COPOLYMERS OF ETHYLENE AND VINYL ESTERS

Pieter van Saane, Geleen, and Johannes M. Frielink, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed May 2, 1966, Ser. No. 546,564
Claims priority, application Netherlands, May 7, 1965, 6505800
Int. Cl. C08f *27/26*
U.S. Cl. 260—87.3 **12 Claims**

A process for pyrolyzing copolymers of ethylene and vinyl esters by heating them in the presence of an organic diluent at a temperature of between 225 and 350° C. and at a pressure of at least 90 atmospheres.

3,451,984

NOVEL FURFURYL ALCOHOL PROCESSES AND PRODUCTS

Pierre Bourguignon, Sceaux, and René Lemaistre, Melle, France, assignors to Les Usines de Melle (Societe Anonyme), Melle, Deux-Sevres, France, a corporation of France
No Drawing. Filed Sept. 21, 1966, Ser. No. 580,867
Claims priority, application France, Sept. 27, 1965, 32,806
Int. Cl. C08f *5/04*
U.S. Cl. 260—88.5 **8 Claims**

Process for the preparation of resins from furfuryl alcohol by heating at 120° C. to 180° C. in the presence of a catalytic amount of antimony trioxide.

3,451,985

METHOD OF POLYMERIZING VINYL MONOMERS

Edwin K. Mahlo, East Longmeadow, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 355,006
Int. Cl. C08f *1/60*
U.S. Cl. 260—92.8 **8 Claims**

The present invention provides a method of polymerizing vinyl-type monomers with highly efficient polymerization initiators, which are introduced into the monomer during polymerization in an aqueous medium. About 0.005 to 0.5 part, per 100 parts of monomer, of the polymerization initiator in an aqueous medium is introduced at a controlled rate into the reaction vessel so as to minimize problems in handling and utilizing various initiators which are highly active and often dangerous.

3,451,986

PROCESS AND APPARATUS FOR THE MASS POLYMERISATION OF ARYL VINYL COMPOUNDS

Bernard Metais, Paris, France, assignor to Societe Anonyme dite: Societe Nationale des Petroles d'Aquitaine, Courbevoie, France, a corporation of France
Filed May 18, 1965, Ser. No. 456,682
Claims priority, application France, June 4, 1964, 976,991
Int. Cl. C08f *1/04, 1/06*
U.S. Cl. 260—93.5 **1 Claim**

Improved axial and radial temperature control is obtained in continuous polymerization of vinyl compounds by introducing partially polymerized monomer into a reactor comprising a series of vertically overlapping rings each containing a series of layers of heat-exchange tubes arranged in an Archimedian spiral, with the centers of adjacent pairs of said layers being offset in opposite directions from the center of the column, and independently regulating the temperature of each ring in a predetermined manner.

3,451,987

PROCESS AND CATALYTIC COMPOSITIONS FOR OBTAINING AMORPHOUS 1,2-POLYBUTADIENE AND THE PRODUCTS THEREOF

François Dawans, Bougival, and Philippe Teyssie, Le Vesinet, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
No Drawing. Filed Sept. 23, 1966, Ser. No. 581,451
Claims priority, application France, Sept. 24, 1965, 32,688
Int. Cl. C08f *3/18;* **B01j** *11/78*
U.S. Cl. 260—94.3 **22 Claims**

For the production of polybutadiene having higher than 98% 1,2-addition product, 1,3-butadiene is polymerized with a catalyst consisting essentially of:

(a) A molybdenum halide or oxyhalide, e.g. molybdenum pentahalide, and an aluminium compound having the formula $(RO)(R')_2Al$ wherein R and R' are monovalent hydrocarbon groups, e.g. monoethoxy-diethyl-aluminium and the molar ratio of the aluminum compound to the molybdenum compound is greater than about 0.9.

3,451,988

POLYMERIZATION CATALYST AND USES THEREOF

Arthur W. Langer, Jr., Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 266,188, Mar. 19, 1963, and Ser. No. 290,315, June 25, 1963. This application Oct. 25, 1966, Ser. No. 589,240
Int. Cl. C08f *1/28, 3/06;* **C08d** *1/14*
U.S. Cl. 260—94.6 **20 Claims**

A polymerization catalyst is prepared by mixing an organolithium such as n-butyl lithium with a chelating bifunctional Lewis base such as tetramethyl ethylene diamine. The catalyst is useful for the polymerization of ethylene and homopolymerization or copolymerization of diolefins such as butadiene-1,3.

3,451,989

PEROXY COMPOUNDS, AND POLYMERIZATION OF ETHYLENICALLY UNSATURATED HYDROCARBONS USING SAME AS CATALYSTS

Louis J. Rekers, Wyoming, Irving L. Mador, Cincinnati, and Ragnar S. Solvik, Wyoming, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 9, 1965, Ser. No. 470,899
Int. Cl. C08f *1/60, 3/04*
U.S. Cl. 260—94.9 **12 Claims**

Novel peroxy compounds of the group, tertiary alkyl per-3-alkenoates, processes for the preparation of said peroxy compounds, and polymerization process for ethylenically unsaturated hydrocarbons using said peroxy compounds as catalysts, particularly processes for the polymerization of ethylene.

3,451,990

RECOVERY OF VEGETABLE OILS AND PROTEINS FROM EMULSIONS BY WET MILLING

Pedro Solé, Jr., Guatemala, Guatemala, assignor to Instituto Centroamericano de Investigacion y Technologia Industrial, Guatemala, Guatemala
No Drawing. Filed Nov. 16, 1965, Ser. No. 508,163
Int. Cl. A23j *1/14;* **C11b** *1/00;* **A23d** *5/00*
U.S. Cl. 260—123.5 **4 Claims**

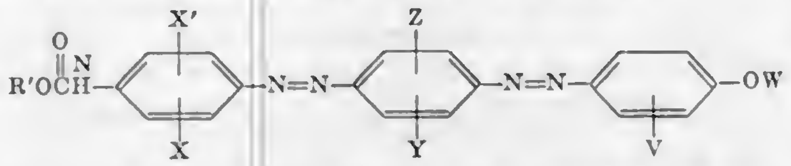
A process for the separation of vegetable oils from bearing vegetable matter which comprises milling the vegetable matter in water, held at a temperature sufficient to melt the oil, separating the fiber from the oil-in-water emulsion induced by inclusion by certain proteinaceous matter and, thereafter, recovering the oil by evaporating water from the emulsion.

3,451,991

DISAZO DYESTUFFS CONTAINING THE PHENYL-AZO-PHENYL-AZO-PHENYL MOIETY

Helmut Kleiner, Cologne-Riehl, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed June 16, 1965, Ser. No. 464,569
Claims priority, application Germany, June 27, 1964, F 43,285
Int. Cl. C09b *31/02, 33/00, 35/00*
U.S. Cl. 260—187 **6 Claims**

Disazo dyestuffs, useful in the dyeing of polyesters and other hydrophobic fibers, having the formula:



wherein R' is lower alkyl, X and X' are hydrogen, methyl, chloro and carbomethoxy, Y is hydrogen, methyl, methoxy, and cyanomethyl, Z is hydrogen and methoxy, W is hydrogen and methyl, and V is hydrogen, methyl, chlorine and cyanomethyl.

3,451,992

PURIFICATION OF STREPTOMYCIN

Urs Felix Nager, Princeton, and Friedrich Dursch, Freehold, N.J., assignors to E. R. Squibb & Sons Inc., New York., a corporation of Delaware
No Drawing. Filed Mar. 24, 1966, Ser. No. 537,004
Int. Cl. C07c *129/18*
U.S. Cl. 260—210 **4 Claims**

This invention relates to an improved process for the purification of streptomycin which features a particular combination of steps that may be carried out on one bed of ion exchange material and avoids the losses experienced when repeated transfers are involved. This process comprises adsorbing the fermentation broth on a bed of weakly acidic carboxylic acid cation exchange resin, washing the streptomycin containing resin with carbonic acid, eluting the streptomycin from the resin with moderately concentrated mineral acid solution at a slow linear flow rate and recovering the streptomycin from the eluate.

3,451,993

PROCESS FOR PREPARING DIACETONE-L-SORBOSE

Kazuaki Goshima and Kanji Tokuyama, Osaka-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan
Filed Apr. 25, 1967, Ser. No. 633,566
Claims priority, application Japan, Apr. 25, 1966, 41/26,529, 41/26,530
Int. Cl. C08b *19/00;* **C07g** *3/00;* **C07d** *21/00*
U.S. Cl. 260—210 **5 Claims**

L-sorbose is reacted with acetone dialkyl ketal in acetone medium in the presence of sulfuric acid at 0° to 30° C. for 10 to 100 minutes to yield diacetone-L-sorbose economically and industrially, and the said reaction is effected similarly by using alkanol in lieu of acetone dialkyl ketal.

3,451,994

14β-HYDROXY-16β,21-OXIDONORCHOLAN-23-OIC ACID LACTAMS AND DERIVATIVES

Jean-Marie Ferland and Yvon Lefebvre, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 2, 1967, Ser. No. 680,026
Int. Cl. C07c *173/10*
U.S. Cl. 260—210.5 **16 Claims**

There are disclosed herein 3β,14β-dihydroxy-21-amino-14β,21-oxidonorcholan-23-oic acid lactam, its N-methyl, N-ethyl, N-propyl, N-isopropyl and N-benzylamine derivatives, the 3β-tridigitosides and 3β-(β-d-glucopyranoside) derivatives of the above compounds as well as their 3β-acetoxy, 3β-propionyloxy and 3β-butanoyloxy derivatives; the compound 3β-acetoxy-14β-hydroxy-21-(N-acetylamino)-16β,21-oxidonorcholan-23-oic acid lactam is also disclosed. All the above compounds are obtained as mixtures of two isomers, and methods for the separation of those isomers are also given. The compounds of this invention have cardiotonic activities, and a process for their preparation as well as methods for their use are also disclosed.

3,451,995

STEROID 16α-D-GLUCOSIDES

Samuel C. Pan, Metuchen, and Leonard J. Lerner, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,854
Int. Cl. C08b *19/00;* **C07c** *173/00*
U.S. Cl. 260—210.5 **6 Claims**

This invention relates to α-glucosides of steroids containing hydroxy groups in both the 16α- and 17-positions and the method for preparing them by reacting with a polysaccharide or an oligosaccharide, such as maltose, in the presence of a source of the enzyme: amylase or transglycosylase. The α-glucosides are new compounds that possess estrogenic activity. They may be used, therefore, as anti-fertility agents.

3,451,996

METHOD FOR THE PREPARATION OF HEPARIN

George B. Sumyk and Joseph L. Kyle, Chicago, and Ervin J. Hawrylewicz, Park Forest, Ill., assignors to Thompson Farms Company, Chicago, Ill.
No Drawing. Continuation-in-part of application Ser. No. 385,453, July 27, 1964. This application Feb. 12, 1968, Ser. No. 704,573
Int. Cl. C08b *19/03*
U.S. Cl. 260—211 **7 Claims**

The process of preparing heparin comprising autolysis of heparin containing animal tissue while maintaining the digestive pH at an approximately constant pH of 6.5 to 8, adjusting the pH to 10 and removing all of the precipitate, precipitating the poly-saccharides obtained from the original tissue, while maintaining the temperature at 25 to 37° C., removing the poly-saccharide precipitate formed and eluting the precipitate with successively more concentrated eluting solutions to separate the poly-saccharides and precipitating the heparin from each eluate.

3,451,997

MONOTHIO-PHOSPHATE ESTER CATALYSIS FOR PREPARATION OF RIBONUCLEOSIDE DERIVATIVES

Yasuo Fujimoto, Machida-shi, Tokyo-to, Japan, assignor to Kyowa Hakko Kogyo Company Limited, Tokyo, Japan
No Drawing. Filed Nov. 3, 1966, Ser. No. 591,704
Claims priority, application Japan, Nov. 30, 1965, 40/73,135
Int. Cl. C08b *19/00*
U.S. Cl. 260—211.5 **5 Claims**

The present invention relates to a process for the preparation of 2',3'-O-substituted ribonucleoside, and for selective phosphorylation at the 5'-position thereof by the use of a monoester of phosphorothioic acid as a catalytic agent.

3,451,998
NEUTRALIZING HYDROXYALKYL CELLULOSE

William J. Alexander, Whippany, Charles F. Murphy, Morristown, and Thomas E. McEniry, Jr., Wharton, N.J., assignors to ITT Rayonier Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 28, 1965, Ser. No. 517,094
Int. Cl. C08b *11/20, 11/08*
U.S. Cl. 260—231 3 Claims

Fibrous hydroxyalkyl cellulose (for convenience called HAC) is produced by etherifying moist fibrous alkali cellulose with gaseous alkylene oxide in the presence of sodium hydroxide as a catalyst. Residual sodium hydroxide catalyst in the resultant moist hydroxyalkyl cellulose crumb is neutralized with sulfur dioxide gas to convert the sodium hydroxide to sodium sulfite or sodium bisulfite which is then washed from the crumb to obtain a purified HAC product.

3,451,999
REMOVING AROMATIC HYDROCARBONS FROM CARBOXYMETHYL CELLULOSE

Richard L. Evans, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 10, 1965, Ser. No. 507,142
Int. Cl. C08b *11/20*
U.S. Cl. 260—232 7 Claims

Aromatic hydrocarbons removed from carboxymethyl cellulose by heating said cellulose with recycled hot gas containing aromatic hydrocarbon impurities volatilized from the cellulose ether until the total volatile content of the cellulose is from about 15 to 35% and then contacting the treated carboxymethyl cellulose with aromatic hydrocarbon-free hot gas for further drying.

3,452,000
2-AZETIDINONES

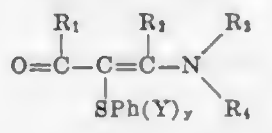
Emilio Testa, Vacallo, Tessin, Switzerland, and Luigi Fontanella, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed Mar. 28, 1966, Ser. No. 537,717
Claims priority, application Great Britain, Apr. 26, 1965, 17,506/65
Int. Cl. C07d *25/00*
U.S. Cl. 260—239 2 Claims

The invention is concerned with a novel class of compounds having sedative and tranquilizing activity. More particularly, the compounds are 1,3,3-trisubstituted 2-azetidinones, and are prepared by reacting the corresponding 1-unsubstituted azetidinones with trioxymethylene. The obtained 3,3-disubstituted-1-hydroxymethyl-2-azetidinone is then optionally converted into the acyl derivative through conventional procedures.

3,452,001
ENAMINOKETONE SULFIDES

Gerhard H. Alt and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 303,943, Aug. 22, 1963. This application Aug. 12, 1966, Ser. No. 571,988
Int. Cl. C07c *149/42;* **C07d** *41/04, 87/46*
U.S. Cl. 260—239 14 Claims

Enaminoketone sulfides of the formula:



$$O{=}\overset{R_1}{\overset{|}{C}}-\underset{SPh(Y)_y}{\underset{|}{C}}{=}\overset{R_2}{\overset{|}{C}}-N\begin{smallmatrix}R_3\\ R_4\end{smallmatrix}$$

and their preparation, wherein R_1 is alkyl having a maximum of 4 carbon atoms, R_2 is hydrogen or alkyl having a maximum of 4 carbon atoms, R_1 and R_2 together can form a ring having 4 to 8 carbon atoms, inclusive; R_3 and R_4 are hydrogen, alkyl having a maximum of 4 carbon atoms and together forming a divalent radical selected from the group consisting of alkylene, —R—O—R—, and —R—S—R—; Y is halogen, alkoxy, alkyl, nitro or cyano; and *y* is an integer from zero to three.

The compounds are prepared by reacting the corresponding α,β-unsaturated amino substituted ketone with the appropriate sulfenyl chloride. These compounds have growth promoting effects when fed to animals. In addition, they possess anthelmintic activity and provide a source of assimilable nitrogen.

3,452,002
ADDUCTS OF ALKYLENE IMINES AND CARBOXYLIC ACIDS

Jay Brasch, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,790
Int. Cl. C07d *41/00, 41/06;* **C10m**
U.S. Cl. 260—239.3 10 Claims

An oil-soluble ashless dispersant for an oil composition such as a mineral lubricating oil is prepared by reaction of one mole of an aliphatic monocarboxylic acid, dicarboxylic acid or carboxylic acid anhydride of from 600 to 5000 molecular weight with from 1 to 30 moles of a monomeric alkylene imine of from 2 to 20 carbon atoms, e.g., by reacting polyisobutenyl succinic anhydride of 900 to 1000 molecular weight with propylene imine monomer. The reaction can take place at ambient temperatures or at temperatures from about −30° F. up to the boiling point of the imine. The chemical nature of the reaction varies with the proportion of imine to acid or acid anhydride and is also influenced by the presence or absence of an acid catalyst e.g. HCl or BF_3.

3,452,003
PROCESS FOR THE PREPARATION OF 5α-BROMO-6β-HYDROXY STEROIDS

Otto Halpern, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Apr. 25, 1966, Ser. No. 544,678
Int. Cl. C07c *167/28, 167/26*
U.S. Cl. 260—239.55 20 Claims

Process for the preparation of 5α-bromo-6β-hydroxy steroids comprising reacting of a Δ^5-steroid with a positive bromine or chlorine releasing agent in a carboxylic acid reaction medium followed by treatment with a base to obtain a 5β,6β-oxido steroid which is treated with dry hydrogen bromide to afford the 5α-bromo-6β-hydroxy steroid.

3,452,004
10β-METHYL-13-ALKYLGONAN-4-ONES

Donald P. Strike, Philadelphia, David R. Herbst, King of Prussia, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 19, 1966, Ser. No. 551,391
Int. Cl. C07c *169/22, 169/10, 167/00*
U.S. Cl. 260—239.55 11 Claims

10-methyl-13-alkylgonan-4-ones possessing hormonal activity such as androgenic, anabolic, progestational and anti-androgenic activity and useful as intermediates for the preparation of steroids possessing hormonal effects are prepared from 13-alkyl-gon-4-enes by converting the latter to their corresponding 4-hydroxy-5-bromo derivative, oxidizing to the 4-keto-5-bromo derivative, dehydrobrominating across the 5(10) position, adding hydrogen cyanide at 5(10) to obtain the corresponding 4-keto-10-cyano derivative, ketalizing to protect the 4-keto group, reducing the 10-cyano group to the 10-imino group, converting the imine group to a 10-methyl group and hydrolyzing to remove the protecting ketal group.

3,452,005
4-PREGNENE-11β-OL-3,20-DIONE-[17α,16α-d]-OXAZOLINES

Joseph Ernst Thiemann, Como, Giancarlo Lancini, Pavia, and Giangiacomo Nathansohn, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed Dec. 28, 1967, Ser. No. 694,109
Claims priority, application Great Britain, Jan. 13, 1967, 1,900/67
Int. Cl. C07c *173/10;* **A61k** *17/00*
U.S. Cl. 260—239.55 4 Claims

The subject matter of the present application is a new class of steroido-oxazolines, which are prepared by a fermentative process, using a fungus, selected from the classes *Fungi imperfecti* and Phycomycetes, as the agent capable of introducing a hydroxyl in position 11.

3,452,006
PROCESS FOR THE PREPARATION OF 6-METHYL-3β,5α,17α - TRIHYDROXY - 20 - CYCLIC KETAL PREGNANE DERIVATIVE

David Neville Kirk, Vladimir Petrow, Martin Stansfield, and David Morton Williamson, London, England, assignors to The British Drug Houses Limited
No Drawing. Continuation of application Ser. No. 33,642, June 3, 1960. This application July 1, 1966, Ser. No. 562,407
Claims priority, application Great Britain, June 11, 1959, 20,028/59
Int. Cl. C07c *167/00, 173/00, 169/32*
U.S. Cl. 260—239.55 1 Claim

Process for preparing a 6β-methyl,3β,5α,17α-trihydroxy 20-cyclic ketal pregnane derivative comprising reacting a 3β-hydroxy- or a 3β-acyloxy-16-methylpregna-5,16-diene-20-one with hydrogen peroxide under alkaline conditions followed by acylation to provide the 3β-acyloxy-16α,17α-epoxy - 16β-methyl-pregn-5-en-20-one, treating the 16α,17α-epoxide compound with a hydrogen halide to cleave the epoxy group with formation of a 17α-hydroxy group, condensing the resulting steroid with an alkane diol to form the corresponding 20-cyclic ketal derivative, treating said 20-cyclic ketal derivative with an organic per-acid to form the corresponding 5α,6α-epoxide of said 20-cyclic ketal derivative and treating said 5α,6α-epoxide with a methyl-magnesium halide followed by alkaline hydrolysis to cleave the 5α,6α-epoxide group and provide the corresponding 6β-methyl,3β,5α,17α-trihydroxy-20-cyclic ketal.

3,452,007
3-KETAL, 3-ENOL ETHER AND 3-PYRROLIDINE DERIVATIVES OF 17α-ETHYNYL AND 17α-HALO ETHYNYL - 17β - TETRAHYDROPYRANYLOXY-ESTRA-5(10),9(11)-DIEN-3-ONES

Lewis H. Sarett, Princeton, and Thomas S. Bry, Linden, N.J., John Fried, Palo Alto, Calif., Arthur E. Oberster, North Canton, Ohio, and Roger E. Beyler, Carbondale, Ill., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 13, 1965, Ser. No. 497,576
Int. Cl. C07c *173/00, 167/30, 169/10*
U.S. Cl. 260—239.55 16 Claims

3-ketal, 3-enol ether and 3-pyrrolidine derivatives of 17α-ethynyl and 17α-haloethynyl-17β-tetrahydropyranyloxy-estra-5(10),9(11)-dien-3-ones are prepared from the corresponding 3-ketal, 3-enol ether and 3-pyrrolidine-17α-ethynyl steroids by reaction with tetrahydropyran and, if desired, a halogenating agent.

3,452,008
NOVEL 7-THIOACYL-17-SPIROLACTONE GONANES

George C. Buzby, Jr., Philadelphia, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 12, 1966, Ser. No. 572,002
Int. Cl. C07c *173/00;* **A61k** *17/06*
U.S. Cl. 260—239.57 5 Claims

This invention concerns new and novel 13-alkyl-17-hydroxy-7α-mercapto-3-oxogon-4-ene-17α-propionic acid, γ-lactone, acylates which are pharmacologically active as anti-diuretic agents.

3,452,009
2,3-EPOXYPROPYLIDENE DERIVATIVE OF 5H-DIBENZO[a,d]-10,11-DIHYDROCYCLOHEPTENES

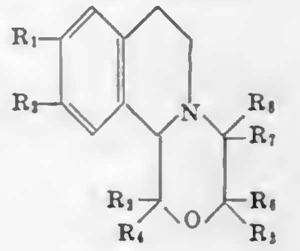
Norman L. Wendler, Summit, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed May 3, 1965, Ser. No. 452,929
Int. Cl. C07d *1/00;* **C07c** *87/40, 47/44*
U.S. Cl. 260—240 2 Claims

A process comprising epoxidizing a 5-allylidene-5H-dibenzo[a,d] - 10,11 - dihydrocycloheptene derivative by reacting it with a peracid, rearranging the epoxidized allylidene to the corresponding 5-(oxapropylidene) derivative and finally performing a reductive amination on the latter compound to produce the corresponding 5-(dimethylaminopropylidene) or 5 - (methylaminopropylidene) derivatives, depending on the particular animating agent used. The final products are useful as antidepressants.

3,452,010
1,3,4,6,7,11b-HEXAHYDRO-1,4-OXAZINO [3,4-a]-ISOQUINOLINES

Rolf Pohlke, Griesheim, near Darmstadt, and Siegmund Sommer and Ernst Schorscher, Darmstadt, Germany, assignors to E. Merck AG, Darmstadt, Germany
No Drawing. Filed Aug. 18, 1966, Ser. No. 573,175
Claims priority, application Germany, Aug. 19, 1965, M 66,370
Int. Cl. C07d *99/04, 87/50;* **A61k** *27/00*
U.S. Cl. 260—244 13 Claims

For increasing the rate of flow of blood, as in the treatment of angina pectoris, compounds of the following formula, acid addition salts thereof, and quaternary ammonium salts thereof:



such a compound being for example 1,3,4,6,7,11b-hexahydro-1,4-oxazino[3,4-a]-isoquinolines.

3,452,011
4-PHENYL-PERHYDROCYCLOALKOXAZINES

Louis L. Skaletzky, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Jan. 6, 1967, Ser. No. 607,665
Int. Cl. C07d *87/00, 27/02, 87/22*
U.S. Cl. 260—244 11 Claims

New 4-phenyl and 4-substituted phenyl perhydrocycloalkoxazines and the acid addition salts thereof are produced by heating an α-phenyl (or substituted phenyl) 2-aminocycloalkanemethanol with a reagent selected from alkanals, benzaldehydes, N,N'-carbonyldiimidazole, and phosgene in the presence of potassium or sodium carbonate in an organic solvent. The products in which the nitrogen has a hydrogen atom can be further modified by alkylation, benzylation or alkoxyalkylation. The products are useful as stimulants for the central nervous system of mammals and birds.

3,452,012

PROCESS FOR THE PREPARATION OF DRY ALKALI DICHLORISOCYANURATES

Ferdinand Langenhoff, Ranzel, and Arnold Lenz, Cologne-Stammheim, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany

No Drawing. Filed Nov. 8, 1966, Ser. No. 593,239

Claims priority, application Germany, Nov. 9, 1965, D 48,606

Int. Cl. C07d *55/40*

U.S. Cl. 260—248 10 Claims

Process for preparing dry alkali dichlorisocyanurates comprising reacting dichlorisocyanuric acid with an equimolar quantity of an alkali hydroxide in the form of its suspension in an aliphatic, liquid, C_1 to C_3 chlorinated hydrocarbon at a temperature of from 0 to 35° C.

3,452,013

AS-TRIAZINO(5,6-b)INDOLES

Jan Mieczyslaw Zygmunt Gladych, Hertford, and John Harold Hunt, Theydon Bois, Essex, England, assignors to Allen and Hanburys Limited, London, England, a British company

No Drawing. Continuation-in-part of application Ser. No. 396,727, Sept. 15, 1964. This application Aug. 7, 1967, Ser. No. 658,644

Claims priority, application Great Britain, Sept. 17, 1963, 35,190/64; July 18, 1967, 33,050/67

Int. Cl. C07d *55/10*

U.S. Cl. 260—249.9 8 Claims

As-triazino[5,6-b]indoles with substituents in the 3 and 5-positions have antiviral activity. Particularly active are the compounds substituted in the 3-position with the substituents hydroxypropylamino, hydroxybutylamino, hydroxyhexylamino, [(1-hydroxymethyl)propylamino], 3-hydroxy-3-methylbutylamino, and 3-hydroxy-2-methyl-2-phenylpropylamino. Also valuable are the compounds with a phenethyl group in the 5-position. The compounds may be converted into salts.

3,452,014

2,5-DIMETHYLPYRAZINE p-TOLUENESULFONATE

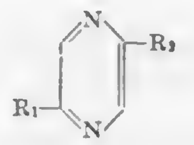
John B. Wright and John H. Markillie, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 389,791, Aug. 14, 1964. This application Mar. 31, 1965, Ser. No. 444,432

Int. Cl. C07d *51/76;* **A61k** *27/00*

U.S. Cl. 260—250 1 Claim

Therapeutic composition and method for treating hyperlipidemia in mammals involving a 2,5 disubstituted pyrazine of the formula:



wherein R_1 is alkyl and R_2 is selected from the group consisting of alkyl, carboxyl, alkoxycarbonyl, carbamoyl and mono- and dialkyl substituted carbamoyl, said alkyl groups containing 1 through 4 carbon atoms, and physiologically acceptable salts thereof.

3,452,015

SYNTHESIS OF β,β-ALKYL PYRROLIDINES

Robert D. Dillard and Nelson R. Easton, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 311,305, Sept. 25, 1963. This application July 12, 1967, Ser. No. 652,690

Int. Cl. C07d *27/04*

U.S. Cl. 260—250 3 Claims

A propargyl malonate is heated with dilute NaOH to form a novel 2-carboxy-4-hydroxy-4-methyl gamma lactone which is decarboxylated to a levulinic acid. The latter are converted to alpha methyl-beta,beta-substituted pyrrolidines via novel 5-methylene-2-pyrrolidones, or 5-methyl-2-pyrrolidones.

Alternatively, a propargyl-malonate is semi-hydrogenated to the corresponding allyl malonate which is hydrolyzed to the malonic acid. Decarboxylation of the acid is readily effected by heat, resulting in the production of an unsaturated acid which is readily cyclized to a 4-methyl-gamma lactone. The latter is converted to 2-methyl-beta,beta-substituted pyrrolidines via the corresponding 5-methyl-2-pyrrolidones.

The final product pyrrolidines are useful as drug intermediates, solvents, tand corrosion inhibitors.

3,452,016

SUBSTITUTED TRIHALOPYRAZINES

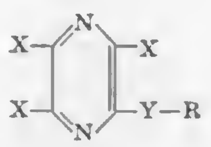
Dorothy H. Horne, Oakland, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 5, 1967, Ser. No. 672,971

Int. Cl. C07d *51/62, 51/66*

U.S. Cl. 260—250 5 Claims

New compounds of the formula



where each X is halogen, Y is oxygen or sulfur and R is alkyl, alkenyl, aralkyl, phenyl or substituted phenyl are variously useful as pesticides for the control of plant, insect and helminth organisms.

3,452,017

PRODUCTION OF ALKYL SUBSTITUTED 4-HYDROXY-, ALKOXY- OR ALKOXY ALKOXY-PROPYLENE UREAS OR PROPYLENE THIOUREAS

Harro Petersen, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 14, 1967, Ser. No. 660,180

Claims priority, application Germany, Aug. 17, 1966, B 88,510; Aug. 18, 1966, B 88,523

Int. Cl. C07d *51/16;* **C05f** *11/00*

U.S. Cl. 260—251 6 Claims

The production of propylenureas and propylenethioureas bearing a hydroxy group or an alkoxy group in 4-position and other substituents in the 1-, 3- and/or 5-positions by reacting methylolurea compounds or methylolthiourea compounds (or reaction mixtures from the reaction of ureas or thioureas with formaldehyde) with alkylolurea compounds or alkylolthiourea compounds (or reaction mixtures from the reaction of ureas or thioureas with aldehydes) in the presence or absence of an alkanol, and the new 4-hydroxypropylenureas, 4-alkoxypropylenureas, 4-hydroxypropylenethioureas and 4-alkoxypropylenethioureas bearing hydrogen atoms or alkyl groups having one to four carbon atoms in the 1- and 3-positions and alkyl groups having one to four carbon atoms in the 5-position themselves. The new products are slow-release fertilizers and valuable intermediates for the manufacture of leather auxiliaries, auxiliaries for the paint and lacquer industry, and pesticides.

3,452,018

1 - [2 - SUBSTITUTED - 6 - ARYLSULFONAMIDOPYRIMIDIN - 4 - YL]PYRIDINIUM HYDROXIDE INNER SALTS

Arthur A. Santilli, Havertown, and Dong H. Kim, Strafford, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 29, 1966, Ser. No. 575,524

Int. Cl. C07d *51/44;* **A61k** *27/00*

U.S. Cl. 260—256.5 10 Claims

The invention is directed to a method of producing, and to the resultant product, 1-[2-substituted-6-aryl-sulfonamidopyrimidin-4-yl]pyridinium hydroxide inner salts by the reaction of a substituted 4-amino-6-chloropyrimidine with a substituted pyridine and substituted sulfonyl chloride. The products are useful as hypotensive agents.

3,452,019

1-PHENYLALKYL-TETRAHYDRO-HALO-SULFAMYL-QUINAZOLINONE

Bola Vithal Shetty, Rochester, N.Y., assignor to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 517,995, Jan. 3, 1966. This application Nov. 16, 1967, Ser. No. 683,450

The portion of the term of the patent subsequent to Dec. 26, 1984, has been disclaimed and dedicated to the Public

Int. Cl. C07d *51/44;* **A61k** *27/00*

U.S. Cl. 260—256.5 8 Claims

A 1,2,3,4-tetrahydro-halo-sulfamyl-quinazolinone having diuretic properties, characterized by having in the 3-position a substituted or unsubstituted aryl or aralkyl group and by having in the 1-position a substituted or unsubstituted phenylalkyl group.

3,452,020

2-ALKENYL AND 2-ALKYNYL SUBSTITUTED - TETRAHYDRO - HALO-SULFAMYL-QUINAZOLINONES

Bola Vithal Shetty, Rochester, N.Y., assignor to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 517,995, Jan. 3, 1966. This application Nov. 9, 1967, Ser. No. 681,894

Int. Cl. C07d *51/48;* **A61k** *27/00*

U.S. Cl. 260—256.5 9 Claims

1,2,3,4-tetrahydro-halo-sulfamyl-4-quinazolinone characterized by having in the 3-position a substituted or unsubstituted aryl or aralkyl group, and by having in the 2-position a substituted or unsubstituted alkenyl or alkynyl group.

3,452,021

10-(AMINOALKANOYL) ACRIDANES

Alex Meisels, Basel, and Angelo Storni, Allschwil, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,684

Claims priority, application Switzerland, Mar. 24, 1965, 4,099/65, 4,100/65

Int. Cl. C07d *37/06, 31/42;* **A61k** *27/00*

U.S. Cl. 260—279 14 Claims

Substituted 10-(aminoalkanoyl)acridanes having antiviral and tumor-inhibiting properties and are prepared through amination of 10-haloalkanoylacridanes.

3,452,022

QUININE POLYGALACTURONATE

Mortimer D. Sackler, New York, and Alfred Halpern, Great Neck, N.Y., assignors to Synergistics, Inc., Yonkers, N.Y., a corporation of New York

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,698

Int. Cl. C07d *33/14, 43/24;* **A61k** *27/00*

U.S. Cl. 260—284 1 Claim

Quinine polygalacturonate and its method of preparation are described.

3,452,023

4,5,6,6a,7,7a,12,12a - OCTAHYDROISOQUINO[8,8a,1-a,b]-CARBAZOLE-1,2-DIOLS AND PROCESS FOR THEIR PRODUCTION

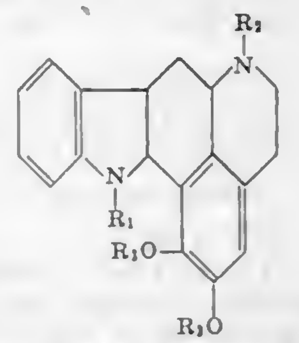
John Shavel, Jr., Mendham, and Glenn Curtis Morrison, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,512

Int. Cl. C07c *35/22, 101/00;* **C07d** *35/00*

U.S. Cl. 260—286 9 Claims

The present invention discloses a new class of heterocyclic compounds having the following structural formula:



(I)

wherein R_1, R_2 and R_3 each represents hydrogen, lower alkyl of 1 to 6 carbon atoms such as methyl, ethyl, isobutyl and the like, and acyl of a carboxylic acid such as acetyl, benzoyl and the like.

The compounds are useful as central nervous system stimulants and as anti-bacterial agents.

3,452,024

5,6-DIHYDRO AND 1,2,3,4,5,6-HEXAHYDRO-8-ALKOXY - 9H - INDOLO - [2,3 - c]ISOQUINO[1,2 - f][1,2] AZAPHOSPHORINE 8-OXIDES AND PROCESS FOR THEIR PRODUCTION

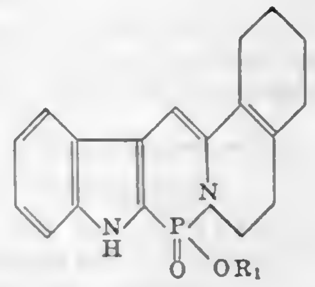
John Shavel, Jr., Mendham, and Glenn Curtis Morrison, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed July 28, 1966, Ser. No. 568,413

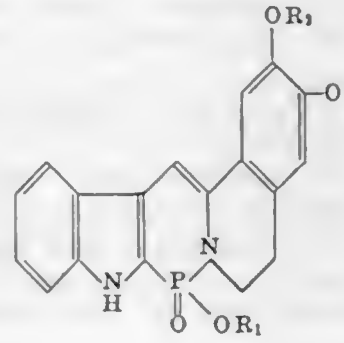
Int. Cl. C07d *105/02, 27/56;* **A61k** *27/00*

U.S. Cl. 260—288 6 Claims

Compounds of the following formulae are being claimed:



and



wherein R_1 and R_2 each represents lower alkyl. These compounds are used as central nervous system stimulants.

3,452,025

1-AMINO-1,3,4,6,7,11b-HEXAHYDRO-2H-BENZO[a] QUINOLIZINES

Holger V. Hansen, Morris Plains, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Aug. 12, 1966, Ser. No. 572,003

Int. Cl. C07d *33/50*

U.S. Cl. 260—288 **5 Claims**

1 - amino - 1,3,4,6,7,11b - hexahydro - 2H - benzo[a] quinolizines useful as CNS and respiratory stimulants are disclosed.

3,452,026

SUBSTITUTED 1,2,3,4-TETRAHYDROQUINOLINES

Yvon G. Perron and Gerry Kavadias, St. Lambert, Quebec, Canada, assignors, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,404

Int. Cl. C07d *33/50*

U.S. Cl. 260—288 **14 Claims**

Substituted 1,2,3,4-tetrahydroquinolines exhibit analgesic, spinal depressant and anorexic activity and are useful as analgesic, spinal depressants and anorexics.

3,452,027

2-HYDROXYALKYLISOCARBOSTYRILS

Theodore S. Sulkowski, Narberth, and Myles A. Wille, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 502,352, Oct. 22, 1965, now Patent No. 3,336,306. This application July 3, 1967, Ser. No. 651,142

Int. Cl. C07d *33/12, 33/46, 33/50*

U.S. Cl. 260—289 **10 Claims**

This invention concerns 2-hydroxyalkylisocarbostyrils which are useful as antidepressants and tranquilizers. Further, this invention is concerned with the process of preparing these 2-hydroxyalkylisocarbostyril compounds by the interaction of an α-benzoyl-2-toluic acid with an alkanolamine.

3,452,028

QUATERNARY AMMONIUM COMPOUNDS

Sydney H. Shapiro, Chicago, Ill., assignor, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,371

Int. Cl. C07c *87/30;* **C07d** *31/22*

U.S. Cl. 260—290 **2 Claims**

Undesirable odors in quaternary ammonium compounds are prevented by admixing up to 2% by weight of SO_2 and then drying said compounds of solvent.

3,452,029

3-α-PHENYLBENZYLOXY - 8 - SUBSTITUTED NORTROPANES AND THEIR SUBSTITUENTS

Scott J. Childress, Philadelphia, and Stephen I. Sallay, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,601

Int. Cl. C07d *43/12;* **A61k** *27/00*

U.S. Cl. 260—292 **10 Claims**

The invention is directed to novel, nortropane derivatives and is particularly directed to a 3-α-phenylbenzyloxy-8-substituted nortropanes and their substituents. The compounds are useful as mydriatic agents, central nervous system depressants and anti-convulsant agents.

3,452,030

4-(N-ISOBUTYRYLANILINO)-1-BENZYLPIPERIDINE

Harvey B. Hopps, Milwaukee, Wis., assignor to The Aldrich Chemical Company, Inc., Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,745

Int. Cl. C07d *29/30*

U.S. Cl. 260—294 **3 Claims**

4-(N-isobutyrylanilino)-1-benzylpiperidine and the pharmaceutically acceptable nontoxic salts thereof which possess antidepressant activity and are useful as antidepressants in mammals and processes for the preparation thereof.

3,452,031

AMINOALKYLCARBAMATE ESTERS

Robert Ford Parcell, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 451,004, Apr. 26, 1965. This application July 21, 1967, Ser. No. 654,999

Int. Cl. C07c *101/24*

U.S. Cl. 260—294.3 **6 Claims**

Methyl, ethyl, and benzyl amino-$(CH_2)_n$-carbamate esters, in which the amino group is tert-butylamino, N-methyl-tert-butylamino, tert-amylamino, N-methyl-tert-amylamino, 3-methyl-3-pentylamino, N-methyl-(3-methyl-3-pentyl)-amino, or 2,6-dimethylpiperidino, and in which the carbamate nitrogen is optionally substituted by methyl and n is 4 or 5, useful as pharmacological agents exhibiting anti-hypertensive activity. The secondary and heterocyclic aminoalkylcarbamate esters are produced by reacting an appropriately substituted aminoalkylamine with a methyl, ethyl, or benzyl chloro(or bromo)-formate, and the tertiary aminoalkylcarbamate esters are produced by reacting one of the secondary aminoalkylcarbamate esters with formaldehyde and formic acid to methylate the amino nitrogen.

3,452,032

METHOD FOR THE PRODUCTION OF CERTAIN AROMATIC AND HETERO-AROMATIC ALDEHYDES

Robert K. Grasselli, Garfield Heights, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 450,537, Apr. 23, 1965. This application Mar. 16, 1967, Ser. No. 623,563

Int. Cl. C07d *31/32;* **B01j** *11/32*

U.S. Cl. 260—297 **9 Claims**

The instant invention relates to a direct-catalytic process for making monoolefinically unsaturated aromatic aldehydes from allyl substituted aromatic compounds.

3,452,033

PREPARATION OF 5,6,7,8 - TETRAHYDROBENZOFURO [2,3-b] PYRIDINES AND 1,2,3,4-TETRAHYDRODIBENZOFURANS

Aram Mooradian, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 596,395, Nov. 23, 1966. This application May 9, 1967, Ser. No. 637,056

Int. Cl. C07d *5/40, 31/28;* **A61k** *25/00*

U.S. Cl. 260—297 **3 Claims**

Benzofurans are prepared by heating above approximately 50° C. an O-phenyl ketoxime in an acidic medium where the O-phenyl group is unsubstituted at one position ortho to the position containing the O-linkage and is substituted at either one or both of the para- and other ortho-positions by an electron withdrawing group. The benzofurans have pharmacological properties, e.g., anti-inflammatory activity, and chemotherapeutic properties, e.g., anti-bacterial activity.

3,452,034

SUBSTITUTED 2-(1,3,4-THIADIAZOL-2-YL)-4(5)-NITROIMIDAZOLES

Andrew Stephen Tomcufcik, Old Tappan, Arlene May Hoffman, Park Ridge, N.J., and Paul Frank Fabio, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 3, 1967, Ser. No. 672,456

Int. Cl. C07d *99/10*

U.S. Cl. 260—302 **10 Claims**

The preparation of 2-(5-substituted-1,3,4-thiadiazol-2-yl)-1-substituted-5-nitroimidazoles from the corresponding 2-(5-amino- or chloro-1,3,4-thiadiazol-2-yl)-1-substituted-5-nitroimidazoles, is described. The compounds prepared by the process are useful as antibacterials, amebicides, trichomonicides and coccidiostats.

3,452,035

2 - AMINO - 5 - (5 - NITRO - 1 - SUBSTITUTED-2 - IMIDAZOLYL) - 1,3,4 - THIADIAZOLES AND OXADIAZOLES

Gerald Berkelhammer, Trenton, and Goro Asato, Titusville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 604,158, Dec. 23, 1966. This application Aug. 10, 1967, Ser. No. 659,596

Int. Cl. C07d *85/52, 91/60;* **A61k** *27/00*

U.S. Cl. 260—306.8 **8 Claims**

Novel substituted nitroimidazolyl-thiadiazoles and oxadiazoles are described along with methods of preparing and using the same. These compounds have been found useful in controlling the growth of pathogenic microorganisms such as bacteria and protozoa in an animal host.

3,452,036

PRODUCTION OF 2-SUBSTITUTED BENZOXAZOLES

Henry Peter Crocker, Horsea, England, and William George Clive Raper, Moorabbin, Victoria, Australia, assignors to Monsanto Chemical (Australia) Limited, West Footscray, Victoria, Australia, a company of Australia

No Drawing. Filed Apr. 11, 1966, Ser. No. 541,484

Claims priority, application Australia, Apr. 14, 1965, 57,636/65

Int. Cl. C07d *85/48*

U.S. Cl. 260—307 **8 Claims**

A process for producing biologically active 2-substituted benzoxazoles from o-nitrophenol or a nuclear substituted derivative of o-nitrophenol and an aldehyde or a carboxylic acid by passing the reactants in vapor phase together with hydrogen over a catalyst bed of a member of the platinum family of metals.

3,452,037

N-[O-(2-OXAZOLIN-2YL)PHENYL]ALKYL OR ARYL SULFONAMIDES AND INTERMEDIATES IN THE PRODUCTION THEREOF

Arthur A. Santilli, Ardmore, Del., and Thomas S. Osdene, Berwyn, Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Division of application Ser. No. 437,262, Mar. 4, 1965. Continuation-in-part of application Ser. No. 330,251, Dec. 13, 1963. This application Oct. 3, 1966, Ser. No. 600,678

Int. Cl. C07d *85/24;* **C07c** *103/20;* **A61k** *27/00*

U.S. Cl. 260—307 **9 Claims**

This invention concerns N-[o-(2-oxazolin-2-yl)phenyl] alkyl or aryl sulfonamides and related compounds which are pharmacologically active as tranquilizers, antidepressants, anticonvulsants and analgesics.

3,452,038

CERTAIN BIS(BENZOTHIAZOLE) COMPOUNDS

Donald Richard Randall, Heaton Mersey, Stockport, and Donald Kearey Howard, Levenshulme, England, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

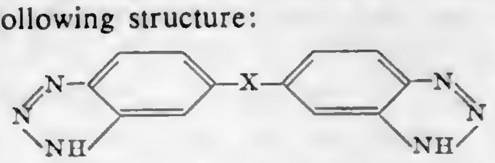
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,344

Claims priority, application Great Britain, Aug. 14, 1964, 33,366/64

Int. Cl. C07d *55/04;* **C23f** *11/14, 11/10*

U.S. Cl. 260—308 **7 Claims**

New bis-benzotriazole compounds are disclosed which have the following structure:



wherein X is (a) methylene which is substituted with one or two C_{1-4} alkyl groups, or C_{2-6} alkylene which is unsubstituted or substituted with 1 or more C_{1-4} alkyl groups, (b) a 1:1-cycloalkyl containing at least five carbon atoms, (c) carbonyl, (d) sulfonyl, (e) oxygen, or (f) sulfur. These compounds, as well as those in which X is unsubstituted methylene or a chemical bond, are useful for inhibiting the tarnishing or corrosion of metals and the metal-induced deterioration of functional materials.

3,452,039

CERTAIN 5-TETRAZOLYL BENZOTHIOPHENE COMPOUNDS

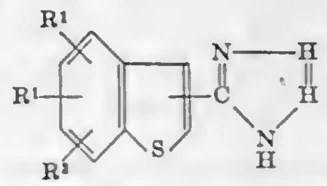
Ronald D. Buchanan, Fayetteville, and Richard A. Partyka, Liverpool, N.Y., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,730

Int. Cl. C07d *55/56, 63/10;* **A61k** *27/00*

U.S. Cl. 260—308 **14 Claims**

1. A compound selected from the group consisting of compounds of the formula



wherein R^1, R^2 and R^3 each represent a member selected from the group consisting of hydrogen, chloro, bromo, fluoro, iodo, trifluoromethyl, (lower)alkyl, (lower)alkoxy, (lower)alkylthio, di(lower)alkylamino, di(lower)alkylamino(lower)alkoxy, nitro, phenyl, phenoxy and benzyl; and the pharmaceutically acceptable nontoxic salts thereof.

3,452,040

5,5-DISUBSTITUTED HYDANTOINS

Andre L. Langis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 5, 1966, Ser. No. 531,322

Int. Cl. C07d *49/32;* **A61k** *27/00*

U.S. Cl. 260—309.5 **6 Claims**

There are disclosed herein the following 5-methyl hydantoins substituted in position-5 with the following substituents:

N-piperidylmethyl,
N-morpholinomethyl,
N-1,2,3,4-(tetrahydroisoquinolylmethyl),
N′-benzyl-N-piperazinylmethyl, hexamethyleneiminomethyl,
N-methylbenzylaminomethyl,
N-methyl-(2-chlorobenzylaminomethyl),
N-methyl-(3,4-dichlorobenzylaminomethyl),
N-methyl-4-(methoxybenzylaminomethyl),
N-methyl-(3-methoxybenzylaminomethyl),
N-isopropylbenzylaminomethyl, and
N-methyl-(3,4-dimethoxybenzylaminomethyl).

The compounds are useful as anti-inflammatory agents, and methods for their preparation and use are also disclosed.

3,452,041
HYDANTOIN COMPOUNDS AND METHODS OF PREPARATION

Stanley C. Bell, Philadelphia, and George L. Conklin, Havertown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 19, 1965, Ser. No. 457,158
Int. Cl. C07d *49/32;* **A61k** *27/00*
U.S. Cl. 260—309.5 **5 Claims**

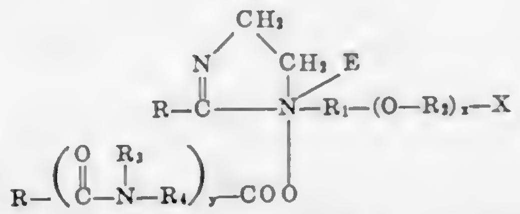
The disclosure is directed to hydantoin compounds, intermediates arising in their synthesis, to derivatives thereof, advantageous processes for making quinazoline compounds and 3-hydroxy-hydantoic acid. The compounds are useful as anticonvulsants.

3,452,042
CARBOXYLATE SALTS OF CERTAIN SUBSTITUTED IMIDAZOLINES

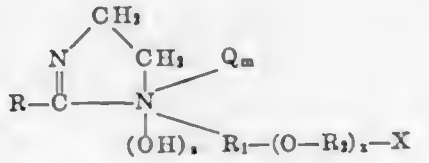
Hans S. Mannheimer, 23 Haines Cove Drive, Toms River, N.J. 08753
No Drawing. Filed Aug. 11, 1966, Ser. No. 571,702
Int. Cl. C07d *49/34;* **C11d**
U.S. Cl. 260—309.6 **12 Claims**

Surface active agents within the generic formula:

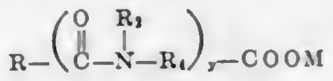
I



Each R is a hydrocarbon radical of 6–24 carbon atoms; E is hydrogen or Q; Q is an alkyl or hydroxy alkyl radical or $R_1—(O—R_2)_x—X$; R_1 and R_2 are alkylene or hydroxy alkylene; R_3 is hydrogen or an alkyl radical; and R_4 is alkylene of 1–2 carbon atoms; x is 0–15; y is zero or one; X is SO_3M or OSO_3M; and M is hydrogen or an alkali metal or other cationic equivalent; and methods for producing them by reacting under certain conditions:



wherein m is zero or 1; z is zero or 1 and the sum of m and z is zero or 2; with anionic detergents within the generic formula:

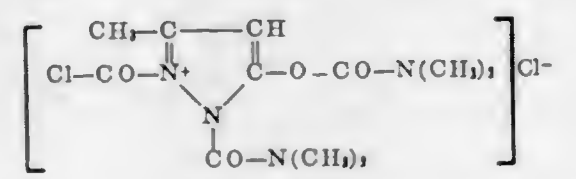


$$R-\left(\overset{\overset{O}{\|}}{C}-\overset{\overset{R_3}{|}}{N}-R_4\right)_y-COOM$$

3,452,043
PRODUCTION OF 1-N,N-DIMETHYLCARBAMOYL-5 - METHYL - 3 - N,N-DIMETHYL-CARBAMOYL-OXY-PYRAZOLE

Theodor Grauer, Arlesheim and Heinrich Urwyler, Reinach, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of abandoned application Ser. No. 370,711, May 27, 1964. This application Mar. 8, 1967, Ser. No. 621,459
Claims priority, application Switzerland, June 4, 1963, 6,924/63
Int. Cl. C07d *49/18;* **A01n** *9/22*
U.S. Cl. 260—310 **15 Claims**

Improved production, in high yield and high degree of purity, of strongly insecticidal 1-N,N-dimethylcarbamoyl-5-methyl-pyrazolyl-(3) N,N-dimethyl-carbamate, of low toxicity to warm-blooded animals, from (a) an alkali metal salt or alkaline earth metal salt of 3-methyl-pyrazol-5-one and (b) N,N-dimethylcarbamoyl chloride, which involves introducing phosgene into the mixture containing the said carbamate and the less insecticidal, highly toxic 3-methyl-5-N,N-dimethylcarbamoyloxy isomer, thereby converting the latter isomer to a novel intermediate salt of the formula



and converting the latter by reaction with dimethylamine to the highly insecticidal carbamate of low toxicity.

3,452,044
SYNTHESIS OF STEROIDAL PYRAZOLES AND PYRAZOLINES

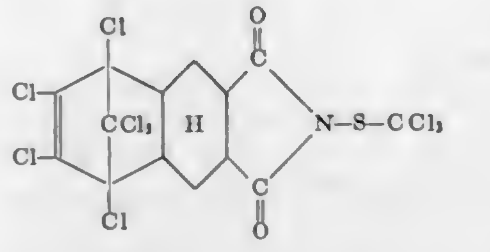
Seymour D. Levine, North Brunswick, and Frank L. Weisenborn, Somerset, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 452,931, May 3, 1965. This application Oct. 25, 1967, Ser. No. 677,879
Int. Cl. C07c *171/06;* **A61k** *17/06*
U.S. Cl. 260—310 **3 Claims**

This invention relates to the preparation of novel steroidal pyrazoles and pyrazolines and new hydroxymethylene Δ^3-A-norandostene intermediates useful in the preparation thereof. The pyrazoles and pyrazolines of this invention are physiologically active materials, possessing antiandrogenic activity. In addition these compounds are useful as sun-screening, anti-oxidant and anti-corrosive agents. They are also surfactants, and thus may be employed as emulsifiers and wetting agents.

3,452,045
(TRICHLOROMETHYLTHIO)DICARBOXIMIDE COMPOUND

Carleton W. Roberts, Midland, and Gale D. Travis, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 23, 1966, Ser. No. 604,156
Int. Cl. C07d *27/54, 27/00*
U.S. Cl. 260—326 **1 Claim**

The present invention is directed to N-(trichloromethylthio) -1,2,3,4,9,9 - hexachloro-1,4,4a,5,6,7,8,8a-octahydro-1,4-methanonaphthalene-6,7-dicarboximide, a compound having the following formula:

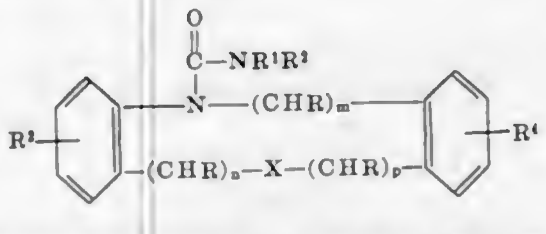


This compound is useful as a substrate in the practices of vapor phase chromatography.

3,452,046
DIBENZOAZATHIACYCLOALKANE CARBOXAMIDES AND RELATED OXA COMPOUNDS

Harry L. Yale and Jack Bernstein, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1966, Ser. No. 546,193
Int. Cl. C07d *99/10*
U.S. Cl. 260—327 **14 Claims**

1. A compound of the formula



and salts thereof wherein R is selected from the group consisting of hydrogen, lower alkyl, and phenyl, mono- and di-lower alkylphenyl, lower alkoxyphenyl and halopheny; R^1 and R^2 taken separately, are each selected from the group consisting of hydrogen, lower alkyl, and phenyl-lower alkyl; NR^1R^2 taken together is a heterocyclic radical selected from the group consisting of piperidino, pyrolidino, piperazino, N^4-(lower alkyl)piperazino, N^4-(hydroxy-lower alkyl)-piperazino, and morpholino; R^3 and R^4 are each selected from the group consisting of hydrogen, halogen, lower alkyl, trifluoromethyl, lower alkoxy, lower alkylsulfonyl, amidosulfonyl, and N,N-di-lower alkylamidosulfonyl; X is selected from the group consisting of oxygen and sulfur; m is 0 to 1, n and p are each 0 to 2, the sum of $m+n+p$ being 1 to 3, provided that when n is 2, at least one of m and p is other than 0 and m, n and p do not each represent 1.

3,452,047
OXIDATION OF OLEFINIC COMPOUNDS WITH SOLUTIONS OF THALLIUM(III) SALTS

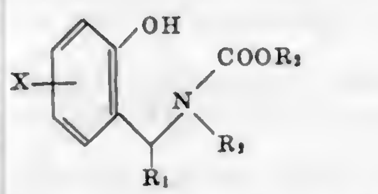
Alfred H. Frye, Loveland, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 509,434, Nov. 23, 1965. This application Oct. 20, 1966, Ser. No. 587,984
Int. Cl. C07c *45/04;* **B01j** *11/32;* **C07d** *13/10*
U.S. Cl. 260—340.5 **15 Claims**

Aldehydes and ketones are produced in very high yields from oxidizable olefinic compounds by reacting such compounds with less than an equimolar amount of acidic aqueous thallium(III) salt solution.

3,452,048
SUBSTITUTED BENZYLAMINE DERIVATIVES AND PROCESS FOR THEIR PRODUCTION

John Shavel, Jr., Mendham, and George Bobowski, Morristown, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed May 18, 1966, Ser. No. 550,952
Int. Cl. C07d *5/16, 51/78;* **A61k** *25/00*
U.S. Cl. 260—347.4 **4 Claims**

A class of substituted benzylamines of the formula:



I

wherein X is hydrogen, lower alkoxy or halogen R_1 is heterocyclic, R_2 is lower alkyl or lower alkenyl, and R_3 is lower alkyl.

These compounds are useful as anti-microbial agents.

3,452,049
MONO-MAGNESIUM POLYAMINO ETHYLENE-DIAMINE TETRAACETATE:GLUCONO CITRATE COMPLEX

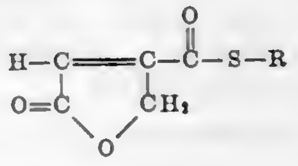
Alfred R. Globus, Long Island City, N.Y., assignor to Guardian Chemical Corporation, Long Island City, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 24, 1965, Ser. No. 490,128
Int. Cl. C07f *3/02;* **A61k** *5/00*
U.S. Cl. 260—343.5 **19 Claims**

Chelating and sequestering agents for sequestering calcium having particular utility in removing soft tartar and other calcium deposits from teeth comprising a magnesium poly alkanolamino ethylene diamine tetraacetate:glucono citrate complex and method of preparing and using the same.

3,452,050
ESTERS OF THIOACONIC ACID

Francois T. Bruderlein, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 8, 1966, Ser. No. 541,074
Int. Cl. C07d *5/16;* **A61k** *27/00;* **A01n** *9/28*
U.S. Cl. 260—343.6 **13 Claims**

This invention relates to compounds of the formula



wherein R represents various aliphatic, aromatic and heterocyclic groups, said compounds possessing antifungal, anti-bacterial and anthelmintic activities.

3,452,051
DEOXYFRENOLICINS

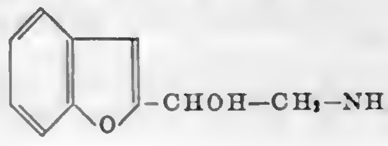
Ernest Leonard Patterson, Pearl River, N.Y., Howard Arnold Whaley, Kalamazoo, Mich., and George Alfred Ellestad, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Sept. 1, 1967, Ser. No. 664,936
Int. Cl. C07d *7/20*
U.S. Cl. 260—345.2 **5 Claims**

The invention relates to a new chemical compound designated deoxyfrenolicin which is produced from the known compound frenolicin by catalytic hydrogenation or potassium iodide reduction. The new compound, as well as various derivatives thereof, such as acetyldeoxyfrenolicin, deoxyfrenolicin methyl ester, and O-methyldeoxyfrenolicin methyl ester, exhibits significant inhibitory activity when tested in vitro against a variety of fungi and against an experimental ringworm infection in guinea pigs.

3,452,052
CERTAIN 1-(2^1-BENZOFURANYL)-1-HYDROXY-2-ALKYLAMINO OR ARALKYLAMINO ETHANES

Fernand Binon and Charles Goldenberg, Brussels, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Societe Anonyme, Liege, Belgium
No Drawing. Filed May 19, 1965, Ser. No. 457,156
Claims priority, application Great Britain, May 20, 1964, 20,922/64
Int. Cl. C07d *5/40;* **A61k** *27/00*
U.S. Cl. 260—346.2 **8 Claims**

1. A compound of the class consisting of a free base and the pharmaceutically acceptable acid addition salts thereof, said free base being represented by the formula:



wherein R is selected from the group consisting of ethyl, isopropyl, allyl, n-butyl, tertbutyl, cyclohexyl, phenethyl, 3:4 methylenedioxy-phenethyl, 3-phenyl-propyl, phenyl-isopropyl, 1-methyl-3-phenyl-propyl, 3-p-methoxy-phenyl-1-methyl-propyl and phenoxyethyl.

3,452,053

ALKYL - N' - (5-NITRO-2-FURYLIDENE)-N-(SUBSTITUTED CARBAMOYL)-HYDRAZINO ACETATES

Cornelis van der Stelt and Petrus S. Hofman, Haarlem, Netherlands, assignors to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands

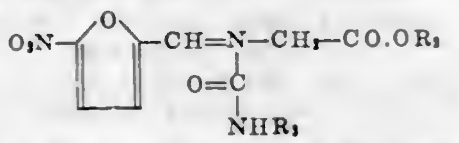
No Drawing. Filed Jan. 27, 1966, Ser. No. 523,279

Claims priority, application Great Britain, Jan. 27, 1965, 3,670/65

Int. Cl. C07d *5/30;* **A61k** *27/00*

U.S. Cl. 260—347.4 **4 Claims**

Compounds of the formula



wherein R_2 is a lower alkoxycarbonyl, cyclohexyl or phenyl group, and R_3 is an alkyl group containing 1 to 4 carbon atoms. These compounds are useful intermediates in the preparation of 1-aminohydantoins which in turn possess antibacterial activity.

3,452,054

STABILIZER FOR VINYL CHLORIDE POLYMERS

Joseph A. Vona, Westfield, and Edward J. Hensch, Park Ridge, N.J., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Original application July 2, 1965, Ser. No. 469,340, now Patent No. 3,356,630. Divided and this application June 27, 1967, Ser. No. 649,143

Int. Cl. C07d *3/00;* **C08f** *29/18, 45/58*

U.S. Cl. 260—348 **1 Claim**

A new composition, monoglycidyl ether of trimethylolpropane oxetane, as a stabilizer for vinyl chloride polymers.

3,452,055

PROCESS FOR THE RECOVERY OF EPOXIDES WHEREIN ALKYLAROMATIC COMPOUND IS REMOVED IN TWO DISTILLATION ZONES

Richard L. Golden, Oradell, N.J., and John P. Schmidt, New York, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,873

Int. Cl. C07d *1/08;* **B01d** *3/14*

U.S. Cl. 260—348.5 **8 Claims**

In a process for the epoxidation of olefins with an alkylaromatic hydroperoxide, the steps of recovery and recycle of compounds in the epoxidation effluent which comprise: (1) removing olefin and epoxide from said effluent (2) removing in a first distillation zone from 70 to 98 percent of the alkylaromatic compound contained therein (3) removing the epoxidation catalyst from the remaining compounds by vaporizing said remaining compounds from the catalyst (4) distilling the vapor of step (3) in a second distillation zone to remove the remainder of the alkylaromatic compound.

3,452,056

SUBSTITUTED DIPHENYLAMINES

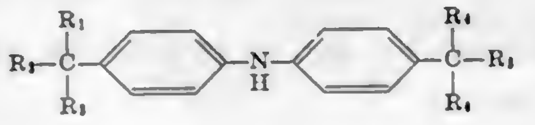
Norman K. Sundholm, Middlebury, Conn., assignor to Uniroyal, Inc., a corporation of New Jersey

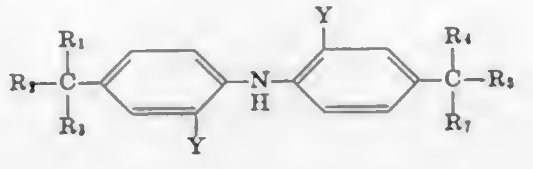
No Drawing. Filed Apr. 7, 1966, Ser. No. 540,830

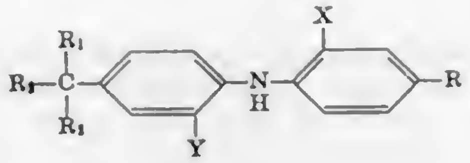
Int. Cl. C07c *87/54, 87/50;* **C08f** *45/60*

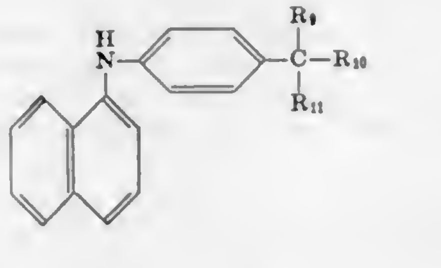
U.S. Cl. 260—390 **3 Claims**

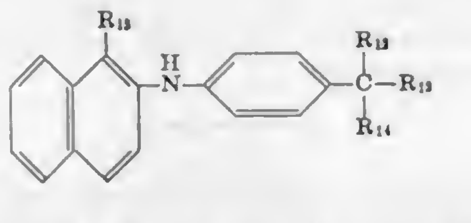
The new chemicals 4,4'-bis(alpha, alpha-dimethylbenzyl)diphenylamine and 4,4'-bis(alpha-methylbenzhydryl)-diphenylamine are antioxidants for highly unsaturated rubbers, as are related substituted diphenylamines and phenylnaphthylamines of the formulas











where R_1, R_9 and R_{12} are phenyl or p-tolyl, and the remaining R's, X and Y may be alkyl or various other substituents.

3,452,057

2-HYDROXY METHYLENEANDROSTANES AND ESTERS THEREOF

Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

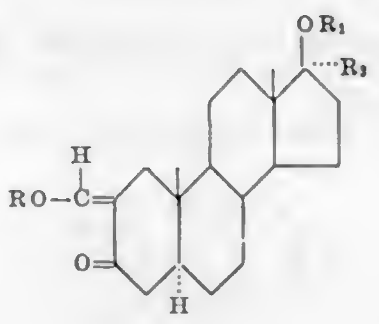
No Drawing. Continuation-in-part of application Ser. No. 632,016, Jan. 2, 1957. This application Jan. 21, 1960, Ser. No. 3,746

Claims priority, application Mexico, Dec. 17, 1956, 46,587; Aug. 30, 1957, 48,697

Int. Cl. C07c *169/22, 169/20, 169/24*

U.S. Cl. 260—397.4 **9 Claims**

Novel compounds of the formula:



wherein each of R and R_1 is hydrogen or a hydrocarbon carboxylic acyl group and R_2 is hydrogen or lower alkyl. These compounds are orally active androgenic hormones having anabolic activity.

3,452,058

6-SUBSTITUTED-6-DEHYDRO ANDROSTANES AND PREGNANES

Howard J. Ringold and Albert Bowers, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed July 10, 1959, Ser. No. 826,119

Claims priority, application Mexico, Nov. 13, 1958, 52,733

Int. Cl. C07c *169/14, 169/26, 169/36*

U.S. Cl. 260—397.4 **28 Claims**

28. The hydrocarbon carboxylic acid esters of up to 12 carbon atoms of 6-methyl-$\Delta^{4,6}$-pregnatrien-17α,21-diol-3,20-dione.

3,452,059

SULFUR-CONTAINING ANILIDE COMPOUNDS AND METHODS FOR THEIR PRODUCTION

Edward Faith Elslager and Donald Francis Worth, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,394

Int. Cl. C07c *147/00, 149/32;* **A61k** *27/00*

U.S. Cl. 260—397.6 **3 Claims**

4'-(N-benzylidenesulfanilyl)formanilides and 4'-(N-benzylidenesulfanilyl)acetanilides, in which the N-benzylidene group is optionally substituted by p-acetamido; salts thereof; and their production by (1) reacting 4'-sulfanilylformanilide or 4'-sulfanilylacetanilide with benzyladehyde or p-acetamidobenzaldehyde, and (2) reacting N-benzylidene-4,4'-sulfonyldianiline or N-(p - acetamidobenzylidene)-4,4'-sulfonyldianiline with formic acid, acetic acid, or reactive derivatives thereof. The compounds of the invention are useful as antimalarial and antileprosy agents that exhibit long duration of action.

3,452,060

17-HYDROXY-17-(3-OXO-1-PROPYNYL OR-PROPENYL) STEROIDS

Robert G. Christiansen, Schodack, and Theodore C. Miller, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1967, Ser. No. 613,084

Int. Cl. C07c *169/08, 169/20*

U.S. Cl. 260—397.4 **10 Claims**

Certain 17-hydroxy steroids having a 3-oxo-1-propynyl or 3-oxo-1-propenyl group in the 17-position are prepared either by manganese dioxide oxidation of the corresponding 17-(3-hydroxy-1-propynyl) or 17-(3-hydroxy-1-propenyl) compounds, or by reaction of an alkali metal derivative of propargyl aldehyde di-lower-alkyl acetal with the appropriate 17-oxo steroid, followed by hydrolysis. The compounds are useful as estrogenic and hypocholesteremic agents, and advantageously modify the electrolyte balance in animal organisms.

3,452,061

STEROIDAL NITRATE ESTERS

Gerhard R. Wendt, Havertown, Del., and Kurt W. Ledig, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 538,982, Mar. 31, 1966. This application Jan. 29, 1968, Ser. No. 701,054

Int. Cl. C07c *169/12, 169/02*

U.S. Cl. 260—397.5 **9 Claims**

The disclosure deals with 17-dihydroxy-(lower) alkoxy-estratriene dinitrates which have been found to possess pharmacological activity, particularly as blood pressure lowering agents.

3,452,062

(OPTIONALLY 17-ALKYLATED) 11β-ACYLOXY-ESTR - 4 - ENE - 3β,17β - DIOLS AND ESTERS THEREOF

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 16, 1967, Ser. No. 616,470

Int. Cl. C07c *169/00, 171/00*

U.S. Cl. 260—397.5 **9 Claims**

(Optionally 17-alkylated) 11β-acyloxyestr - 4-ene-3β, 17β-diols and esters thereof useful in view of their pharmacological activity, e.g. anabolic, androgenic, and anti-inflammatory, and preparable by acylation of the corresponding 11β-hydroxy-3-keto-Δ^4 starting materials followed by reduction of the 3-keto group, and optionally, subsequent acylation of the remaining free hydroxy groups.

3,452,063

17α-METHYL-3α-THIOCYANO-5α-ANDROSTAN-17β-OL

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,592

Int. Cl. C07c *169/20*

U.S. Cl. 260—397.5 **2 Claims**

Novel steroidal derivatives characterized by a 3α-thiocyano substituent and useful in view of their pharmacological properties, e.g. anti-inflammatory, androgenic, estrogenic, anti-estrogenic, hypocholesterolemic, pepsin-inhibitory, anti-bacterial and anti-protozoal. These compounds are manufactured by reaction of a metallic thiocyanate with a suitable ester, e.g. the p-toluenesulfonate, of the appropriately 17-substituted 3β-hydroxy starting material.

3,452,064

PROCESS FOR THE MANUFACTURE OF LIGHT COLORED SURFACE-ACTIVE SULFO FATTY ACID ESTERS

Werner Stein, Erkrath-Unterbach, Herbert Weiss, Cologne-Deutz, and Otto Koch, Hilden, Rhineland, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany

Filed Jan. 11, 1965, Ser. No. 424,857

Claims priority, application Germany, Jan. 15, 1964, H 51,333

The portion of the term of the patent subsequent to Nov. 21, 1984, has been disclaimed

Int. Cl. C07c *143/90*

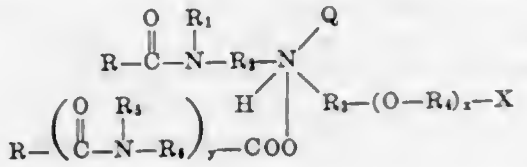
U.S. Cl. 260—400 **16 Claims**

There is disclosed an improved process for bleaching sulfo fatty acid esters. When the known process, i.e. hydrogen peroxide bleaching of sulfonic acids obtained by reacting fatty acid esters in the absence of solvents with a gaseous sulfur trioxide-inert gas mixture is attempted, particularly when it is attempted to carry out the bleaching process continuously, on addition of a hydrogen peroxide to the sulfonic acids, an inhomogeneous lumpy almost impossible to mix and/or pump, mass is obtained. Because of the resultant irregular distribution of the hydrogen peroxide, localized overheating takes place and colored contaminants are formed. The applicants' process avoids the latter disadvantages by teaching that the bleaching agent, i.e. hydrogen peroxide, is to be added in an amount of at most 4% by weight of the sulfonic acids which should have been preheated to 45° C. and the bleaching of the mixture effected at a temperature not exceeding 100° C. The resulting mixture is then neutralized by addition of a neutralizing agent to produce a pH of 4, thereafter additional bleaching agent is added, and the bleaching completed. Thus there is involved a two-stage bleaching procedure, a light-to-substantially colorless product being ensured in each instance.

3,452,065
SULFATE OR SULFONATE AMPHOTERIC AMINE SALTS

Hans S. Mannheimer, 23 Haines Cove,
Toms River, N.J. 08560
No Drawing. Filed Aug. 11, 1966, Ser. No. 571,704
Int. Cl. C07c *141/02, 143/06, 139/00*
U.S. Cl. 260—401 **11 Claims**

A compound within the generic formula

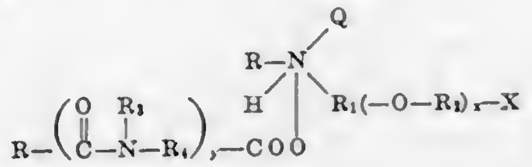


each R is of 6–24 carbon atoms and is independently selected from the group consisting of saturated and unsaturated aliphatic hydrocarbons whose unsaturation is due solely to ethylenic linkage, alkyl-aryl hydrocarbons wherein the alkyl portion is at least 6 carbon atoms and the aryl portion is mononuclear and the hydrocarbon radical of abietic acid; R_1 is selected from the group consisting of (a) hydrogen, (b) alkyl radicals of 1–6 carbon atoms, (c) hydroxy alkyl radicals of 2–6 carbon atoms and (d) alkylene oxide adducts of said hydroxy alkyl radicals and containing 1–15 moles of alkylene oxide of 2–4 carbon atoms per hydroxy group therein; R_2 is selected from the group consisting of (e) alkylene groups of 2–6 carbon atoms, (f) hydroxy alkylene groups 2–6 carbon atoms and (g) alkylene oxide adducts of (f) containing 1–15 moles of alkylene oxide of 2–4 carbon atoms per hydroxy group therein; Q is selected from the group consisting of (a), (b), (c), (d) and $R_3—(O—R_4)_x—X$; R_3 is selected from the group consisting of (h) alkylene groups of 1–4, (i) hydroxy alkylene groups of 3–4 carbon atoms and (j) alkylene oxide adducts of (i) containing 1–15 moles of alkylene oxide per hydroxy group thereof; each R_4 is independently selected from the group consisting of (h), (i) and (j); x is 0–15; y is zero or one; X is SO_3M or OSO_3M; and M is hydrogen or an alkali metal; R_5 is hydrogen or alkyl of 1–4 carbon atoms; and R_6 is alkylene of 1–2 carbon atoms.

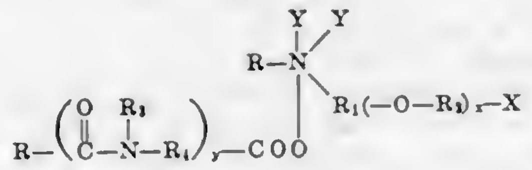
3,452,066
AMIDO CARBOXYLIC ACID SALTS OF AMINES

Hans S. Mannheimer, 23 Haines Cove Drive,
Toms River, N.J. 08560
No Drawing. Filed Aug. 11, 1966, Ser. No. 571,733
Int. Cl. C07c *143/08;* **C11d** *1/16;* **A61k** *7/08*
U.S. Cl. 260—401 **14 Claims**

1. A compound within one of the following generic formulas:

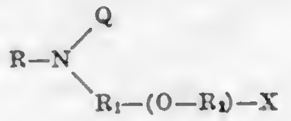


and

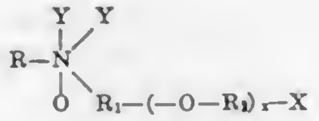


each R is of 6–24 carbon atoms and is independently selected from the group consisting of saturated and unsaturated aliphatic hydrocarbons whose unsaturation is due solely to ethylenic linkage, alkyl-aryl hydrocarbons wherein the alkyl portion is at least 6 carbon atoms and the aryl portion is mononuclear and the hydrocarbon radical of abietic acid; Q is selected from the group consisting of (a) hydrogen, (b) alkyl radicals of 1-6 carbon atoms, (c) hydroxy alkyl radicals of 2–6 carbon atoms, (d) alkylene oxide adducts of said hydroxy alkyl radicals and containing 1–15 moles of alkylene oxide of 2–4 carbon atoms per hydroxy group therein and (e) $R_1—(O—R_2)_x—X$; R_1 is selected from the group consisting of (f) alkylene groups of 1–4 carbon atoms, (g) hydroxy alkylene groups of 3–4 carbon atoms and (h) alkylene oxide adducts of (g) containing 1–15 moles of alkylene oxide per hydroxy group thereof; each R_2 is independently selected from the group consisting of (f), (g), (h); R_3 is alkyl of 1–4 carbon atoms; R_4 is alkylene of 1–2 carbon atoms; x is 0–15; y is zero or one; each Y is independently selected from the group consisting of (b), (c), (d) and (e); X is SO_3M or OSO_3M; and M is hydrogen or an alkali metal.

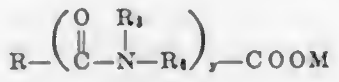
13. A method for producing a compound within a generic formula of claim **1** comprising in an aqueous solution of (A) a compound of one of the formulas:



and



and (B) a compound of the formula



$$R-\left(\overset{\overset{O}{\|}}{C}-\overset{\overset{R_3}{|}}{N}-R_4\right)_y-COOM$$

increasing the pH thereof to about 10–11 and then reducing the pH to a value below 8.

3,452,067
DIRECT PRODUCTION OF ESTERS FROM ALCOHOLS

Lloyd A. Pine, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed May 27, 1966, Ser. No. 553,293
Int. Cl. C11c *3/02;* **C07c** *67/00, 69/02*
U.S. Cl. 260—410.9 **7 Claims**

A process for the preparation of esters by catalytic dehydrogenation and disproportionation of alcohols, in vapor phase, in the presence of molybdenum sulfide catalysts. Esters containing twice the number of carbon atoms as the original alcohol from which the esters are prepared are obtained by contacting such alcohols, in vapor phase reactions at from 400–600° F., over supported molybdenum sulfide catalysts, e.g., molybdenum sulfide.

3,452,068
GROUP VIII METAL THIOCARBONYL COMPOUNDS

Geoffrey Wilkinson, London, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 14, 1966, Ser. No. 601,531
Claims priority, application Great Britain, Apr. 12, 1966, 16,021/66
Int. Cl. C07f *15/00;* **C23c** *17/02*
U.S. Cl. 260—429 **11 Claims**

Group VIII metal thiocarbonyl triaromatic phosphines are prepared by reacting a Group VIII metal halide tris(triaromatic phosphine) with a sulfur compound which is a source of thiocarbonyl radicals. The novel compounds prepared are useful as catalysts, chemical intermediates, and metal plating compounds.

3,452,069
PROCESS FOR MANUFACTURE OF TETRAALKYLLEAD AND RECLAMATION OF BY-PRODUCT LEAD

Lawrence G. Cliver, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 29, 1966, Ser. No. 568,752
Int. Cl. C07f *7/26;* **C22b** *13/02*
U.S. Cl. 260—437 **11 Claims**

Process for the production of tetraalkyllead by the reaction of an alkyl chloride and a monosodium lead alloy and the reclamation of by-product lead by admixing an amorphous carbon such as petroleum coke or calcined coke with the reactants, recovering the tetraalkyllead from the sludge, passing the sludge into a smelting furnace, and recovering molten lead from the resulting smelted sludge.

3,452,070
BRIDGED DINUCLEAR GROUP VIII METAL CARBONYLS CONTAINING TWO DIFFERENT BRIDGING LIGANDS

David Thomas Thompson, Runcorn, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain
No Drawing. Filed June 30, 1966, Ser. No. 561,760
Claims priority, application Great Britain, July 8, 1965, 29,006/65
Int. Cl. C07f *15/02, 9/02;* **C08f** *1/28*
U.S. Cl. 260—439 **7 Claims**

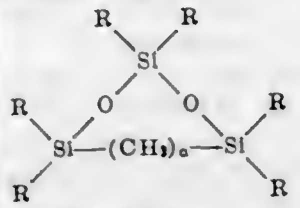
A bridged dinuclear carbonyl complex of transition metals in which the bridging ligands are different, and each ligand contains an electron donating atom co-ordinated with both transition metals. The complex is useful as a catalyst in, for example, polymerization reactions.

3,452,071
CYCLIC ORGANOSILICON COMPOUNDS CONTAINING ALKYLENE UNITS

Christian R. Sporck, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,551
Int. Cl. C07d *103/02;* **C10m** *3/44*
U.S. Cl. 260—448.2 **4 Claims**

A cyclic organosilicon compound having the structure:

(1)



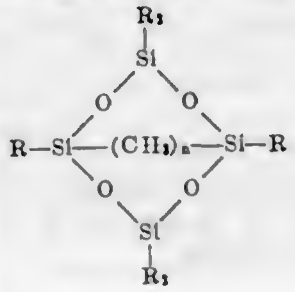
wherein R is a monovalent hydrocarbon radical free of aliphatic unsaturation, and n is from 2 to 6. The compounds are very stable. The novel compounds find use as high temperature lubricants.

3,452,072
BICYCLIC ORGANOSILICON COMPOUNDS WITH ALKYLENE LINKAGE

Christian R. Sporck, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,552
Int. Cl. C07d *103/02;* **C08g** *31/32*
U.S. Cl. 260—448.2 **5 Claims**

A bicyclic organosilicon compound having both silalkylene and siloxane linkages and having the structure:

(1)



where R is a monovalent organic substituent and n is from 2 to 6. The bicyclic compound polymerizes to a cross-linked material.

3,452,073
LIQUID POLYISOCYANATE COMPOSITIONS AND PROCESS FOR THE PRODUCTION THEREOF

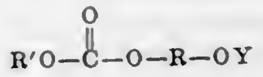
Andrew Shultz, Williamsville, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,715
Int. Cl. C07c *119/04;* **C08** *17/00*
U.S. Cl. 260—453 **6 Claims**

Liquid isocyanate compositions useful in the manufacture of polyurethanes are prepared by heating a degassed and essentially solvent-free tolylene-diamine phosgenation mixture at a temperature in the range of 140°–200° C. for 2–25 hours and distilling from the resulting mixture a monomeric tolylene diisocyanate fraction equal to about 3 to 30% by weight and recovering the distill and as the desired composition.

3,452,074
HALOGEN-CONTAINING ORGANIC CARBONATES

William E. Weesner, Kettering, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 23, 1966, Ser. No. 551,887
Int. Cl. C07c *69/00*
U.S. Cl. 260—463 **2 Claims**

A fluorine-containing organic carbonate of the formula



$$R'O-\overset{\overset{O}{\|}}{C}-O-R-OY$$

wherein R is a fluorine-substituted alkylene radical of from 2 to 10 carbon atoms which is linked to the remainder of the molecule through a fluorine-free carbon atom, R′ is alkyl and Y is hydrogen or alkyl.

3,452,075
FLUORESCENT LOWER ALKOXY SUBSTITUTED-α-PHENYL SULFONYL CINNAMONITRILES

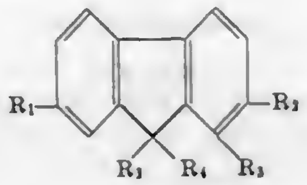
Hans Dressler, Monroeville, and Kenneth G. Reabe, Delmont, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 433,216, Feb. 15, 1965. This application June 14, 1966, Ser. No. 557,383
Int. Cl. C07c *121/50;* **C09k** *1/00*
U.S. Cl. 260—465 **4 Claims**

Phenylsulfonyl cinnamic-type compounds, which exhibit fluorescence when exposed to ultraviolet light, are specific methylenedioxy or di-lower alkoxy phenylsulfonyl cinnamonitriles and lower alkyl esters of phenylsulfonyl cinnamic acids having either a methylene dioxy or lower alkoxy radicals.

3,452,076
CERTAIN FLUORENYL-9-NITRATES

Günther Mohr and Dietrich Erdmann, Darmstadt, Konrad Niethammer, Traisa, and Siegmund Lust and Gerhart Schneider, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany
No Drawing. Filed Apr. 7, 1966, Ser. No. 540,846
Claims priority, application Germany, Apr. 10, 1965, M 64,842
Int. Cl. C07c *77/02;* **A01n** *5/00*
U.S. Cl. 260—466 **2 Claims**

As novel compounds exhibiting morpho-regulatory effects such as dwarfing, there are provided 9-nitrato and 9-cyano compounds of the formula



wherein

R_1 and R_2 each represents H or halogen;
R_3 represents ONO_2 or CN;
R_4 represents H, OH, CH_2OR_6, or $COOR_6$;
R_5 represents H or $COOR_6$; and
R_6 represents H or alkyl of 1–4 carbon atoms,

with the provision that when R_1 and R_2 represent H, and R_3 represents CN, R_4 and R_5 represent neither both H, nor R_4 OH and R_5 carboxylic acid ethyl ester simultaneously.

3,452,077

AMMOXIDATION OF ALKYLATED AROMATIC HYDROCARBONS TO AROMATIC NITRILES USING A HETEROPOLYCOMPOUND AS A CATALYST

Giorgio Caporali, Natale Ferlazzo, Nicola Giordano, and Franco Faletti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Sept. 8, 1966, Ser. No. 577,807
Claims priority, application Italy, Sept. 22, 1965, 21,089/65
Int. Cl. C07c *121/62, 121/02, 121/54*
U.S. Cl. 260—465 6 Claims

Aromatic nitriles are prepared via reaction among alkylated aromatic hydrocarbons, molecular oxygen and ammonia, in the presence of a catalytic system comprised of at least one heteropolycompound of the empirical formulae:

$$Me_x(Ce_yMo_{12}O_w)$$

and

$$Me_x(Ce_yMo_{10}V_2O_w)$$

wherein Me is an element selected from the group consisting of tellurium and bismuth; *x* is a number ranging from between 1 and 10; *y* is a number ranging from between 1 and 8; and *w* is a number ranging from between 38 and 82.

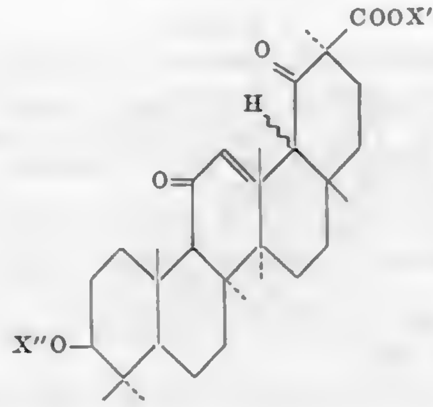
3,452,078

DERIVATIVES OF GLYCYRRHETINIC ACID

John Cameron Turner, West Wickham, Kent, and William Alan McFarlane Davies, Goodmayes, Ilford, Essex, England, assignors to Biorex Laboratories Limited, London, England

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,610
Claims priority, application Great Britain, Nov. 26, 1965, 50,243/65
Int. Cl. C07c *69/74, 49/36;* **C07d** *5/06*
U.S. Cl. 260—468.5 3 Claims

1. Glycyrrhetinic acid derivatives of the formula:



wherein X′ is an alkyl radical and X″ is an acyl radical derived from an alkane-dioic or alkanoic acid having up to 6 carbon atoms or wherein X″ is a hydrogen atom and X′ is a hydrogen or alkali metal atom.

3,452,079

ACETIC ACID TYPE COMPOUNDS

Tsung-Ying Shen, Westfield, Conrad P. Dorn, Jr., Plainfield, and William V. Ruyle, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 375,307, June 15, 1964. This application May 13, 1965, Ser. No. 455,360
Int. Cl. C07c *63/52, 69/76*
U.S. Cl. 260—469 12 Claims

The invention relates to p-cycloalkyl substituted phenyl acetic acids, esters, amides, aldehydes, alcohols, acetals, ethers, and non-toxic salts thereof. These compounds possess potent anti-inflammatory properties.

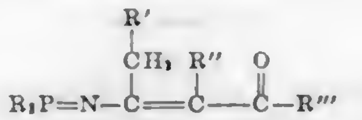
3,452,080

VINYLPHOSPHINIMINES AND A METHOD OF PREPARATION

George R. Harvey, Kirkwood, and Kenneth Wayne Ratts, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 29, 1965, Ser. No. 517,474
Int. Cl. C07f *9/02*
U.S. Cl. 260—471 9 Claims

Vinylphosphinimines of the formula



$$R_3P{=}N{-}\overset{\substack{R'\\|\\CH_2\\|}}{C}{=}\overset{\substack{R''\\|}}{C}{-}\overset{\substack{O\\\|}}{C}{-}R'''$$

wherein R is selected from the group consisting of alkyl having up to 12 carbon atoms and phenyl; R′ is selected from the group consisting of hydrogen, alkyl having up to 4 carbon atoms and phenyl; R″ is selected from the group consisting of hydrogen, alkyl having up to 4 carbon atoms, phenyl and benzyl; and R‴ is selected from the group consisting of alkyl having up to 12 carbon atoms, alkoxy having up to 12 carbon atoms, amino, mono- and dialkylamino having up to four carbon atoms in each alkyl moiety, aromatic radicals selected from the group consisting of phenyl, phenoxy, benzyl, benzoxy and said aromatic radicals containing substituents selected from the class consisting of alkyl having up to four carbon atoms, chlorine, bromine and nitro; prepared by the reaction in a chlorinated hydrocarbon of the appropriate β-azido compound with the appropriate phosphine.

These compounds have phytotoxic properties.

3,452,081

PHENOXY SUBSTITUTED 2-ALKENOIC ACIDS

James M. Sprague, Gwynedd Valley, and William A. Bolhofer, Frederick, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 27, 1965, Ser. No. 459,461
Int. Cl. C07c *69/76, 65/02*
U.S. Cl. 260—473 9 Claims

4-phenoxy-2-alkenoic acid products wherein the phenoxy radical is attached to a tertiary carbon of the alkenoic acid chain and wherein the phenoxy ring may be optionally substituted by one or more nuclear substituents as, for example, by halogen, lower alkyl, trihalomethyl, etc. The products are hypocholesterolemic agents which effectively reduce the concentration of cholesterol and other lipids in blood serum.

The products are obtained by treating a 2-phenoxyalkanal with alkoxycarbonylalkylidenetriarylphosphorane or with a trialkylphosphonoalkanoate followed by hydrolysis of the esterified intermediate thus formed to the desired carboxylic acid.

3,452,082

ADAMANTYL DIALKYLAMINOALKYLCARBAMATES

Carl Peter Krimmel, Wauconda, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,159
Int. Cl. C07c *101/24;* **C07d** *29/24, 87/36*
U.S. Cl. 260—482 5 Claims

The present adamantyl esters of dialkylaminoalkylcarbamic acids possess activity against a wide variety of organisms including fungi, bacteria, protozoa, and algae. The compounds are prepared by the reaction of adamantyl chloroformate with an appropriate dialkylaminoalkylamine.

3,452,083

PREPARATION OF HALO-SUBSTITUTED DIHYDROXYPOLHYDROMETHANONAPHTHALENEDICARBOXYLIC ACIDS

Robert A. Dombro, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,673
Int. Cl. C07c *63/38, 51/00, 51/16*
U.S. Cl. 260—514 6 Claims

A halo-substituted 1,4-dihydroxypolyhydromethanonaphthalenedicarboxylic acid is prepared by condensing furan with maleic anhydride at 0°–200° C., further condensing the resultant epoxy tetrahydrophthalic anhydride with a halo-substituted diolefinic compound, such as hexachlorocyclopentadiene, at 50°–250° C., and treating the resultant halo-substituted polyhydroepoxy methanonaphthalenedicarboxylic compound with an oxygenated acid, such as H_2SO_4 or H_3PO_4 at 30°–150° C., to form a 1,4-dihydroxypolyhydromethano-2,3-naphthalenedicarboxylic acid.

3,452,084

N-ALKYLATED ACYLAMINOTRIIODOPHENYLALKANOIC ACIDS

James H. Ackerman, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,694
Int. Cl. C07c *103/14*
U.S. Cl. 260—515 5 Claims

3-acylamino-2,4,6-triiodophenylalkanoic acids and 3,5-bis(acylamino)-2,4,6-triiodophenylalkanoic acids are treated with a lower-alkyl halide or sulfate to produce the corresponding N-alkylated or N,N′-dialkylated compounds. The latter are useful as cholecystographic agents.

3,452,085

ALPHA-(5-INDANYL)-BUTYRIC ACID

Francesco Lauria, Pier Nicola, Giraldi, Pier Nicola Francavilla, Giuliano Nannini, and Willy Logemann, Milan, Italy, assignors to Carbo Erba S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 11, 1966, Ser. No. 526,705
Int. Cl. C07c *63/00;* **C07d** *5/32, 21/00*
U.S. Cl. 260—515 1 Claim

Indanyl-substituted butyric acids and benzofuryl-substituted butyric acids are disclosed. The acids are produced by converting the chloromethyl derivative of the indanyl or benzofuryl compound into the corresponding nitriles by reaction with a cyanide, thereafter the nitrile is alkylated with alkyl-halogenides and the resulting compounds are converted into the desired acids by saponification with inorganic bases. The acids have high choleretic activity.

3,452,086

SUBSTITUTED TARTRANILIC ACID RESOLVING AGENTS

Thomas Alfred Montzka, Manlius, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1966, Ser. No. 546,208
Int. Cl. C07c *103/16*
U.S. Cl. 260—519 5 Claims

(+)-2′-nitrotartranilic acid, (+)-2,4-dichlorotartranilic acid, (+)-2′-chlorotartranilic acid, (+)-4′-chlorotartranilic acid, and (+)-4′-bromotartranilic acid hydrate were prepared and found to be useful resolving agents for amines such as 6,7-dimethoxy-1β-hydroxyethyl-2-methyl-1,2,3,4-tetrahydroisoquinoline and ethyl 6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline-1-acetate.

3,452,087

PROCESS FOR THE AUTOXIDATION OF SUBSTITUTED BENZENES

James W. Patton, Littleton, and Ned F. Seppi, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed May 8, 1967, Ser. No. 636,660
Int. Cl. C07c *51/16*
U.S. Cl. 260—524 8 Claims

The present invention comprises a process for the autoxidation of substituted benzenes substituted with from 1 to 3 substituent groups selected from the class consisting of alkyl groups, aldehydo groups, alcohol groups, and combinations thereof, in which substituent groups the carbon atom alpha to the ring is connected to from 0 to 2 other carbon atoms, said process comprising in combination the steps of reacting said substituted benzenes with oxygen in the conjoint prescence of a catalytic amount of transition metal or salt thereof and an effective amount of 2,3-epoxy-butane at a temperature of from about 50 to about 250° C. The products of the invention comprise acids, e.g. terephthalic acid, isophthalic acid, trimesic acid, and benzoic acid. The polycarboxylic acids of the present invention are useful for the production of a wide variety of polymers, e.g. polyesters, polyamides, etc. Benzoic acid is a widely used starting material for the production of other organic compounds, as a mordant in dye printing processes, in the seasoning of tobacco, in flavors and perfumes.

3,452,088

TEREPHTHALIC ACID RECOVERY

George P. Olsen, Hammond, Ind., and Philip H. Towle, Chicago, and Richard H. Baldwin, Oak Lawn, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 456,219, May 17, 1965. This application July 11, 1966, Ser. No. 564,002
Int. Cl. C07c *63/26;* **B01d** *9/02*
U.S. Cl. 260—525 3 Claims

Recovery of terephthalic acid solute as fiber-grade product from solvent water also containing 500 to 6000 parts per million of p-toluic acid based on terephthalic acid solute by precipitation from solution substantially saturated with terephthalic acid at a temperature of 392° to 700° F. by evaporative cooling conducted by batchwise or continuous operation to a temperature in the range of 250° to 300° F. and pressure to maintain solvent water in liquid phase.

3,452,089
PRODUCTION OF ALPHA,ALPHA-DIHALO-ALIPHATIC ACIDS

Samuel Wendell Long, Breckenridge, Mich., assignor to Michigan Chemical Corporation, St. Louis, Mich., a corporation of Michigan

No Drawing. Filed June 9, 1966, Ser. No. 556,254
Int. Cl. C07c *53/16, 53/32*
U.S. Cl. 260—539 **7 Claims**

In the chlorination or bromination of the alpha-carbon atom of organic acids in the presence of a sulfur-containing halogenation catalyst to produce alpha,alpha-dihalo organic acids, better yields and higher efficiencies are obtained by carrying out the process in the presence of a catalytic amount of a nitro aromatic compound.

3,452,090
PREPARATION OF AROYL HALIDES

Irving L. Mador, Cincinnati, Ohio, and John A. Scheben, Erlanger, Ky., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 15, 1965, Ser. No. 496,714
Int. Cl. C07c *51/58*
U.S. Cl. 260—544 **10 Claims**

A process for the production of aroyl halides in which an aryl halide is reacted with carbon monoxide in the presence of a platinum, palladium, ruthenium, rhodium, osmium, or iridium catalyst.

3,452,091
N-HALO-N-ACYLAMIDES

Robert C. Petterson, New Orleans, La., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York

No Drawing. Original application Mar. 31, 1965, Ser. No. 444,420, now Patent No. 3,368,953, dated Feb. 13, 1968. Divided and this application Oct. 13, 1967, Ser. No. 688,640
Int. Cl. C07c *103/72, 143/72*
U.S. Cl. 260—556 **6 Claims**

Novel N-halo-N-acylamides of alkanoic acids having 4–8 carbon atoms in the aliphatic chain, wherein halo is chloro or bromo and the acyl group is lower alkanoyl or benzenesulfonyl, useful as intermediates in the preparation of gamma-lactones have been prepared.

3,452,092
N-SUBSTITUTED o-BENZOYLBENZAMIDE

Francis J. Petracek, Canoga Park, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed June 17, 1965, Ser. No. 464,828
Int. Cl. C07c *103/26*
U.S. Cl. 260—558 **2 Claims**

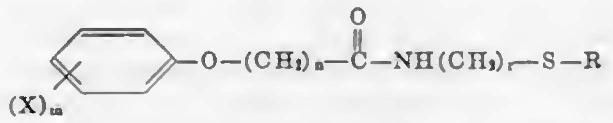
1. N-(hydroxy-lower alkyl)-o-benzoylbenzamide.

3,452,093
AMIDES

William E. Weesner, Kettering, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 3, 1966, Ser. No. 518,012
Int. Cl. C07c *149/32, 149/30*
U.S. Cl. 260—559 **4 Claims**

An N-substituted halophenoxyacylamide of the formula



wherein X is halogen having an atomic weight greater than 30, R is alkyl of from 2 to 4 carbon atoms, benzyl, phenyl or tolyl, *m* is from 1 to 4, *n* is from 1 to 3, and *r* is from 2 to 4.

3,452,094
N-2-PHENYL-2-(2-HYDROXY-1-NAPHTHYL) ETHYL-N-SUBSTITUTED AMINES AND SALTS THEREOF

Ralph D. Tanz, North White Plains, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 398,790, Sept. 23, 1964. This application July 19, 1967, Ser. No. 654,392
Int. Cl. C07c *87/28;* **A61k** *27/00*
U.S. Cl. 260—570 **27 Claims**

N-2-phenyl-2-(2-hydroxy-1-naphthyl)ethyl-N-substituted amines and their salts, are antiarrhythmic agents. A typical embodiment is N-2-(4-hydroxyethyl)-2-(2-hydroxy-1-naphthyl)ethyl-N-2-isopropylamine and its hydrochloric salt.

3,452,095
5-(3'-AMINOPROPYL)-5-HYDROXY-5,6,11,12-TETRAHYDRODIBENZO[a,e]CYCLOOCTENES AND SALTS THEREOF

Kurt Adank Muttenz, Basel-Land, and Daniel A. Prins, Oberwil, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 9, 1963, Ser. No. 307,290, now Patent No. 3,389,117, dated June 18, 1968. Divided and this application Sept. 22, 1967, Ser. No. 681,944
Claims priority, application Switzerland, Sept. 14, 1962, 10,947/62
Int. Cl. C07c *87/28;* **C07d** *87/00;* **A61k** *27/00*
U.S. Cl. 260—570.8 **2 Claims**

The compounds are of the class of 5-(3'-aminopropyl)-5-hydroxy-5,6,11,12-tetrahydrodibenzo[a,e]cyclooctenes and salts thereof and are useful as spasmolytic agents. An illustrative example is 5-(3'-dimethylaminopropyl)-5-hydroxy-5,6,11,12-tetrahydro-dibenzo[a,e] cyclooctene.

3,452,096
PROCESS FOR THE SEPARATION OF ISOMERS OF DICHLOROANILINE

William J. Paleveda, Jr., Rahway, and Erwin F. Schoenewaldt, Watchung, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,064
Int. Cl. C07c *85/16, 103/20*
U.S. Cl. 260—582 **10 Claims**

A method for the separation of substantially pure 2,3-dichloroaniline from a mixture of its isomers which comprises treating said mixture at elevated temperatures: (1) with a monovalent inorganic acid or (2) with an acylating agent selected from an alkanoyl halide or an aroyl halide to afford the acid addition salt of 2,3-dichloroaniline or the N-acylated derivative of 2,3-dichloroaniline respectively, followed by the neutralization of the salt or the hydrolysis of the N-acylated intermediate thus obtained to yield the desired product.

3,452,097
FRACTIONATION OF POLYAMINES

Alvin F. Beale, Jr., and Luke W. Donnell, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Feb. 23, 1967, Ser. No. 618,078
Int. Cl. C07c *87/00;* **B01d** *11/00;* **C07b** *29/00*
U.S. Cl. 260—583 **6 Claims**

A polyamine mixture of relatively high molecular weight such as a polyalkylenimine or a polyalkylenepolyamine is separated into fractions of different average

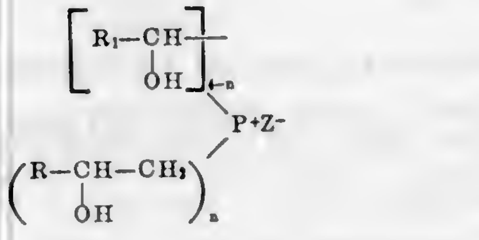
molecular weights by contacting the polyamine with aqueous sulfuric acid. A phase separation is thereby obtained wherein polyamines of lower molecular weight are concentrated in a water-rich phase and polyamines of higher molecular weight are concentrated in a polyamine-rich phase.

3,452,098
HYDROXYMETHYL, BETA-HYDROXYALKYLENE PHOSPHONIUM SALTS AND THE PREPARATION THEREOF

William J. Vullo, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,081
Int. Cl. C07f *9/02, 9/54;* **C09d** *5/18*
U.S. Cl. 260—606.5 **5 Claims**

Hydroxymethyl phosphonium salts having the formula:



wherein *n* is a number from 2 to 3, Z is the anion of a salt-forming acid, R is selected from the group consisting of hydrogen and lower alkyl groups containing from 1 to 2 carbon atoms, and R_1 is selected from the group consisting of hydrogen and lower alkyl groups containing from 1 to 3 carbon atoms, and methods for producing same. The hydroxymethyl phosphonium salts are used for treating cellulosic textile materials to render them crease and flame resistant.

3,452,099
TRIORGANOPHOSPHONIUM HALIDES

Martin Grayson, Norwalk, Patricia Tarpey Keough, Ridgefield, and Michael McKay Rauhut, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Division of application Ser. No. 344,224, Feb. 12, 1964, now Patent No. 3,299,143, dated Jan. 17, 1967. Continuation of application Ser. No. 627,572, Jan. 12, 1967. This application Sept. 1, 1967, Ser. No. 665,187
Int. Cl. C07f *9/28, 9/04*
U.S. Cl. 260—606.5 **8 Claims**

The present invention relates to triorganophosphonium halides which are useful as fire retardants in plastics.

3,452,100
PROCESS FOR PREPARING DIALKYL DISULFIDES

Clifton F. Bennett and Warren S. MacGregor, Camas, Wash., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,156
Int. Cl. C07c *149/12, 149/02*
U.S. Cl. 260—608 **8 Claims**

A process for preparing dialkyl disulfides from alkaline alkyl mercaptides by forming a reaction mixture of the alkaline alkyl mercaptide and sulfur or a sulfur-containing compound, acidifying the reaction mixture to a pH between about 8 and 11, and separating the dialkyl disulfide that is formed. Any polysulfides that are formed may be be recirculated back to act as a sulfur source in the formation of fresh reaction mixture.

3,452,101
PHENOXY BIS(PHENYL MERCAPTO)BENZENES

John Robert Campbell, Tarkio, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Application Apr. 22, 1965, Ser. No. 450,198, which is a continuation-in-part of application Ser. No. 379,708, July 1, 1964. Divided and this application Mar. 20, 1967, Ser. No. 642,265
Int. Cl. C07c *149/08;* **C10m** *3/32;* **C09k** *3/02*
U.S. Cl. 260—609 **4 Claims**

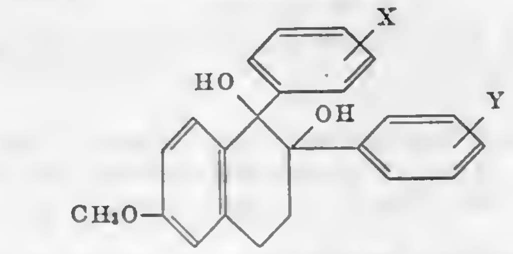
Certain tris-substituted mixed polyphenyl ethers-thioethers, containing one ether linkage and two thioether linkages, which are useful as functional fluids.

3,452,102
1,2-DIPHENYL-6-METHOXY-1,2,3,4-TETRAHYDRO-1,2-NAPHTHALENEDIOLS

Daniel Lednicer, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Aug. 17, 1966, Ser. No. 572,889
Int. Cl. C07c *35/36, 87/28, 43/20*
U.S. Cl. 260—613 **2 Claims**

1. A compound of the formula:



(I)

wherein X is hydrogen, halogen, trifluoromethyl or lower-alkyl of 1 to 8 carbon atoms, inclusive; and Y is hydrogen, halogen, trifluoromethyl or lower-alkyl.

3,452,103
FLUOROHYDROXY ETHERS

Floyd D. Trischler, San Diego, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California

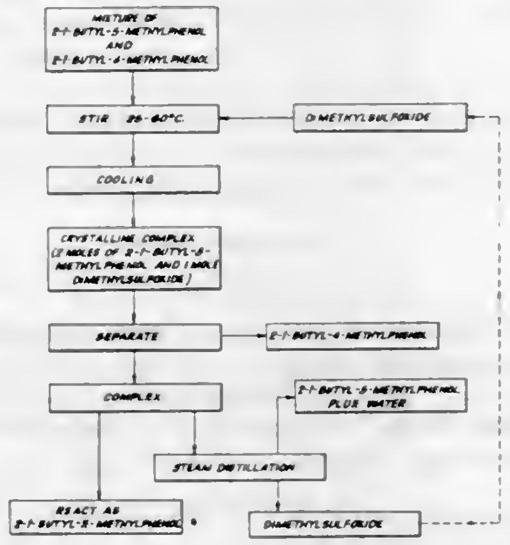
No Drawing. Filed Dec. 30, 1966, Ser. No. 605,994
Int. Cl. C07c *41/04, 43/28, 41/10*
U.S. Cl. 260—615 **10 Claims**

This patent describes the preparation of poly(polyfluoralkylene-glycol) mono (hydroxy polyfluoralkylene) ethers from fluoroalkylene oxides.

3,452,104
PROCESS FOR SEPARATION OF MONO-BUTYLATED CRESOLS

Gerd Leston, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Dec. 3, 1965, Ser. No. 511,551
Int. Cl. C07c *37/22*
U.S. Cl. 260—607 **3 Claims**


MIXTURE OF 2-t-BUTYL-5-METHYLPHENOL AND 2-t-BUTYL-4-METHYLPHENOL
STIR 25-60°C.
DIMETHYLSULFOXIDE
COOLING
CRYSTALLINE COMPLEX (2 MOLES OF 2-t-BUTYL-5-METHYLPHENOL AND 1 MOLE DIMETHYLSULFOXIDE)
SEPARATE
2-t-BUTYL-4-METHYLPHENOL
COMPLEX
2-t-BUTYL-5-METHYLPHENOL PLUS WATER
STEAM DISTILLATION
REACT AS 2-t-BUTYL-5-METHYLPHENOL
DIMETHYLSULFOXIDE

A novel complex, formed from two moles of 2-t-butyl-5-methylphenol and one mole of dimethylsulfoxide, is described. The complex is useful in a process for the separation of 2-t-butyl-5-methylphenol from its isomer, 2-t-butyl-4-methylphenol.

3,452,105

3-HYDROXY-7-ISOBUTYL-1,6-OCTADIENE

Roman Marbet, Riehen, Switzerland, assignor, by mesne assignments, to Givaudan Corporation, Clifton, N.J., a corporation of New Jersey

No Drawing. Original application Oct. 8, 1964, Ser. No. 402,622. Divided and this application Mar. 21, 1968, Ser. No. 714,753

Claims priority, application Switzerland, Oct. 25, 1963, 13,060/63

Int. Cl. C07c *33/02*

U.S. Cl. 260—632 **1 Claim**

This invention is directed to 3-hydroxy-7-isobutyl-1,6-octadiene, which is useful as an odorant in perfumes and other scented compositions.

3,452,106

PROCESS FOR MANUFACTURING ALCOHOL BY DIRECT CATALYTIC HYDRATION OF OLEFINS

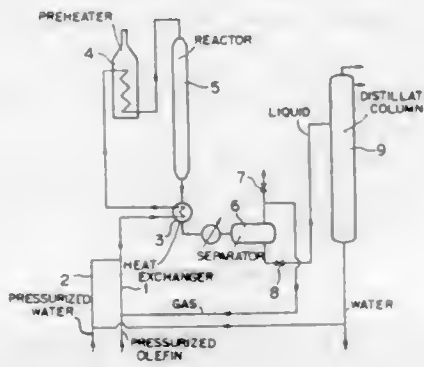
Fukuzo Sato, Yokohama-shi, Akio Okagami, Tokyo, and Toshihiro Ueno, Chigasaki-shi, Japan, assignors to Japan Gasoline Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed May 20, 1966, Ser. No. 551,644

Claims priority, application Japan, May 27, 1965, 40/31,211

Int. Cl. C07c *29/04*

U.S. Cl. 260—641 **9 Claims**



A process for the hydration of an olefin to the corresponding alcohol by passing the olefin together with liquid water over a catalyst at a temperature of 160°–360° C., a pressure of 200–500 atmospheres gauge, an LHSV of olefin of 0.1–3.0 (m.^{3}/m.^{3} hr.) and a liquid velocity of over 1.0 (m.^{3}/m.^{2} hr.). The catalyst consists substantially of a blue oxide of tungsten and an oxide of chromium as a binding agent corresponding to a chromic oxide content of 5%–50% by weight of the total weight of the catalyst.

3,452,107

STABILIZATION OF 1,1,1-TRICHLOROETHANE

Wesley L. Archer, Midland, and Elbert L. Simpson, Auburn, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 1, 1967, Ser. No. 687,131

Int. Cl. C07c *17/42*

U.S. Cl. 260—652.5 **2 Claims**

The reaction of 1,1,1-trichloroethane with aluminum is inhibited by the presence in the 1,1,1-trichloroethane of a small amount of a dissolved nitrogen heterocyclic substituted trimethylamine. Concentrations of the order of 0.0–1 gram mole per liter provide significant inhibition.

3,452,108

STABILIZATION OF 1,1,1-TRICHLOROETHANE

Wesley L. Archer, Midland, and Elbert L. Simpson, Auburn, Mich., and George Richard Graybill, Honolulu, Hawaii, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,373

Int. Cl. C23f *15/00;* **C07c** *17/40*

U.S. Cl. 260—652.5 **6 Claims**

The reaction of 1,1,1-trichloroethane with aluminum is inhibited by the presence in the 1,1,1-trichloroethane of a small amount of a dissolved cyanopyridine compound. Concentrations of the order of 0.01–1 gram mole per liter provide significant inhibition.

3,452,109

STABILIZATION OF 1,1,1-TRICHLOROETHANE

Wesley L. Archer, Midland, and Elbert L. Simpson, Auburn, Mich., and George Richard Graybill, Honolulu, Hawaii, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,405

Int. Cl. C23f *15/00;* **C07c** *17/40*

U.S. Cl. 260—652.5 **5 Claims**

The reaction of 1,1,1-trichloroethane with aluminum is inhibited by the presence in the 1,1,1-trichloroethane of a small amount of a dissolved nitrobenzaldehyde compound. Concentrations of the order of 0.01–1 gram mole per liter provide significant inhibition.

3,452,110

METHODS OF TREATING USED DRY CLEANING SOLVENTS

Warren K. Cooley, Brookeville, Md., and Ralph T. Mease, Washington, D.C., assignors to Caled Products Company, Inc., Brentwood, Md., a corporation of Maryland

No Drawing. Original application Nov. 5, 1963, Ser. No. 321,418, now Patent No. 3,360,474 dated Dec. 26, 1967. Divided and this application Dec. 7, 1967, Ser. No. 714,375

Int. Cl. C07c *21/00;* **C10g** *17/10;* **D06l** *1/10*

U.S. Cl. 260—654 **5 Claims**

Dry cleaning solvents containing impurities accumulated from continued use are purified by the addition thereto of an additive comprising a filtering powder, a polyhydroxy alcohol and an alkaline material, thoroughly agitating the solvent-additive mixture and then filtering the same.

3,452,111

STABILIZATION OF SECONDARY ALKYLLITHIUMS

Conrad W. Kamienski, Knoxville, Tenn., and Ricardo O. Bach, Gastonia, and William S. Leonhardt, Bessemer City, N.C., assignors to Lithium Corporation of America, Inc., New York, N.Y., a corporation of Minnesota

No Drawing. Filed Dec. 9, 1966, Ser. No. 600,356

Int. Cl. C07f *1/02*

U.S. Cl. 260—665 **8 Claims**

Compositions comprising a heat labile secondary alkyllithium, such as sec-butyllithium, in admixture with a stabilizing amount of one or more of isopropyllithium and n-butyllithium.

3,452,112

PREPARATION OF SOLUTIONS OF LITHIUM-HYDROCARBON COMPOUNDS

Conrad W. Kamienski, Gastonia, Arthur C. Diesing, Durham, and Robert C. B. Morrison, Gastonia, N.C., assignors to Lithium Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 626,684, Mar. 29, 1967, which is a continuation-in-part of application Ser. No. 334,013, Dec. 27, 1963. This application Aug. 28, 1968, Ser. No. 755,773

Int. Cl. C07f *1/02;* **B01j** *11/00;* **C09k** *3/00*

U.S. Cl. 260—665 **12 Claims**

A method of preparing organic solvent solutions of lithium-hydrocarbon compounds, exemplified by the formula R—Li$_x$, where R is a hydrocarbon radical, and x is an integer, generally 1 to 4, which comprises adding, to a dispersion of finely divided lithium in a non-reactive liquid medium, a preformed R—Li$_x$ compound as a catalyst, and then adding to the resulting mixture an unsaturated hydrocarbon or a hydrocarbon halide which is reactive with lithium to produce the R—Li$_x$ compound.

3,452,113

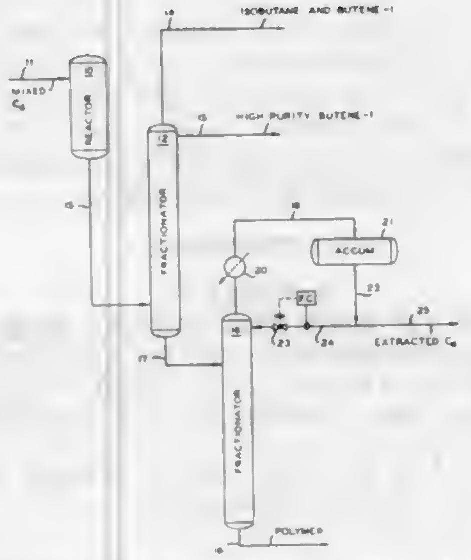
EXTRACTION OF ISOBUTYLENE BY POLYMERIZATION

James B. Godin, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 27, 1967, Ser. No. 618,575

Int. Cl. C07c *7/04;* **C08f** *1/94, 1/64*

U.S. Cl. 260—677 **6 Claims**



Isobutylene is removed from hydrocarbon streams by polymerizing the isobutylene over a silica gel catalyst, at temperatures under 150° F. and pressures ranging from 100–900 p.s.i.a.

3,452,114

PRODUCTION OF ACETYLENE BY INCOMPLETE COMBUSTION OF HYDROCARBONS WITH OXYGEN

Hans Friz and Franz Neumayr, Ludwigshafen (Rhine), Martin Reichert and Walter Teltschik, Frankenthal, and Ulrich Wagner, Limburgerhof, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 12, 1967, Ser. No. 630,227

Claims priority, application Germany, Apr. 22, 1966, B 86,776

Int. Cl. C07c *11/24*

U.S. Cl. 260—679 **2 Claims**

An improved process fro the production of acetylene by incomplete combustion of gaseous or vaporized hydrocarbons with oxygen and quenching of the cracked gas. The improvement consists in adding carbon dioxide to the hydrocarbons, to the oxygen or to the mixture of hydrocarbons and oxygen before the reaction in an amount of about 10 to 50% by volume with reference to the oxygen reactant.

3,452,115

PROCESS FOR DIMERIZATION OF OLEFINS

Wolfgang Schneider, Broadview Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 20, 1966, Ser. No. 588,008

Int. Cl. C07c *3/10*

U.S. Cl. 260—683.15 **1 Claim**

Dimers and co-dimers of ethylene, propylene and butene-1 are prepared in good yields and at high conversions using a catalyst consisting of a nickel compound mixed with an alkyl aluminum compound and a halide. The halide can be introduced as part of the nickel compound or supplied from a third catalyst component such as a halogen-containing olefin.

3,452,116

FLAME RETARDANT POLYGLYCIDYL ETHERS OF TETRAKIS(DIHALOHYDROXYPHENYL) ETHANE AND PROPANE

Carl G. Schwarzer, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,714

Int. Cl. C08g *30/04, 45/00;* **C09k** *3/28*

U.S. Cl. 260—830 **8 Claims**

Flame retardant epoxy resins are disclosed. These resins comprise polyglycidyl ethers of tetrakis(dihalohydroxyphenyl)ethane and propane.

3,452,117

ORGANIC POLYMERS FROM α-METHYLENE GLUTARAMIDE

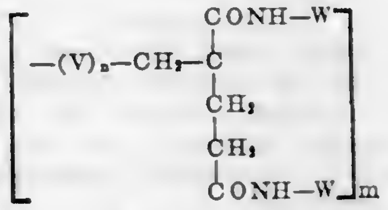
Norman G. Gaylord, New Providence, N.J., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 3, 1967, Ser. No. 635,678

Int. Cl. C08f *3/900, 29/00;* **C08g** *45/04*

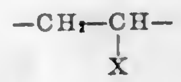
U.S. Cl. 260—836 **6 Claims**

This invention relates to novel organic polymers, useful in the surface coating arts, comprised of a plurality of chemical units of the formula:



$$\left[-(\mathrm{V})_n-\mathrm{CH_2}-\underset{\underset{\underset{\underset{\underset{\textstyle\mathrm{CONH{-}W}}{|}}{\textstyle\mathrm{CH_2}}}{|}}{\textstyle\mathrm{CH_2}}}{|}}{\overset{\overset{\textstyle\mathrm{CONH{-}W}}{|}}{\mathrm{C}}}\right]_m$$

wherein n is an integer less than 75; m is an integer less than 50; W is hydrogen or R″—O—R′, wherein R″ is lower alkylene, and R′ is lower alkyl; and V is



$$-\mathrm{CH_2}-\underset{\underset{\textstyle\mathrm{X}}{|}}{\mathrm{CH}}-$$

wherein X is aryl or COOR‴, where R‴ is hydrogen, lower alkyl or halogen.

3,452,118

SELECTIVELY HYDROCHLORINATED BLOCK COPOLYMERS

De Loss E. Winkler, Orinda, and Alfred W. Shaw, Moraga, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,743

Int. Cl. C08f *45/68, 25/00*

U.S. Cl. 260—879 **4 Claims**

Selectively hydrochlorinated block copolymers are disclosed. These block copolymers are those having the general structure A—B—A, wherein each A is a polymer block of a branched conjugated diene having 5–8 carbon atoms per molecule, and B is a polymer block of an unbranched conjugated diene having 4–8 carbon atoms per molecule, and wherein 50–100% of the double bonds of block A are hydrochlorinated and 0–50% of the double bonds B are hydrochlorinated.

3,452,119
PROCESS CONTROL IN PRODUCTION OF COPOLYMERS

Robert A. Hinton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,923
Int. Cl. C08d *1/14, 3/02;* **C08f** *1/56*
U.S. Cl. 260—880 7 Claims

A process for making block copolymers of alkadienes and vinyl aromatic hydrocarbons is automatically controlled by polymerizing at least one of the monomers in a first stage adiabatically and thereafter polymerizing at least one of the monomers in a second stage, said second stage being begun when the temperature rise in the first stage reaches a predetermined value.

3,452,120
BLENDING SOLID OLEFIN POLYMERS WITH RUBBER

Philip M. Arnold, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 21, 1964, Ser. No. 369,282
Int. Cl. C09d *9/08;* **B01f** *3/18*
U.S. Cl. 260—889 11 Claims

A blend of a rubbery polymer and a polyolefin polymer is prepared by milling the rubbery polymer with a polyolefin having a particle size of less than 150 microns at a temperature below the melting point of the polyolefin.

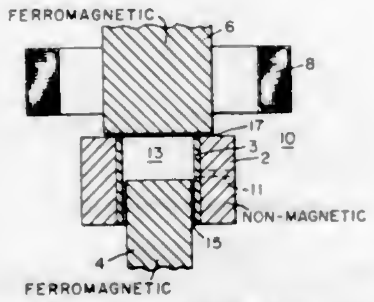
ERRATA

For Class 263—52 see:
Patent No. 3,451,664

For Class 263—53 see:
Patent No. 3,451,665

3,452,121
APPARATUS AND PROCESS FOR FORMING OR MOLDING MAGNETIC SUBSTANCES

Alexander W. Cochardt, Export, and Joseph Buttyan, Wilkins Township, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 560,320, June 24, 1966. This application Mar. 11, 1968, Ser. No. 712,308
Int. Cl. B22f *9/00, 3/00*
U.S. Cl. 264—24 11 Claims



A process and apparatus for forming ferromagnetic compacts from mixtures of ferromagnetic particles and liquids without the use of separate porous filtering elements is described. Restricted filtering paths are provided for the removal of liquid during compaction and means are provided for establishing a region of high magnetic field gradient adjacent the entrances to the filtering paths to restrain the ferromagnetic particles from flowing into the filtering paths thereby forming a filtering mat of ferromagnetic particles adjacent the entrance to the filtering path.

3,452,122
METHOD OF PRODUCING UNIFORM COLORED FOAMED MATERIALS

Alfred Stern, Newcastle-upon-Tyne, and Neville Maurice Sheldon, Whitley Bay, England, assignors to General Foam Products Limited, North Shields, England
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,525
Claims priority, application Great Britain, Jan. 22, 1965, 2,991/65
Int. Cl. B29h *7/20;* **B29d** *27/00*
U.S. Cl. 264—46 4 Claims

Uniformly coloured foam material can be produced from comminuted waste foam materials of diverse colours by bonding the particles of foam together by means of a foamable polyurethane binder including a pigment and a swelling agent having a swelling action on the waste foam. On curing the mixture, the swelling agent swells the foam particles and enables the pigment to penetrate substantially uniformly through them.

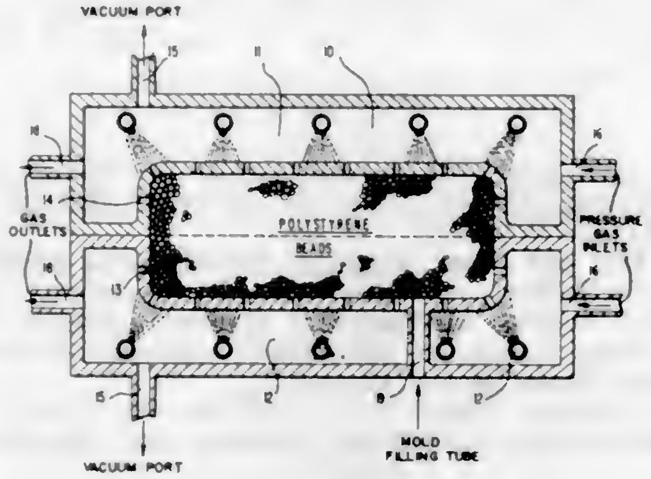
3,452,123
PROCESS FOR THE MANUFACTURE OF CROSS-LINKED ETHYLENE POLYMER FOAMS

Rolf Beckmann, Siegburg, Karl-Heinz Kleefisch, Bonn, and Wolfgang Dobrikat, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, near Cologne, Germany, a corporation of Germany
No Drawing. Filed Aug. 13, 1964, Ser. No. 389,474
Claims priority, application Germany, Aug. 30, 1963, D 42,372
Int. Cl. B29d *27/00;* **B29h** *7/20*
U.S. Cl. 264—53 8 Claims

Continuous manufacture of ethylene polymer-containing foams by continuous extrusion of a mixture of ethylene polymer-containing material, propellant and cross-linking agent in the presence of an organic solvent for ethylene polymer, e.g. having a boiling point above about 40° C., optionally in admixture with a filler.

3,452,124
REDUCTION OF COOLING CYCLES THROUGH RAPID DECOMPRESSION OF HEATED BEADS

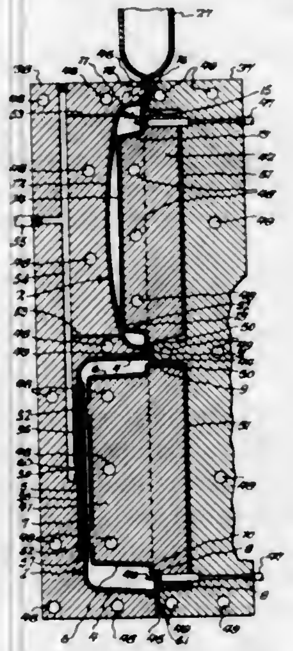
Eugene J. Knapp, Corning, N.Y., assignor to Corning Glass Works Inc., Corning, N.Y., a corporation of New York
Filed Aug. 27, 1964, Ser. No. 392,385
Int. Cl. B29d *27/00*
U.S. Cl. 264—53 1 Claim



A method of molding articles comprising introducing resin beads containing a blowing agent into a mold, heating the bead-filled mold to the fusion temperature of the resin while maintaining the beads under a pressure sufficient to prevent expansion thereof and suddenly releasing the pressure to cause expansion and cooling of the beads to produce a cellular shaped article.

3,452,125
METHOD OF AND APPARATUS FOR BLOW MOLDING THERMOPLASTIC MATERIAL

Peter T. Schurman, Snyder, and Raymond C. Confer, Gasport, N.Y., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Original application Dec. 21, 1964, Ser. No. 420,023. Divided and this application Mar. 3, 1967, Ser. No. 646,770
Int. Cl. B29d *23/03;* **B29c** *17/07*
U.S. Cl. 264—89 6 Claims



A method of blow molding a container by placing a plastic parison between mold sections, evacuating air from between the parison and at least one mold section and blow molding the parison in the mold. The parison is divided into two separate but integral double wall compartments, the top and bottom of the container, by pinching the parison upon itself to form a hinge.

3,452,126
METHOD OF POST-CURING A BENZOYL PEROXIDE CURED FLUOROELASTOMER COMPOSITION

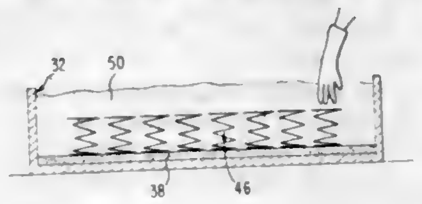
Jerry K. Sieron, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Filed Dec. 9, 1966, Ser. No. 600,668
Int. Cl. B29b *25/00*
U.S. Cl. 264—102 2 Claims

Process for the preparation of low compression, high temperature resistant, benzoyl peroxide cured fluoroelastomer composition wherein said composition is heated at about 200° F. at about atmospheric pressure. The composition is then heated in the range of about 200–400° F. under reduced pressure to remove substantially all volatiles and thereafter further post cured by heating in the range of 400–550° F. at atmospheric pressure.

3,452,127
METHOD OF MAKING AN INNERSPRING BODY SUPPORTING ARTICLE

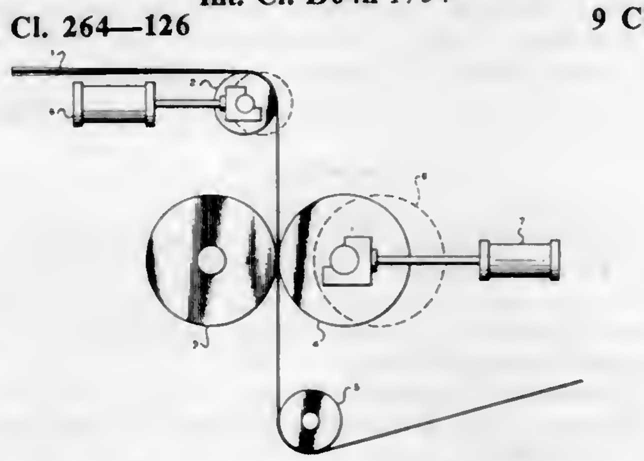
Henry H. Lovette, 2431 English Road, High Point, N.C. 27260, and Earl W. Hill, Rte. 3, Box 1973, High Point, N.C. 27263
Original application Dec. 28, 1965, Ser. No. 516,988, now Patent No. 3,325,834, dated June 20, 1967. Divided and this application May 8, 1967, Ser. No. 659,245
Int. Cl. B29d *27/00;* **B32b** *25/02*
U.S. Cl. 264—113 5 Claims

A method of preparing a mattress or similar article having innersprings embedded in adhering particles of multicellular resilient spongy material to provide a sturdy long-lasting resilient unitary structure in which particles of resilient spongy material coated with an adhesive are deposited and pressed in a mold, an innerspring structure is placed on the pressed material and is then covered completely with the coated particles and the article is pressed in its mold until the adhesive sets to form a unitary structure.



3,452,128
METHOD OF BONDING NONWOVEN TEXTILE WEBS

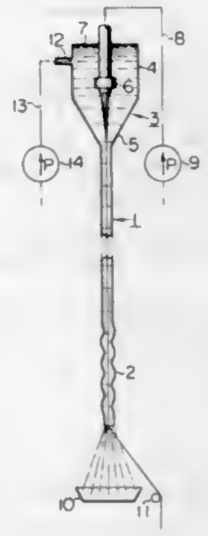
Cloral O. Rains, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,230
Int. Cl. D04h *1/54*
U.S. Cl. 264—126 9 Claims



A method of preparing a mat of fibers containing at least some thermoplastic fibers arranged in either ordered or random orientation which are bonded into a coherent web by at least partial fusing while the web is passed vertically through the nip of two heated rollers.

3,452,129
PROCESS FOR THE HIGH-SPEED SPINNING OF VISCOSE FILAMENTS

Akihiro Isobe, Yutaka Fujinawa, Kogi Iwasaki, Takeshi Ikeda, Eizo Nakajima, and Takashi Kobatake, Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Oct. 19, 1967, Ser. No. 676,526
Claims priority, application Japan, Oct. 21, 1966, 41/97,483; May 30, 1967, 42/34,048, 42/34,049
Int. Cl. D01f *3/10, 5/06*
U.S. Cl. 264—180 3 Claims



A funnel viscose spinning process wherein the spinning velocity is as high as 140–300 m./min. and the flow velocity as measured at the straight funnel zone is selected to be lower by 35–80 m./min. than that of the extruded viscose filaments.

3,452,130

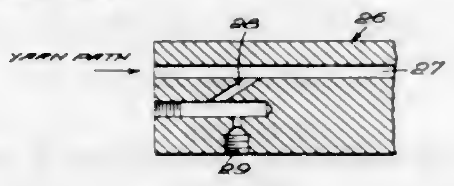
JET INITIATED DRAWING PROCESS

Gilbert Pitzl, Chattanooga, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 167,083, Jan. 18, 1962. This application Feb. 2, 1967, Ser. No. 613,607

Int. Cl. D01f *7/06;* **B29c** *17/02*

U.S. Cl. 264—210 **5 Claims**



Filaments are orientation drawn by replacement of the usual snubbing device with a jet device through which the yarn advances toward a draw roll. In the jet device, drawing is initiated by exposure to an intersecting jet of a heated gaseous fluid such as air or superheated steam. Fluid temperature and pressure must be such as to heat the yarn to the drawn initiation point in less than ten milliseconds.

3,452,131

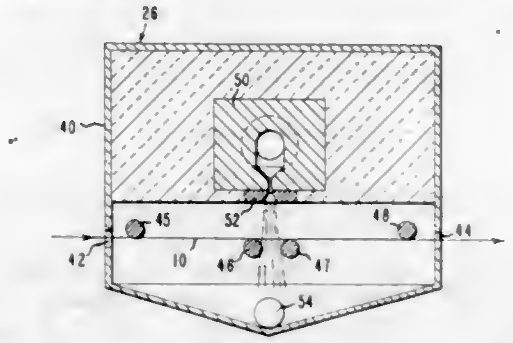
PROCESS FOR STRETCHING FILAMENTS

James Divine Geerdes, Cheshire, Conn., and William Lewis Kuechler, Jenkintown, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 536,795, Mar. 23, 1966. This application June 27, 1967, Ser. No. 649,257

Int. Cl. D01d *9/08, 5/12;* **D02j** *1/22*

U.S. Cl. 264—210 **4 Claims**



A coupled process for the spinning and two-stage drawing of filamentary nylon yarn, in which the first stage draw point is substantially localized by heating the yarn substantially instantaneously, in a fluid jet, to a filament temperature of at least 44° C.

3,452,132

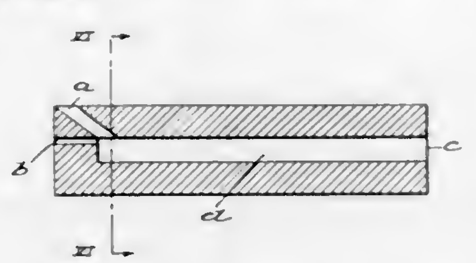
PROCESS OF STEAM DRAWING AND ANNEALING POLYESTER YARN

Gilbert Pitzl, Chattanooga, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 274,454, Apr. 22, 1963. This application Nov. 3, 1966, Ser. No. 591,850

Int. Cl. D01d *5/12;* **D02j** *1/22*

U.S. Cl. 264—290 **5 Claims**



Within an enclosure, an advancing bundle of polyester filaments is heated to at least the second order transition temperature by an asymmetric impingement of steam, thereby initiating drawing.

3,452,133

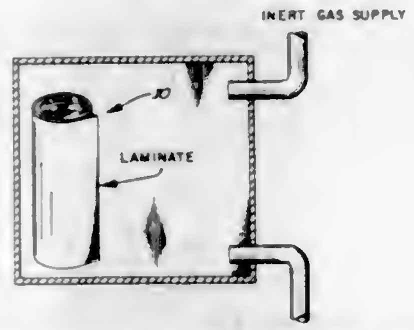
ANNEALING OF METAL-PLASTIC LAMINATES

Francis H. Bratton and Herbert J. Fick, Northfield, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

Filed Mar. 7, 1966, Ser. No. 532,461

Int. Cl. B29c *25/00;* **C21c** *1/30*

U.S. Cl. 264—346 **7 Claims**



A method for dimensionally stabilizing a laminate structure which comprises a composite of copper and stress-oriented polyethylene terephthalate films secured together, the stabilization operation including the steps of (a) disposing the laminate structure in a substantially stress-free condition; (b) soaking the laminate at an annealing temperature of between about 300° F.–350° F. for a period of about eight hours, and thereafter cooling the laminate slowly to room temperature. An inert atmosphere may be utilized if desired for protecting surface brightness of the copper portion of the laminate.

3,452,134

DERIVATIVES OF 2,4,6-TRIIODO-3-HYDROXY-BENZENE AS X-RAY OPACIFIERS

Guy Tilly, Drancy, France, assignor to Laboratoires Andre Guerbet, Saint Ouen, France, a French body corporate

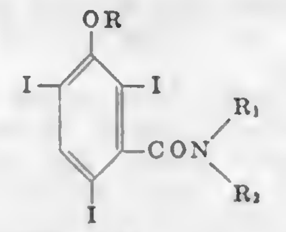
No Drawing. Filed July 19, 1966, Ser. No. 566,233

Claims priority, application France, Aug. 6, 1965, 27,478

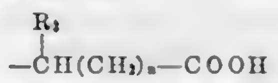
Int. Cl. A61k *27/08;* **C07d** *87/32;* **C07c** *103/26*

U.S. Cl. 424—5 **7 Claims**

These derivatives of 2,4,6-triiodo-3-hydroxy-benzene of the formula



wherein R is hydrogen or a



$$-\overset{\displaystyle R_3}{\overset{|}{C}}H(CH_2)_n-COOH$$

group, R_3 being hydrogen, alkyl or phenyl and *n* being an integer from 0 to 4, R_1 and R_2 are hydrogen, alkyl or hydroxyalkyl or, together with the nitrogen atom, form a piperidino or morpholino group, are useful in cholecystography and as choleretics.

3,452,135

ALLERGY DIAGNOSTIC SKIN TEST WITH CARBAMIDE OR THIOCARBAMIDE AND LIPOPHILIC ADJUVANTS

Endre Medveczky, Budapest, Hungary, assignor to Medimpex Gyogyszerkulkereskedelmi Vallalat, Budapest, Hungary, a firm

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,485

Int. Cl. A61b *10/00;* **A61k** *27/00*

U.S. Cl. 424—9 **6 Claims**

A process for percutaneous introduction of skin test diagnostic agents for revealing hypersensitivity, or allergy in human or animal subjects, which comprises rubbing on a small area of the skin a uniformly dispersed ointment comprising a biologically active diagnostic agent selected from bacteria, fungi, viruses, antigenic protein substances inducing allergy, or components thereof, in at least 10% by weight of carbamide or thiocarbamide or mixtures thereof, and at least 15% by weight of a lipophilic adjuvant.

3,452,136

ANTIBIOTIC AF283 AND PRODUCTION THEREOF

John Henry Martin, New City, N.Y., John Norman Porter, Ramsey, N.J., and Lester Allen Mitscher, Columbus, Ohio, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Continuation-in-part of application Ser. No. 645,501, June 12, 1967. This application Apr. 17, 1968, Ser. No. 725,576

Int. Cl. A61k *21/00;* **C12k** *1/00*

U.S. Cl. 424—118 **6 Claims**

A new antibiotic is produced, designated AF283 by cultivating a new strain of microorganism known as *Streptomyces filipinensis.* The new antibiotic is active against both gram-positive and gram-negative bacteria and is thus useful in inhibiting the growth of such bacteria wherever they may be found.

3,452,137

2-OXAZOLIDINONES AS STABILIZERS FOR AQUEOUS CHLORINE SOLUTIONS

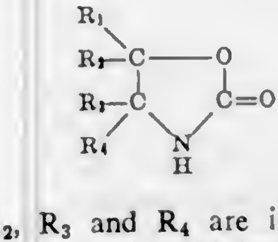
Jack F. Mills and Charles K. McAnallen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 19, 1967, Ser. No. 610,229

Int. Cl. A61k *27/00;* **C02b** *3/06*

U.S. Cl. 424—149 **6 Claims**

A method of stabilizing aqueous chlorine solutions against reduction of the chlorine or hypochlorite concentration therein by adding thereto from about 5 to about 100 parts per million of at least one oxazolidinone having the formula



wherein R_1, R_2, R_3 and R_4 are independently selected from the group consisting of hydrogen, methyl, ethyl and 2-hydroxyethyl groups.

3,452,138

UREA-CONTAINING CHEWABLE ANTACID TABLETS

Edmund S. Granatek and Alphonse P. Granatek, Baldwinsville, N.Y., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 26, 1964, Ser. No. 392,269

Int. Cl. A61k *27/06*

U.S. Cl. 424—155 **4 Claims**

1. A chewable antacid tablet comprising by weight about 35–60% of water-insoluble antacid agent selected from the group consisting of aluminum hydroxide, magnesium hydroxide, magnesium oxide, magnesium carbonate and magnesium trisilicate and mixtures thereof, about 25–50% of mannitol and about 4–10% urea.

3,452,139

METHOD OF TREATING SEBORRHEIC DERMATITIS WITH N,N-DIETHYL-m-TOLUAMIDE

Robert H. Van Sant, Palm Beach, Fla., by Ruth G. Van Sant, guardian, 434 Sea Spray Ave., Palm Beach, Fla. 33480

No Drawing. Continuation-in-part of application Ser. No. 506,613, Nov. 5, 1965. This application Aug. 22, 1967, Ser. No. 662,546

Int. Cl. A61k *27/00*

U.S. Cl. 424—324 **4 Claims**

N,N-diethyl-m-toluamide in a carrier is used to treat and control seborrheic dermatitis and related conditions. The amount of N,N-diethyl-m-toluamide ranges from about 5% to about 20% with exceptionally good results being obtained at 12%. The carrier is usually liquid and is preferably aqueous isopropanol to which any desired perfume is added. The best composition is made up by volume of 12 milliliters of N,N-diethyl-m-toluamide, 38 milliliters of distilled water and 50 milliliters of isopropanol. A small amount of any desired perfume such as 1.5 ml. can be added.

3,452,140

COMPOSITIONS AND METHODS FOR TRANQUILIZATION WHICH EMPLOY ESTERS OF 2-LOWER ALKYL - 1,2 - DIHYDRO-QUINOLINE - N - CARBOXYLIC ACIDS

Norman L. Weinberg, Stamford, Conn., assignor, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 583,076, Sept. 29, 1966. This application June 12, 1968, Ser. No. 736,275

Int. Cl. C07 *33/12;* **A61k** *27/00*

U.S. Cl. 424—258 **9 Claims**

A method of tranquilizing mammals which comprises orally or parenterally administering esters of 2-(lower)-alkoxy or alkylthio-1,2-dihydroquinoline - N - carboxylic acids and therapeutic compositions comprising said acids and pharmaceutical carriers.

3,452,141

METHODS OF TREATING PAIN WITH N^{α}-PHTHALOYL-α-AMINO ACID AMIDES

Italo Fratta, White Plains, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 27, 1966, Ser. No. 545,540

Int. Cl. A61k *27/00*

U.S. Cl. 424—274 **3 Claims**

This invention relates to novel methods and compositions for effecting analgesia in mammals. More particularly, the present invention pertains to a method of effecting analgesia by administering an N^{α}-phthaloyl-α-amino acid amide as hereinafter defined.

3,452,142

CONTROL OF ADULT HOUSEFLIES WITH 3-(4-HALOPHENYL) - 3′ - TRIFLUOROMETHYL-4′-HALO-5-HALOSALICYLANILIDES

John P. Chupp, Kirkwood, Mo., and Jack D. Early, Bethesda, Md., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,697

Int. Cl. A01m *9/20*

U.S. Cl. 424—230 **3 Claims**

Compounds of the class 3-(4-halophenyl)-3′-trifluoromethyl-4′-halo-5-halosalicylanilide useful in the control of adult houseflies.

3,452,143

CYCLIC KETONE DIAMINES AS SOIL FUNGICIDES AND BACTERICIDES

Nathaniel Grier, Englewood, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 423,360, Jan. 4, 1965. This application May 1, 1967, Ser. No. 634,907

Int. Cl. A01n *9/20, 7/04*

U.S. Cl. 424—325 **20 Claims**

Compositions of cyclic ketone diamines and their salts with solid carriers and nonhydroxylic solvents are disclosed. These compositions may be employed as soil fungicides and bactericides.

3,452,144

METHOD FOR TREATMENT OF CONGESTIVE HEART FAILURE WITH COENZYME Qn

Yuichi Yamamura and Taro Ishiyama, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Mar. 27, 1967, Ser. No. 625,976

Claims priority, application Japan, Mar. 26, 1966, 41/18,875

Int. Cl. A61k *27/00*

U.S. Cl. 424—331 **8 Claims**

Congestive heart failure is successfully treated with the aid of ubiquinone 5n (coenzyme Qn), n=7 to 10, inclusive.

ELECTRICAL

3,452,145

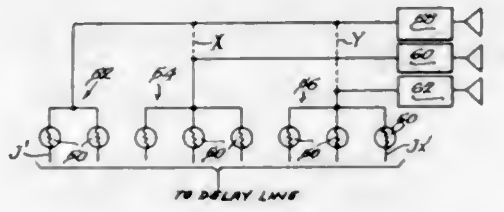
PHOTORESISTOR DELAY LINE SCANNER FOR VIBRATO

Alan C. Young, Park Ridge, Ill., assignor to Hammond Corporation, a corporation of Delaware

Original application June 18, 1962, Ser. No. 203,068, now Patent No. 3,258,519, dated June 28, 1966. Divided and this application Mar. 14, 1966, Ser. No. 533,918

Int. Cl. G10h *1/04*

U.S. Cl. 84—1.25 **7 Claims**



A vibrato system for electrical musical instruments. Shown is a several stage phase shift signal delay line with a capacitative scanner for sampling junctions along the line successively to produce progressive phase shift. A celeste effect is produced by mismatching the delay line termination on any of several bases to produce controlled signal reflection in the line. There is also provision for introducing signals at both ends of the line, so that mixed signals with different degrees and directions of phase shift are picked up by the scanner. A variation uses a plurality of cyclically light scanned photoresistors connected to the delay line junctions in place of the capacitative scanner. Another variation uses a series of dynamic phase shift stages in which the degree of phase shift at each stage depends upon the value of a photoresistor element in the stage, the resistance values of which are cyclically changed by a variable intensity light source.

3,452,146

METHOD AND APPARATUS FOR LOCALIZING OVERLOAD FAILURE IN ALKALI METAL CONDUCTORS

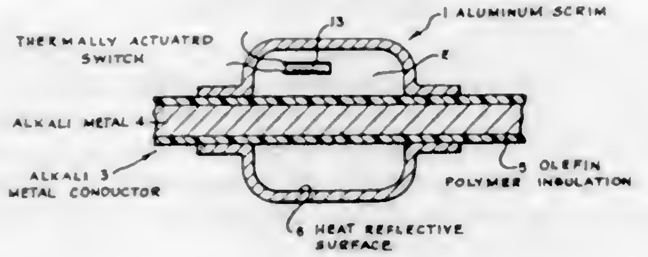
Laurence E. Humphrey, Westfield, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Nov. 2, 1967, Ser. No. 680,213

Int. Cl. H02g *15/28*

U.S. Cl. 174—11 **11 Claims**

A method and apparatus for localizing overload failure in a polymer insulated alkali metal electrical conductor in which a preselected segment thereof is thermally insulated for thermal regeneration of the resistive heating thereof by an undesired overload current to produce an electrical discontinuity by thermo-mechanical failure. The instant method and apparatus is adapted for the inclusion of thermally actuated switch means for activating an indicator alarm prior to the thermo-mechanical failure of the preselected segment. Additional means may be included to indicate the presence of an electrical discontinuity.


THERMALLY ACTUATED SWITCH
13
1 ALUMINUM SCRIM
2
ALKALI METAL 4
ALKALI 3 METAL CONDUCTOR
5 OLEFIN POLYMER INSULATION
6 HEAT REFLECTIVE SURFACE

3,452,147

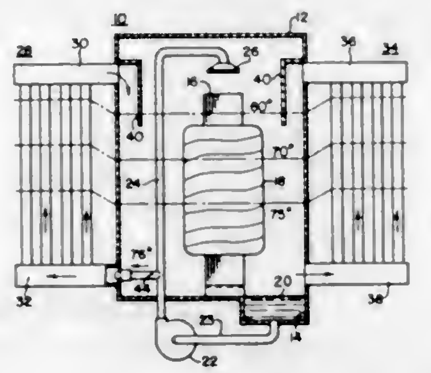
NON-CONDENSABLE GAS-CONDENSABLE VAPOR COOLED ELECTRICAL TRANSFORMER

Paul Narbut, Sharpsville, and Curtis L. Moore, Sharon, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 8, 1967, Ser. No. 666,385

Int. Cl. H01b *7/34, 9/06*

U.S. Cl. 174—16 **1 Claim**



Transformer apparatus comprising a casing having a core and coil assembly therein wherein a fluid dielectric is sprayed over the core and coil assembly for cooling. The fluid dielectric evaporates upon contact with the hot core and coil assembly and forms a condensable vapor, which condensable vapor is mixed with a non-condensable gas. The non-condensable gas-condensable vapor mixture provides the dielectric and cooling medium for the transformer apparatus. Cooling devices are attached to the casing for cooling the non-condensable gas-condensable vapor mixture and means are provided for maintaining a pressure difference between the input and output of the cooling devices, such pressure difference serving to increase the thermocycling action of the non-condensable gas-condensable vapor mixture through the cooling devices to maintain the proper mixture of the non-condensable gas-condensable vapor in the casing for proper cooling of the core and coil assembly.

3,452,148

ELECTRICAL CABINET WITH SEPARABLE PARTS

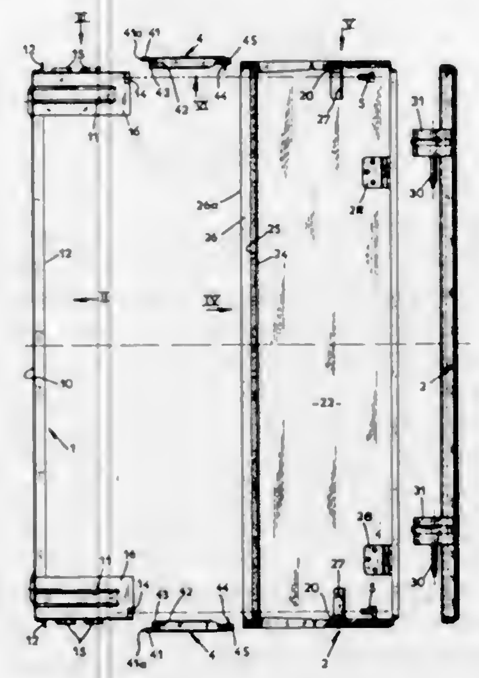
Walter Peter Schmitt and Marcel Georges Kopf, Sarre-Union, France, assignors to Sarel Appareillage Electrique, Sarre-Union, Bas-Rhin, France, a company of France

Filed July 27, 1967, Ser. No. 656,530

Claims priority, application France, Aug. 22, 1966, 73,728; Oct. 28, 1966, 82,061

Int. Cl. H05k *5/02;* **H02b** *1/08*

U.S. Cl. 174—52 **8 Claims**



Electrical cabinet having the general configuration of a substantially rectangular or square parallelepipedon, of a type separable in several parts and propped against a bearing surface designed to support at least partly the weight of the apparatus housed within said cabinet. The cabinet comprises a supporting frame on which is secured said electric apparatus, a cover-shaped stiff body equipped with an inlet door mounted on said body by means of separable hinge joints and removable lateral side plates mounted on said frame.

3,452,149

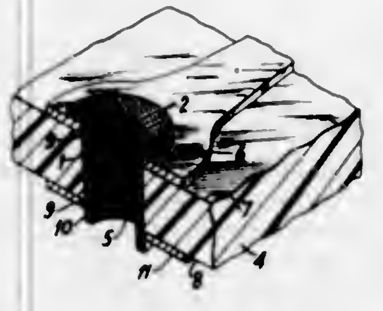
FLEXIBLE ELECTRICAL CONNECTOR

Fred J. Rinaldi, 63 Wakelee Road, Wolcott, Conn. 06525

Filed Oct. 30, 1967, Ser. No. 679,141

Int. Cl. H05k *1/10*

U.S. Cl. 174—68.5 **7 Claims**



A flexible electrical connector for connecting circuitry on opposing sides of a printed circuit board or the like, and capable of receiving a lead wire for connection to such circuitry. The connector consists essentially of a wire mesh cylinder passing through the circuit board, the ends of which are electrically connected to the circuit components.

3,452,150

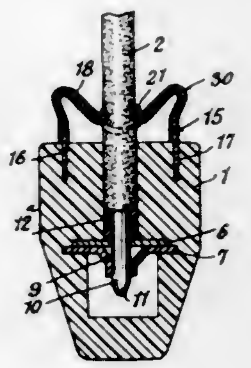
CONNECTION DEVICE AND INSULATOR FOR ELECTRIC WIRING

Anthony Gazzoli, New York, N.Y., assignor of twenty-four and one-half percent to Alfred A. Mazzocchi, East Northport, and twenty-four and one-half percent to C. Joseph Danahy and James J. Delaney, doing business as Danahy & Delaney, Brooklyn, N.Y.

Filed May 4, 1966, Ser. No. 547,562

Int. Cl. H02g *15/08;* **H01r** *11/20*

U.S. Cl. 174—87 **5 Claims**



A connection device for insulated electrical wiring which can be easily fitted on the cut end of one or several electrical wires. The body of insulating material has at least one passage for at least one insulated electrical wire end. Extending across the passage is a stripper plate composed of normally unpunctured, puncturable material. Behind the stripper plate is a connection plate of conductive material for electrically engaging the bare end of the insulated wire. A clamping means exteriorly of the insulated body engages the insulated portion of the wire to hold the wire in the connector connection device. The cut end of the wire is inserted through the passage and punctures the puncturable stripping plate, engaging the insulation and forcing the insulation back to permit the bare end of the wire to engage the connection plate.

3,452,151

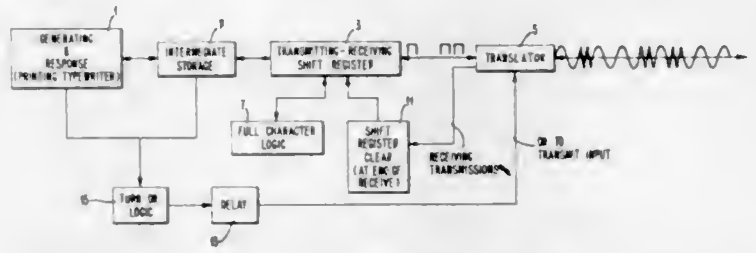
PROTECTION FROM SIGNAL FLUTTER ON TURN OFF

Wilmer Paul Harbour, Jr., and James F. (Frank J.) Horlander, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 6, 1965, Ser. No. 469,589

Int. Cl. H04l *15/00;* **H03k** *21/32*

U.S. Cl. 178—3 **2 Claims**

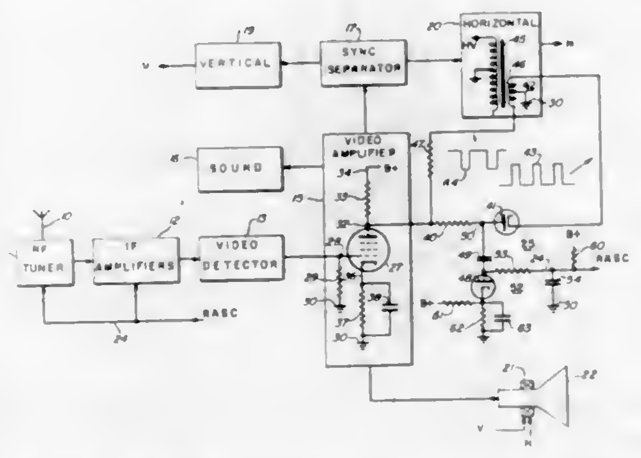

GENERATING & RESPONSE (PRINTING TYPEWRITER)
INTERMEDIATE STORAGE
TRANSMITTING-RECEIVING SHIFT REGISTER
TRANSLATOR
FULL CHARACTER LOGIC
SHIFT REGISTER CLEAR (AT END OF RECEIVE)
RECEIVING TRANSMISSIONS
OR TO TRANSMIT INPUT
TURN ON LOGIC
DELAY

A communication system is protected against noise resulting from the termination of a signal. Received data is stepped into a shift register and is not further processed in the terminal until a full character has been inserted into the register. The transmitted signal is observed and upon termination of the signal the shift register is cleared. The duration of the noise is short so that it can not appear as a full character in the register before it is destroyed by clearing the register. A delay is provided so that no signal will be transmitted by a former receiving station until all other terminals have received an indication of the termination of transmission by the former transmitting terminal.

3,452,152

DUO-DIODE KEYED AGC CIRCUIT

Louis W. Schreiner, Palatine, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,089
Int. Cl. H04n *3/16, 5/38*
U.S. Cl. 178—7.3 18 Claims

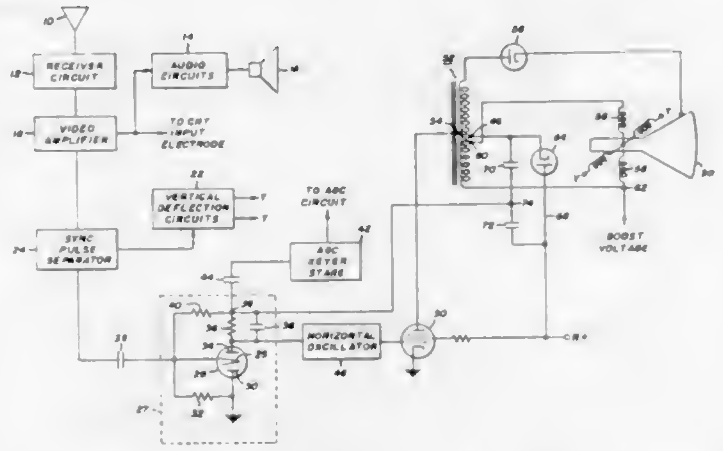


A first diode and a source of horizontal synchronizing component are connected in a first circuit with the video amplifier of a television receiver. A second diode is AC coupled to a point in the first circuit which is rendered representative of the video amplifier output by the horizontal component driving the first diode into its opposite conduction state. The signal detected by the second diode is integrated to develop an AGC signal.

3,452,153

PULSE CIRCUIT FOR HORIZONTAL OUTPUT CIRCUIT IN TELEVISION RECEIVER

Norman Szeremy, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 14, 1966, Ser. No. 579,315
Int. Cl. H04n *5/38, 3/16;* **H03b** *3/04*
U.S. Cl. 178—7.3 2 Claims

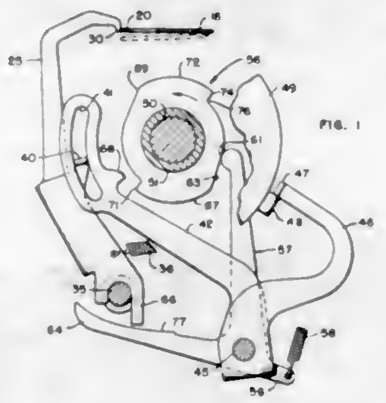


A simplified arrangement for providing reference pulses to a phase detector which supplies control voltage to a horizontal oscillator in a television receiver including a horizontal output transformer. A damping rectifier is connected across at least part of the horizontal output transformer, and first and second serially-connected capacitors are connected across the damping rectifier. Reference pulses are derived from an output point at the common junction of the capacitors. In addition, pulses may be coupled from this output point through a capacitor to key an automatic gain control circuit.

3,452,154

START MECHANISM FOR TELEGRAPH SELECTOR

Thomas W. Tourville, Santa Barbara, Calif., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,725
Int. Cl. H04l *15/24, 17/16*
U.S. Cl. 178—33 7 Claims

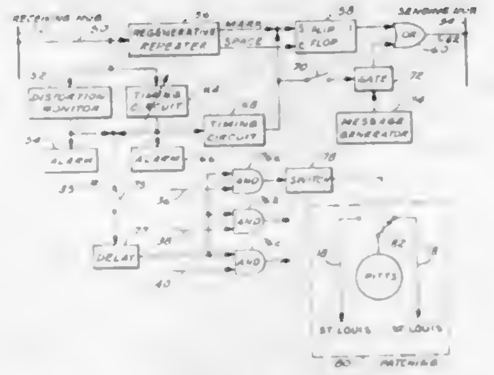


A mechanism for assuring that the start lever of a telegraph selector will not interfere with the operation of the selector magnet armature thereof including an open portion on the selector magnet armature and a cooperating abutment on the start lever for permitting the start lever to move to a position over the armature without interfering with the operation of the armature and a pair of levers pivotally mounted on a portion of the orientation mechanism of the selector and operated by the selector start cam for moving the start lever off of its pivot perpendicularly of the armature to a displaced position during the receipt of the information bits of a character by the selector magnet, then for moving the start lever away from the armature along a path extending parallel to the armature, then for moving the start lever perpendicularly of the armature back onto its pivot and then for moving the armature along a path extending parallel to the armature into engagement with the armature during the receipt of the stop pulse of the character by the selector magnet.

3,452,155

DATA QUALITY CONTROL SYSTEM

Harvey N. Stanley, Falls Church, Va., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,421
Int. Cl. H04l *25/02, 15/00;* **H04q** *9/00*
U.S. Cl. 178—69 2 Claims

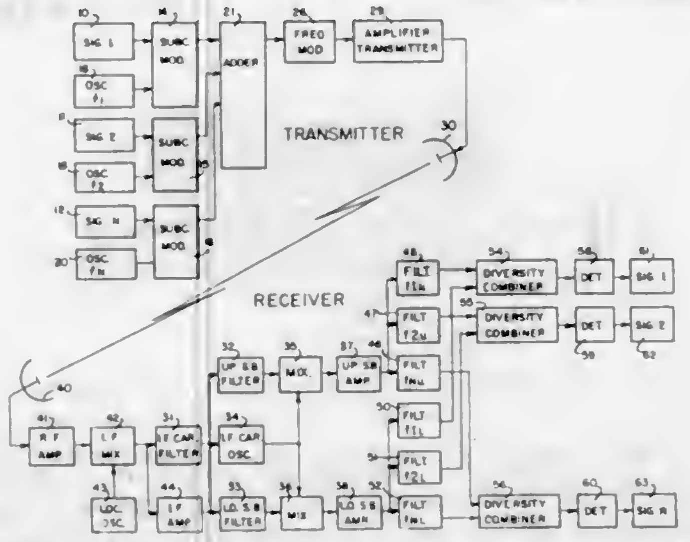


There is shown and described a quality control system for improving the operation of Teletypewriter and data communication systems, A quality control system is connected between each receive hub and each send hub. The system receives the transmitted signals and retransmits them in undistorted form by means of a regenerative repeater. If an open should occur, the quality control system generates an idle or marking signal which is transmitted to the other points connected to the send hub, or, alternatively, a telegraph message is generated and sent to the other points so as to alert them of the occurrence and location of the open. Further features of the quality control system include the monitoring of distortion in the received signals and the operation of automatic patching equipment because of signal degradation or the occurrence of an open.

3,452,156

RADIO TRANSMISSION SYSTEM WITH INDEPENDENT DIVERSITY RECEPTION OF PLURAL SIDEBAND COMPONENTS

Lloyd R. Engelbrecht, Westchester, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 25, 1966, Ser. No. 530,039
Int. Cl. H04b *1/00, 3/00*
U.S. Cl. 179—15 5 Claims

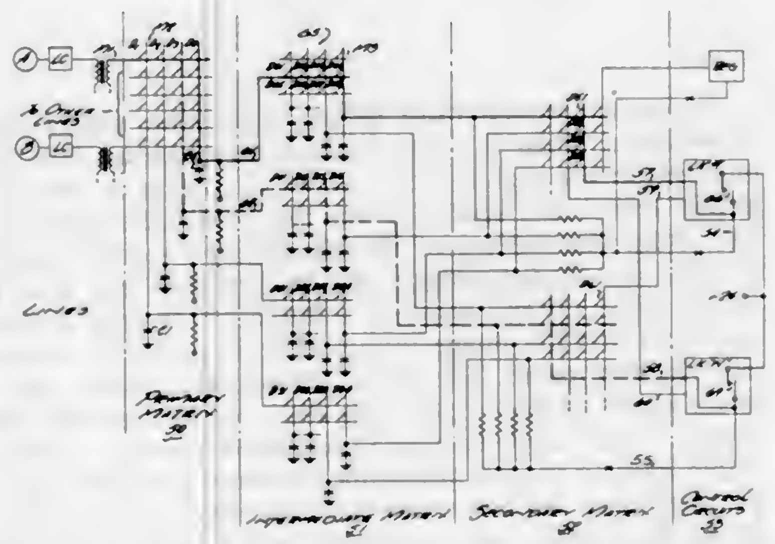


A radio transmission system including a multiplex carrier wave having plural sideband components, said sideband components respectively corresponding to modulated subcarrier waves. A receiver has plural filters to frequency separate the upper and lower sideband components. Diversity combiners are connected to the filters for the first order of sideband components of the respective modulated subcarrier waves for diversity combining same independent one of the other. Detection means detect the diversity combined signals for reproducing the original modulating signals.

3,452,157

CURRENT CONTROLLED, SELF-SEEKING TELEPHONE SWITCHING SYSTEM

William Ke-Chin Yuan, Ridgewood, and Jack Gene Frisbie, Washington Township, N.J., and James George Bull, Markham, Ill., assignors to International Telephone and Telegraph Corporation
Filed Feb. 1, 1966, Ser. No. 523,999
Int. Cl. H04m *3/38*
U.S. Cl. 179—18 8 Claims

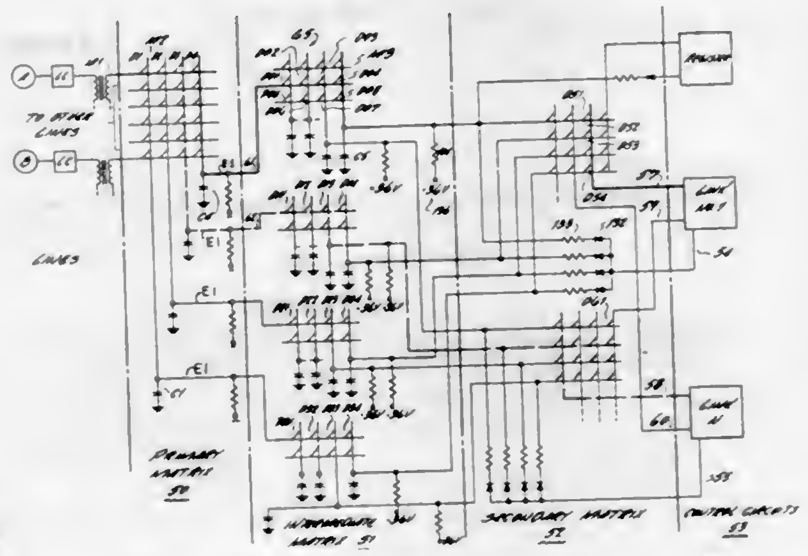


In a current-controlled, self-seeking telephone switching system, means for simultaneously applying the end-marking potential to the prewired configuration of enabling connections and to the end-marking of the network whereby the enabling potential is applied to the prewired configuration of enabling connections only when a switch path is actually being requested.

3,452,158

SELF-TAPERING ELECTRONIC SWITCHING NETWORK SYSTEM

Nikola L. Jovic, Chicago, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Feb. 11, 1966, Ser. No. 536,501
Int. Cl. H04m *3/18*
U.S. Cl. 179—18 8 Claims

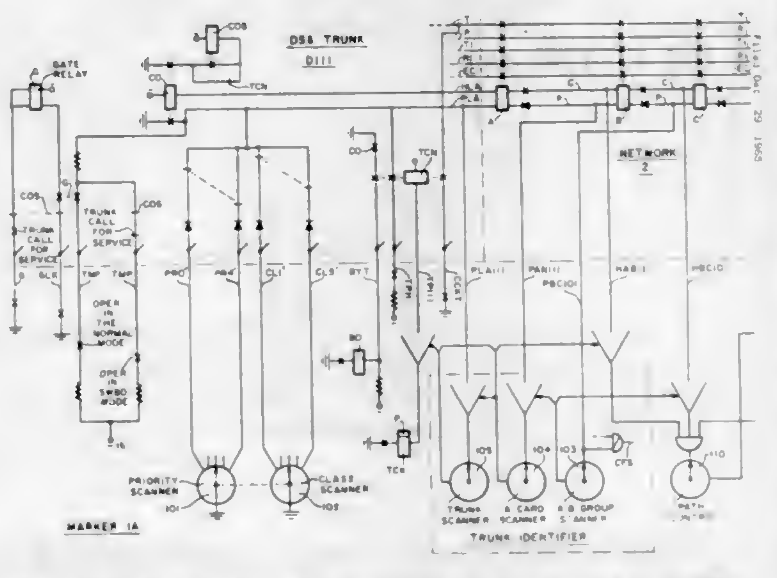


This invention tapers a switching network to concentrate traffic more sharply into the paths which reach a useful outlet. The object is to eliminate useless searching and thereby reduce the probability of simultaneous firing. The system avoids noise present in earlier attempts to make similar restrictions since the tapering only occurs on a path while it is actually being fired, and does not occur while the path is being held.

3,452,159

CALL-FOR-SERVICE CIRCUITS OF COMMUNICATION SWITCHING MARKER

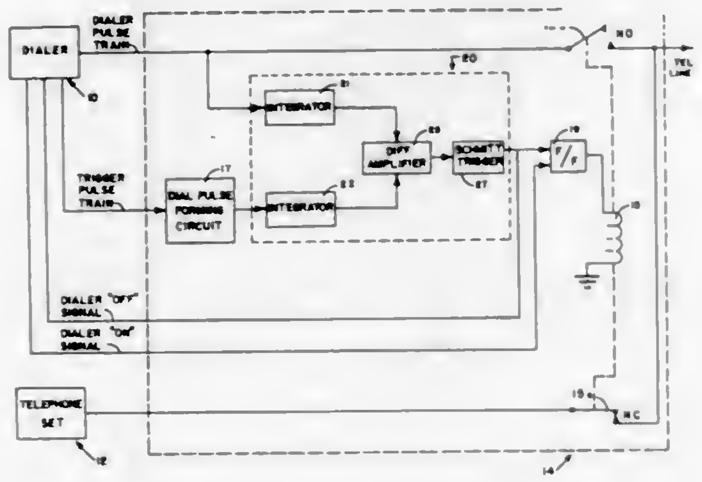
John R. Vande Wege, Glen Ellyn, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Dec. 29, 1965, Ser. No. 517,226
Int. Cl. H04m *3/64*
U.S. Cl. 179—27 8 Claims



Switching equipment selectively connects trunk circuits to operator positions. Trunk circuits calling for service have class and priority information. The marker supplies blanking potentials to mask the call-for-service requests of all but one class and priority at a time. When the trunk circuit is connected to an operator position, the class and priority information is forwarded via a time division path for display. The marker is arranged to have a sequence of operations which is similar for service requests from the operator positions and from the trunk circuits.

3,452,160
COUPLING UNIT FOR TELECOMMUNICATIONS SYSTEM

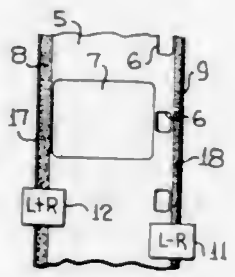
Philip J. McFarland, Lynnfield, Mass., assignor to Dasa Corporation, Andover, Mass., a corporation of Massachusetts
Filed June 20, 1966, Ser. No. 558,637
Int. Cl. H04n *1/26*
U.S. Cl. 179—90 **3 Claims**



A coupling unit between the subscriber set, which consists of a repertory dialer and a telephone set, and the central office, designed so as to test the pulse train emitted from the repertory dialer for timing error. If the coupling unit detects timing error, the repertory dialer is disconnected from the line and the telephone set is coupled to the line. The coupling device functions to couple the repertory dialer to the line upon initiating the repertory dialer's operation.

3,452,161
STEREO SOUND RECORDING ON SUPER-8 MOTION PICTURE FILM

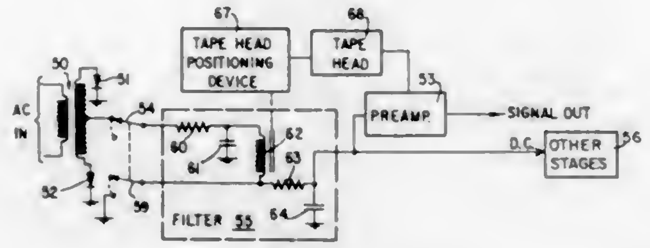
David Hafler, 11 Merion Road, Merion Station, Pa. 19066
Filed Oct. 4, 1965, Ser. No. 492,630
Int. Cl. G03b *31/02*
U.S. Cl. 179—100.2 **6 Claims**



A stereophonic sound system employing Super-8 film. Such film includes a poor quality magnetic track intended solely for mechanical balancing required because of the presence of a high quality track. The high quality track is employed for L+R stereophonic signal, and the low quality track for the L—R signal, thus utilizing a track which would otherwise be unused.

3,452,162
CIRCUIT FOR PROVIDING A FILTERED DC POTENTIAL AND AN ACTUATING PULSE FOR AN ELECTROMAGNETIC DEVICE

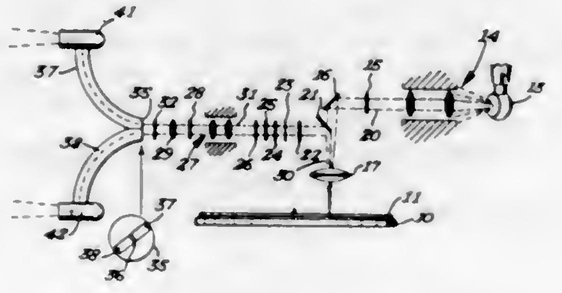
James E. Ward, Downers Grove, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 15, 1967, Ser. No. 646,372
Int. Cl. G11b *5/44*
U.S. Cl. 179—100.2 **6 Claims**



A filter circuit for filtering the output of a rectifier incorporates an energizing coil, used to operate an electromagnetic device, and a capacitor as filter elements. A switch connects the capacitor across the energizing coil to provide a pulse of energy to actuate the coil.

3,452,163
OPTICAL PHONOGRAPH APPARATUS WITH POLARIZED LIGHT

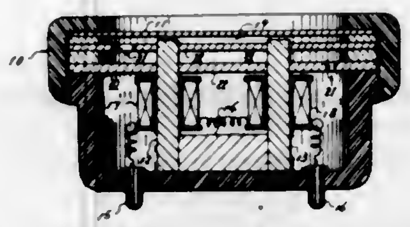
Phillip B. Dahlen, 512 49th Ave. N., Minneapolis, Minn. 55430
Filed Dec. 8, 1965, Ser. No. 512,446
Int. Cl. G11b *3/00, 11/10;* **H01r** *11/08*
U.S. Cl. 179—100.4 **16 Claims**



An optical phonograph having first optic means for providing a beam of light through an objective lens to impinge on the surface of a record, a portion of the objective lens being shaded from the light. The reflected light from the surface of the phonograph record passes through the shaded portion of the objective lens into a second optic system where it is filtered to remove polarized light and the image thus formed is passed to sound reproduction means. The sound reproduction means comprises a pair of fiber optic rods that receive the reflected image at their input ends and are joined together at their output ends to form a micro-fine junction; and photoelectric responsive devices positioned adjacent the output ends of the fiber optic rods to respond to the image provided thereto. Tone arm position control means are also provided, and are entirely spaced from the surface of the phonograph record and positioned to respond to the reflected image from the surface of the phonograph record, to position the tone arm.

3,452,164
TELEPHONE RECEIVER WITH BAND ELIMINATION CHARACTERISTIC

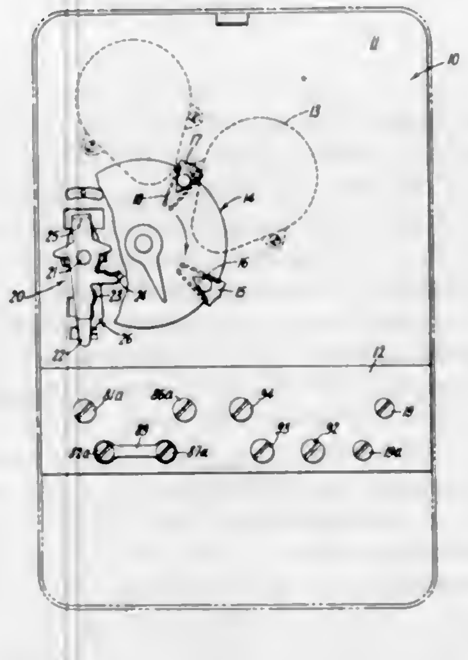
Kiyoshi Kobara, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed June 28, 1966, Ser. No. 561,173
Claims priority, application Japan, Sept. 16, 1965, 40/56,801
Int. Cl. H04r *17/02, 9/10*
U.S. Cl. 179—115 **2 Claims**



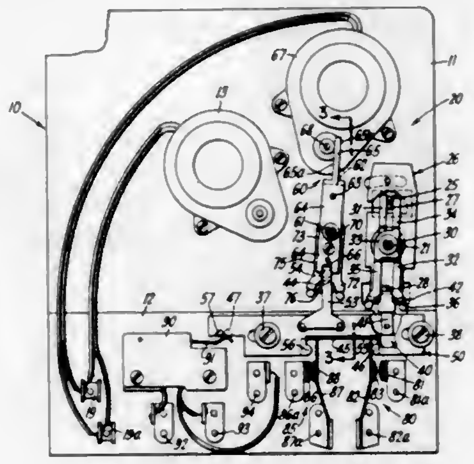
1. A telephone receiver having at least one attenuation pole at a predetermined frequency comprising: a vessel of insulating material; a diaphragm disposed across the mouth of said vessel; means in said vessel for oscillating said diaphragm in response to a supplied signal; first plate means disposed internally of said diaphragm and constituting therewith a first cavity; and second plate means disposed internally of said first plate means and constituting therewith a second cavity and with said vessel a third cavity; each of said first and second plate means including apertures for respectively coupling said first and said second cavities and said second and said third cavities.

3,452,165
TIMER WITH MEANS FOR SEQUENTIAL SWITCH OPERATION

Roger David Rulseh, Two Rivers, Wis., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Dec. 4, 1967, Ser. No. 687,869
Int. Cl. H01h *7/08, 43/10*
U.S. Cl. 200—39 **14 Claims**

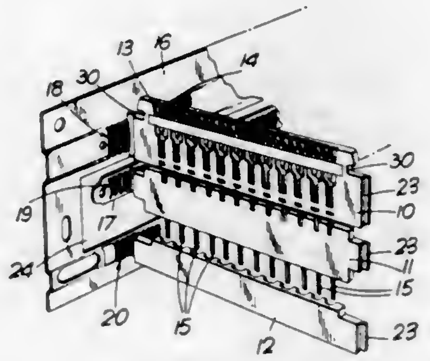


A timer with means for sequential switch operation in which the timer operating mechanism causes a first switch actuation, and has a rotating threaded member and a resilient member which contacts the threaded member to delay a second switch actuation until the resilient member is deflected off the end of the threaded member by its rotation.



3,452,166
CARD SENSING DEVICE COMPRISING A PLURALITY OF GRID SUPPORTED MOULDINGS

Stanley Thomas Deakin, Farlington, England, assignor to Sealectro Limited, Farlington, Portsmouth, England, a British company
Filed May 18, 1967, Ser. No. 639,392
Claims priority, application Great Britain, May 20, 1966, 22,672/66
Int. Cl. H01h *43/08;* **G06k** *7/04*
U.S. Cl. 200—46 **5 Claims**

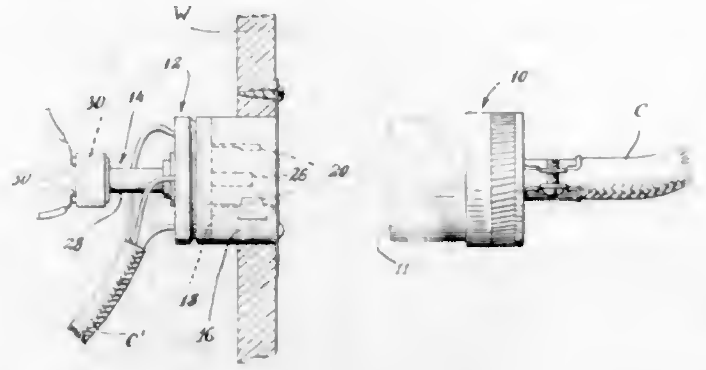


A device for sensing holes in a punched card includes a number of mouldings assembled in face-to-face relation to form a stack the position of each moulding being determined by end locating means comprising, for each end of the mouldings, a grid having bars and slots extending widthwise of the mouldings, the ends of the mouldings being received within the slots and each slot being open at at least one end to permit insertion or removal of the moulding in the lengthwise direction of the slots.

3,452,167
POWER INLET WITH AUXILIARY CIRCUIT CONTROLLING SWITCH

Richard A. Fee, Stratford, Conn., assignor to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Nov. 25, 1966, Ser. No. 597,160
Int. Cl. H01r *33/30*
U.S. Cl. 200—51.09 **7 Claims**

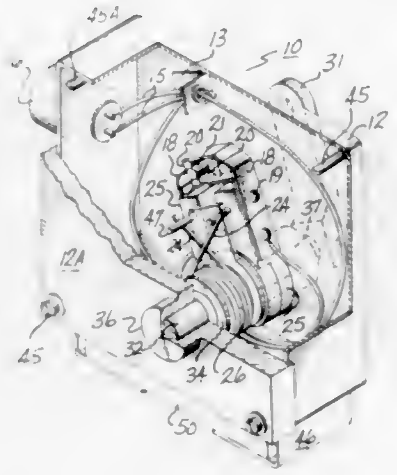
This disclosure relates to a power inlet for supplying electrical power to a primary circuit and for controlling a secondary circuit. The power inlet includes a body having a plurality of contact elements with electrical terminals secured thereto which may be connected in the primary circuit. It also carries an auxiliary circuit switch



which is actuated by the connecting and disconnecting of the power inlet with a mating electrical connector device.

3,452,168
POSITION INDICATOR SWITCH WITH YIELDINGLY SPACED CYLINDRICAL CONTACTS HAVING WIPING ACTION

David Stewart, Bellevue, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,901
Int. Cl. H01h *35/02, 3/04, 1/20*
U.S. Cl. 200—61.52 **4 Claims**

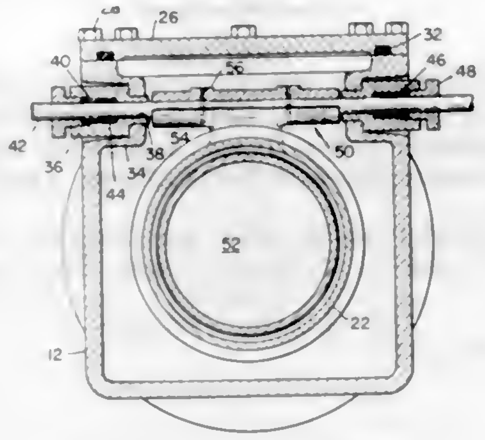


This invention relates to improvements in circuit breakers and more specifically to tilt-actuated circuit breakers, the contacts of which are caused to either make or break upon tilting of the circuit breaker carrier member, with respect to a reference plane, of the carrier member. Such a carrier member may include the landing gear truck of modern aircraft.

3,452,169
FLOW MEASURING DEVICE

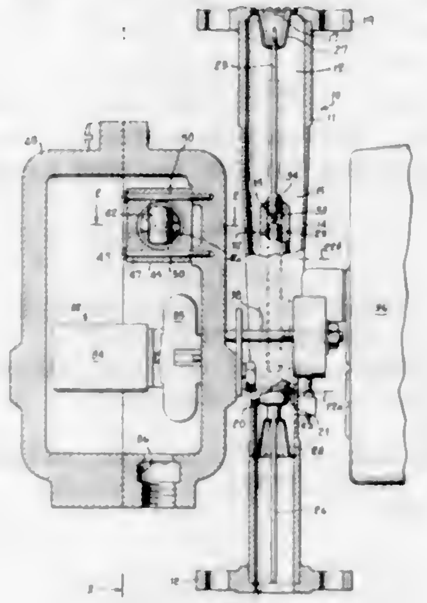
George S. Ruxton, Oakland, Calif., assignor to Pacific Pumping Company, Oakland, Calif., a corporation of California
Filed Feb. 20, 1967, Ser. No. 617,394
Int. Cl. H01h *35/24, 35/40*
U.S. Cl. 200—81.9 **4 Claims**

A flow regulator for fluid conduit systems comprises a body within which is a movable gate which is positioned in the path of fluid flow into the regulator. The gate is shaped and mounted in such a manner that its movement relative to the amount of flow is substantially linear. The regulator has other features of construction which provide unusual features of easy maintenance and economy of manufacture.



3,452,170
ALARM SWITCHING DEVICE FOR VARIABLE RESTRICTION FLUID FLOW METERS

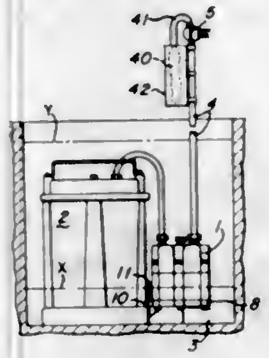
William C. Conkling, Essex Fells, N.J., assignor to Wallace & Tiernan Inc., Belleville, N.J., a corporation of Delaware
Filed June 27, 1967, Ser. No. 649,172
Int. Cl. H01h *35/40*
U.S. Cl. 200—81.9 **11 Claims**



An alarm switch for a variable restriction fluid flow meter, suitable for actuating an alarm to signal increase or decrease in fluid flow rate beyond a selected value, including a rotatable magnet coupled in such manner to a magnet carried by the meter float that the angular position of the rotatable magnet varies with and is determined by the level of the float; a reed switch located in the field of the rotatable magnet; and a biasing magnet for the reed switch, so disposed that the magnetic field acting on the reed switch varies progressively with change in angular orientation of the rotatable magnet relative to the biasing magnet in a manner producing opening (or closing) of the reed switch at some particular relative angular orientation of the two magnets. The reed switch and biasing magnet are carried in a common support which can be turned to effect angular displacement of the switch and biasing magnet relative to the rotatable magnet, thereby to select the angular position of the rotatable magnet (corresponding to a selected float level) at which the switch-opening or closing relative orientation of the rotatable magnet and biasing magnet occurs.

3,452,171
PRESSURE RESPONSIVE SWITCH UNIT

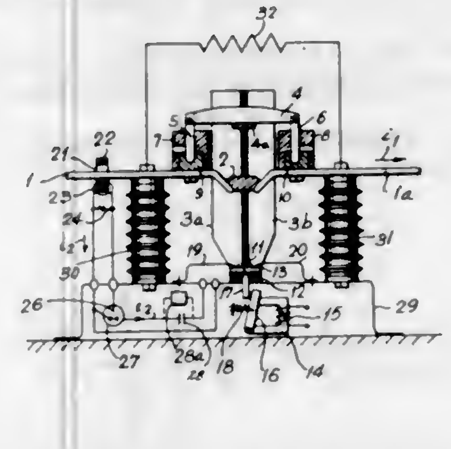
Larry K. Dunn, Piqua, Ohio, assignor to Piqua Machine & Mfg. Co., Piqua, Ohio, a corporation of Ohio
Filed May 8, 1967, Ser. No. 636,947
Int. Cl. H01h *35/24, 35/40*
U.S. Cl. 200—83 **13 Claims**



An improved pressure responsive switch unit, the operating elements of which can be acurately and readily adjusted to determine its overall operating limits and, at the same time, to compensate for variations in tolerances and operating characteristics of certain portions, a unit which may be hermetically sealed to maintain therein substantially uniform humidity conditions while providing internal pressures which are substantially the same as local atmospheric pressure.

3,452,172
CURRENT LIMITING CIRCUIT BREAKER

Fritz Kesselring, Kusnacht, Zurich, Switzerland, assignor to Siemens-Schuckertwerke A.G., Berlin and Erlangen, Germany, a corporation of Germany
Filed July 1, 1966, Ser. No. 562,387
Int. Cl. H01h *33/12*
U.S. Cl. 200—146 **4 Claims**

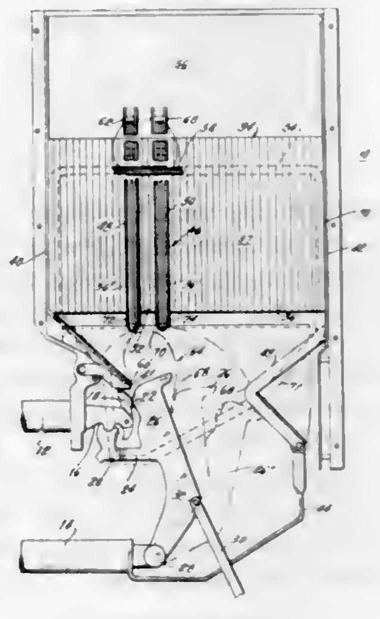


A current limiting circuit breaker has main contacts, commutating contacts and a positive temperature coefficient resistor. The commutating contacts are provided with arc interrupting means, and are opened after the main contacts open but before the main contacts are separated by 1 millimeter. The arc resistance of the commutating contacts is increased at a rate sufficient to cause a rate of rise of current through the resistor which is at least twice the rate of rise of current flowing into the circuit breaker.

3,452,173
SELECTIVELY POSITIONED INTERPOSED VERTICAL TRANSFER GAP

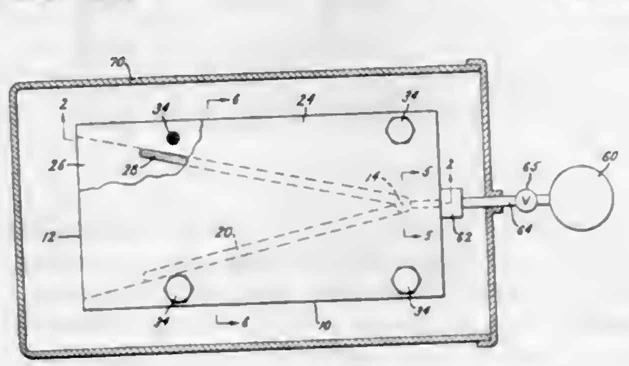
William A. Carter, Devon, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 25, 1966, Ser. No. 537,355
Int. Cl. H01h *9/44, 33/18*
U.S. Cl. 200—147 **2 Claims**

A circuit breaker is disclosed including a pair of cooperating contacts above which is positioned an arc chute to extinguish an arc drawn between the contacts upon separation thereof. Front and rear arc runners are positioned at opposite interior ends of the arc chute and a face-wound blowout coil is diposed on at least one surface of the arc chute in a configuration which defines an area which encompasses the front and rear arc runners. A vertically interposed transfer gap assembly is selectively positioned vertically above the separating contacts and at a predetermined location with respect to the front and rear arc runners such that the transfer time between the separating contacts and the vertical transfer gap is minimized while at the same time the potential difference existing between the rear arc runner and the transfer gap will be minimized.



3,452,174
CIRCUIT INTERRUPTER FOR HIGH-VOLTAGE D-C CIRCUITS

James J. Carroll, Philadelphia, and Gerhard Frind, Secane, Pa., assignors to General Electric Company, a corporation of New York
Filed Jan. 25, 1966, Ser. No. 522,977
Int. Cl. H01h *33/82, 33/76, 33/60*
U.S. Cl. 200—148 **4 Claims**

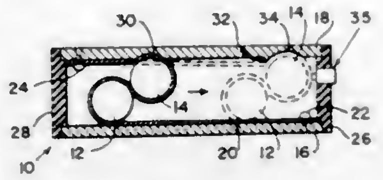


A high voltage D-C circuit interrupter capable of developing exceptionally high arc voltages for forcing the current in a high voltage D-C circuit to zero. An arc established in an arc-initiation reigon is driven along arc runners toward an exhaust opening and is lengthened as it moves along the runners by closely-spaced, gas evolving insulating plates that force the arc into a zig-zag path of greatly increasing length. The arc-initiation region is closed off in such a manner that substantially all the gases evolved therein or supplied thereto are forced to flow out of the interrupter through said exhaust opening. The interrupter is normally filled with high pressure gas for retarding arc motion toward said exhaust opening.

3,452,175

ROLLER-BAND DEVICES

Donald F. Wilkes, Albuquerque, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 29, 1967, Ser. No. 643,314
Int. Cl. H01h *3/32, 35/24*
U.S. Cl. 200—153 **21 Claims**

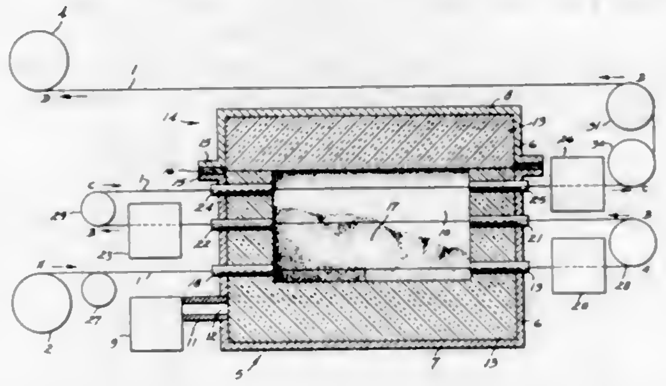


A roller-band device which substantially eliminates or minimizes sliding friction; the device having a plurality of rotatable members in a guideway with generally equidistantly spaced walls, with each wall supporting and restraining one of the rotatable members and separated from each other less than the summation of the diameters of the rotatable members, and a flexible band between the guideway walls having a portion disposed between the rotatable members at least partially encompassing at least one member, the band holding the members with generally parallel axes and providing rolling motion between each element of the device.

3,452,176

HEATING A MOVING CONDUCTOR BY ELECTROMAGNETIC WAVE IRRADIATION IN THE MICROWAVE REGION

Melvin L. Levinson, 1 Meinzer St., Avenel, N.J. 07001
Continuation-in-part of applications Ser. No. 470,809, July 9, 1965, Ser. No. 483,144, Aug. 27, 1965, and Ser. No. 497,851, Oct. 19, 1965. This application May 24, 1967, Ser. No. 640,866
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.61 **4 Claims**



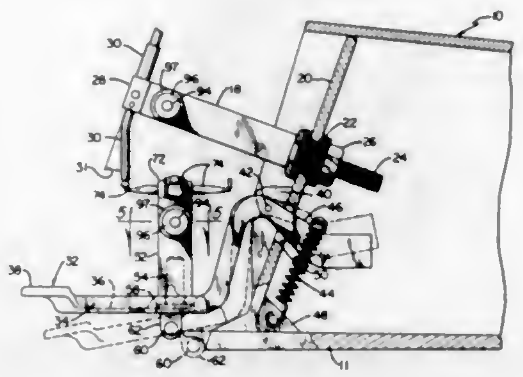
Apparatus for processing a movable electrical conducting article, such as wire, through a body having a cavity therein surrounded by heat insulating means. A plurality of resistive particles are located within said cavity which, when subjected to microwave energy, generates a multitude of arcs thereby converting the microwave energy into heat energy. Means are provided for advancing the electrical conducting article through the cavity for heating same.

3,452,177

WELDING DEVICE

Harold G. Davis, Denver, and Thayer R. Brunson, Wheatridge, Colo., assignors to Rocky Mountain Dental Products Co., Denver, Colo., a corporation of Colorado
Filed Oct. 28, 1966, Ser. No. 590,294
Int. Cl. B23k *11/10*
U.S. Cl. 219—78 **15 Claims**

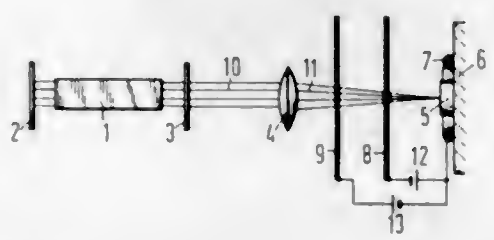
A welding machine comprising a case or support means supporting two turret posts at an angle to each other with one of the turret posts being resiliently supported on a spring-biased treadle. The turret posts carry rotatable electrode turrets on their ends with the turrets adapted to rotate in a plane substantially perpendicular to the turret posts so that rotation of the respective electrode turrets brings into welding alignment the electrodes of cooperating pairs of electrodes. The electrode turrets are mounted in the turret posts by means of turret studs extending axially into the turret posts. The electrode studs are of rectangular cross section and they cooperate with a camming device mounted in the stud to provide definite indexed positions for the electrode stud and, correspondingly, the electrode turret. Biasing means are provided for positively biasing the turret studs into definite positions and to provide for seating the studs in these positions by snap action. The spring-biased treadle supporting one of the turret posts insures that cooperating electrodes are in resilient contact with each other during welding.



3,452,178

APPARATUS FOR SPOT-HEATING OF WORKPIECES BY LASER RADIATION

Werner Kleen, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed June 12, 1964, Ser. No. 374,718
Claims priority, application Germany, June 14, 1963, S 85,686
Int. Cl. B23k *9/08;* **H01s** *3/00;* **H01j** *37/22*
U.S. Cl. 219—121 **14 Claims**



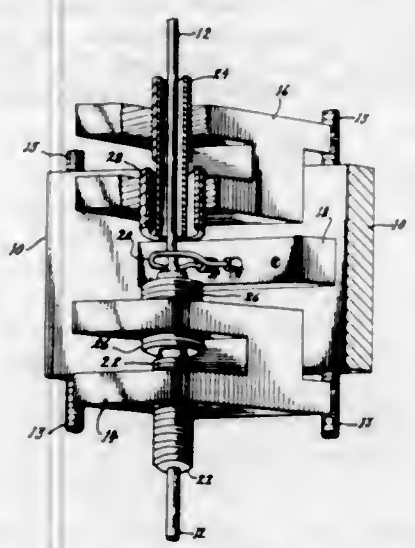
A laser-beam control concentrates high-intensity laser radiation upon a spot of a workpiece on a workpiece holder. A field-producing device has between the holder and the beam control an ion-active deflector field for deflecting from the holder and the control the charged particles issuing from the workpiece during operation.

3,452,179

ELECTRON OPTICAL SYSTEM

Charles E. Ryan, Newtonville, and Dennis P. Considine, Newton, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 12, 1967, Ser. No. 630,471
Int. Cl. H01j *37/04, 23/08, 29/46*
U.S. Cl. 219—121 **8 Claims**

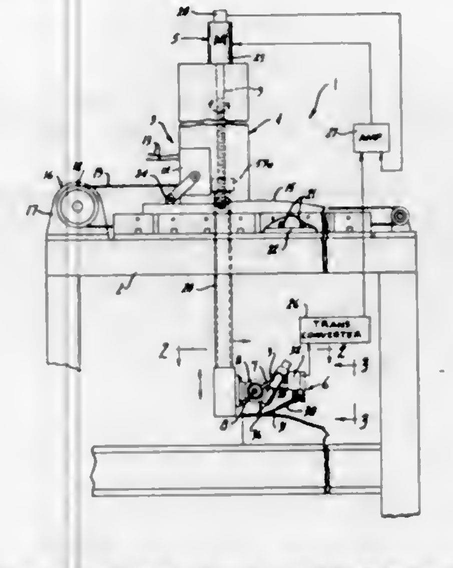
A circular filament surrounds a work piece to be bombarded and heated. A cylindrical grid adjustably mounted and at high potential, surrounds the work piece on either side of the filament. A focusing electrode at ground potential is concentrically mounted about the grid to direct electrons onto the work piece.



3,452,180

AUTOMATED CONTROL SYSTEM FOR HIGH SPEED ARC WELDING

John G. Bollinger, Madison, Wis., Michael A. Stankey, Rockford, Ill., and Howard L. Harrison, Madison, Wis., assignors, by mesne assignments, to Harnischfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 18, 1966, Ser. No. 543,160
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 **12 Claims**



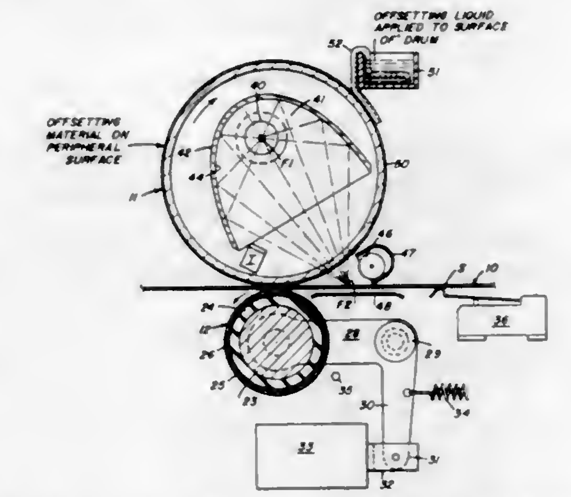
This disclosure relates to a weld electrode tracking system for welding overlapping edges. A water cooled copper probe rides on one edge and is pivotally secured to the electrode holder and extends to within .12 to .78 inch of the arc. A linear variable differential transformer has a spring loaded core engaging the probe to generate an analog voltage connected to energize an electrode holder drive motor for positioning the electrode including the angle at which the electrode is fed to the weld arc.

3,452,181

ROLL FUSING DEVICE FOR XEROGRAPHIC MATERIAL

Walter Anthony Stryjewski, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 27, 1967, Ser. No. 693,834
Int. Cl. H05b *1/00, 3/02;* **G03g** *7/00*
U.S. Cl. 219—216 **14 Claims**

A device for fusing an electroscopic toner image to the surface of a carrier bearing the image in which the carrier is moved through a fusing station by a thermally transparent drum and a resilient roll that are synchronously driven. A heating element and a reflector are mounted within the drum, the reflector focusing the heat generated by the heating element into a line lying in a plane generally corresponding to the image bearing surface of the carrier and upstream from the line of contact of the drum and roll relative to the direction of movement of the carrier. The toner image is heated sufficiently to at least partially tackify the toner particles prior to engagement thereof by the drum for fusing to the carrier. A second heating element can be dispersed in close proximity to the carrier to preheat the toner image at a location upstream from the focused line of heat, thereby permitting the linear speed of the carrier to be increased.


OFFSETTING LIQUID APPLIED TO SURFACE OF DRUM
OFFSETTING MATERIAL ON PERIPHERAL SURFACE

3,452,182

PHOTOGRAPHIC PRODUCTS AND PROCESSES

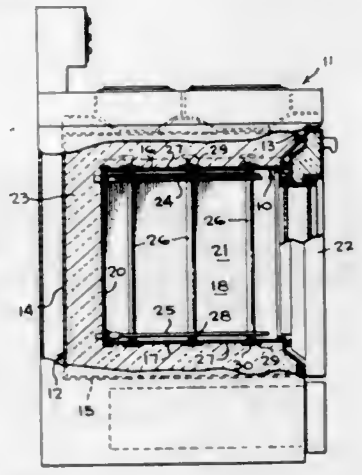
Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Application Oct. 19, 1967, Ser. No. 676,631, now Patent No. 3,396,030, dated Aug. 6, 1968, which is a continuation-in-part of application Ser. No. 385,071, July 24, 1964, and application Ser. No. 598,178, Dec. 1, 1966. Divided and this application June 6, 1968, Ser. No. 734,862
Int. Cl. G03c *1/70, 5/00*
U.S. Cl. 96—35.1 **4 Claims**

Photographic products which contain a photopolymerization system comprising a class of vinyl peptide monomers.

3,452,183

COMPOSITE OVEN LINER AND HEATING ELEMENT STRUCTURE FOR SELF-CLEANING OVENS

Nicholas J. Burger, Silver Spring, Md., assignor to Electro-Therm, Inc., Laurel, Md., a corporation of Maryland
Filed Apr. 12, 1967, Ser. No. 630,411
Int. Cl. A21b *1/22;* **F27d** *11/02*
U.S. Cl. 219—406 **4 Claims**

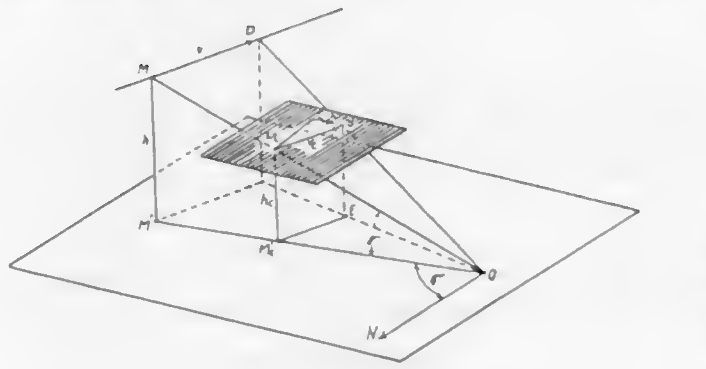


A composite oven liner and heating element structure for self-cleaning ovens of the electrically heated or gas heated types, wherein the inner oven liner is formed of a metallic sheet-like structure to define at least three walls of the oven cavity. The sheet-like structure includes thin integral web portions interrupted by elongated parallel tubular conduit formations housing electric resistance elements and compacted electrically insulating material and defining heat-cleaning sheathed heaters wherein the tubular conduit formation of the sheet-like structure form the sheaths thereof.

3,452,184

CONTROL DEVICE FOR ANTI-AIRCRAFT GUNS

Alfred Kuhlenkamp, 42 Maschstrasse,
Braunschweig, Germany
Filed Dec. 28, 1965, Ser. No. 516,995
Claims priority, application Germany, Jan. 2, 1965
K 54,921
Int. Cl. F41g *5/06*
U.S. Cl. 235—61.5 **4 Claims**

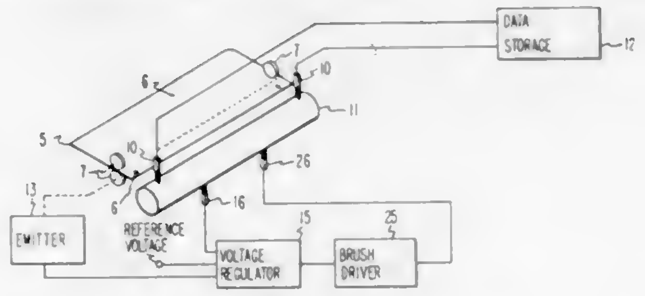


Apparatus for tracking a moving target utilizing optical elements or weapons without knowledge of the distance of the target from an observation point comprising computer means for determining course angle, target velocity and lateral and elevational angles of the target from signals corresponding to parameters represented on a cotangent plane having a constant height.

3,452,185

DRIVER CIRCUIT WITH FEEDBACK CONTROL TO MAINTAIN CONSTANT VOLTAGE AT A COMMON ELECTRIC CONTACT MEMBER

Charles C. Hanson, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 26, 1966, Ser. No. 581,917
Int. Cl. G06k *7/06*
U.S. Cl. 235—61.11 **5 Claims**

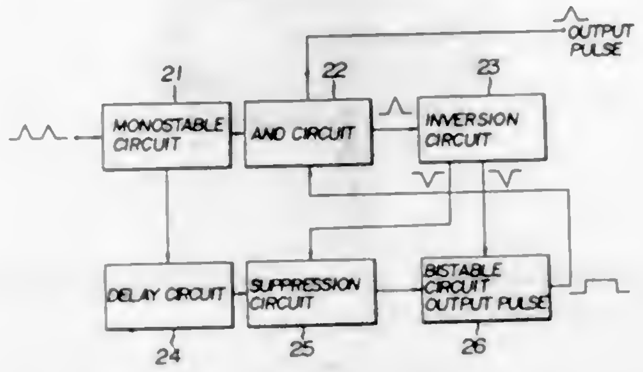


An electrical circuit, with especial utility in a record reading device in which a perforated card is passed between a plurality of brushes and a common member, is disclosed. It maintains a substantially constant electric potential on the common member, regardless of the number of brushes which are conducting. The circuit has a feedback arrangement, which includes a potential sensing brush, constantly in contact with said member, a power source and a voltage regulator, responsive to this brush, to maintain a constant potential on said member. The circuit may be associated with an emitter used in the scanning circuit.

3,452,186

HIGH SPEED COUNTER DEVICE

Keikichi Tamaru and Mutuo Sugawara, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Dec. 10, 1965, Ser. No. 513,132
Claims priority, application Japan, Feb. 24, 1965, 40/10,224
Int. Cl. G06f *7/38*
U.S. Cl. 235—92 **3 Claims**

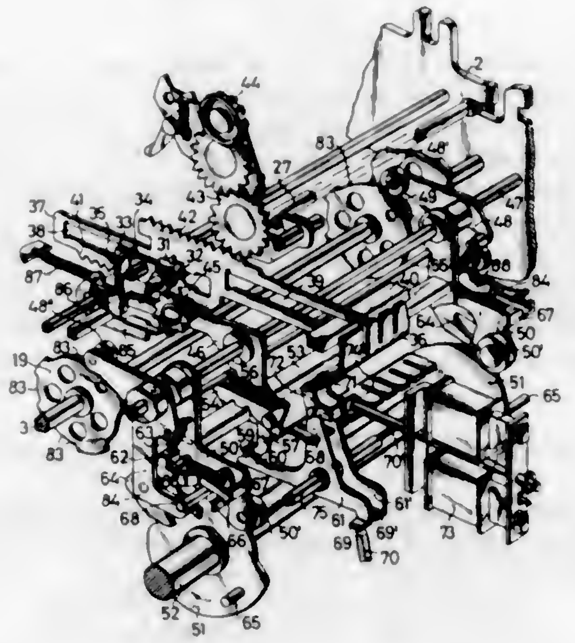


A high speed counter device in which an input signal is applied to both a delay circuit and to an AND-circuit, a bistable circuit being coupled to the output of the delay circuit. The output of the delay circuit sets the bistable circuit which in turn enables the AND-circuit. The output of the AND-circuit then causes the bistable circuit to be re-set and to thereby disable the AND-circuit, a narrow output pulse being generated at the output of the AND-circuit.

3,452,187

DEVICE FOR ELECTROMAGNETICALLY TRANSFORMING BINARY VALUES INTO DECIMAL VALUES

Willy Becker, Behringersdorf, near Nuremberg, Germany, assignor to Diehl, Nuremberg, Germany
Filed Feb. 15, 1966, Ser. No. 527,416
Claims priority, application Germany, Feb. 17, 1965, D 46,532; Aug. 6, 1965, D 47,912
Int. Cl. G06f *5/02;* **H04l** *3/00;* **H03k** *13/02*
U.S. Cl. 235—155 **22 Claims**

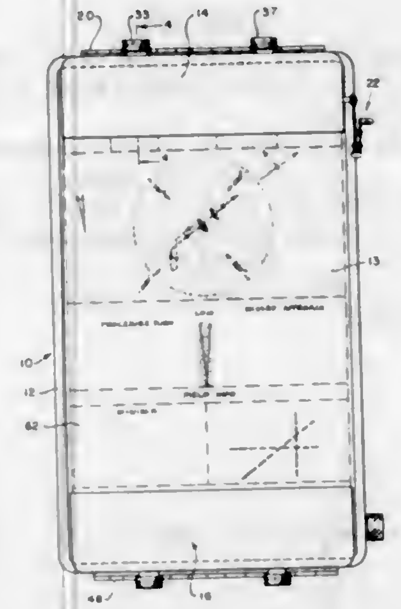


1. In a device for converting binary coded decimal values into decimal values, into which device the binary bits are fed for all decimal digits simultaneously and within each decimal digit consecutively; frame means, a decoding wheel rotatably journalled in said frame means and provided with four spaced groups of circumferential teeth, the number of teeth of the respective group corresponding to the binary code according to which the binary values are fed into the device, actuating means for stepwise advancing said decoding wheel by angles corresponding to the spacing between said groups of teeth in response to impulses fed into said device, gear means extending into the path of movement of said groups of teeth and being movable thereby by a number of teeth corresponding to the number of teeth of the respective group of teeth on said decoding wheel meshing with said gear means, a plurality of decimal value storing means respectively associated with said decimal digits, and a plurality of control means respectively associated with said digits and operable in response to impulses fed into said device to selectively establish and interrupt driving connection between said gear means and the decimal value storing means of the respective digit.

3,452,188

PILOT CHARTBOARD AND EMERGENCY COCKPIT PANEL LIGHTING

Martin V. Zidron, 1404 Harding St., Berkeley, Ill., Ben W. Rau, 1535 Knollwood, Highland Park, Ill. 60035, and Robert I. Nagel, Berkeley, Ill. (3729 Roth Terrace, Skokie, Ill. 60076)
Filed Feb. 18, 1966, Ser. No. 528,601
Int. Cl. F21v *33/00*
U.S. Cl. 240—2 **14 Claims**



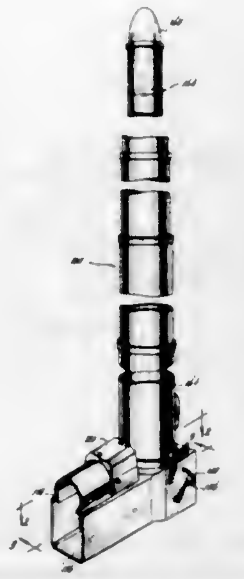
A clipboard which includes a body portion for receiving and retaining flat indicia such as approach charts and the like and a pair of illuminating heads which are affixed to the opposite ends of the body portion and which are adapted to both clamp the flat indicia onto the body portion and to illuminate it.

3,452,189

VISUAL INSPECTION MEDIA AND MODE OF OPERATION

Carthel D. Lowery, 921 W. Coral Drive, West Palm Beach, Fla. 33406
Filed Nov. 20, 1967, Ser. No. 684,305
Int. Cl. F21l *1/00*
U.S. Cl. 240—2.18 **4 Claims**

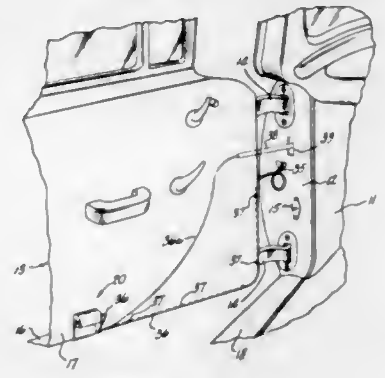
A portable, illuminated, telescopic visual inspection device for interior examination of confined areas. The periscopic viewer includes in one lower compartment an axially aligned, spaced apart illuminator and reflector viewer elements. To this compartment is attached a telescopically adjustable stack or column through which the user may inspect the interior of the confined area under examination, from a remote distance.



3,452,190

ILLUMINATING DEVICE FOR VEHICLES

Paul S. Senseman, 11 W. Coolidge, Battle Creek, Mich. 49017
Filed Dec. 27, 1965, Ser. No. 516,352
Int. Cl. B60q *3/02*
U.S. Cl. 240—7.1 **10 Claims**



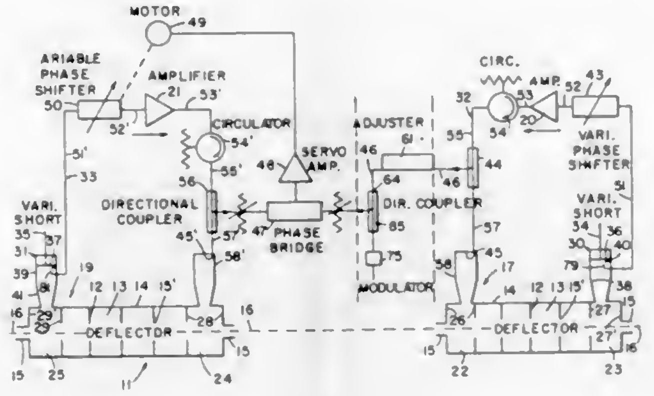
A bracket has a first flange for attachment to the bottom of an automobile door. A second flange extends perpendicularly upwardly from the first flange along the inner surface of the door. An illuminating device is supported on the upper end of the second flange and has a somewhat cylindrically shaped housing which is horizontally mounted. The rear end of the housing has a light transmitting plug such that when the door is open the light may be seen from cars approaching from the rear. The bottom of the housing is open so that the ground adjacent the door is illuminated when the door is open.

3,452,191

MICROWAVE DEFLECTION SYSTEM FOR SUPERCONDUCTING PARTICLE SEPARATOR

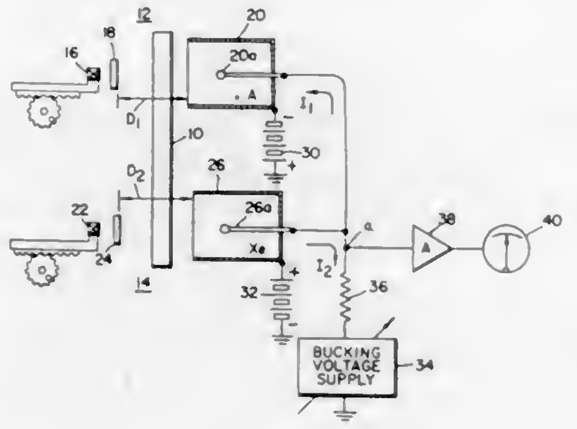
Harald Hahn, East Patchogue, and Henry J. Halama, Shoreham, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 24, 1967, Ser. No. 642,663
Int. Cl. B01d *59/44*
U.S. Cl. 250—41.9 **7 Claims**

A superconducting radio frequency particle separator for producing long pulses in excess of 100 milliseconds for the extraction of charged particles from a high energy charged particle beam, having first and second oscillator circuits formed with first and second spaced high Q deflectors, the circuits having a phase bridge with a variable phase shifter for phase locking the respective deflectors, and an adjustable short for the deflectors for varying the path length of the fields propagating through each deflector for tuning them to match the resonant frequencies in each deflector at the desired mode.



3,452,192
MULTIPLE ENERGY DETECTION FOR MIXTURE ANALYSIS

Albert F. G. Hanken, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Continuation of application Ser. No. 122,794, July 10, 1961. This application Feb. 18, 1965, Ser. No. 441,946
Int. Cl. G01n *23/12;* **H01j** *39/00*
U.S. Cl. 250—43.5 **12 Claims**

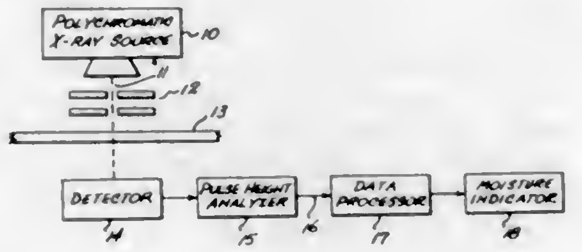


The concentration of an element in a mixture is determined by combining measurements of radiation passed through the mixture within a first and a second wavelength band. The positions of the irradiating source member relative to a detector is adjusted to make the combined measurement insensitive to concentration changes in any other element present in the mixture.

3,452,193
MOISTURE CONTENT MEASURING METHOD AND APPARATUS

Donald H. Petersen, Dallas, Tex., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Oct. 21, 1965, Ser. No. 499,331
Int. Cl. G01n *21/30*
U.S. Cl. 250—43.5 **5 Claims**

Methods and apparatus for determining the moisture content of relatively high moisture content materials such as green lumber are disclosed herein. The methods include passing X-rays of first and second known wavelengths through the material, detecting the intensity of the X-rays at the respective wavelengths after they have been passed through the material and comparing the ratios of the respective incident and transmitted intensities at the two wavelengths to thereby ascertain the moisture content of the material. The apparatus includes X-ray means adapted to direct first and second X-ray beams of first and second wavelengths through the material, X-ray detector means positioned to detect the beams after they have passed through the material, and analyzer means coupled with the detector means for providing signals representative of the quantity

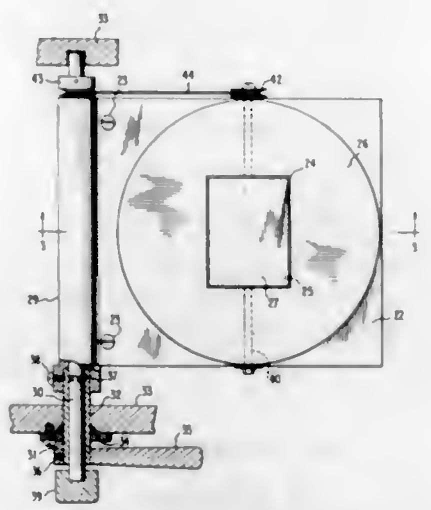


$$\frac{\ln (I_o/I)\lambda_1}{\ln (I_o/I)\lambda_2}$$

where I_o and I are respectively the incident and transmitted intensities at the wavelengths λ_1 and λ_2.

3,452,194
PHOTOGRAPHING SHUTTER AND FLUORESCENT PLATE STRUCTURE FOR ELECTRON MICROSCOPES

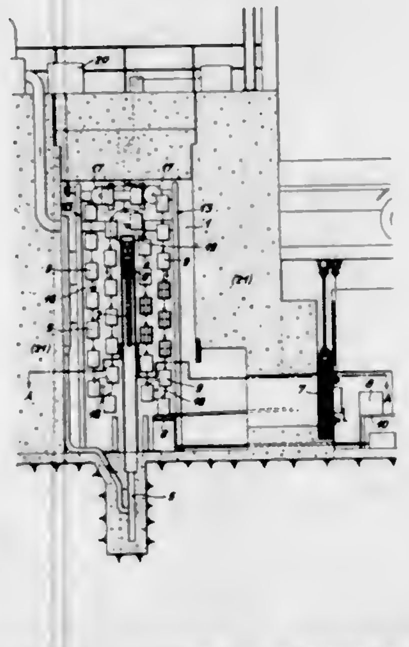
Hiroshi Akahori, Katsuta-shi, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan
Filed June 30, 1966, Ser. No. 561,893
Claims priority, application Japan, June 30, 1965, 40/52,874
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 **11 Claims**



A photographic shutter for use in an image observation device, comprising an upper plate, which includes a main fluorescent plate having a central electron-passing aperture therein and an auxiliary fluorescent plate rotatably mounted within the central aperture of the main fluorescent plate, one surface of the auxiliary fluorescent plate including a fluorescent screen having a structure resistant to electron bombardment, the opposite surface of the auxiliary fluorescent plate including a conventional fluorescent screen, and a base plate including an electron-passing aperture therein, and an auxiliary shutter on the base plate for opening or closing the electron-passing aperture therein, the auxiliary shutter being actuated by the rotation of the auxiliary fluorescent plate.

3,452,195
IRRADIATION APPARATUS WITH SPECIFIC MEANS TO LOAD AND UNLOAD A CHAIN CONVEYOR

Alfred Brunner, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Apr. 13, 1965, Ser. No. 447,700
Claims priority, application Switzerland, Apr. 14, 1964, 4,790/64
Int. Cl. H01j *37/20*
U.S. Cl. 250—52 **1 Claim**

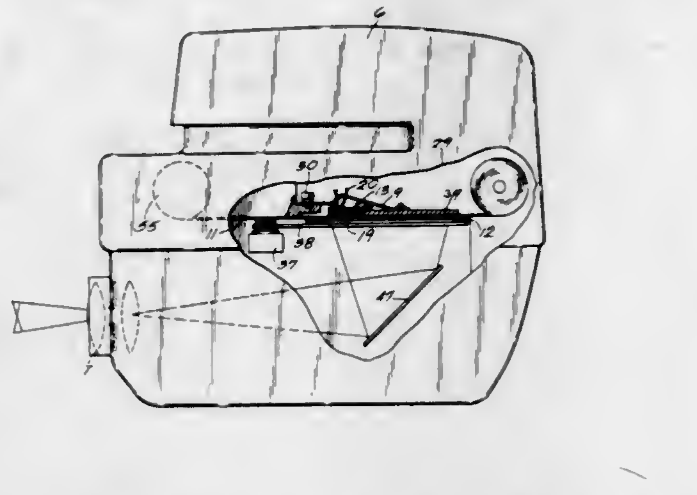


There is disclosed irradiation apparatus in which a chain conveyor defines a plurality of closed loop paths lying in parallel planes along which loads of material to be irradiated are carried for exposure to a source of radiation. Roller conveyors are provided for bringing the loads to and withdrawing them from the chain conveyor, and these roller conveyors extend collinearly with each other adjacent the chain conveyor and perpendicularly to the planes of the irradiation exposure paths. The material to be irradiated is disposed in containers which are suspended on overhead rollers from rails carved on the chain conveyor, and a pusher bar serves at the loading station to push a container onto the chain conveyor so as to be in position to pass over a first irradiation exposure path and simultaneously to push into a second irradiation exposure path a container which has been carried by the chain conveyor over the first irradiation exposure path and simultaneously to push off of the chain conveyor a container which has been carried over the second irradiation exposure path.

3,452,196
FILM IDENTIFICATION DEVICE HAVING AN ELECTROLUMINESCENT PANEL BUILT INTO A CAMERA

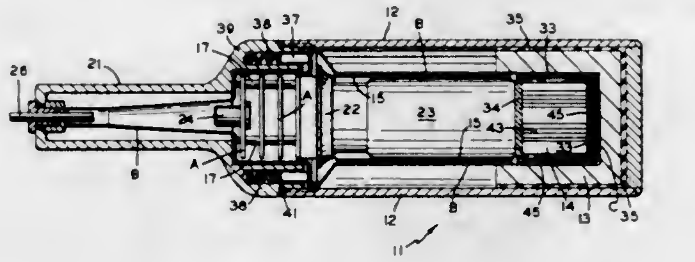
Floyd L. Gray, Hales Corners, Wis., assignor to General Electric Company, a corporation of New York
Filed Sept. 28, 1967, Ser. No. 671,352
Int. Cl. G01n *23/04*
U.S. Cl. 250—67 **5 Claims**

A camera is adapted to photograph the optical image of a converted X-ray image. A translucent strip with patient identification data written on it is inserted between the back of the film and an electroluminescent panel which is built into the camera. The panel is controlled to emit consecutive light pulses which print the data in an area between film frames.



3,452,197
BIOLOGICAL EQUIVALENT RESPONSIVE NEUTRON SURVEY METER

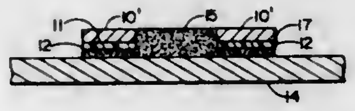
William P. Saylor, Jr., and Herman M. Childers, Alexandria, Va., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 24, 1965, Ser. No. 434,785
Int. Cl. G01t *3/00;* **H01j** *39/32*
U.S. Cl. 250—71.5 **7 Claims**



The present invention comprises a device for detecting and measuring neutron radiation in terms of relative biological effectiveness and includes a probe having a neutron sensor which is a unitary element made up of a plurality of laminae of a synthetic hydrogen-containing transparent plastic, the interfaces of said laminae being separated by a layer of charged particle detecting material combined with a lithium-6 compound.

3,452,198
MANUFACTURE OF DETECTORS

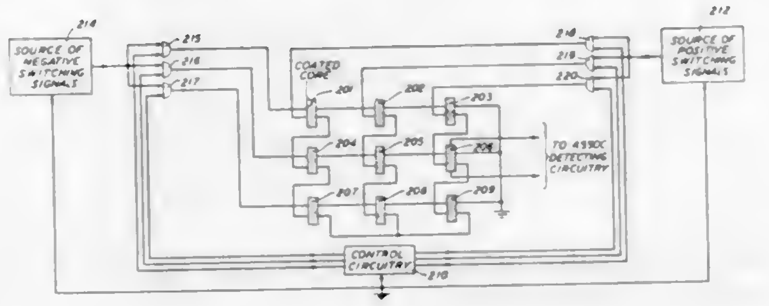
Loring C. White, Reading, Mass., assignor to Honeywell, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,682
Int. Cl. H01j *39/00;* **G01t** *1/16*
U.S. Cl. 250—83 **3 Claims**



An improved method of manufacturing radiant energy detectors and detector arrays, and the improved devices so manufactured, in which a photoresist protects the detector material from direct contact with the adhesive securing it to its substrate.

3,452,199
DETECTION AND UTILIZATION OF HEAT AND INFRARED RADIATION EMITTED BY MAGNETIC ELEMENTS DURING MAGNETIC REVERSAL THEREOF

Richard W. Stahlhut, Jackson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 3, 1966, Ser. No. 547,262
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **8 Claims**


214
SOURCE OF NEGATIVE SWITCHING SIGNALS
215
216
217
COATED CORE
201
202
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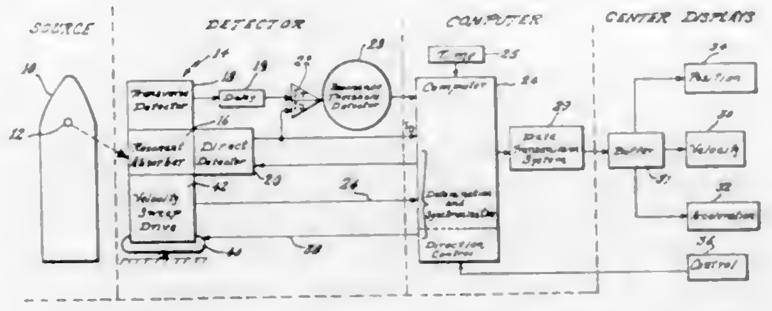
206
207
208
209
TO ASSOC DETECTING CIRCUITRY
218
219
220
212
SOURCE OF POSITIVE SWITCHING SIGNALS
CONTROL CIRCUITRY
210

A detecting arrangement is associated with a magnetic element for sensing the heat and infrared radiation emitted from the element during magnetic reversal and for providing an electrical or visual indication of the reversal.

3,452,200
MISSILE VELOCITY AND LIFT-OFF TRAJECTORY MEASURING SYSTEM

Roy B. Matthews, Thousand Oaks, Calif., and Joseph G. Henderson, Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Air Force
Filed July 13, 1966, Ser. No. 565,010
Int. Cl. G01b *15/00;* **H01j** *39/12*
U.S. Cl. 250—83.3 **6 Claims**

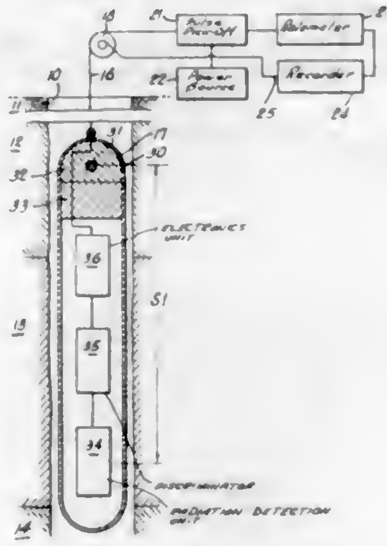


A missile velocity and lift-off trajectory measuring system having a source of monochromatic gamma radiation located on the missile and detecting means including a crystal absorber which moves at a sweeping velocity corresponding to the velocity range of the missile. The Mossbauer effect is utilized to detect resonance that occurs only when the missile and the absorber are moving at the same velocity thereby precisely indicating the zero relative velocity value from which the actual velocity and lift-off trajectory of the missile is computed and displayed.

3,452,201
ENERGY LEVEL SELECTIVE ACTIVATION RADIOACTIVITY ANALYSIS SUITABLE FOR BOREHOLE LOGGING

Hugh E. Hall, Jr., Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,444
Int. Cl. G01t *1/16;* **G21h** *5/00;* **H01j** *39/32*
U.S. Cl. 250—83.3 **19 Claims**

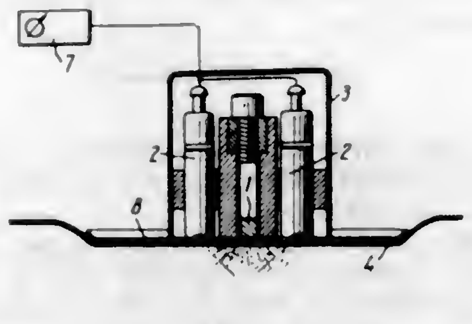
A method of analyzing a sample of material for the presence of certain constituents by irradiating the sample with fast neutrons having energies above 3 million electron volts in order to activate fluorine 19 involving the selective activation of fluorine 19 by limiting the maximum energy of the irradiating neutrons to approximately 10 million electron volts. The delayed activation gamma radiation resulting from said neutron activation is selectively detected to the exclusion of prompt gamma radiation and lower energy gamma radiation of about 4 million electron volts which may be present. Advantageously, the detection step is carried on after removal of the irradiating neutron source either by switching off or physically removing it after activation of the fluorine 19.



The invention is advantageously useful in neutron well logging. Apparatus for carrying out such well logging comprises a logging instrument including a source of neutrons within the specified range of 3 to 10 million electron volts, together with a gamma radiation detector sensitive to neutrons only above a range of about 4 million electron volts and means for selectively changing the spacing between the radiation source and detector in a direction along the axis of a borehole so that the detector can be positioned beyond the influence of the source during irradiation and near the sample during the detection interval.

3,452,202
METHOD FOR DETERMINING THE SURFACE DENSITY AND THICKNESS OF SHEET MATERIALS AND FILMS

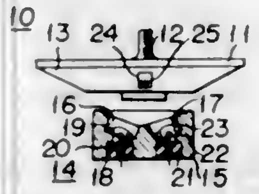
Igor Leonidovich Fedotov, ulitsa Moskovskaya 254, korpus 6, kv. 16; Vladimir Alexandrovich Yanushkovsky, ulitsa Exporta 2a, kv. 46; Iegoshua Mikhailovich Taxar, ulitsa Moskovskaya 254, korpus 6, kv. 4; and Boris Akibovich Olshvanger, ulitsa Kristapa 22, kv. 21, all of Riga, U.S.S.R.
Filed June 16, 1965, Ser. No. 464,300
Int. Cl. G01t *1/16, 1/18;* **H01j** *39/00*
U.S. Cl. 250—83.3 **1 Claim**



A method in which a sheet of material is exposed to β-rays which pass through the material and are backscattered by the ambient gaseous medium behind the material to undergo return passage through the material and be measured in a detector for giving information related to the value of the surface density or thickness of the material.

3,452,203
TRIODE TYPE X-RAY TUBES AND METHOD AND APPARATUS FOR IRRADIATING X-RAYS

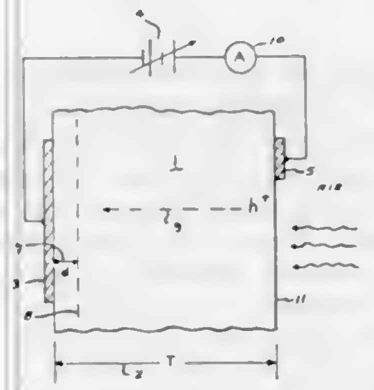
Koichiro Shiga, Yokohama-shi, Motoshige Yoshida, Tokyo, and Yoichi Haga, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 24, 1966, Ser. No. 574,733
Claims priority, application Japan, Aug. 31, 1965, 40/52,971
Int. Cl. H05g *1/34*
U.S. Cl. 250—99 **6 Claims**



An X-ray tube having first and second sets of triode members, each set comprising respective cathodes and grids and a common anode. The first triode set has a predetermined cut-off voltage and the second set exhibits a larger cut-off voltage. The cathodes are simultaneously energized and the grids are simultaneously biased with the same voltage, the biased voltage being controlled to selectively operate the first and second triode sets.

3,452,204
LOW OHMIC SEMICONDUCTOR TUNED NARROW BANDPASS BARRIER PHOTODIODE

John A. Love III and John R. Sizelove, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 6, 1967, Ser. No. 621,409
Int. Cl. H01j *39/12;* **H01l** *3/00*
U.S. Cl. 250—211 **7 Claims**

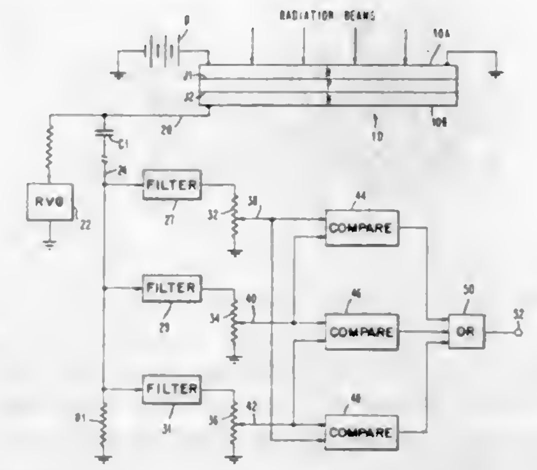


A low ohmic semiconductor barrier photodiode with a geometrical configuration wherein light enters the diode opposite the rectifying contact and through bulk absorption recombination action the photodiode has a narrow bandpass spectral response.

3,452,205
DEFECT DETECTING SCANNER WITH OUTPUT ANALYZED IN THE FREQUENCY DOMAIN

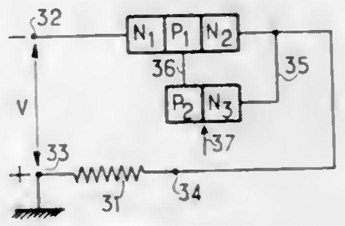
Richard Bogholtz, Jr., and Herbert Dym, Mahopac, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,143
Int. Cl. H01j *39/12*
U.S. Cl. 250—211 **7 Claims**

The disclosed apparatus employs a repetitively operated solid state photosensitive device which yields a time variant waveform manifestive of the intensity distribution of light incident upon the device, to detect minute changes in the pattern of illumination, by detecting changes in the frequency spectrum of the output waveform. This it achieves through at least three narrow bandpass filters which pass the fundamental and at least two integral harmonic frequencies to produce signals for a comparator which compares the filter outputs in all combinations of pairs. The strengths of the filtered signals are initially adjusted for esual signal strength for an illumination pattern against which subsequent patterns are compared.



3,452,206
PHOTO-DIODE AND TRANSISTOR SEMICONDUCTOR RADIATION DETECTOR WITH THE PHOTO-DIODE BIASED SLIGHTLY BELOW ITS BREAKDOWN VOLTAGE

Jean-Pierre Biet, Saulx-les-Chartreux, and Jacques L. Benoit, Paris, France, assignors to Compagnie Generale d'Electricite, Paris, France
Filed June 15, 1967, Ser. No. 646,224
Claims priority, application France, June 15, 1966, 65,637
Int. Cl. H01j *39/00, 39/12*
U.S. Cl. 250—211 **9 Claims**

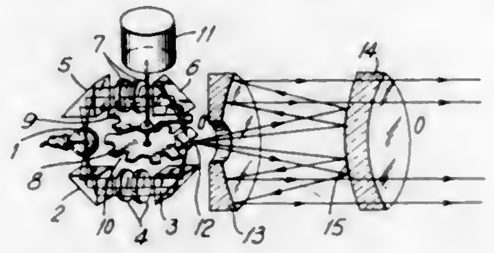


A radiation detector comprising a semiconductor photodiode with an inversely polarized p-n junction, connected between the base and the collector of an amplifying transistor. The base-collector junction similarly is inversely polarized and has a breakdown voltage which is higher than the breakdown voltage of the junction of the photodiode. The point of operation of the detector is set so that the supply potential is just below the breakdown voltage of the photo-diode.

3,452,207
DEVICE FOR CONTROLLING MACHINES, MAINLY DREDGERS, WITH OPTICAL BEAM

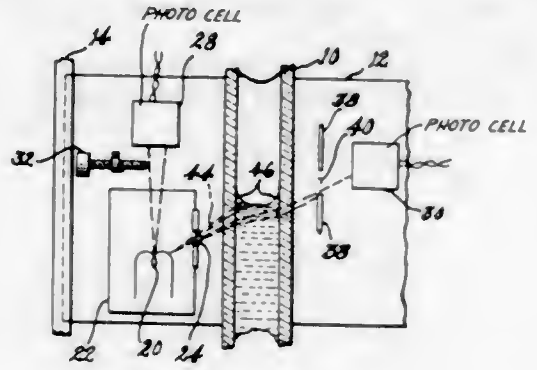
Solomon Tobiasovich Tsukkerman, Leningrad, U.S.S.R., assignor to Leningradsky Institute Tochnoy Mekhaniki i Optiki, Leningrad, U.S.S.R.
Filed Oct. 16, 1964, Ser. No. 404,373
Int. Cl. H01j *39/12*
U.S. Cl. 250—215 **7 Claims**

A method and device for remotely controlling the travel of machines in a given plane along a prescribed line or a curvilinear path, in which the component parts of a directed optical beam are modulated with different frequencies or colored with different colors and a sharp division is formed along the axis of the beam by positioning the edges of a beam-splitting prism or a compound light filter in the focal plane of the optical device. The beam is received on the machine whose travel is to be controlled and a composite electrical signal is produced on the machine in response to the received beam. The signal is divided into corresponding frequency components which are compared to produce a signal for controlling the machine's travel the different colors of the parts of the controlling beam are respectively associated with a manual control in one plane and an automatic control in another plane.



3,452,208
AUTOMATIC LIQUID LEVEL DETECTOR, USING REFLECTION FROM THE MENISCUS

Thomas L. Giltinan, Tullahoma, Tenn., assignor to the United States of America as represented by the Secretary of the Air Force
Substitute for abandoned application Ser. No. 223,083, Sept. 12, 1962. This application Mar. 29, 1966, Ser. No. 551,819
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 1 Claim

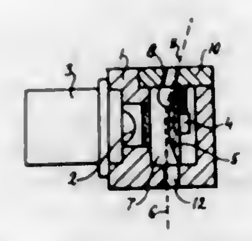


A detecting device designed to have a carrier on a manometer tube located always at the meniscus. A bridge circuit is balanced by matching two photoelectric cells, imbalance in the circuit operates to move the carrier up or down until it reaches meniscus level. A current is set up in the bridge circuit to operate a motor to move the carrier up or down depending on which photoelectric cell is in dominance. The at rest position or balanced condition in the circuit is brought about by a diminished beam involving both refraction of a beam and reflection of a portion of it from the under surface of the meniscus at liquid level.

3,452,209
THREAD BREAKS DETECTOR HAVING TRANSPARENT THREAD GUIDE

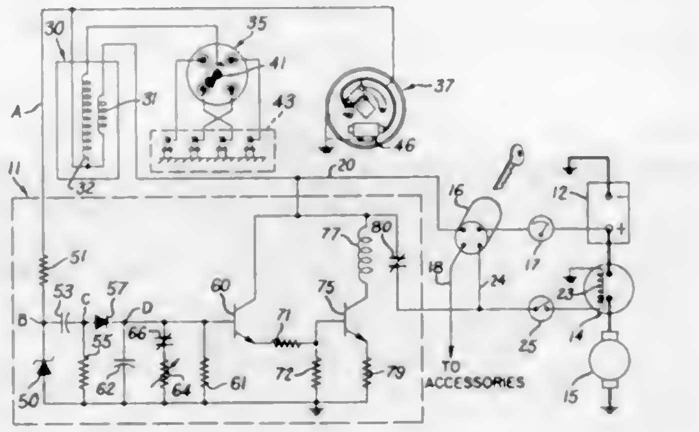
Gagik Melkonjan and Spartak Mikaeljan, both of 1165 Na Ostrove, Usti nad Orlici, Czechoslovakia; Jiří Eliás, 227 Hlavni, Brandys nad Orlici, Czechoslovakia; and Miloslav Tyl and Petr Musil, both of 316 Dukla, Usti nad Orlici, Czechoslovakia
Filed Dec. 19, 1966, Ser. No. 603,067
Claims priority, application Czechoslovakia, Dec. 17, 1965, 7,590/65
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 10 Claims

A thread breakage detector in which the thread passes over a member having an opaque guide surface provided with a light-transmitting portion of such size as to be normally covered by the thread. Light is directed at this portion from one side of the member and a photocell is provided on the other side of the member and located in the path of the light. The light can pass through the surface portion to the photocell only if the thread breaks and thereby uncovers the surface portion.



3,452,210
AUTOMATIC STARTER FOR AUTOMOBILES

Avrum Gray, 1077 Elm Ridge, Glencoe, Ill. 60022; Harry A. Wayne, 4120 W. Greenwood, Skokie, Ill. 60076; and James E. Steffens, 2845 N. Melvina, Chicago, Ill. 60634
Filed May 23, 1966, Ser. No. 552,202
Int. Cl. H02p *1/00*
U.S. Cl. 290—38 1 Claim

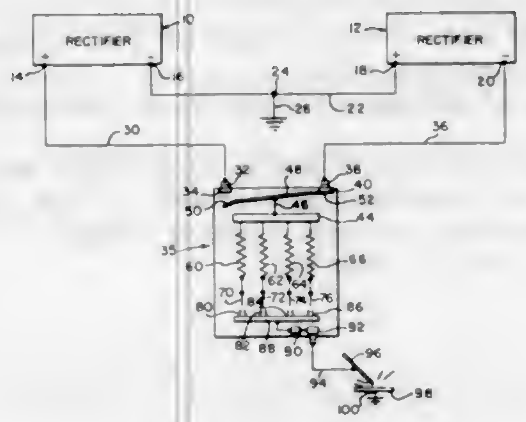


An arrangement for automatically controlling the energization of an electric motor used for starting an internal combustion engine which includes means associated with the engine for producing voltage pulses at a rate related to the rotational speed of the engine, means including a Zener diode circuit for shaping and regulating the voltage level of said voltage pulses and integrating the same to produce a control signal, and semiconductor switch means responsive to said control signal for deenergizing said electric motor when the engine reaches a first predetermined rotational speed and for reenergizing said electric motor when the engine falls below a second, and much lower, predetermined rotational speed.

3,452,211
POLARITY REVERSIBLE CURRENT REGULATOR APPARATUS

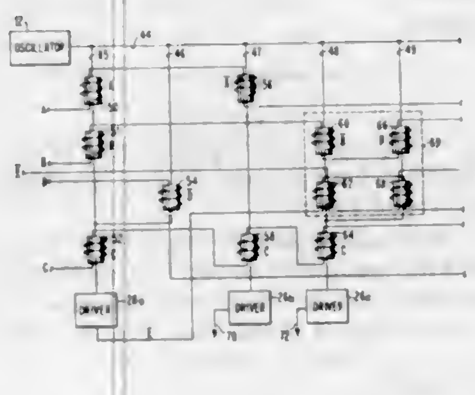
David H. Buerkel, Broomall, Pa., assignor to Neoweld Electric Inc., Cornwall Bridge, Conn., a corporation of Connecticut
Filed Mar. 23, 1967, Ser. No. 625,497
Int. Cl. H02j *1/10;* **H02m** *7/02*
U.S. Cl. 307—24 10 Claims

A source of DC electric power comprises a pair of rectifier means each having a positive and negative output terminal, the positive output terminal of one of the rectifier means and the negative output terminal of the other of the rectifier means are connected to a common terminal which in turn is adapted to be connected to ground. One or more control means is provided, each control means including selectively adjustable resistance means for varying the current output thereof. Means in the form of a switch or the like is provided for selectively electrically connecting either the positive terminal of one rectifier means or the negative terminal of the other rectifier means to the input of the control means to thereby control the polarity of the output of the control means which is connected with suitable welding apparatus or the like. The apparatus is especially adapted for use in a multi-operator system wherein a plurality of control means are connected as described above in parallel with one another.



3,452,212
MICROWAVE LOGIC SYSTEM

Rodger L. Gamblin, Vestal, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 500,973
Int. Cl. H03k *17/00;* **H01f** *27/42*
U.S. Cl. 307—88 10 Claims

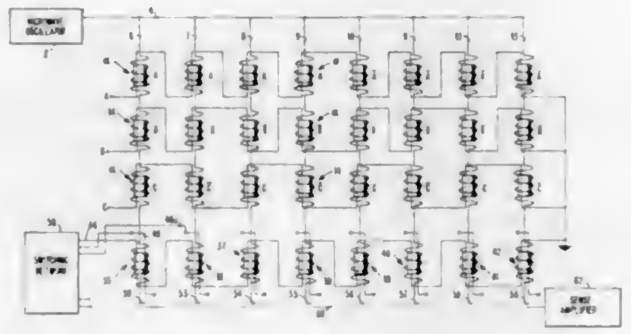


A plurality of ferrite elements having a toroidal shape and operating at the gyromagnetic resonant frequency, and combined to provide logical functions. Each element may be switched to either magnetic state in response to input signals representing logical variables. A microwave signal samples the magnetic state of the elements.

3,452,213
MICROWAVE LOGIC CIRCUIT

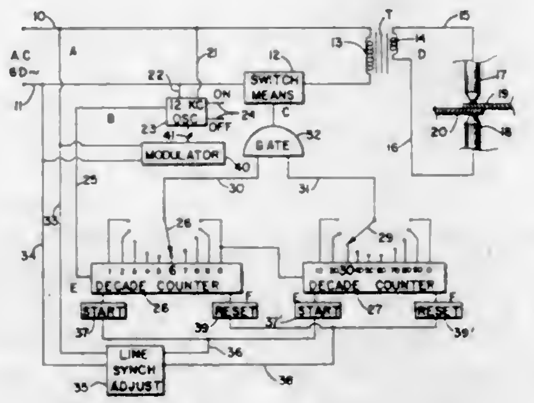
Rodger L. Gamblin and Philip A. Lord, Vestal, and Mitchell P. Marcus, Binghamton, and Cyril J. Tunis, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 502,006
Int. Cl. H03k *19/02*
U.S. Cl. 307—88 5 Claims

A universal microwave logic block of microwave absorption elements for the performance of logical operations on a plurality of input variables. The various logical combinations are represented by parallel branches of series connected microwave absorption elements. One or more of the parallel branches are selected by an additional microwave absorption element in series with each branch. Output signals from the selected branches are applied to a sense amplifier to generate a signal representing the desired logical combination of input variables.



3,452,214
DIGITAL WAVE FORM DIVISION FOR POWER CONTROL

Ricky Martin, North Hollywood, Calif., assignor, by mesne assignments, to Harry Feick Co., Inc., a corporation of California
Filed Oct. 16, 1967, Ser. No. 675,385
Int. Cl. H02j *7/22*
U.S. Cl. 307—96 10 Claims

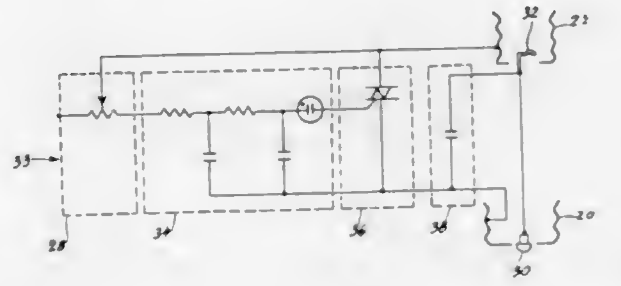


An electrical circuit is provided for controlling the power delivered to a load from a cyclic wave form such as a sine wave. A series of pulses of considerably higher frequency than the frequency of the sine wave is passed into a counter. Initiation of operation of the counter is effected in synchronism with a consistent phase angle of the sine wave and a control pulse is derived from the counter after a pre-selected number of pulses have been counted. This control pulse in turn operates a switch connected between the sine wave and load to thus pass a consistent fraction of the sine wave form to the load, the fraction being a function of the pre-selected number of pulses counted. The power delivered to the load may thus be varied by changing the pre-selected number of pulses counted by the counted.

3,452,215
LIGHT BULB SOCKET ADAPTER

Eugene Alessio, 44 Kalda Lane, Plainview, N.Y. 11803
Filed Sept. 26, 1966, Ser. No. 582,050
Int. Cl. G05f *1/10;* **H05b** *41/16, 41/24*
U.S. Cl. 307—146 1 Claim

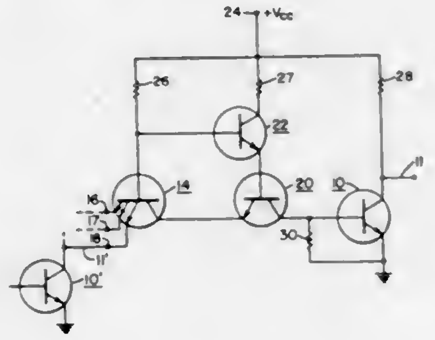
An adapter for a light bulb socket having a phase shifting circuit for controlled dimming of output in conjunction with a resistive-capacitive charging circuit firing an avalanche made element which triggers a gate controlled



full wave AC silicon switch which cyclically blocks and conducts.

3,452,216
LOGIC CIRCUIT

Le Roy D. Hirsch, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 13, 1965, Ser. No. 513,421
Int. Cl. H03k *19/22, 19/08, 19/12*
U.S. Cl. 307—215 **4 Claims**



A logic gate with an output transistor and a multi-emitter input transistor. An isolation component in the form of a transistor has its collector connected to the base of the output transistor and its emitter connected to the collector of the multi-emitter input transistor. A fourth transistor having its base connected to the base of the multi-emitter transistor has its emitter connected to the base of the isolation transistor for supplying base current to the isolation and output transistors. Stored charges associated with the output transistor are afforded a low impedance discharge path through the collector-emitter circuit of the isolation transistor and a collector-emitter path of the input multi-emitter transistor.

3,452,217
COMPENSATING RESET CIRCUIT

James C. Greeson, Jr., Endwell, N.Y., and James J. Kennedy, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 27, 1965, Ser. No. 516,573
Int. Cl. G06g *7/12*
U.S. Cl. 307—229 **8 Claims**

1. In apparatus of the type in which an analog circuit includes a plurality of cascade-connected operational amplifiers operated under the control of digital signals to execute compute cycles;

each amplifier being uncompensated for drift and offset errors, each having uninterrupted negative feedback means and said amplifiers coupling their output signals to succeeding ones thereof both during and between compute cycles;

the combination with the amplifiers of an error correction circuit connected to the last amplifier in the plurality and effective between compute cycles for maintaining the output voltage of the last amplifier at a preselected level, irrespective of the input signal levels to all of the amplifiers and irrespective of the offset and drift errors in all said amplifiers comprising

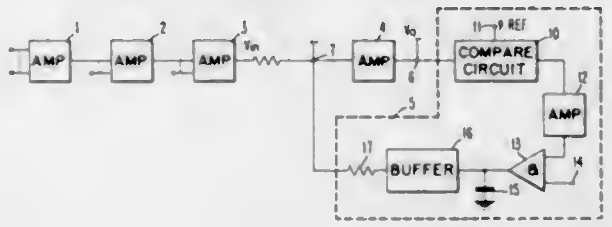
input signal sources,

means coupling signals from each of said sources to respective ones of said amplifiers both during and between compute cycles,

a source of reference voltage set to said preselected level;

a compare circuit producing an output signal which is a function of the difference between said last amplifier output voltage and said reference voltage;

a reactive storage element;

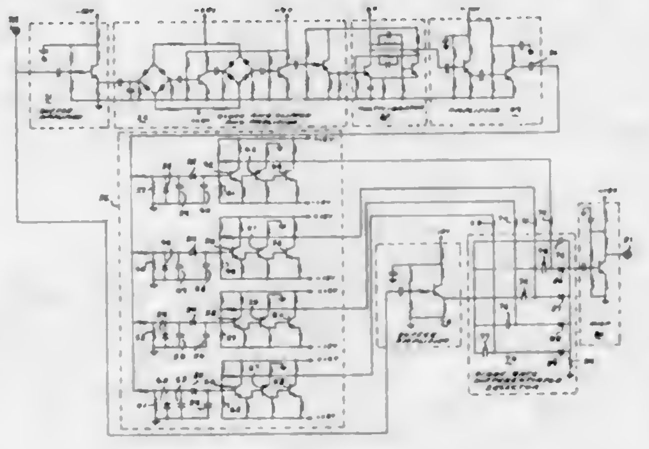


gate means controlled by the digital signals between compute cycles to couple the output of the compare circuit to the storage element for producing across the storage element a voltage which is a function of said difference output signal and controlled during each compute cycle to decouple the output of the compare circuit from the storage element causing the storage element to retain the voltage level which exists at the beginning of the compute cycle; and

buffer means controlled by the storage element for applying to the amplifier a correction signal which compensates for input signal errors and offset and drift errors.

3,452,218
COMPLEX WAVE DIFFERENTIATOR HAVING AUTOMATIC SWITCHING OF CONSTANTS OF DIFFERENTIATION

Leonard P. Kedson, Elberon, N.J., and Fernando Biagi, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 4, 1966, Ser. No. 534,293
Int. Cl. G06g *7/18*
U.S. Cl. 307—229 **4 Claims**

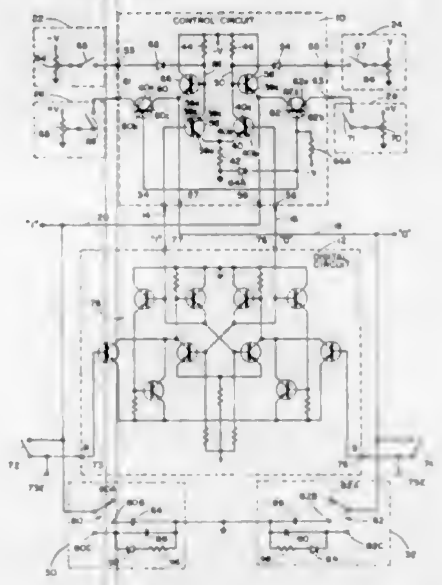


The complex wave to be differentiated is fed to a plurality of resistance-capacitance differentiating circuits, each having different constants of differentiation with

each differentiating circuit controlled by a diode gate to permit or inhibit differentiation. The proper diode gate is activated by an associated integrator responsive to a range of predetermined time intervals of the zero-crossings of the complex wave which are sensed by a ring diode circuit.

3,452,219
VOLTAGE CONTROLLED DIGITAL CIRCUITS

Peter S. Duryee, Scottsdale, Ariz., assignor to Motorola Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 28, 1966, Ser. No. 568,463
Int. Cl. H03k *3/26*
U.S. Cl. 307—272 **19 Claims**



1. A universal circuit module adapted to use as variable amplitude control signal responsive digital circuit controller, including in combination,

differential amplifier means having a pair of semiconductor devices, each device having a pair of main electrodes and a control electrode, a common impedance connected to one of the main electrodes of each device, first and second connections being respectively connected to another one of said main electrodes of each of said devices, first and second load impedances being respectively connected to said first and second connections, and further having separate input means connected to each control electrode and which are adapted to be connected respectively to complementary output portions of a first digital circuit,

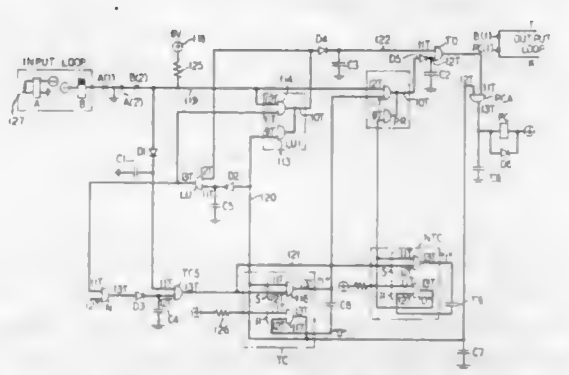
a pair of first control signal input means adapted to receive variable amplitude control signals and each including a unidirectional current conducting device connected to each of the first and second connections for selectively clamping the connections to received control signal amplitudes,

output means having first and second output terminals and being connected to said connections and having a pair of emitter follower semiconductor amplifiers with the emitter electrode thereof being respectively connected to the output terminals such that the signals on said first and second connections are respectively translated to the first and second output terminals, and

a pair of second control signal input means adapted to receive variable amplitude control signals and each having a semiconductive common base amplifier, the amplifiers each having a collector portion respectively connected to said first and second output terminals and each having an emitter portion adapted to receive a variable amplitude control signal for providing a controllable constant amplitude current to said respective output terminals.

3,452,220
PULSE CORRECTOR CIRCUIT

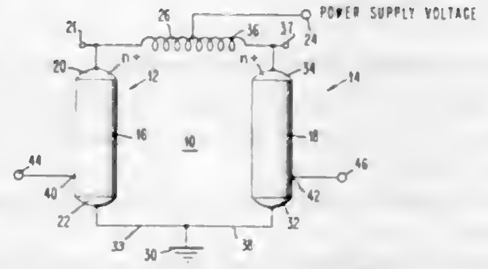
Walter W. Fritschi, Atlantic Highlands, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed June 8, 1966, Ser. No. 556,172
Int. Cl. H03k *17/26, 17/28*
U.S. Cl. 307—293 **9 Claims**



1. A pulse corrector circuit for use in communication systems for delivering an output pulse after a substantially fixed interval following the initial transition of an input pulse comprising first and second timing means operable responsive to said input pulse, said second timing means having a timing interval shorter than said first timing means, and gating means responsive to the subsistence of said input pulse for an interval following the completion of timing in said second timing means and during the continuation of timing in said first timing means for controlling the delivery of an output pulse from said corrector circuit, said gating means being additionally responsive to the cessation of said input pulse during the timing interval of said second timing means to abort the operation of said corrector circuit and preclude the delivery of an output pulse.

3,452,221
ELECTRICAL SHOCK WAVE (GUNN EFFECT) LOGICAL APPARATUS

John B. Gunn, Mount Kisco, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 13, 1966, Ser. No. 564,895
Int. Cl. H03k *19/08*
U.S. Cl. 307—299 **3 Claims**

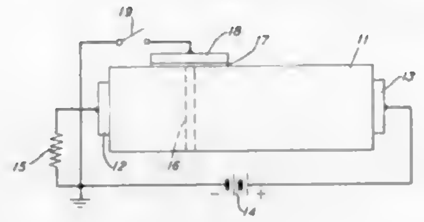


The shock wave apparatus includes two electric shock wave devices which are connected in parallel circuit relationship with respect to a voltage supply. Each device has an anode, cathode and a trigger input terminal. A domain is nucleated in either device by the application of a pulse to the trigger terminal which adds to the voltage of the supply source to cause the domain threshold to be exceeded. The two devices are connected by a tightly coupled inductive circuit. When a domain is nucleated in one device, the voltage across that device is raised. This inductive circuit lowers the voltage across the other device so that it is no longer responsive to the application of signals to the input trigger terminal on that device.

3,452,222

CIRCUITS EMPLOYING SEMICONDUCTIVE DEVICES CHARACTERIZED BY TRAVELING ELECTRIC FIELD DOMAINS

Masakazu Shoji, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Feb. 1, 1967, Ser. No. 613,205
Int. Cl. H03k *19/08*
U.S. Cl. 307—299 **11 Claims**

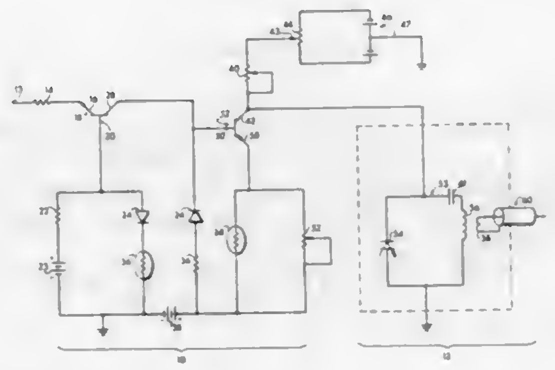


Additional connections are provided between the cathode and anode of a two-valley semiconductor pulse generator to provide current paths shunting the region of the traveling electric field domain selectively when it passes such connection. This permits the controlled insertion of additional current in an external circuit connected between the cathode and anode. Parallel to series conversion and arithmetic and logic functions are achieved.

3,452,223

SHAPING CIRCUIT

George W. Pappas, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 20, 1965, Ser. No. 481,376
Int. Cl. H02j *1/00;* **H03k** *19/00*
U.S. Cl. 307—320 **3 Claims**



2. An electronic wave-shaping circuit for developing a voltage the amplitude of which is proportional to the nth power of an input voltage, where n is greater than three, comprising,

a first transistor including a base, a collector and an emitter,

a source of unidirectional voltage including first and second terminals,

a first non-polarized two terminal varistor the resistance of which is inversely proportional to the nth power of the voltage appearing thereacross,

said first varistor being connected between said emitter and said first terminal of said source,

a load resistor, across which said output voltage is developed, connected between said collector and said second terminal of said source,

a second transistor, including a base, a collector and an emitter, connected in an amplifier circuit,

means for applying said input voltage to the base-emitter circuit of said second transistor,

means for applying the output of said amplifier circuit to the base-emitter circuit of said first transistor, and

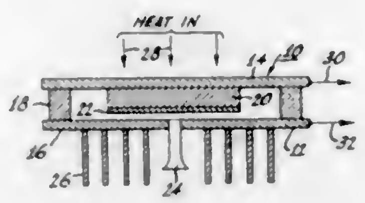
a second varistor, similar to said first varistor, connected in the base circuit of said second transistor to vary the potential of said base as the temperature of said second varistor varies,

whereby changes in ambient temperature tending to vary the current through said first varistor and said load resistor are substantially compensated for by variations in the current through said second varistor which varies the bias on said base of said second transistor and the gain thereof.

3,452,224

METHOD OF OPERATING A THERMIONIC CONVERTER

Karl G. Hernqvist, Princeton, and Jules D. Levine, New Brunswick, N.J., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 18, 1965, Ser. No. 480,664
Int. Cl. H02n *3/00;* **H01j** *15/02*
U.S. Cl. 310—4 **9 Claims**

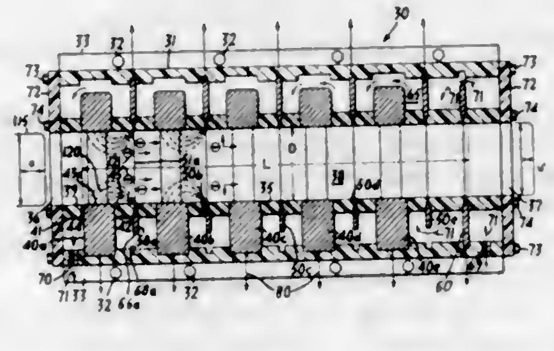


A method of operating a gas tube containing cesium involves heating the tube including a sole cesium reservoir to a temperature above the condensation temperature of cesium, and storing within the reservoir by surface absorption only, at least ten times as many atoms of cesium vapor as are present elsewhere within the tube.

3,452,225

ELECTROGASDYNAMIC SYSTEMS

Meredith C. Gourdine, Oakland, N.J., assignor to Gourdine Systems Incorporated, Teaneck, N.J., a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,360
Int. Cl. H02k *45/00*
U.S. Cl. 310—11 **56 Claims**

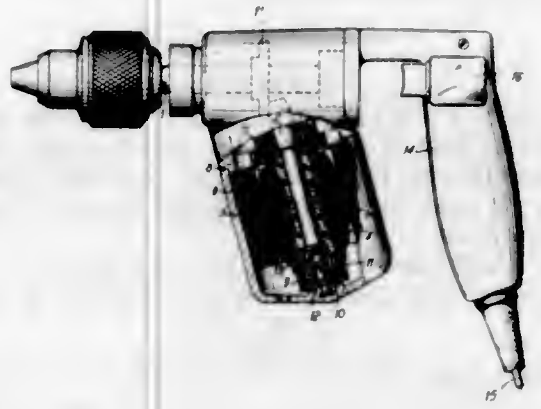


Electrogasdynamic conversion apparatus in which spaced ionizing fields and at least one body force field are established in a flow path bounded by a dielectric channel. The ionizing fields are each established between pairs of attractor and corona electrodes which are disposed to be substantially flush with the boundary of the flow path and axially displaced in the direction of flow through the channel. A body force field, i.e., an electric field tending to react with charges induced by the ionizing fields, is set up between a terminal collector electrode downstream of the ionizing electrodes and between successive pairs of ionizing electrodes, each of which is at a progressively different potential than the preceding electrodes in the direction of flow.

3,452,226

PORTABLE POWER TOOL OF COMPACT CONSTRUCTION

Alfred Hettich, Echterdingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Mar. 16, 1966, Ser. No. 534,731
Claims priority, application Germany, Apr. 30, 1965, B 81,682
Int. Cl. H02k *7/14*
U.S. Cl. 310—50 **9 Claims**

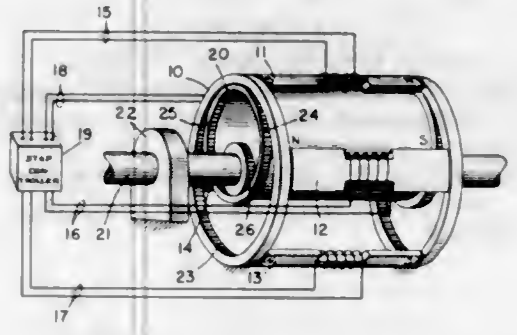


A compact portable power tool has a housing in which a driven shaft is journaled for rotation. An electric motor is arranged in the housing and its drive shaft, whose axis is inclined to the axes of the driven shaft, is operatively connected with the latter for driving the same.

3,452,227

MOTOR WITH GYRATING ROTOR

Elvin C. Welch, 9905 W. Jefferson Blvd., Culver City, Calif. 90230
Filed Oct. 21, 1966, Ser. No. 588,497
Int. Cl. H02k *7/10*
U.S. Cl. 310—82 **2 Claims**

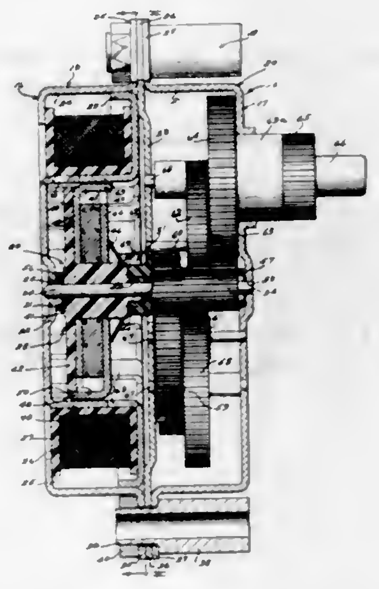


This disclosure relates to a new type of stepper motor wherein there is provided a stator with a rotor eccentrically positioned in the stator for rolling movement about the interior of the stator such that the axis of the rotor revolves about the axis of the stator in one direction. An output shaft is provided with an output ring preferably having gear teeth and concentrically positioned within the stator with its periphery in engagement with the periphery of the gyrating rotor. The diameter of the rotor is intermediate the inside diameter of the stator and the diameter of the output shaft ring so that the output shaft ring will engage an inside surface of the rotor and will be caused to rotate upon gyrating movement of the rotor. The rotor itself is maintained in rolling engagement with the interior of the stator by the magnetic attraction or repulsion produced by suitable stator field windings and pole pieces which would function to provide a rotating magnetic field in the manner similar to conventional stepper motor stator fields. Gear teeth may be provided between the engaged rolling portions to prevent slippage. The relative diameters of the stator, rotor, and output shaft ring are adjusted to provide a desired incremental step or shaft rotation for a given degree of rotation of the stator field.

3,452,228

MOTOR CONSTRUCTION

Lee A. Woolley, Kokomo, Ind., assignor, by mesne assignments, to The Scott & Tetzer Company, Lakewood, Ohio, a corporation of Ohio
Original application Oct. 15, 1962, Ser. No. 231,325, now Patent No. 3,307,056, dated Feb. 28, 1967. Divided and this application Sept. 12, 1966, Ser. No. 578,833
Int. Cl. H02k *7/116*
U.S. Cl. 310—83 **27 Claims**



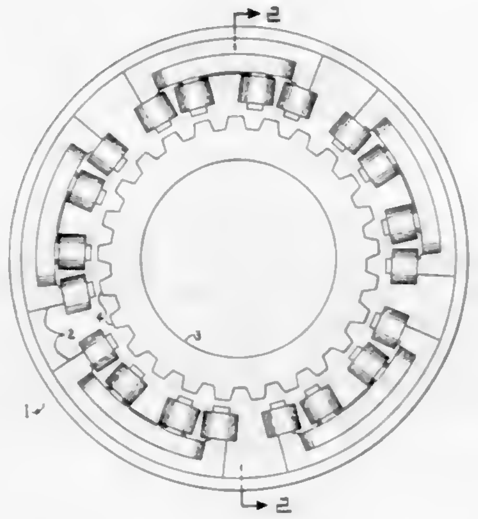
A synchronous electric motor has a motor section and a gear train section drivably connected together by a pair of complemental co-axial elements which are slidably separable from each other, a first case enclosing the motor section, a second case having a pair of separate complemental co-acting case elements which are the sole means for enclosing only the gear train, and means secured to the first case and to both of the complemental case elements for mounting the motor assembly and for holding the complemental elements together, the motor section having a soft-energy-absorbent plastic thrust member disposed between and jointly engageable by the rotor and the case, said rotor having a hub with a flange of rigid non-magnetic material having rigid means for engaging and locking pole plates against angular movement with respect to the hub, the rotor coacting with the stator and each having a set of poles, one set of poles being uniformly angularly spaced about the rotational axis, and half of the poles of the other set being offset in one direction by an angle equal to one-half of a pole spacing, the stator including a bobbin having rigid spline means projecting into space between stator poles to locate them.

3,452,229

MODULAR INDUCTOR ALTERNATOR

John Rex Pimlott, Lubbock, Tex., and John Rex Pimlott, Jr., Lanham, Md. (both of P.O. Box 27, Hurlwood, Tex. 79328)
Filed Sept. 16, 1966, Ser. No. 580,016
Int. Cl. H02k *17/42, 19/20, 19/24*
U.S. Cl. 310—168 **15 Claims**

An inductor alternator is composed of a stator made of one or more stator modules mounted so that the reluctance of the magnetic circuit of each is varied by

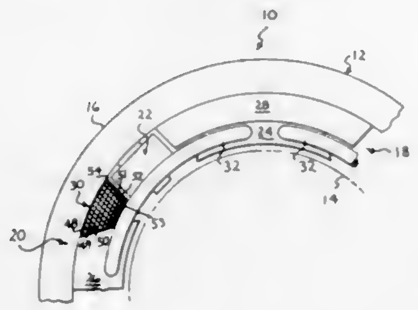


a common rotating polar armature to generate an A.C. current which can be either single phase or polyphase.

3,452,230

ELECTROMAGNETIC COIL STRUCTURE FOR DYNAMOELECTRIC MACHINE STATORS

Robert S. Pearson, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 15, 1967, Ser. No. 690,951
Int. Cl. H02k *1/00, 3/00, 19/26*
U.S. Cl. 310—180 **2 Claims**



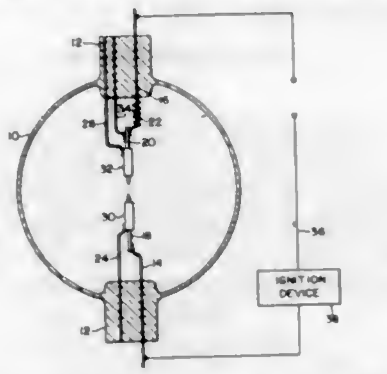
An electromagnetic coil structure in which a plurality of spirally wound, individual wire wafers have the dimensions of windows within them varied in a progressive manner from wafer to wafer so that when the wafers are stacked upon each other the coil fits firmly about a pole piece which has a core portion with a non-rectangular cross section. The structure of the wafers allows the coil to utilize substantially all of the space at the juncture of the pole piece and a yoke of a dynamoelectric machine in which it is mounted, for its windings.

3,452,231

REFRACTORY OXIDE INCANDESCENT LAMP

Heinz G. Sell, Cedar Grove, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1966, Ser. No. 534,238
Int. Cl. H01j *61/96*
U.S. Cl. 313—8 **4 Claims**

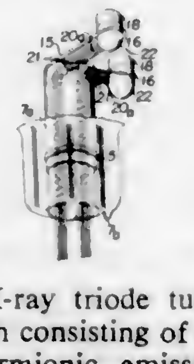
A light source which includes, within a sealed envelope, a pair of spaced apart discharge sustaining electrodes which are surrounded by at least one ceramic (refractory oxide) cylinder and disposed in an inert gas atmosphere at less than atmospheric pressure. When an arc is established between the electrodes the ceramic cylinder is heated by the electrodes to a temperature at which it becomes a good light radiator and emits selectively in the visible region of the spectrum.



3,452,232

MULTIPLE-CATHODE X-RAY TRIODE TUBE

Yoshitaka Seki, Yokohama-shi, and Takeshi Muraki, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a Japanese corporation
Filed June 21, 1967, Ser. No. 647,873
Claims priority, application Japan, June 30, 1966, 41/61,328
Int. Cl. H01j *35/06*
U.S. Cl. 313—56 **4 Claims**

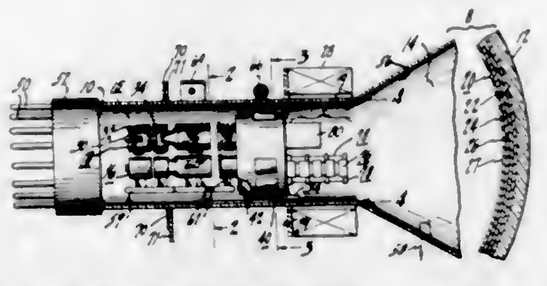


Multiple-cathode X-ray triode tubes in which a plurality of cathodes each consisting of a cup-shaped control electrode and a thermionic emissive element are insulatedly mounted on tip of the cathode support arms which are in turn mounted on top of a single cylindrical cathode mount metallic stem mounted in one end of a tube envelope, each control electrode being independently applied with a control voltage.

3,452,233

CATHODE RAY TUBE

Dalton Harold Pritchard, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 27, 1961, Ser. No. 162,322
Int. Cl. H01j *29/46, 31/12, 31/20*
U.S. Cl. 313—69 **14 Claims**

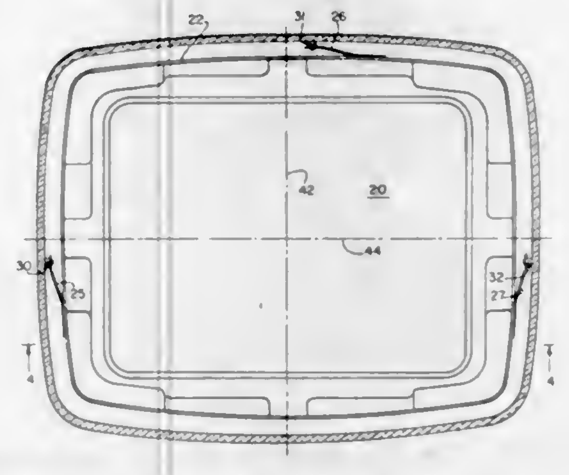


1. A cathode ray tube having a deflection zone and comprising:
(a) a luminescent screen;
(b) an electron gun for projecting an electron beam along a path through said deflection zone toward said screen; and
(c) a plurality of axially spaced, coaxial, magnetic shield rings disposed in said deflection zone and each surrounding said path.

3,452,234

MOUNTING FOR A SHADOW MASK ASSEMBLY IN A COLOR CATHODE RAY TUBE

Richard J. Lindeman, Elmwood Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 573,599, Aug. 19, 1966. This application Sept. 15, 1967, Ser. No. 672,413
Int. Cl. H01j *29/46, 19/50, 1/46*
U.S. Cl. 313—85 **4 Claims**

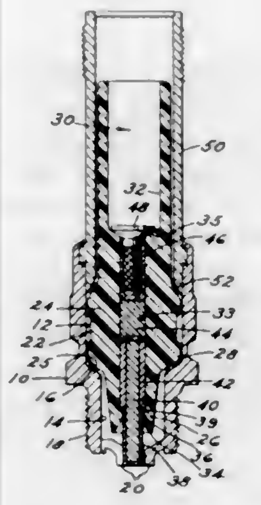


A three point support for a shadow mask screen within the faceplate panel of a color cathode ray tube is provided by three studs embedded in the glass side walls of the panel and spring mounting members which are connected to the shadow mask frame and fastened to respective studs. The stud which forms the apex of a triangle formed by the three mounting studs is located on the central vertical axis. The remaining two studs forming the base of the triangle are positioned well beneath the horizontal radial axis, and are mirror images of one another. The angle between the springs connected to the two studs and the shadow mask frame is chosen so that upon tube warmup expansion of the shadow mask assembly in a direction parallel to the horizontal radial axis will cause the screen to rotate about the studs to compensate for the thermal expansion of the shadow mask assembly normal to the horizontal radial axis.

3,452,235

SPARK PLUG HAVING A SHORT TIP CENTER ELECTRODE

William J. Hallauer, Dearborn, and Donald J. Romine, Taylor, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 17, 1966, Ser. No. 573,017
Int. Cl. F23q *3/00;* **H01t** *13/20, 13/00*
U.S. Cl. 313—136 **8 Claims**

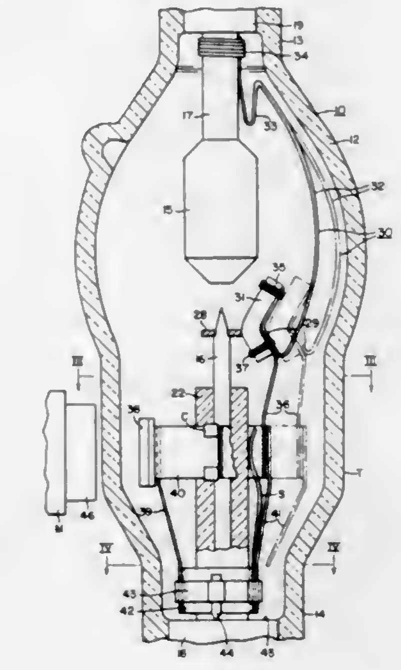


A short cup of corrosion resistant material seats in the tip portion of a spark plug insulator and surrounds the lower portion of an inexpensive metallic wire that extends into the massive portion of the insulator. A heat conducting composite of metal powder and glass surrounds the wire above the cup and provides a heat conducting path from the electrode tip to the massive portion of the insulator.

3,452,236

HIGH-PRESSURE ELECTRIC DISCHARGE LAMP HAVING MAGNETICALLY ACTUABLE ARC IGNITION MEANS, AND APPARATUS FOR STARTING SUCH A LAMP

Norman C. Beese, Verona, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 6, 1966, Ser. No. 599,532
Int. Cl. H01j *1/50, 1/52, 21/22*
U.S. Cl. 313—152 **18 Claims**

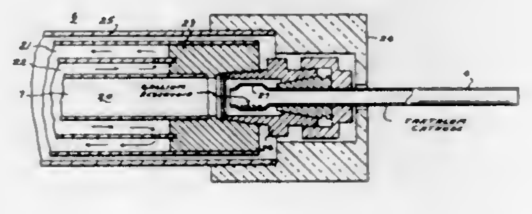


An elongated arc-initiating assembly is movably mounted within the lamp envelope and actuated by an exterior electromagnet so that a refractory metal member mounted on a flexible part of the assembly makes-and-breaks contact with one or both electrodes. The assembly, when actuated, momentarily completes the circuit between the energized electrodes and then, as it retracts, draws an arc from one electrode that is transferred to the other electrode to effect lamp ignition.

3,452,237

SPUTTERING PROTECTION FOR TANTALUM CATHODES IN PLASMA DEVICES

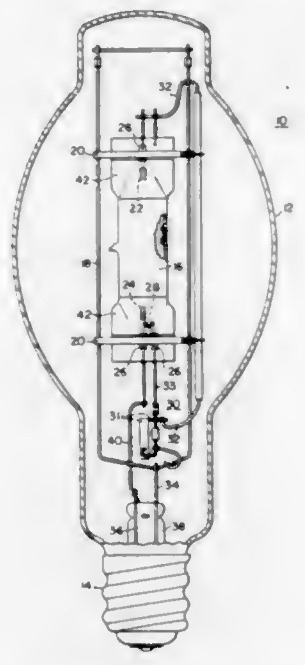
Richard C. Wingerson, 1754A Arlin Place, Fairborn, Ohio 45324
Filed Mar. 13, 1967, Ser. No. 623,197
Int. Cl. H01j *17/06, 61/08*
U.S. Cl. 313—211 **3 Claims**



A tantalum cathode for plasma devices coated with a thin layer of gallium to prevent erosion due to sputtering. Coating is accomplished by providing a small reservoir of gallium in contact with the cathode at a point of relatively low temperature from which a thin layer of gallium spreads over the entire cathode surface.

3,452,238
METAL VAPOR DISCHARGE LAMP

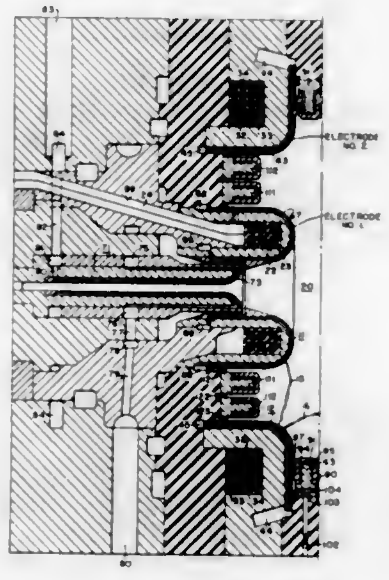
Daniel A. Larson, Cedar Grove, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1966, Ser. No. 599,133
Int. Cl. H01j *61/18*
U.S. Cl. 313—229 **2 Claims**



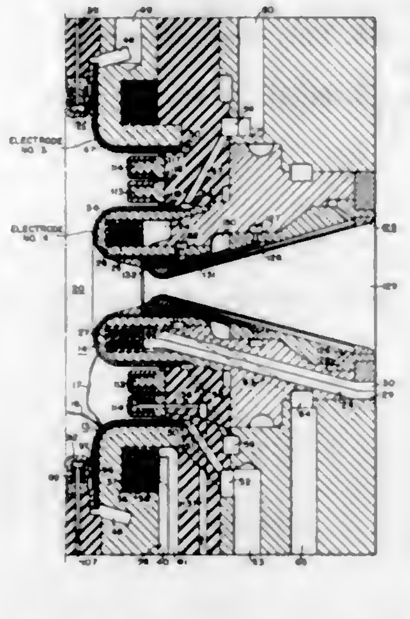
This high-pressure, mercury-vapor, discharge lamp employs a discharge sustaining filling of selected quantities of mercury, thallium, dysprosium and iodine along with a small quantity of insert starting gas to provide a lamp which exhibits good efficiency and excellent color rendition.

3,452,239
MULTI-ELECTRODE ARC HEATERS

Charles B. Wolf, Irwin, and George A. Kemeny, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1966, Ser. No. 599,032
Int. Cl. H01j *17/26, 61/28*
U.S. Cl. 313—231 **29 Claims**

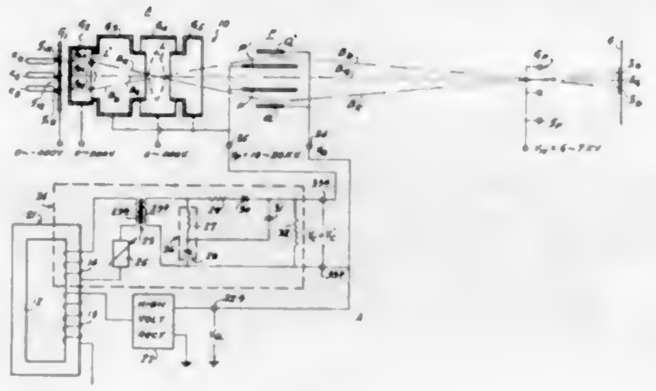


A multi-electrode arc-heater is disclosed including two pairs of spaced, coplanar, coaxial electrodes or four spaced coaxially aligned similar electrodes in which all electrodes have field coils therein which may be fluid cooled and in which each electrode is separated from the adjacent electrode by one or more heat shield ring members which are fluid cooled. Air or other gas to be heated is admitted into the arc chamber through spaces between the heat shield members and spaces between the heat shield members and adjacent electrodes and exhausted through a nozzle. The electrodes and nozzle are also fluid-cooled.



3,452,240
SAFELY ADJUSTABLE CONVERGENCE DEFLECTION CIRCUIT FOR A SINGLE-GUN, PLURAL-BEAM TYPE COLOR PICTURE TUBE

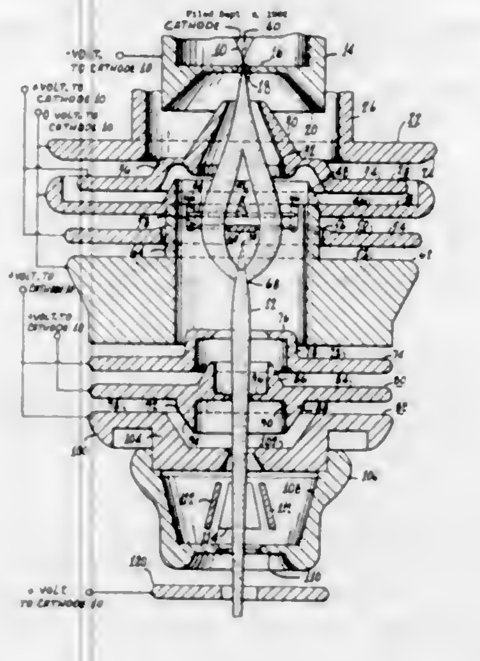
Tetsuo Tokita, Minoru Morio, and Ryozo Asano, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed June 24, 1968, Ser. No. 739,383
Claims priority, application Japan, June 22, 1967, 42/39,602
Int. Cl. H01j *29/50, 31/04*
U.S. Cl. 315—13 **11 Claims**



A circuit is disclosed for energizing a single gun, plural beam type color picture tube. The circuit provides a high, in fact a dangerously high, anode voltage. This anode voltage is applied to one of each pair of the convergence deflection electrodes which are required to converge the beams representing different color signals, so that they form a common color picture element. The circuit further provides a voltage to the other electrode of each pair which differs from the anode voltage by a convergence deflection voltage, so as to produce the desired convergence effect. This convergence deflection voltage is adjustable for optimum convergence, but in order to make the adjustment operation safe, the adjusting element, which may be a series or shunt impedance or a switchable set of taps, is isolated from the anode voltage by an isolating transformer.

3,452,241
ELECTRON GUN SUITABLE FOR ELECTRON MICROSCOPE

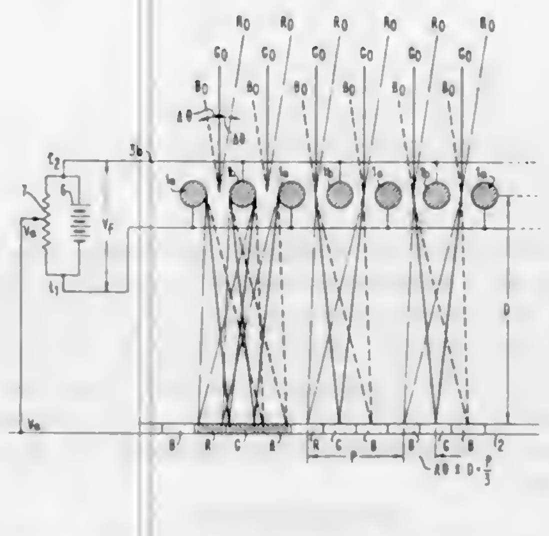
John W. Coleman, Willingboro, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,353
Int. Cl. H01j *29/46, 29/56*
U.S. Cl. 315—15 **10 Claims**



To prevent positive ions from hitting the filamentary cathode in an electron beam gun and damaging it, the electron beam is hollowed out and an electrode is positioned in the hollow to stop the flow of the positive ions back to the cathode.

3,452,242
COLOR PICTURE TUBE

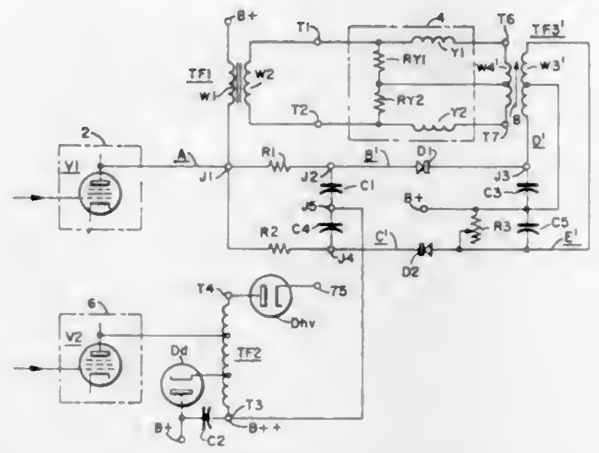
Senri Miyaoka, Fujisawa-shi, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Sept. 18, 1967, Ser. No. 668,373
Claims priority, application Japan, Sept. 17, 1966, 41/61,340, 41/61,341
Int. Cl. H01j *29/20*
U.S. Cl. 315—21 **10 Claims**



A color picture tube includes at least one electron gun device, a phosphor screen having tri-color phosphors arranged in stripes, and a post-deflection grid device placed between the electron gun device and the phosphor screen and defined by wires in parallel with the stripes of color phosphors. The grid device is biased at an average voltage which is the same as the anode voltage for the phosphor screen and deflects the electron beams emitted from the electron gun device on to predetermined phosphors without post-acceleration or focusing of such beams.

3,452,243
PINCUSHION CORRECTION CIRCUITS

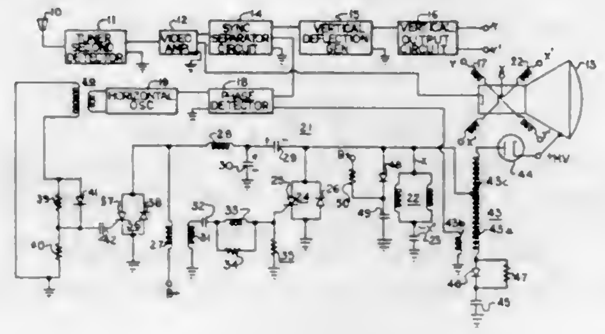
Gustave A. Knorr, Jr., Atlantic Highlands, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 23, 1967, Ser. No. 677,301
Int. Cl. H01j *29/70*
U.S. Cl. 315—24 **13 Claims**



The present disclosure relates to pincushion correction circuits for use in a television receiver wherein the B-boost voltage having a substantially parabolic waveshape and varying at the horizontal line rate is utilized to modulate a vertical sawtooth waveform. The modulated waveform is applied to a switching device which is biased to permit only portions of the modulated waveform exceeding the reference level to pass therethrough. These portions are applied through a transformer which is tuned to the horizontal rate and which provides in response thereto a correction waveform to be applied to the vertical deflection system for effecting pincushion correction.

3,452,244
ELECTRON BEAM DEFLECTION AND HIGH VOLTAGE GENERATION CIRCUIT

Wolfgang F. W. Dietz, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 15, 1968, Ser. No. 721,383
Int. Cl. H01j *29/70*
U.S. Cl. 315—27 **21 Claims**

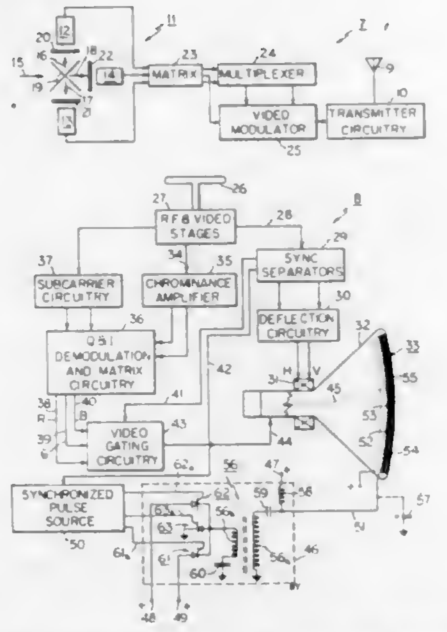


A solid state horizontal deflection and high voltage generating circuit for a television receiver. The circuit utilizes two bi-directionally conductive switching means which serve respectively as trace and commutating switches. Particularly, each of the switching means comprises the parallel combination of a silicon controlled rectifier (SCR) and a diode. The commutating switch is triggered on shortly before the desired beginning of retrace and, in conjunction with a resonant commutating circuit having an inductor and two capacitors, serves to turn off the trace switch to initiate retrace. The commutating circuit is also arranged to turn off the commutating SCR before the end of retrace.

3,452,245

HIGH-VOLTAGE SWITCHING FOR THREE-COLOR LINE-SEQUENTIAL COLOR TELEVISION

Leonard A. Ferrari, Woburn, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 573,902
Int. Cl. H01j *29/52*
U.S. Cl. 315—30 **32 Claims**

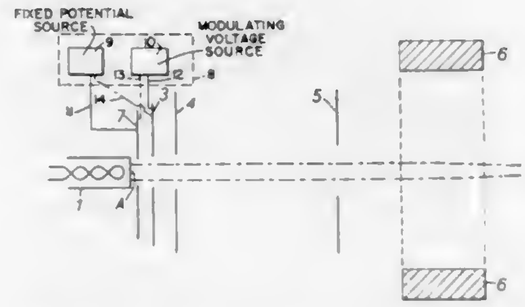


This specification discloses a color television system of the type in which a full color image is produced by superimposed red and white images corresponding to different color video signals representing different wavelength contents of the televised scene. The red and white images are produced by accelerating the electron beam to different velocities and the velocity of the electron beam is switched between these different velocities to produce the two superimposed images at the end of each line scan. The system incorporates a high voltage switching system to switch the voltage level applied to the screen of the picture tube in order to provide the necessary velocity switching of the electron beam. This switching comprises a transformer, the second winding of which is coupled with the relatively large capacitance provided by the screen of the picture tube. The primary side of the transformer is switched between open circuit and short circuit conditions. Energy is coupled into and out of the resonant circuit comprising the transformer inductance and the capacitance of the picture tube during a short circuit condition to cause the switching between high voltage levels on on the picture tube.

3,452,246

CATHODE RAY TUBES

Roger Ross Thompson and Roger Ball, Essex, England, assignors to English Electric Valve Company Limited, London, England, a British company
Filed June 12, 1967, Ser. No. 645,553
Claims priority, application Great Britain, June 17, 1966, 27,145/66
Int. Cl. H01j *29/56*
U.S. Cl. 315—31 **6 Claims**

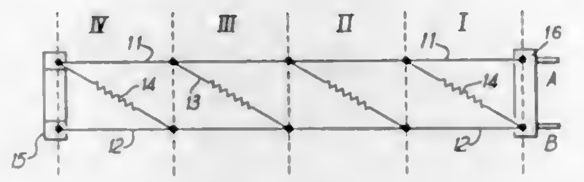


A cathode ray tube having in addition to the normally provided cathode, control grid and anode, an additional apertured electrode interposed between the control grid and the cathode so as to limit the effective emission area of the cathode to a relatively small area from which a substantially parallel beam is emitted.

3,452,247

DECORATIVE ELECTRIC LIGHT SYSTEM

Alan R. Lowe, 30 Station Road, Colwyn Bay, Denbighshire, North Wales
Filed Mar. 1, 1967, Ser. No. 619,681
Int. Cl. H01j *19/78*
U.S. Cl. 315—75 **3 Claims**

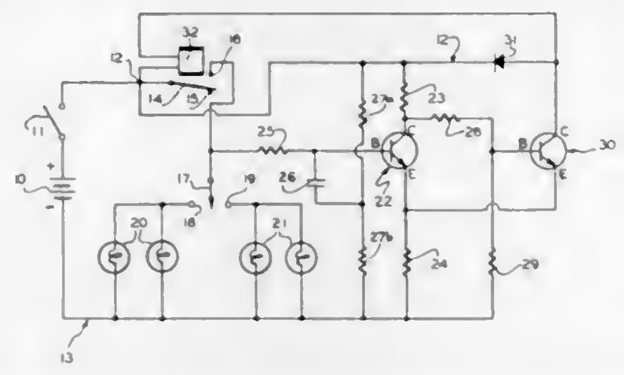


Fairy lights in which the lights are connected in parallel to be supplied with full voltage, each light being in a section which can be joined end to end with other sections. In each section there are three wires the middle wire having the fairy light and being joined at one end to one end of an outer wire and being joined to the opposite end of the other outer wire so that in connecting sections end to end the fairy lights thereof are placed in parallel.

3,452,248

HEAVY DUTY RELAY-TRANSISTOR FLASHER CIRCUIT

Harry A. Leeder, Jr., Skaneateles, N.Y., assignor to R. E. Dietz Company, Syracuse, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 631,299, Apr. 17, 1967. This application July 23, 1968, Ser. No. 752,121
Int. Cl. B60q *1/52*
U.S. Cl. 315—77 **9 Claims**



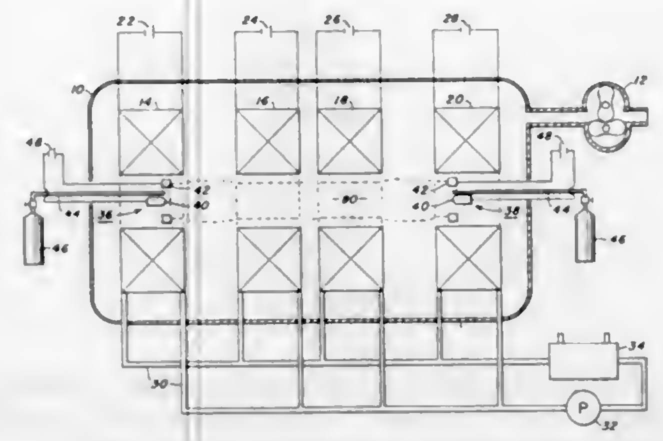
A bistable circuit for flashing automotive lamps. The circuit includes a relay, two or more cooperable transistors and a charging circuit, and it enables heavy load currents to be switched with high efficiency. The circuit is designed to make electrical transitions between alternate states before the relay operates thereby making the circuit performance independent of the operating characteristics of the relay.

3,452,249

METHOD AND APPARATUS FOR CONTAINING A PLASMA PRODUCED BY OPPOSED ELECTRODES

Gordon L. Cann, Laguna Beach, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California
Filed May 21, 1965, Ser. No. 457,746
Int. Cl. H01j *7/24, 17/26;* **H05b** *31/26*
U.S. Cl. 315—111 **9 Claims**

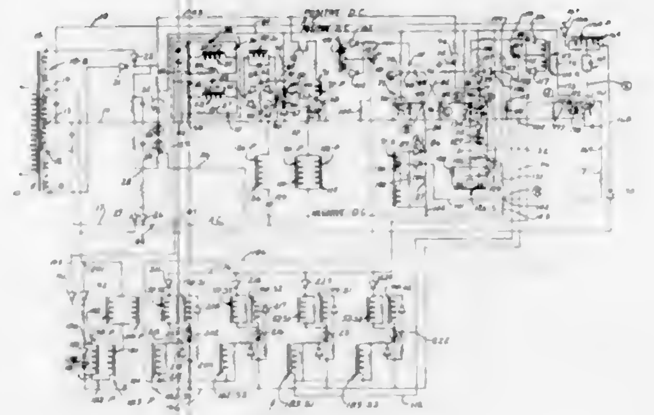
A method and apparatus for electromagnetically containing a body of high temperature plasma is disclosed. The containment of the plasma is obtained by establishing a continuous longitudinal magnetic field within which two or more opposed plasma producing electrodes are provided and maintaining a radially inward electric field within the plasma for ion confinement.



3,452,250

TIMER WITH HALF-CYCLE STARTING FOR CURRENT CONTROL IN WELDING-TYPE SYSTEMS

Donald L. Helman, Farmington, Mich., assignor to Robotron Corporation, Detroit, Mich., a corporation of Michigan
Filed June 27, 1967, Ser. No. 649,238
Int. Cl. H05b *37/02, 39/04*
U.S. Cl. 315—197 **12 Claims**



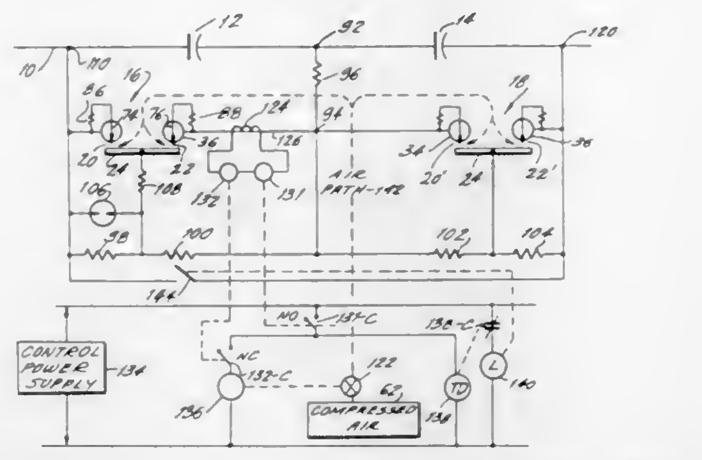
A timing and heat control circuit for initiating the flow of welding current to a welding transformer having a main switch controlling the welding transformer and having first and second valving means controlling the operation of the main switch. The first valving means applies a signal to one control electrode of said main switch and said second valving means applies a signal to the second control electrode of said main switch. The second valving means further comprises circuitry for regulating the point in time at which the main switch closes during each half-cycle after an initiating switch has been closed.

3,452,251

PROTECTIVE ARRANGEMENT FOR SERIES CAPACITOR BANK

Otto Jensen, Malvern, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 29, 1966, Ser. No. 568,942
Int. Cl. H02h *7/16*
U.S. Cl. 317—12 **10 Claims**

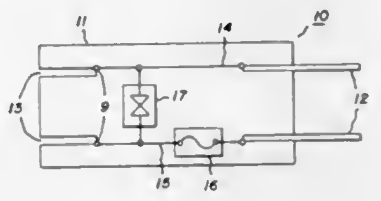
A capacitor bank protection system having series-connected spark gaps fired responsive to the firing of a precision spark gap connected in parallel with one of the series gaps. Each pair of spark gaps are disposed at the outer end of a central elongated electrode surrounded by cooperating ring-shaped electrodes at the outer ends of the central electrode. An air blast is introduced into the annular space between the central electrode and outer cooperating electrodes for extinguishing the arc.



3,452,252

DEVICE FOR PROTECTING ELECTRICAL APPARATUS

Neville Mapham, Jordan, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 28, 1966, Ser. No. 523,610
Int. Cl. H02h *3/08*
U.S. Cl. 317—16 **1 Claim**



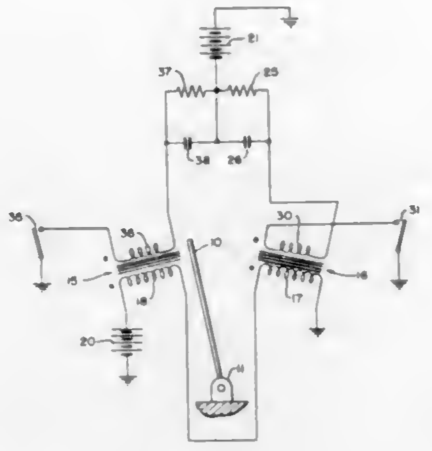
A device for protecting electrical apparatus is provided having input terminals for plugging into an ordinary household electrical outlet and having output terminals for receiving the supply terminals of the line cord plug for such electrical apparatus, and having in parallel to the load and across the input and output terminals a pair of face-to-face rectifier diodes having a normally high impedance which decreases sharply during an electrical surge and thereby protects the load from excessive currents.

3,452,253

ELECTROMAGNETIC ACTUATOR HAVING A PAIR OF ELECTROMAGNETS WITH AN ARMATURE MOVABLE BETWEEN THEM

Raymond R. Seidlitz, Rolling Meadows, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Mar. 14, 1967, Ser. No. 623,060
Int. Cl. H01h *47/04, 9/54;* **H01f** *7/18*
U.S. Cl. 317—155 **7 Claims**

An electromagnetic switch comprises a pair of two-winding magnets and an armature movable between them; a first winding of one magnet is connected in series with a corresponding first winding of the other magnet, and holding current normally flows through both series-connected windings. A sudden increase of current in a second winding of one magnet temporarily reduces the current in both of the first or holding windings by transformer action and releases the armature for movement to the one magnet.



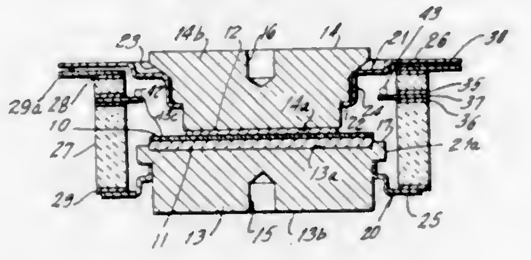
3,452,254
PRESSURE ASSEMBLED SEMICONDUCTOR DEVICE USING MASSIVE FLEXIBLY MOUNTED TERMINALS

John L. Boyer, El Segundo, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Mar. 20, 1967, Ser. No. 624,282

Int. Cl. H01l *5/00*

U.S. Cl. 317—234 **7 Claims**



A semiconductor wafer has expansion plates on its opposite sides and is carried in a hermetically sealed subassembly consisting in part of two massive conductive bodies in pressure contact with the opposite expansion plates. Resilient headers or diaphragms are connected to peripherally central portions of the massive conductors and have outwardly extendng flanges which are joined by an insulating cylinder which completes the hermetic sealing enclosure for the semiconductor wafer. One of the flanges extends beyond the periphery of the insulation cylinder. The insulation cylinder contains a centrally located conductive disk having internally directed tongues and externally directed tongues where the internal tongue receives a gate lead from a semiconductor wafer forming a controlled rectifier, while the external tongue forms the external connection point for a gate connection.

3,452,255
VARACTOR DIODE DEVICES

Noel William Thomas Neale, Greenstead Green, near Halstead, and Brian Ronald Morden, Hullbridge, England, assignors to The Marconi Company Limited, London, England, a British company

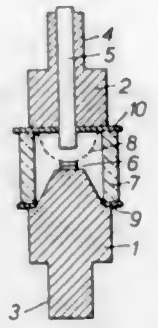
Filed May 4, 1967, Ser. No. 636,048

Claims priority, application Great Britain, May 7, 1966, 20,305/66

Int. Cl. H01l *3/00, 5/00*

U.S. Cl. 317—234 **5 Claims**

A combined varactor diode and matching device having a pair of electrodes located at opposite ends of a tubular insulator to form a space in which a varactor diode is carried on the face of one of the members. A metal pin extends through the face of the other member and is adjustable with respect to the diode to vary the voltage standing wave ratio performance of the device.



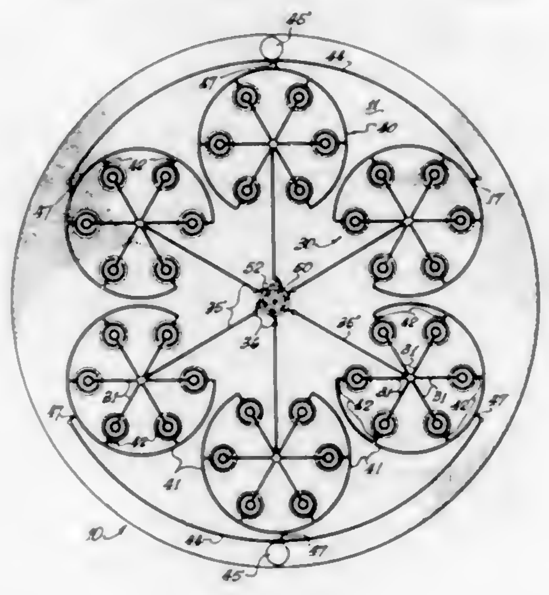
3,452,256
HIGH FREQUENCY MULTI-CELL TRANSISTOR STRUCTURE

Ronald N. Clarke, Canoga Park, Calif., assignor to TRW Semiconductors, Inc., Lawndale, Calif., a corporation of Delaware

Filed Sept. 20, 1967, Ser. No. 669,093

Int. Cl. H01l *11/00, 15/00*

U.S. Cl. 317—235 **4 Claims**



A multiple-cell coplanar transistor structure formed in a single semiconductor crystal body, the bulk of the semiconductor material forming a common electrode with the remaining electrodes being formed by a predetermined pattern of diffused regions in the upper surface of the crystal, thereby defining a plurality of transistor cells. Circular groups of cells are equidistantly spaced on the circumference of a larger circle, electroconductive interconnecting lines extending from each cell to the center of its group and then to the center of the large circle to provide identical interconnecting lead lengths.

3,452,257
ELECTRICAL CAPACITOR

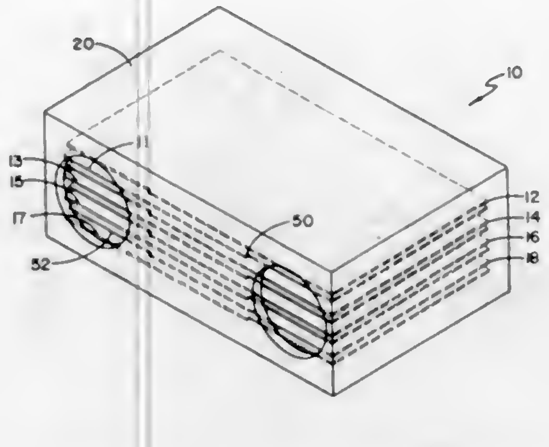
William R. Belko, Jr., Huntington, Conn., assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 677,309, Oct. 23, 1967. This application Mar. 28, 1968, Ser. No. 716,976

Int. Cl. H01g *1/02*

U.S. Cl. 317—261 **8 Claims**

A capacitor has a plurality of flat electrodes embedded in insulation. Connection between electrodes of the same polarity is made by a terminal with a large head in contact with the ends of the embedded plates. The terminal also provides means to connect to external circuitry.



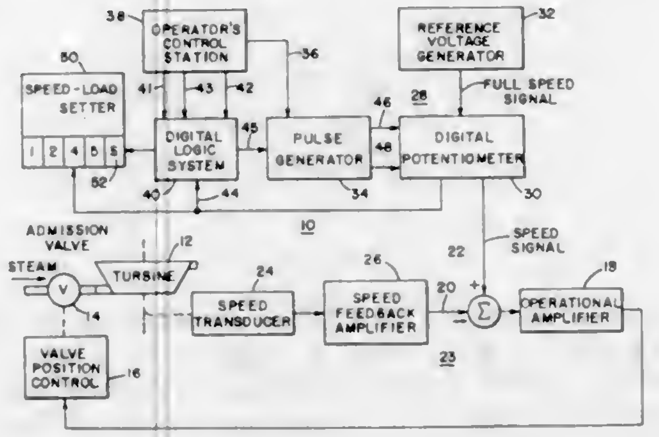
3,452,258
DIGITAL-ANALOG FEEDBACK CONTROL SYSTEM EMPLOYING SOLID STATE DIGITAL POTENTIOMETER

Francis T. Thompson, Penn Hills Township, Verona, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 19, 1966, Ser. No. 573,663

Int. Cl. H02p *5/46;* **H04l** *3/00*

U.S. Cl. 318—18 **5 Claims**



A digital current potentiometer is employed in a digital reference system for an analog feedback control. The potentiometer is connected across a high voltage source to carry a constant total current, and the fraction of the total current supplied to the potentiometer output and the fraction of the total current supplied through a bypass return are determined by the state of a control counter in the reference system.

3,452,259
MOVING COIL TRANSDUCER CONTROL SYSTEM

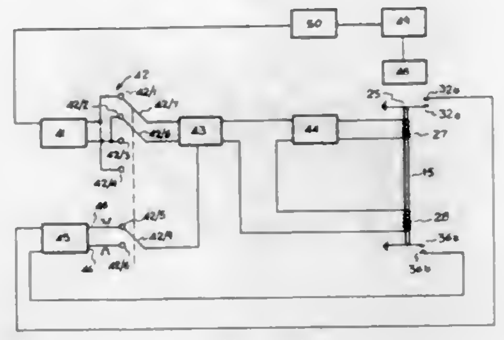
Shmuel Shtrikman, Rehovoth, Israel, and David Treves, Palo Alto, Calif., assignors, by mesne assignments, to the United States of America

Continuation-in-part of application Ser. No. 381,165, July 8, 1964. This application Apr. 18, 1967, Ser. No. 631,829

Int. Cl. G05b *11/01*

U.S. Cl. 318—21 **2 Claims**

An electromechanical transducer including a movable part which can be used to support a desired object which is to be moved at a predetermined constant velocity relative to a stationary member, such as supporting and moving a suitable radioactive source relative to a suitable absorber. The movable member of the transducer carries two windings, a driving coil for the movement thereof and a sensing coil which is proportional to velocity, the output of which is fed back to control the voltage applied to the driving coil.



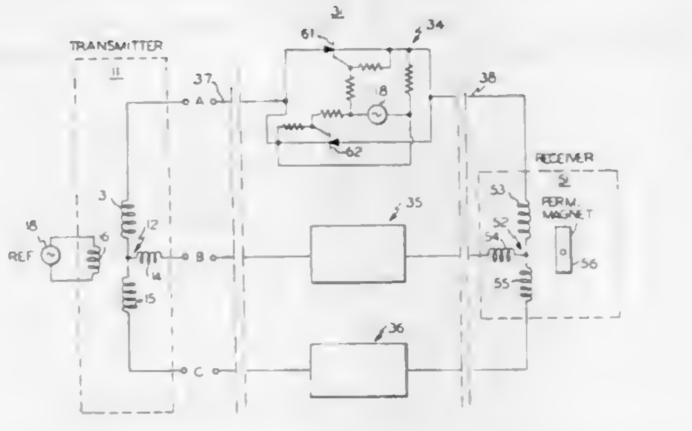
3,452,260
D.C. SYNCHRO

Frank N. Di Meo, Philadelphia, Pa., assignor to Litton Precision Products, Inc., Clifton Heights, Pa., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,184

Int. Cl. H02p *1/46, 5/28, 7/36*

U.S. Cl. 318—24 **11 Claims**



A synchro system having an A.C. synchro transmitter, a D.C. synchro receiver and electronic switching circuits interconnecting the corresponding transmitter and receiver windings to apply a combination of varying amplitude and polarity signals to the receiver windings corresponding to the angular displacement between the rotor and stator in the transmitter.

3,452,261
TORQUE EQUALIZING CONTROL ARRANGEMENT FOR A SERIES OF DRIVEN UNITS

Ercole Tagliasacchi, Milan, Italy, assignor to Officine Meccaniche Cigardi S.p.A.—O.M.C.S.A., Milan, Italy, a corporation of Italy

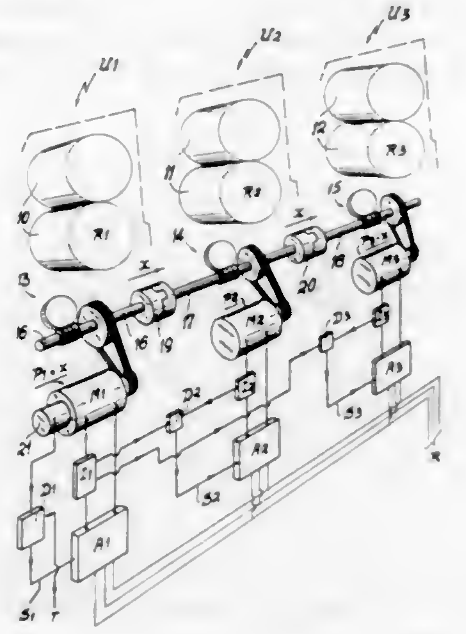
Filed Jan. 18, 1966, Ser. No. 521,456

Claims priority, application Italy, Jan. 22, 1965, 1,464/65

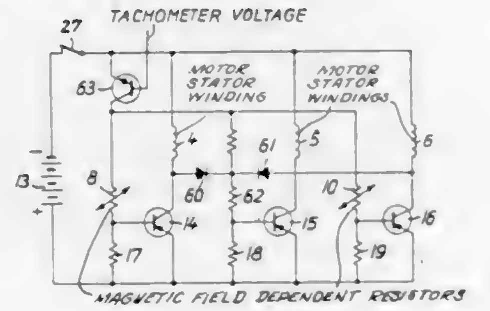
Int. Cl. H02p *5/46, 1/54, 7/74*

U.S. Cl. 318—77 **11 Claims**

A series of printing units is driven from a series of motors through coupled sections of a synchronizing shaft. The electric energy supplied to each motor is controlled so that upon load variations, a constant equalizing torque is transmitted between the shaft sections in one direction.



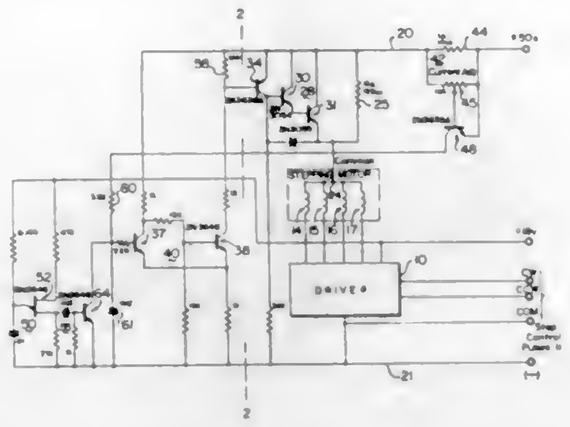
3,452,262
DIRECT CURRENT MOTOR WITH TRANSISTORIZED POWER SUPPLY
Helmut Moczala, Oldenburg, and Willi Otzipka, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Sept. 22, 1966, Ser. No. 581,343
Claims priority, application Germany, Sept. 22, 1965, L 51,683
Int. Cl. H02k *29/02*
U.S. Cl. 318—138 5 Claims



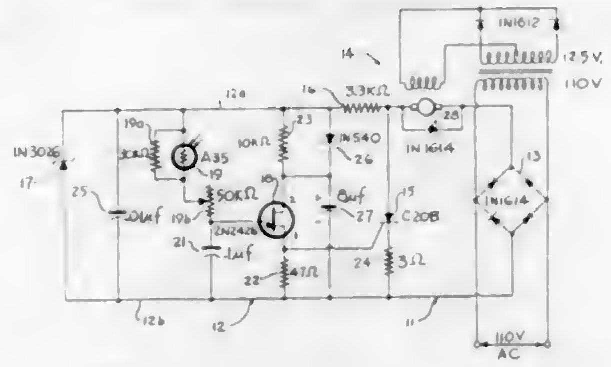
A transistorized power supply for a D.C. motor in which a plurality of transistors are connected to a potential source and to the stator windings, the transistors being operable between two conditions in one of which the respective stator winding is energized and in the other of which the stator winding is de-energized. Also provided are a plurality of magnetic field dependent resistors which are directly connected to less than all of the transistors for driving the same into the condition where the stator winding is de-energized.

3,452,263
STEP MOTOR DRIVE SYSTEM INCLUDING CURRENT FEEDBACK
Harold R. Newell, South Newbury, N.H., assignor to Mesur-Matic Electronics Corporation, Warner, N.H., a corporation
Filed Feb. 15, 1967, Ser. No. 616,325
Int. Cl. H02k *29/04*
U.S. Cl. 318—138 8 Claims

Circuitry for monitoring current in the motor windings of a multi-phase step motor to detect low current levels during high speed stepping of the motor as a result of finite time required for current buildup through an inductance, and for increasing the level of voltage supplied to the windings as may be necessary to compensate and enhance the winding current level during the periods of otherwise low current levels.



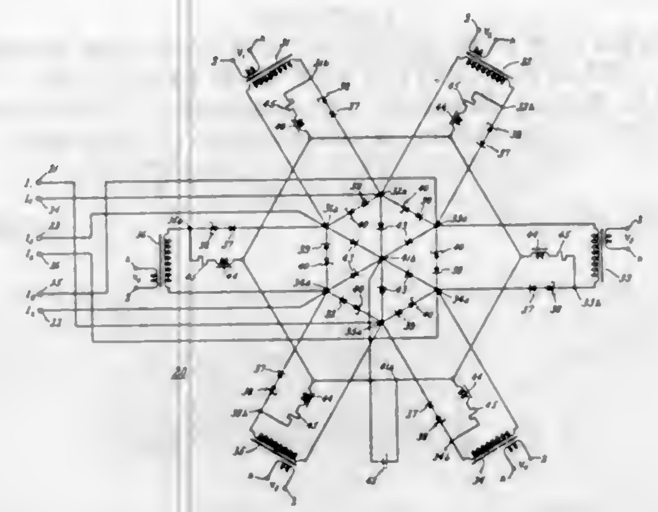
3,452,264
SPEED CONTROLLER FOR ELECTRIC MOTORS
Quentin C. Turtle, Cranston, R.I., assignor to General Signal Corporation, a corporation of New York
Filed May 10, 1967, Ser. No. 637,594
Int. Cl. H02p *5/16*
U.S. Cl. 318—245 1 Claim



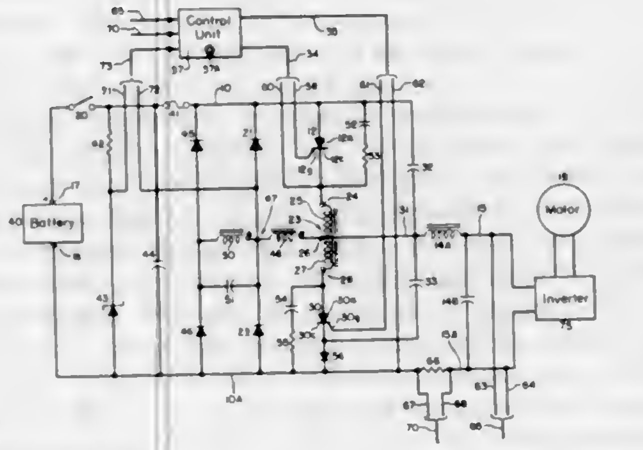
A speed controller for a DC or universal electric motor employing an SCR which is triggered by a unijunction transistor. High frequency voltage transients are suppressed by a resistor in the cathode circuit of the SCR, a capacitor which is connected across the elements of the control circuit, and by a diode-capacitor combination which is connected with base (**2**) of the transistor.

3,452,265
ELECTRIC PULSE MULTIPLYING AND STEERING CIRCUIT
Robert P. De Puy, Cherry Hill, N.J., assignor to General Electric Company, a corporation of New York
Filed Dec. 18, 1967, Ser. No. 691,343
Int. Cl. H02m *7/22*
U.S. Cl. 321—5 12 Claims

The input windings of three or more transformers are serially interconnected to form a ring circuit to which a train of at least three discrete input signals is supplied, and a plurality of unidirectionally current conducting means are disposed in series with the windings, respectively. The input signals are applied in sequence to at least three different interlinked sets of the input windings, and each is so poled, relative to the unidirectionally conducting means, that it simultaneously energizes all input windings belonging to the corresponding set. Each transformer in the ring circuit consequently produces output pulses in response to consecutive input signals being applied to the particular sets to which its input winding belongs. In order to reset the transformer cores following each output pulse, all input windings are connected in parallel, via a plurality of isolating diodes that are individually associated therewith, to a common source of unipolarity voltage.

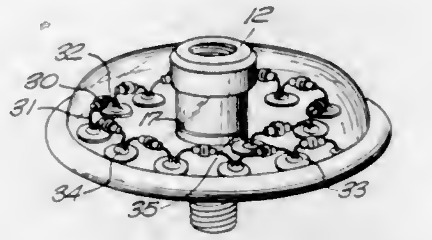


3,452,266
D.C.-TO-D.C. CONVERTER
Jay R. Borden, Santa Ana, Calif., Lucien J. Boutin, Alexandria, Va., and Everett R. Geis, Orange, and Stanley Krauthamer, Monterey Park, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 8, 1967, Ser. No. 614,649
Int. Cl. H02m *1/08, 7/00*
U.S. Cl. 321—18 9 Claims



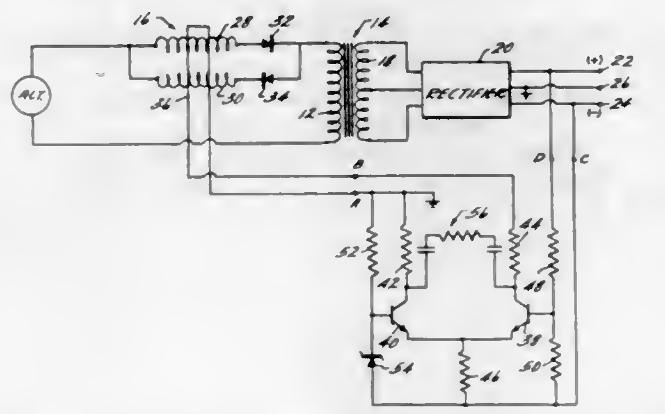
A converter includes a first SCR series-coupled between input and output lines, and a second SCR connected principally to assist in commutating the first. A filter, including a choke and a capacitor, is connected to the output lines. A control unit is connected to apply turn-on signals sequentially to the first and second SCR's, and a commutating unit is connected to assist in shut-off of one SCR after the other has been gated on. Spillover diodes are connected between the inverters and the input lines to pass energy backward through the converter when the level of the energy at the output side of the converter exceeds the load requirements. The control unit includes an adjusting means for pre-setting the level of the output voltage to be passed from the converter through the filter to the load, and the control unit is connected to receive a first input signal denoting the voltage level at the output side of the filter; a second input signal denoting the current level at the output side of the converter; and a third input signal denoting the voltage level of the input energy supplied to the converter.

3,452,267
HIGH VOLTAGE RECTIFIER
Chester L. Schuler, Wayland, David H. Margolien, Lexington, and Fred M. Blatt, Needham, Mass., assignors to Unitrode Corporation, Watertown, Mass., a corporation of Maryland
Filed Jan. 31, 1968, Ser. No. 702,109
Int. Cl. H02m *7/04;* **H01l** *5/00*
U.S. Cl. 321—27 8 Claims



A modular high voltage rectifier having an axially symmetric, generally hemispherical insulative housing, with a polar cap forming one terminal, and a circular base forming the other terminal. A series string of solid state diodes within the housing is connected between the two terminals of the device, the diodes being structurally supported to enhance thermal and electrical efficiency by means of a plurality of insulative discs attached to the circular base and arranged in a path symmetric about the axis of the device.

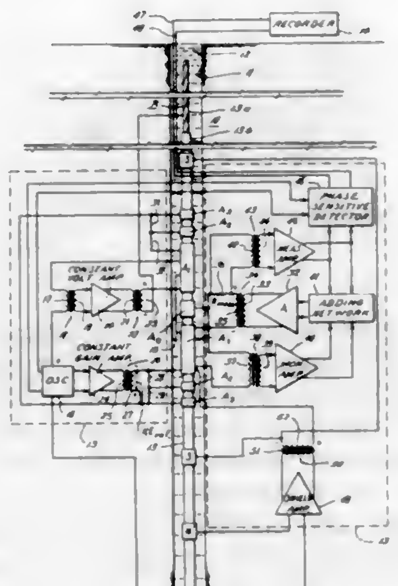
3,452,268
A.C.-D.C. RECTIFIER INCLUDING A MAGNETIC AMPLIFIER FOR REGULATING THE A.C. INPUT FOR THE RECTIFIER
Floyd Grossoehme, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,714
Int. Cl. H02m *1/08, 7/02*
U.S. Cl. 321—18 1 Claim



The disclosure shows a circuit for regulating the output voltage of a rectifier. Flow of current through the control winding of a magnetic amplifier input to the rectifier is regulated by a transistor circuit including a Zener diode which provides a reference voltage.

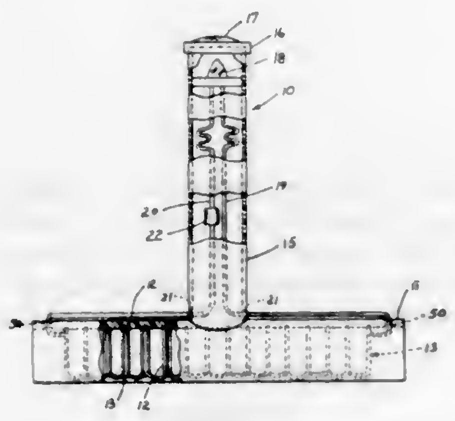
3,452,269
METHODS AND APPARATUS FOR INVESTIGATING EARTH FORMATIONS INCLUDING ADJUSTING THE POTENTIAL DISTRIBUTION IN AN AXIAL DIRECTION THROUGH A BOREHOLE
Wilbur C. Welz, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 457,705, May 21, 1965. This application July 15, 1968, Ser. No. 749,242
Int. Cl. G01v *1/02*
U.S. Cl. 324—10 29 Claims

In accordance with an illustrative embodiment of the invention, techniques are shown for maintaining a potential reference electrode at a substantially fixed reference potential and setting up a potential approximating zero volt on opposite sides of focused electrode array. More particularly, the potential gradient in the vicinity of the potential reference electrode is measured and the potential on a pair of shield electrodes located on opposite sides of the focused electrode array is adjusted in response to the measured potential gradient to substantially eliminate current flow in the vicinity of the potential reference electrode. By so doing, the potential of the potential reference electrode remains at substantially zero potential and the shield electrodes are also maintained near zero potential. Means for producing an overfocused effect are also shown in combination with the above.



3,452,270
DEVICE FOR DETERMINING FIRING CONDITION OF SPARK PLUGS

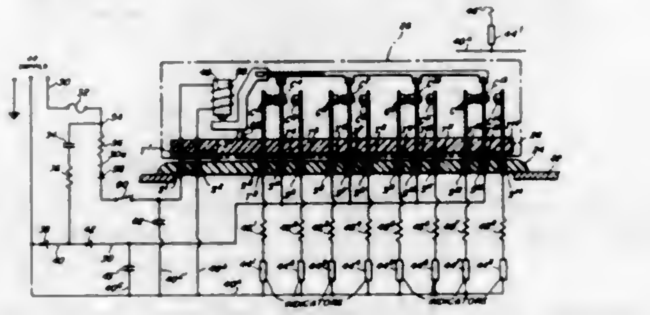
William J. Cook, 249—06 87th Ave., Bellerose, N.Y. 11426
Filed Oct. 23, 1965, Ser. No. 503,830
Int. Cl. G01r *31/22, 19/16;* **H01t** *1/12*
U.S. Cl. 324—17 **4 Claims**



A device with which the operating condition of a spark plug in an internal combustion engine ignition circuit can be determined is disclosed. The device includes an open coil form of a single continuous winding carried in a shroud which can be positioned over the ignition wire to which the spark plug being tested is connected. The coil form has an E.M.F. induced therein by the change in the magnetic field established around the ignition wire when current flows therethrough, the change in the field being produced by the pulsating nature of the current flow in the ignition wire. A signal lamp is connected to the coil form and is carried in a handle connected to the shroud. The lamp is lighted by the induced E.M.F. and flashes to indicate that the spark plug is firing properly.

3,452,271
APPARATUS FOR TESTING RELAYS FOR OPERABILITY, CONTINUITY AND LEAKAGE

Paul L. Ketter, Elizabeth, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,879
Int. Cl. G01r *31/02, 31/12*
U.S. Cl. 324—28 **7 Claims**

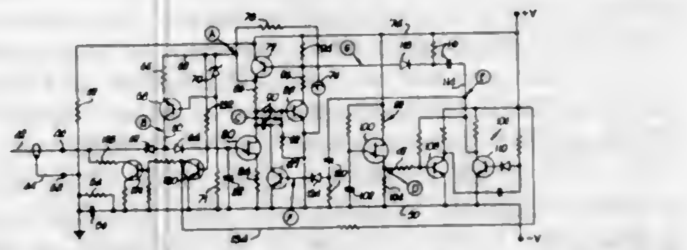


This invention relates to testing apparatus, and more particularly to an improved relay testing apparatus for testing electrical continuity of the relay coil, operation of the relay armature, leakage through the relay contacts and continuity through the relay contacts. The improved apparatus is for testing a relay having a contact pile including a first stationary contact, a second stationary contact, a movable contact normally engageable with the first stationary contact and insulation between the first stationary contact, the second stationary contact and the movable contact. This apparatus comprises power means adapted to provide a first predetermined voltage; a storage capacitor connected to the power means; charging means connected to the power means and the storage capacitor for charging the storage capacitor to a second predetermined voltage. One of the movable contact and the second stationary contact is connected to the charged storage capacitor and the power means. A first signal means is connected to the other of the movable contact and the second stationary contact and to the power means so that when the first predetermined voltage and the second predetermined voltage are additively applied across the insulation between the movable contact and the second stationary contact energization of the first signal means will indicate leakage across the insulation and across the normally open contacts of the relay. The relay also has a coil and an armature operable by the coil to move the movable contact into engagement with the second stationary contact. The coil is connected to the power means; and switch means is in series with the power means and the coil and is operable to energize the coil, actuate the armature and move the movable contact into engagement with the second stationary contact so that energization of the first signal means will indicate electrical continuity of the coil and operation of the armature.

3,452,272
METHOD AND APPARATUS FOR MEASURING CAPACITANCE AT REPEATED INTERVALS INCLUDING AVERAGE VALUE INDICATING MEANS

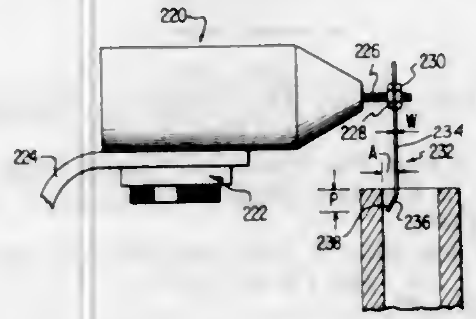
John J. Collins, Kansas City, and Charles E. Dye, Lee's Summit, Mo., assignors to Railway Communications, Inc., Raytown, Mo., a corporation of Missouri
Filed Aug. 29, 1967, Ser. No. 664,126
Int. Cl. G01r *27/26*
U.S. Cl. 324—60 **13 Claims**

The capacitance of a capacitive electrical element, such as a communication cable, is measured by energizing the element with constant current electrical energy, sensing charging of the element to a predetermined, fixed potential, and then discharging the element and repeating the cycle. A rectangular pulse is produced during each cycle which commences when charging begins and terminates when the charge of the element reaches said potential. The cycles are of equal durations, and the pulses are integrated to obtain the average value thereof which is proportional to the unknown capacitance.



3,452,273
NON-CONTACT DISPLACEMENT TRANSDUCER WITH FEEDBACK CONTROLLED VIBRATION AMPLITUDE AND A PROBE HAVING A SENSING MEANS DISPOSED TRANSVERSELY OF THE DIRECTION OF VIBRATION

George B. Foster, Worthington, Ohio, assignor to Reliance Electric & Engineering Co., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 22, 1965, Ser. No. 515,533
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 **13 Claims**

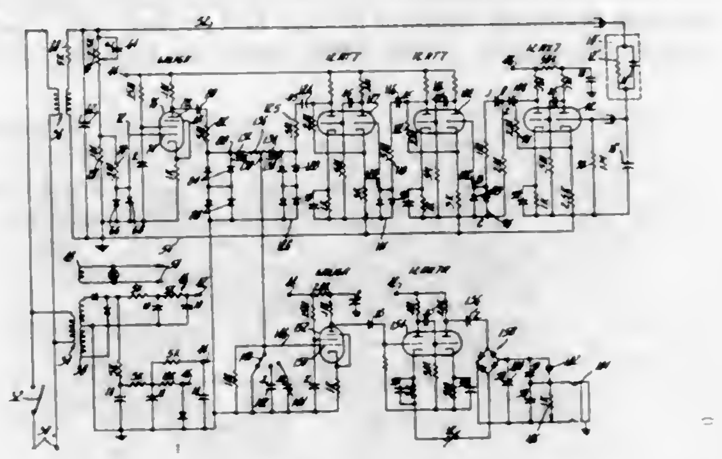


A non-contact transducer system with sensing means responsive to the distance from an object under inspection and a driver to impart a controlled calibrating vibration to the sensing means. The former is constructed with a main portion extending in a direction different than the direction of the calibrating vibration and includes an end portion extending in a direction different than the direction of the main portion. The driver disclosed is a piezoelectric crystal device having a number of layers of piezoelectric material separated by conductive layers. Electrical oscillation is coupled to the driver by electrode layers overlying the crystal layers. There is further disclosed a non-contacting thickness gage constructed of a pair of non-contacting transducer systems coupled together by electrical circuitry for comparing the output signals from the individual transducer systems and for providing a resulting signal representing an electrical analog of the thickness of a workpiece under inspection.

3,452,274
APPARATUS FOR MEASURING LOSS CHARACTERISTICS OF DIELECTRIC TEST SPECIMENS INCLUDING AN ELECTRICAL BRIDGE WITH SINE TO SQUARE WAVE CONVERSION MEANS AND INTEGRATION MEANS

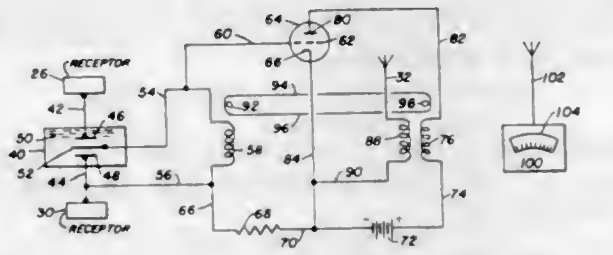
Edmund H. Povey, Medford, Mass., assignor to Doble Engineering Company, Belmont, Mass., a corporation of Massachusetts
Filed May 4, 1965, Ser. No. 453,145
Int. Cl. G01r *27/26, 25/00;* **H03k** *5/08*
U.S. Cl. 324—61 **10 Claims**

Apparatus for measuring the dielectric quality of electrical insulating oil includes a test cell for receiving the oil. The test cell includes two electrodes of a capacitor and a high value no loss capacitor is connected in series with the test cell, so that a sinusoidal voltage in quadrature with the current through the test cell is produced. A second sinusoidal voltage is provided across a zero phase angle standard resistor. Both sinusoidal voltages are converted to symmetrical square waves and a difference signal is produced by comparing the two square waves. The difference signal is integrated and applied to a meter to provide a direct indication of the loss characteristics of the oil being tested.



3,452,275
APPARATUS AND METHOD FOR MEASURING FIELD POTENTIAL DIFFERENCES USING A FIELD RESPONSIVE VARIABLE DIELECTRIC FLUID SENSOR

Robert M. Haines, Placentia, Calif., and Donald L. Klass, Barrington, and Thomas W. Martinek, Danville, Ill., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed May 23, 1966, Ser. No. 552,047
Int. Cl. G01r *31/02, 27/22*
U.S. Cl. 324—72 **17 Claims**

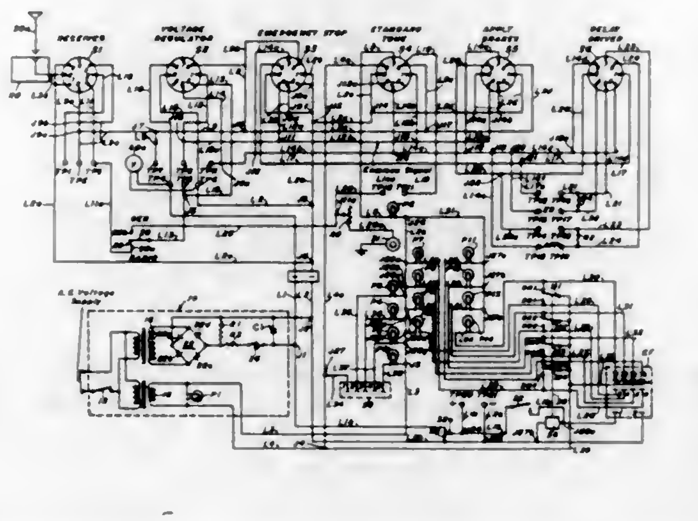


An apparatus and method for measuring the potential difference in a fluid system comprising sensing means communicating with an electrokinetic fluid having a dielectric constant which varies with changes in the potential difference being measured, an electric circuit communicating with the electrokinetic fluid and means to detect and measure the change in dielectric constant of the electrokinetic fluid.

3,452,276
APPARATUS FOR TESTING A CONTROL SYSTEM FOR OPERATING A MOBILE POWER UNIT

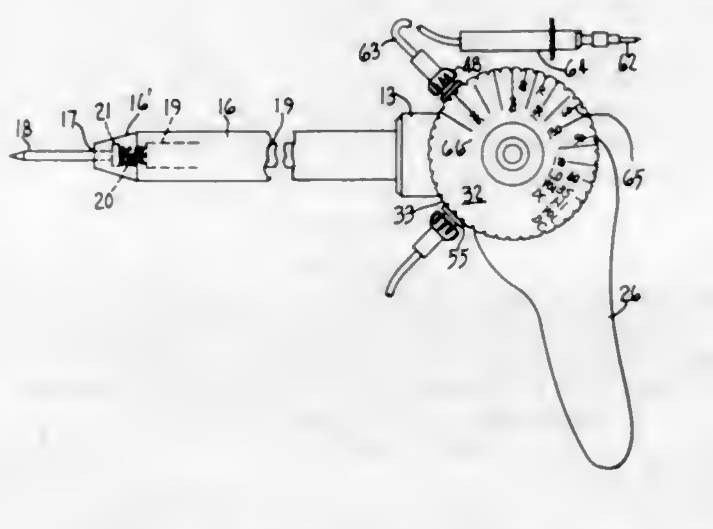
Horst H. Behrendt, Crown Point, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 6, 1967, Ser. No. 607,813
Int. Cl. G01r *15/12*
U.S. Cl. 324—73 **9 Claims**

This invention relates to a mobile power unit and, more particularly, to apparatus for testing the control system for a diesel electric locomotive, which testing apparatus provides a first test point and a second test point for checking a characteristic of a control element of the control system. The apparatus for testing a control system for operating a mobile power unit, the control system having a voltage regulator module, and one module of a receiver module, an emergency stop module, a standard tone module, a brake application module and a relay driver module, has a filtered direct current voltage supply means, a first socket connected to the voltage supply means, the voltage regulator module in said first socket, and a second socket connected to the first socket so that the voltage regulator module supplies the required voltage or voltages to the second socket. One module of the receiver module, the emergency stop module, the standard tone module, the brake application module and the relay driver module is in the second socket so that the required voltage or voltages for the one module are supplied to the one module. A first test point and a second test point are connected to the second socket, and a first instrument is connected to the first test point and the second test point for testing a characteristic of the one module.



3,452,277
HIGH VOLTAGE TEST PROBE HAVING BALANCED TANDEM-MOUNTED SERIES-CONNECTED RESISTORS

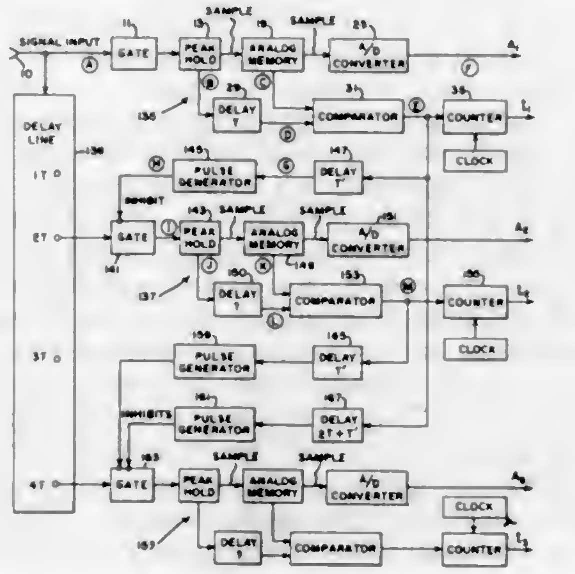
Joseph Woroble, 55 Morgan Place,
North Arlington, N.J. 07032
Continuation-in-part of application Ser. No. 653,731, July 17, 1967. This application Apr. 26, 1968, Ser. No. 730,974
Int. Cl. G01r *1/06*
U.S. Cl. 324—72.5 **7 Claims**



A hand-held probe for testing high voltages, such as those encountered in television sets, provides for a high resistance-carrying probe tube and a body (to which a probe tube is attached), and carrying within the body two matched and series-connected variable resistors of the commercial type, wherein their overall rating tolerance has been reduced by matching or balancing to values low enough to provide adequate accuracy for such use. A lower value adjustable minitrol resistor is also connected, in series between the two variable resistors and the minitrol is calibrated to provide even a lower overall rating tolerance for the aforesaid entire variable resistance series. The probe employs a neon lamp circuit designed to give a regularly blinking light when the dial is turned to reach the correct voltage to be measured. A high resistance voltage multiplier cartridge in the probe tube abuts against a conductive removable contact plate mounted in the body or at the inner end of the probe tube. A fixed resistance is provided between the neon lamp circuit and the last of the variable resistors, and a resistance-carrying jack may be inserted in the circuit between the fixed resistance and the last of the variable resistors for measuring RF and AC voltage ranges other than those set on the dial, as well as DC voltages. In the test probe for color TV (higher) voltage testing, the fixed resistance is inserted in the circuit between the last variable resistor and the neon lamp circuit, but the resistance-carrying jack for measuring other voltages, and the voltage multiplier high resistance cartridge are plugged or connected into the circuit between the fixed resistance and the neon lamp circuit. By this means, the voltage scale on the dial may be expanded to obtain more accurate voltage readings in any desired range.

3,452,278
APPARATUS FOR ELECTRICAL WAVEFORM ANALYSIS

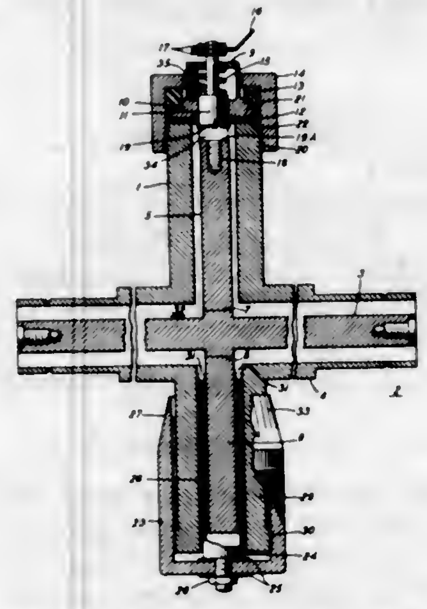
Eldred M. Myers and Philip G. Schuls, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 3, 1967, Ser. No. 620,386
Int. Cl. G01r *23/16*
U.S. Cl. 324—77 **7 Claims**



This application describes apparatus for performing electrical waveform analysis to obtain measurements of the magnitudes and times of occurrence of the highest of one or more amplitude peaks appearing in the waveform during a sampling period, these peaks being ranked for sequential measurement in descending order of their magnitude. The apparatus accomplishes these measurements automatically and without visual display or other monitoring by an operator, and provides its output in digital form if desired. It therefore is well adapted to serve as an interface device between a high speed serial analog processor and a digital computer, in which capacity it provides the data rate reduction and analog-to-digital conversion necessary to accommodate the output of the analog processor to the input of the digital computer.

3,452,279
TEST FIXTURE FOR MEASURING IMPEDANCE PARAMETERS OF DIODES OPERATED AT MICROWAVE FREQUENCIES

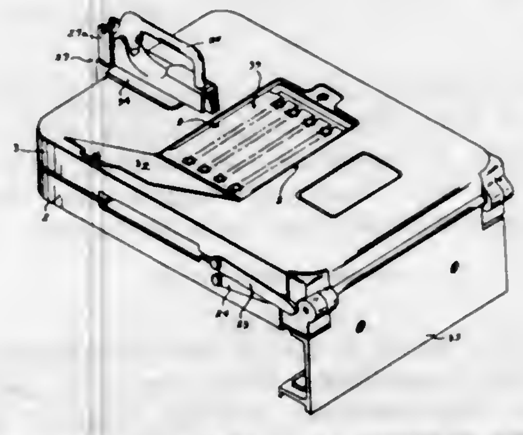
Gerald C. Di Piazza, Randolph Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 3, 1966, Ser. No. 531,421
Int. Cl. G01r *27/16, 35/00, 27/04*
U.S. Cl. 324—158 **12 Claims**



A fixture for measuring impedance parameters of diodes operated at microwave frequencies is provided, comprising a tapped resonator connected at a point along a transmission line. The resonator comprises an adjustable short-circuited stub and an open-circuited stub having the diode to be tested connected across its open end. The two stubs have a total length substantially equal to an odd number of quarter wavelengths at the test frequency.

3,452,280
MODULE TEST FIXTURE HAVING MODULE-KEY SENSING AND TEST PROBE ELEMENTS

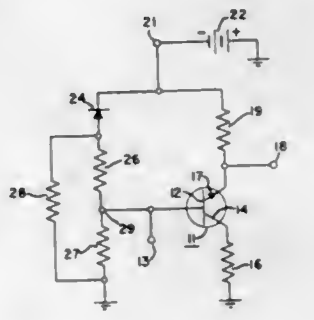
Willis P. Bunn, Garden Grove, Charles Milosevich, Yorba Linda, and Robert E. Mosher, San Clemente, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed July 31, 1967, Ser. No. 657,746
Int. Cl. G01r *31/28*
U.S. Cl. 324—158 **10 Claims**



A printed circuit module to be tested is affixed to a lower test frame member hingedly mounted to a similar upper test frame member. Electrical contact springs are slidably positioned in each frame member and are moveable to a position in electrical contact with both slot and key positions on the printed circuit module. Electrical shorting bars are attached to each frame member and each incorporate an electrical contact edge in initial contact with the electrical contact springs. The electrical contact springs in engagement with the module slot and key positions, when the selected module is to be tested, are respectively sensed or identified by movement of the corresponding contact springs to an engaged, shorting-out position with the electrical contact edge, or to a raised, non-engaged and non-shorting position relative thereto.

3,452,281
TRANSISTOR AMPLIFIER CIRCUIT HAVING DIODE TEMPERATURE COMPENSATION

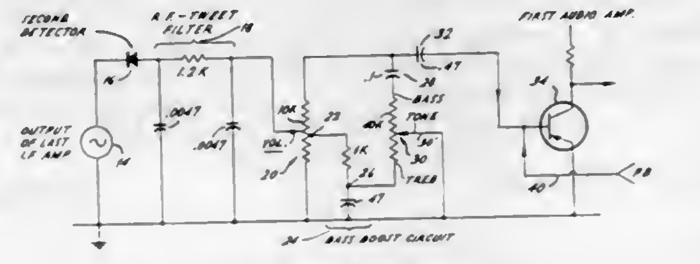
Richard C. Weischedel, Camillus, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 11, 1966, Ser. No. 549,266
Int. Cl. H03f *1/30, 3/10*
U.S. Cl. 330—24 **1 Claim**



A circuit is disclosed for providing temperature compensation for a transistor by means of a diode connected in a biasing circuit for the input electrode of the transistor, without adversely affecting the input signal impedance of the circuit. Proper current for the diode is achieved by a resistor network having a pair of series-connected resistors connected in parallel with a third resistor. The junction of the pair of resistors is connected to the signal input electrode of the transistor, for applying temperature-compensated bias thereto. The resistance values of the pair of resistors is chosen to provide a desired input signal impedance, and the value of the third resistor is chosen, in conjunction with that of the pair of resistors, to provide proper current in the temperature-compensated diode.

3,452,282
AUTO RADIO VOLUME AND TONE CONTROL CIRCUIT

John F. Beres, Southampton, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed May 3, 1965, Ser. No. 452,740
Int. Cl. H04b *1/16*
U.S. Cl. 325—424 **6 Claims**

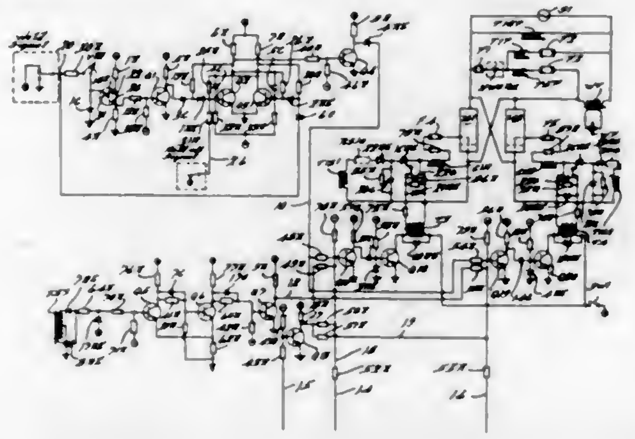


IMPROVED VOLUME & TONE CONTROL CIRCUIT

A volume and tone control circuit for an auto radio receiver employing a reverse-connected volume control potentiometer, i.e., a potentiometer the variable tap terminal of which is its input terminal and a fixed terminal of which is its output terminal. The tone control and bass boost circuits are connected to the output side of the potentiometer. Because of the reverse connection, the volume control circuit has a higher output impedance, enabling: (1) the size of the DC-blocking capacitor at the input of the audio amplifier to be reduced, (2) the noise suppression resistor to the audio amplifier to be eliminated, (3) a higher impedance to be presented to the feedback circuit for the audio amplifier, and (4) ignition noise originating in the ground circuit near the input of audio amplifier to be suppressed.

3,452,283
TIMER

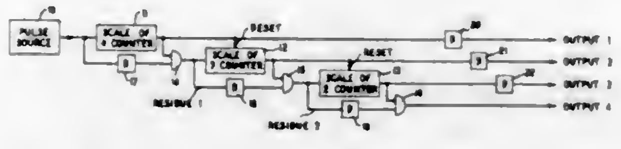
George O'Neal, Jr., Detroit, Mich., assignor to Weltronic Company, Southfield, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 305,342, Aug. 29, 1963. This application Feb. 23, 1965, Ser. No. 439,499
Int. Cl. H03k *17/00, 21/32*
U.S. Cl. 328—75 **56 Claims**



1. In combination, a source of recurring electrical pulses, timing means comprising counting means for counting said pulses, a plurality of individually settable selector means connected to said counting means for providing a selectable output indication at selected counts of said counting means, a steppable sequence circuit means having a plurality of terminals and a plurality of sequential conditions and including means for providing a preselected output indication to said terminals in accordance with its condition, control means effective when enabled to step said sequence circuit and to reset said counting means, and enabling means individual to each of said selector means and to each of said terminals and effective in response to said preselected output indication at the individual one of said terminals concurrently with the output indication selected by the selector means individual thereto for enabling said control means.

3,452,284
PULSE DISTRIBUTOR COMPRISING $n-1$ COUNTERS AND $n-1$ SUBTRACTION MEANS HAVING SCALES STARTING WITH n AND DECREASING IN UNITARY STEPS, n BEING GREATER THAN 2

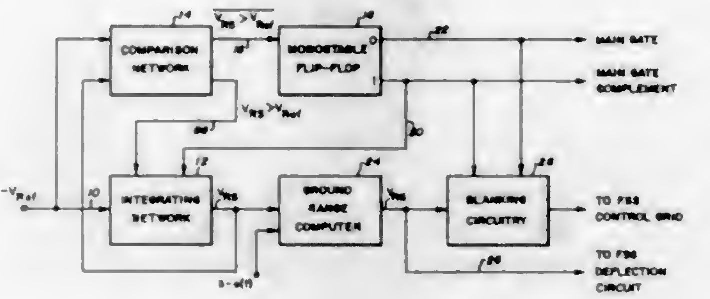
Dankwart Koehler, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Aug. 3, 1966, Ser. No. 570,038
Int. Cl. H03k *17/02*
U.S. Cl. 328—105 **12 Claims**



1. A pulse distributor for distributing incoming pulses sequentially to a plurality of n different outputs, where n is a positive integer greater than 2, said distributor comprising a plurality of $(n-1)$ counters, successive ones of said counters having respective scales beginning with n for the first and decreasing in unitary steps to 2 for the last, means to subtract the outputs of all preceding ones of said counters from the input pulse train in respective ones of said subtraction circuits and apply the resulting difference to drive each of said counters in succession, and output means connected to each of said counters and the last of said subtraction circuits.

3,452,285
SWEEP AND TIMING PULSE GENERATOR FOR RADAR SIMULATION

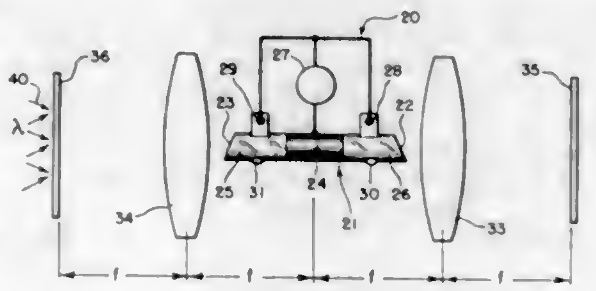
Michael B. Parmett, Menlo Park, Calif., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed Aug. 6, 1965, Ser. No. 477,787
Int. Cl. H03k *3/78;* **G01s** *9/00*
U.S. Cl. 328—181 **3 Claims**



An integrating circuit generates a ramp function signal which is compared with a reference potential to provide timing pulses. The timing pulses (1) reset the integrating circuit and (2) are passed to further circuitry to provide blanking signals and other timing functions for radar simulation.

3,452,286
IMAGING APPARATUS

Robert Adler, Northfield, Ill., assignor to Zenith Radio Corporation, Chicago, Ill.
Filed Feb. 23, 1967, Ser. No. 618,154
Int. Cl. H01s *3/02, 3/09*
U.S. Cl. 330—4.3 **6 Claims**

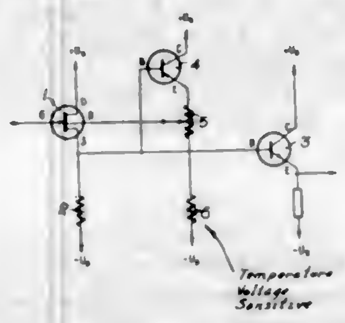


External radiation forms an image on one reflector of a conjugate laser. The laser is pumped with pulses of energy having an amplitude and duration such that the laser operates in a linear super-regenerative mode. The image appears in an amplified form on the laser reflectors.

3,452,287
AMPLIFIER WITH A HIGH INPUT RESISTANCE

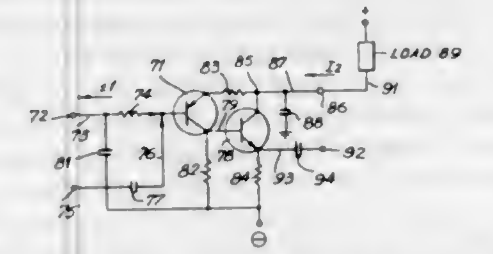
Siegfried Büsch and Reimar Germann, Graz, and Robert Kolitsch, Graz-Puntigam, Austria, assignors to Hans List, Graz, Austria
Filed Mar. 8, 1965, Ser. No. 437,712
Claims priority, application Austria, Mar. 9, 1964, A 2,037/64
Int. Cl. H03f *3/18, 3/04, 3/14*
U.S. Cl. 330—17 **4 Claims**

High input impedance transistor amplifiers for amplifying outputs of piezoelectric measuring devices. A grounded drain, insulated gate, field-effect transistor is used in the input stage and is followed by one or more transistor amplifying stages; an auxiliary transistor stage having a temperature and voltage sensitive load resistance may be connected with the field-effect transistor to provide temperature and drift compensation.



3,452,288
DC AND HIGH FREQUENCY TRANSISTOR AMPLIFIER CIRCUIT

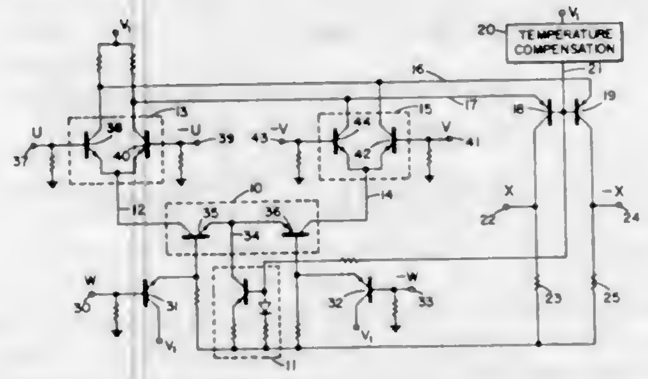
Masao Kawashima, Yokohama-shi, and Isao Fudemoto, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Jan. 4, 1967, Ser. No. 607,255
Claims priority, application Japan, Jan. 8, 1966, 41/888
Int. Cl. H03f *3/18, 3/42, 3/68*
U.S. Cl. 330—17 **6 Claims**



In a DC and high frequency transistor amplifier circuit the emitter electrode of a first transistor is connected to the collector electrode of a second transistor through an impedance and the collector electrode of the first transistor is directly connected to the base electrode of the second transistor. A DC signal input and a high frequency signal input are connected to the base electrode of the first transistor. A DC signal output is connected to the emitter electrode of the first transistor and the collector electrode of the second transistor and a high frequency output is connected to the emitter electrode of the second transistor.

3,452,289
DIFFERENTIAL AMPLIFIER CIRCUITS

Carl R. Ryan, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 16, 1967, Ser. No. 616,506
Int. Cl. H03f *1/08, 1/34*
U.S. Cl. 330—23 **9 Claims**



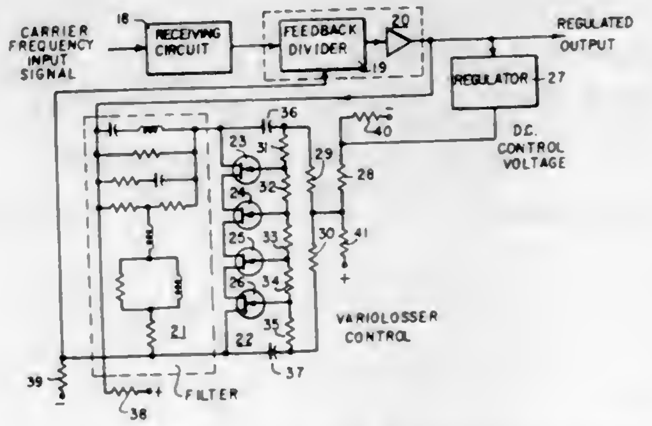
A differential amplifier tree arrangement having a base differential amplifier with two active elements sharing a received constant current with each of the elements respectively supplying its passed currents to a pair of separate upper differential amplifiers, each of the three differential amplifiers may be independently controlled. Output signals of the upper two differential amplifiers are inter-connected in such a way that when the base amplifier switches from one upper differential amplifier to the other, there are insubstantial, if any, transients induced in the linear signals being processed through the differential amplifier tree.

ERRATUM

For Class 330—24 see:
Patent No. 3,453,281

3,452,290
LOW DISTORTION VARIOLOSSER

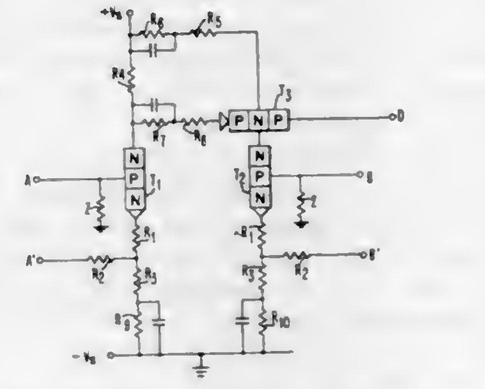
Christopher R. Huntley, Burnaby, British Columbia, Canada, assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Sept. 12, 1967, Ser. No. 667,155
Int. Cl. H03f *1/08, 1/12, 1/34*
U.S. Cl. 330—28 **1 Claim**



A variolosser has a field-effect transistor as a controlled variable resistance element. A voltage divider connected to the drain and the gate of the transistor in a bootstrap arrangement supplies sufficient signal voltage from the drain to the gate to cancel modulation of the channel resistance of the transistor which would otherwise be caused by application of signal to the drain only.

3,452,291
DIFFERENTIAL AMPLIFIER

Dieter Seitzer, Gattikon, and Rolf Luescher, Adliswil, Zurich, Switzerland, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 15, 1966, Ser. No. 572,588
Claims priority, application Switzerland, Nov. 26, 1965, 16,342/65
Int. Cl. H03f *1/00, 3/68*
U.S. Cl. 330—30 **4 Claims**



The differential amplifier disclosed herein is capable of accurately eliminating common-mode disturbances from differential-mode input signals consisting of pulses having very short rise times, and its design is well suited to mass fabrication. A single transistor is arranged so that it functions both as a common-base amplifier and a common-emitter amplifier having equal current gains and equal frequency bandwidths. To achieve this optimum relationship, the amplifier is provided with an emitter circuit having a resistor network so arranged that it effectively reduces the gain of the common-emitter amplifier to equal that of the common-base amplifier and effectively increases the frequency bandwidth of the common-emitter amplifier (through negative current feedback) to equal that of the common-base amplifier. The impedances of the input signal sources respectively are matched by the aforesaid resistor network in the emitter circuit and a suitable resistance in the base circuit. The design of the resistor network is predicated upon the solution of three simultaneous linear equations which express the optimum relationships of three unknown resistance values needed to achieve equal current gains, equal bandwidths and impedance matching properties in the common-emitter and common-base functions of the amplifier.

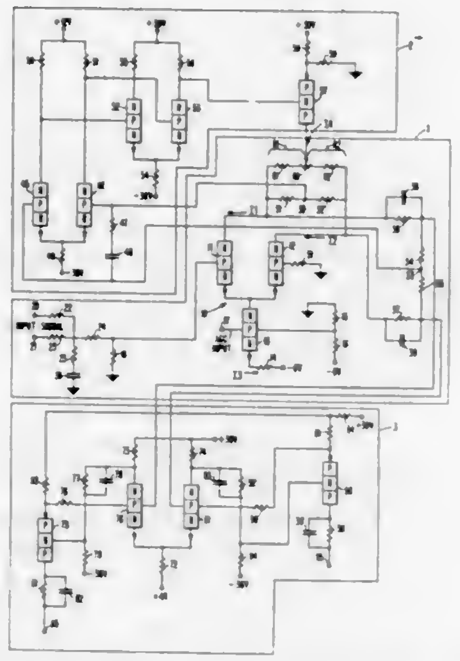
3,452,292
VARIABLE GAIN DIFFERENTIAL DIRECT CURRENT AMPLIFIER

James J. Kennedy, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 5, 1965, Ser. No. 430,705

Int. Cl. H03f *3/68, 21/00*

U.S. Cl. 330—30 . 3 Claims



This application relates to improvements in variable gain differential direct current amplifiers.

A pair of transistors connected as a differential amplifier have their emitter electrodes connected to a first transistor current source and their collector electrodes separately connected to a second transistor current source by respective resistors having a ratio inversely proportional to the respective collector currents flowing therethrough. The differential amplifier gain is varied by varying the current level of the first transistor current source. Second amplifier means causes the second transistor current source to produce current levels which maintain the ratio of the collector currents constant with variations in the differential amplifier gain. A pair of equal valued resistors couple the collector electrodes to output terminals. The second amplifier means is coupled to both sides of the equal valued resistors and is effective to reduce common mode current flow through the resistors substantially to zero.

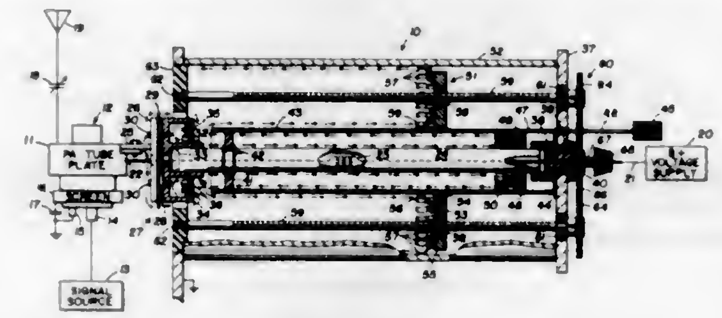
3,452,293
DUAL-BAND TRANSMISSION LINE TUNABLE RESONANT TANK CIRCUIT

Vincent R. De Long, William J. Durspek, Jr., and Marvin D. Weltha, Marion, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 24, 1966, Ser. No. 588,897

Int. Cl. H01p *7/04*

U.S. Cl. 330—56 10 Claims



1. In a tunable dual-band RF resonant tank circuit, RF signal input means at one end of the tunable resonant tank circuit; an inner conductor connected to said signal input means and longitudinally extended to predetermined length; an annular sleeve of conductive material supported in mutually spaced surrounding relation to said inner conductor throughout most of the operational length of said inner conductor; RF signal conductive means mounted on said innermost conductor providing an annular RF signal path interconnecting said inner conductor and said annular sleeve; a longitudinally extended outermost conductor in mutually annularly spaced relation to said sleeve throughout the operational length of said sleeve; RF signal tuning means providing an RF signal path interconnecting said sleeve and said outer conductor, and mounted for tuning movement back and forth longitudinally along said conductive annular sleeve and said outermost conductor; tuning drive means for tuning position shifting of said tuning means; and means for selectively shorting RF directly to said sleeve conductor for switching from one frequency band mode to the other frequency band mode of operation.

3,452,294
DIGIT RATE SYNCHRONISATION OF A NETWORK OF DIGITAL STATIONS

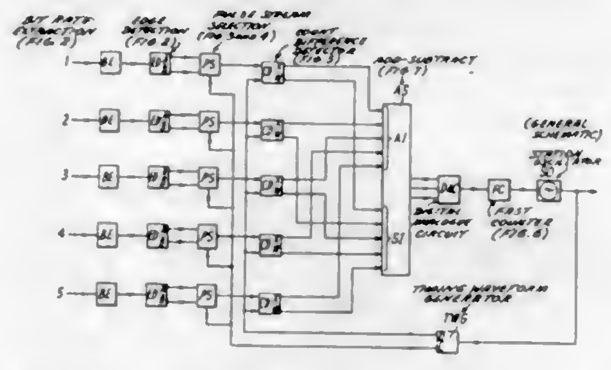
Howard Mumford, Peter William Smith, and David Halliday, Taplow, England, assignors to British Telecommunications Research Limited, Taplow, England, a British company

Filed Sept. 6, 1967, Ser. No. 665,888

Claims priority, application Great Britain, Sept. 6, 1966, 39,869/66

Inc. Cl. H03b *3/04*

U.S. Cl. 331—11 8 Claims



In an electrical signalling system in which each station has its own oscillator, the oscillators of the various stations are maintained in synchronism with each other. The frequency of each oscillator is arranged to be controlled by a digital signal and each station has a means for storing such digital signal. The frequency of the oscillator at a station is repeatedly compared with that of the oscillator at each of the other stations in turn and one unit is added to the digital signal for each other oscillator which is found to have a higher frequency than the oscillator at such station and one unit is subtracted from the digital signal for each other oscillator which is found to have a lower frequency than such oscillator.

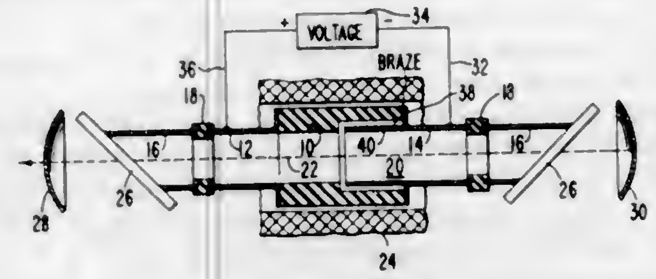
3,452,295
GAS LASER DISCHARGE TUBE HAVING INSULATOR SHIELDS

Arden Sher, Sunnyvale, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Aug. 4, 1966, Ser. No. 570,363

Int. Cl. H01s *3/22*

U.S. Cl. 331—94.5 7 Claims



1. A gas laser apparatus including means forming an elongated tubular gas tight envelope for containing a gas laser discharge column within a gas fill inside of said envelope, means forming a pair of electrodes axially spaced apart of said elongated tubular envelope one of said electrodes adapted to operate at anode voltage and the other adapted to operate in use at a voltage negative with respect to the anode voltage, for exciting the gas laser discharge column in the region therebetween, means forming a dielectric insulator assembly disposed intermediate said pair of electrodes and defining a portion of said tubular envelope, means forming a metal-to-dielectric gas tight joint between said insulator and a metallic portion of said envelope which envelope portion is operated in use at a potential negative with respect to the anode voltage, and means forming a shield disposed within said envelope adjacent said metal-to-dielectric joint for shielding said joint from bombardment by ions originating in the laser discharge column by receiving such ions incident thereon, and said shield also serving to shield at least a portion of the length of the inside surface of said insulator from sputtered metallic particles sputtered off ion bombarded surfaces within said tubular envelope, whereby the operating life of the laser apparatus is extended as compared to similar laser apparatus without said shield means.

3,452,296
LASER SYSTEM FOR GENERATING COHERENT LIGHT

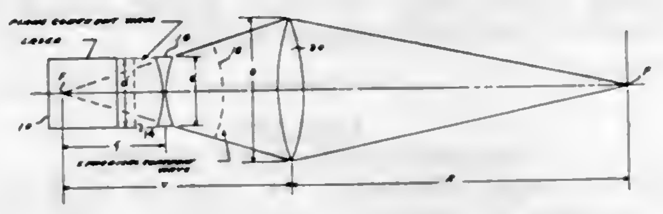
Arthur E. Lockenvitz and Charles R. Longwell, Austin, Tex., and Roy Pietsch, Melbourne, Fla., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 20, 1965, Ser. No. 450,573

Int. Cl. H01s *3/02, 3/08;* **A61n** *5/06*

U.S. Cl. 331—94.5 2 Claims

Apparatus for producing high power density laser radiation at a given reception point comprising a laser having an exit aperture of diameter d, a diverging lens intercepting the laser output and a converging lens of diameter $D>d$ for bringing the diverging rays from the first lens to focus at the reception point, this arrangement reducing the diameter of the central disc of the Fraunhofer diffraction pattern at the reception point by the factor d/D and increasing the power density by the factor $(D/d)^2$ as compared with the disc diameter and power density when a single converging lens is used to focus the laser output at the reception point. In a modification, the total radiation power brought to bear on the reception point is also increased by making the converging lens of two separate elements with an array of light amplifying lasers situated therebetween for augmenting the light before it reaches the second element, the lasers of the array being locked in phase by light received from the first laser.



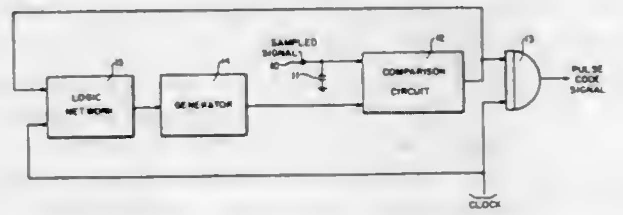
3,452,297
NONLINEAR PCM ENCODER HAVING FEW ANALOG-TO-QUANTIZED SIGNAL COMPARISONS WITH RESPECT TO THE PERIOD OF THE PCM SIGNAL GENERATED

Michael J. Kelly, Melrose Park, and Bernard J. Rekiere, Addison, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Mar. 14, 1966, Ser. No. 534,097

Int. Cl. H03k *7/00, 13/02;* **G08c** *11/00*

U.S. Cl. 332—9 9 Claims



An input signal is encoded by a PCM encoder having a nonlinear quantizing characteristic which is defined by 64 quantizing levels including major quantizing levels of 0, 8, 16 . . . 64 with seven minor quantizing levels between each of the major levels. The major levels are generated first by a first series of logically controlled current generators and a plurality of corresponding impedances to obtain, through comparison techniques, the major level which is nearest but less than the input signal. Upon determining the correct major level, the correct minor level is similarly determined by a second series of logically controlled current generators which employs the impedance corresponding to the correct first generator so that the minor levels are added to the correct major level.

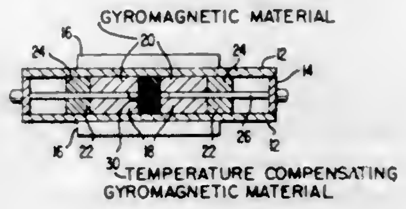
3,452,298
TEMPERATURE COMPENSATED THREE-PORT STRIPLINE CIRCULATOR

Charles P. Andrikian, Los Angeles, Calif., assignor to Communications Satellite Corporation, a corporation of the District of Columbia

Filed Oct. 17, 1967, Ser. No. 675,986

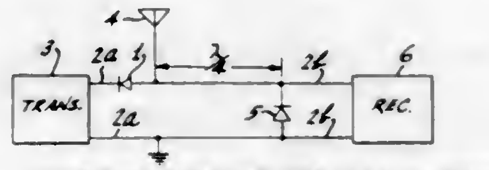
Int. Cl. H01p *1/32*

U.S. Cl. 333—1.1 2 Claims



A stripline ferrite microwave circulator is temperature compensated over a limited temperature range by using two gyromagnetic materials in the place of the normally used single material. The second material is used only for temperature compensation and is placed at the RF zero location of the circulator to have minimum effect on the radio energy. The relative magnetic characteristics are such that with an increase in temperature a greater percentage of the total externally applied flux is passed through the main gyromagnetic material.

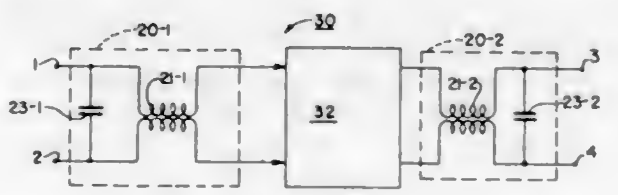
3,452,299
TRANSMIT-RECEIVE SWITCH
Karl W. Angel, Pittsburgh, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,257
Int. Cl. H01p *5/12, 1/04*
U.S. Cl. 333—7 **12 Claims**



λ = NOMINAL WAVELENGTH OF OPERATING FREQUENCY

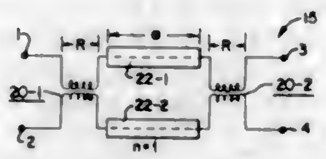
A novel means for switching the terminals of a common antenna from a receiver input circuit to a transmitter output circuit and vice versa is provided by using a pair of semiconductor devices each of which operates only during avalanche conditions. The first semiconductor device is placed in series with the transmitter output circuit and the second semiconductor device is connected in shunt across the receiver input circuit at a point with respect to the antenna terminals to reflect a high impedance to the terminals upon conduction of the second semiconductor device. When the transmitter is energized, both devices conduct switching RF current from the transmitter output circuit to the antenna and isolating the receiver. When the RF signals are received at the antenna neither device conducts, and the received signals are applied to the receiver.

3,452,300
FOUR PORT DIRECTIVE COUPLER HAVING ELECTRICAL SYMMETRY WITH RESPECT TO BOTH AXES
Joseph D. Cappucci, Wayne, and Harold Seidel, P.O. Martinsville, Warren Township, N.J., assignors to Merrimac Research and Development, Inc., Irvington, N.J., a corporation of New York
Filed Aug. 11, 1965, Ser. No. 478,930
Int. Cl. H01p *5/14;* **H03h** *1/00*
U.S. Cl. 333—10 **12 Claims**



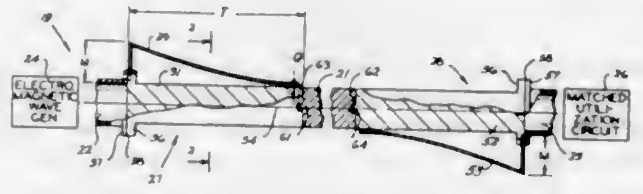
A symmetrical four port directive coupler for controlled operation over a wide band of frequencies in which two networks formed by lumped constant parameters are connected together by an electrical coupling means. The parameters of the two networks and the electrical coupling means are selected so that the normalized input impedance of the even mode bisection of the entire symmetrical directive coupler is equal to the normalized input admittance of its odd mode bisection.

3,452,301
LUMPED PARAMETER DIRECTIONAL COUPLER
Joseph D. Cappucci, Wayne, and Harold Seidel, P.O. Martinsville, Warren Township, N.J., assignors to Merrimac Research and Development, Inc., Irvington, N.J., a corporation of New York
Filed Feb. 15, 1966, Ser. No. 527,421
Int. Cl. H01p *5/14*
U.S. Cl. 333—10 **14 Claims**



A four port directive quadrature coupler for controlled response over a band of frequencies having one or more coupler sections in which each coupler section possesses electrical symmetry with respect to at least one axis, the coupler section being formed by a pair of conductors whose ends provide the input and output ports for the section, the conductors being held in registration in a magnetic coupling relationship and having a length substantially less than one quarter wavelength long at a given center frequency of operation for the section to form a lumped constant element at that frequency. The inductance parameter of the pair oaf registered conductors and the capacitance of the section, which is formed in major part by the proximity capacitance between the two conductors is such that the normalized input impedance of the odd mode bisection and the normalized input admittance of the even mode bisecting are substantially equal.

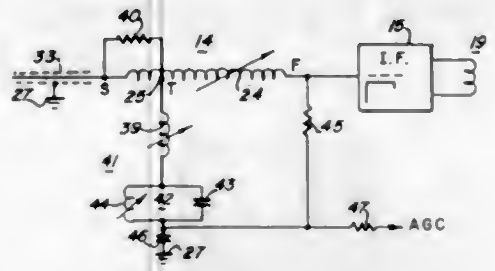
3,452,302
COUPLING OF DIELECTRIC TO METALLIC WAVEGUIDES
Adnan T. Hayany, Kansas City, Mo., assignor to Western Electric Company Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 9, 1967, Ser. No. 608,149
Int. Cl. H01p *1/16, 1/08;* **H03h** *5/00*
U.S. Cl. 333—21 **17 Claims**



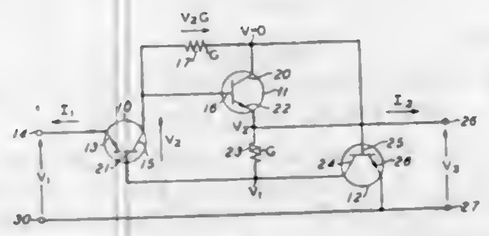
An intermediate section of solid dielectric waveguide is matched at both ends to sections of hollow metallic waveguide with the aid of a new low-loss transition. A pair of substantially identical reflecting surfaces extend in longitudinal opposite directions along the dielectric section from opposite interfaces between the latter and the metallic waveguide sections. The transverse spacing of each reflecting surface from the dielectric section decreases monotonically with longitudinal distance from a maximum at the associated interface.

3,452,303
BANDPASS NETWORK HAVING A HIGH ATTENUATION REJECTION CHARACTERISTIC
Leonard V. Babcock, Arlington Heights, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed July 20, 1965, Ser. No. 473,430
Int. Cl. H01h *7/10;* **H01p** *5/12;* **H04n** *7/04*
U.S. Cl. 333—76 **4 Claims**

A bandpass network including mutually coupled inductances having a common junction, and an absorption trap coupled to the common junction and forming a circuit which is series resonant at a frequency slightly below the frequency to be rejected by the network, and parallel resonant at a frequency below the resonant frequency of the series tuned circuit.

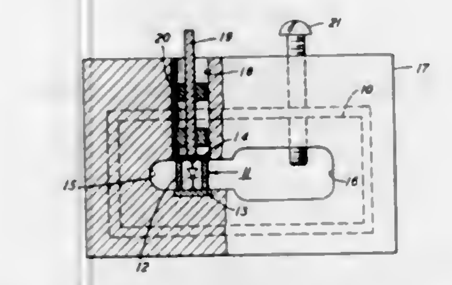


3,452,304
NONRECIPROCAL WAVE TRANSLATING DEVICE
Sanjit K. Mitra, Davis, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 10, 1967, Ser. No. 637,507
Int. Cl. H01p *1/24;* **H03h** *5/00*
U.S. Cl. 333—80 **2 Claims**



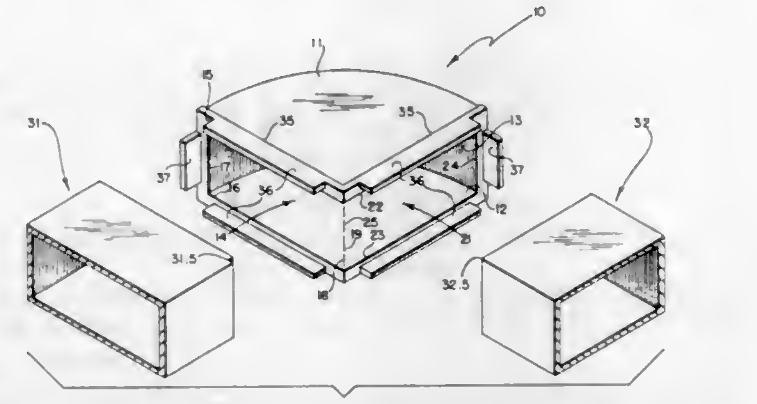
Gyrator circuits utilizing three transistors with the collector of a first connected to both the base of a second transistor and the base of the third transistor. The base electrode of the first transistor is connected to the collector of the third and the input to the circuit is taken between the emitters of the first and third transistors, with the output taken between the emitters of the second and third transistors.

3,452,305
MICROWAVE SEMICONDUCTIVE DEVICE MOUNT
Ibrahim E. Hefni, North Andover, Mass., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Feb. 28, 1967, Ser. No. 619,433
Int. Cl. H01p *7/06, 1/22;* **H03d** *9/02*
U.S. Cl. 333—83 **4 Claims**



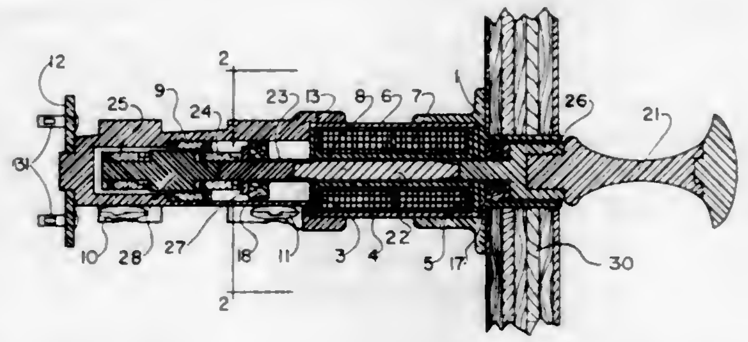
A semiconductive element such as a diode is mounted in a waveguide iris shaped in the form of two different sized connected openings which together are resonant. The diode is mounted in one opening and dimensions of the other determine the Q and the resonant frequency of the combination.

3,452,306
PREFABRICATED WAVEGUIDE CORNER
Richard M. Walker, Chestnut Hill, Mass., assignor to Microwave Associates, Inc., a corporation of Massachusetts
Continuation of application Ser. No. 567,713, July 25, 1966. This application July 11, 1968, Ser. No. 751,661
Int. Cl. H01p *1/02*
U.S. Cl. 333—98 **12 Claims**



This invention relates to a prefabricated element which enables the manufacture at low cost and with simple techniques of a waveguide corner for use in a rectangular waveguide.

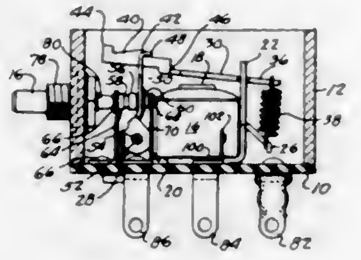
3,452,307
DRAWKNOB ORGAN SWITCH
Robert A. Barnard, Vancouver, Wash., assignor to Syndyne Corporation, Vancouver, Wash., a corporation of Oregon
Filed Dec. 5, 1967, Ser. No. 688,178
Int. Cl. H01h *51/28, 1/66*
U.S. Cl. 335—153 **7 Claims**



A drawknob organ switch in which overcenter action is provided by a pair of permanent magnets fixed to the drawknob stem and moving through a fixed annular permanent magnet, and in which part of the drawknob stem comprises an iron armature passing through a fixed solenoid coil to permit electrical as well as manual operation of the switch device, and in which one or more stationary reed switches are opened or closed by motion of the permanent magnets fixed to the drawknob stem, making or breaking electrical circuits to achieve the desired selection of organ tone families or related purposes.

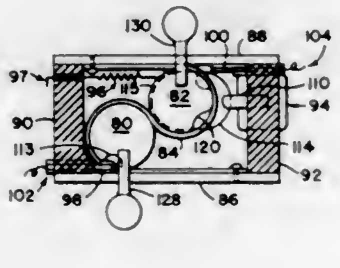
3,452,308
MAGNETIC SWITCH
Frank W. Murphy, Jr., Box 4537, Tulsa, Okla. 74114, and Wayne McMillian, 5328 E. Admiral Place, Tulsa, Okla. 74115
Filed Dec. 13, 1967, Ser. No. 690,250
Int. Cl. H01h *51/00;* **F02p** *11/00*
U.S. Cl. 335—166 **5 Claims**

An improved automatic magnetic safety switch for disabling engine ignition systems which includes an energizable solenoid, an armature having a detent pivotally mounted for movement by the solenoid and biased away from the solenoid, a pivotally mounted plate engageable by the detent such that when so engaged the plate is in a first position and when released upon energization of the solenoid, the plate moves to a second position, a pair of fixed contacts spaced on either side of the movable plate, a contact on the plate engageable with one fixed contact only when the movable plate is engaged by the detent and a contact carried by a resilient leaf spring carrier on the plate engageable with the other fixed contact both when the plate is engaged by the detent and when it is released from the detent, the plate being biased for movement to a second position upon disengagement of the detent and a return pushbutton which engages first the contact carrier and then moves the plate from the second position to the first position to prevent the manual disabling of the safety switch by holding the pushbutton depressed.



3,452,309
ROLLER-BAND DEVICES

Donald F. Wilkes, Albuquerque, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 15, 1967, Ser. No. 683,376
Int. Cl. H01h *3/32;* **F16c** *33/32*
U.S. Cl. 335—209 16 Claims

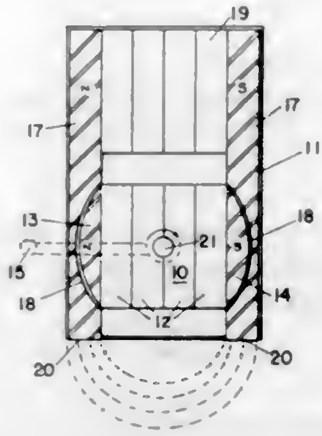


A roller-band device which minimizes sliding friction, comprising rotatable members in a guideway with walls thereof spaced apart less than the summation of the diameters of the members for supporting the rotatable members, flexible band means between the guideway walls with a portion of the band means disposed between and partially encompassing said members to form a cluster and maintain the members generally parallel, and additional means attached or coupled to the cluster for urging said cluster along the guideway.

3,452,310
TURN-OFF PERMANENT MAGNET

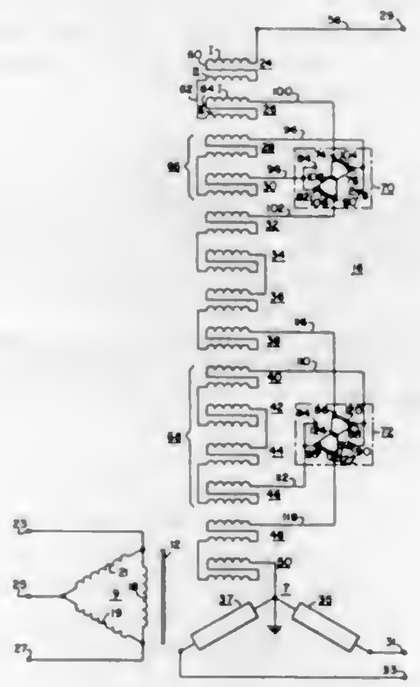
Arlo F. Israelson, Erie, Pa., assignor to Eriez Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1966, Ser. No. 593,942
Int. Cl. H01f *7/20, 7/04*
U.S. Cl. 335—286 7 Claims

A magnetic device is disclosed that has a stator made up of permanent magnets supported between two spaced legs. An armature made up of a stack of permanent magnets having a rounded pole piece on each end is supported between the legs of the first mentioned magnet. The legs are rounded out to conform to the shape of the rounded end of the armature, thus the armature may be rotated to a position where the field from the first magnet is short-circuited and it may be rotated to another position where the field for the first magnet is aided by the rotor. Thus, the magnets can be used to lift a ferrous object and, by rotating the armature, it can be caused to release the object.



3,452,311
INTERLEAVED WINDING HAVING A TAPPED SECTION AND SWITCH

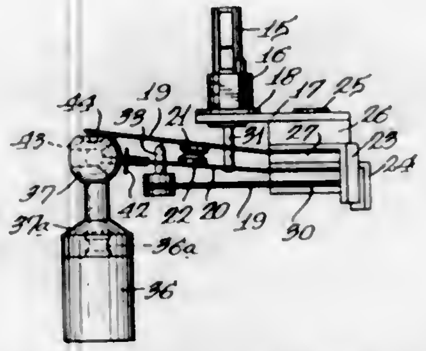
George P. Beck, Sharon, and Harold N. Brauch, Farrell, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1968, Ser. No. 698,881
Int. Cl. H01f *15/14, 29/02, 21/02*
U.S. Cl. 336—70 4 Claims



A winding having a plurality of stacked coils which are each formed from at least two interleaved conductors. The coils are connected to provide at least one series path between the winding ends. The winding has at least one tap section connected through a switch which enables the tapped section to be connected in series aiding or series opposing relationship with respect to the remaining portion of the winding without changing its series capacitance.

3,452,312
GRAVITY SENSITIVE ELECTRIC SWITCH

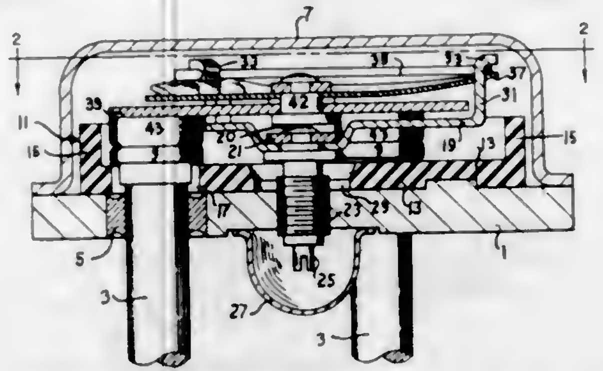
Richard A. Bauer, Morris, Ill., assignor to Arm, Inc., Morris, Ill., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,628
Int. Cl. H01h *37/00, 61/00, 37/52*
U.S. Cl. 337—12 10 Claims



A switch assembly having a pivoting gravity sensitive actuating means which causes the circuit through an appliance to become interrupted when the applicance occupies an abnormal or tipped over position.

3,452,313
SNAP-ACTING THERMOSTATIC ELECTRIC SWITCH

Frederick G. Perry, Barrington, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,868
Int. Cl. H01h *61/01, 37/52*
U.S. Cl. 337—86 3 Claims

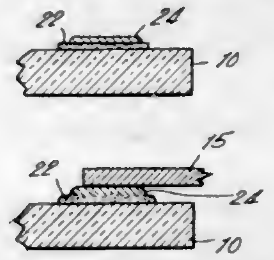


A compact snap-acting thermostatic electric switch in which a snap-acting thermostatic disc is physically assembled with a contact-carrying heater plate, the disc and plate being movable as a unit in which there is an improved heat-exchange relationship between the plate and disc brought about by heat conduction, as well as by radiation and convection. The heater plate carries the movable contacts of the switch and it also functions as an arc shield for the disc. An arc shield for the housing is also provided. An adjustable support for the disc and plate assembly provides for calibration.

3,452,314
LOW NOISE THERMISTOR ASSEMBLY AND METHOD

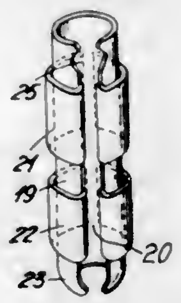
Meyer Sapoff, West Orange, and John G. Froemel, Verona, N.J., assignors to Victory Engineering Corporation, Springfield, N.J., a corporation of Delaware
Filed May 22, 1967, Ser. No. 640,200
Int. Cl. H01c *7/04, 7/00*
U.S. Cl. 338—22 4 Claims

Thermistor materials are deposited on a substrate by evaporation or sputtering. One or more terminals and a resistance pattern of gold is then deposited through a mask on desired areas of the thermistor material. The thermistor assembly is then heated in a furnace at 500 degrees centigrade for fifteen minutes to partially diffuse the gold into the thermistor material. After the heating cycle, platinum wires (10% iridium) are welded to the gold terminals. The resulting thermistors inject considerably less noise into a circuit when passing current.



3,452,315
ELECTRIC BOARDS, PLUG CONTACTS AND SYSTEM

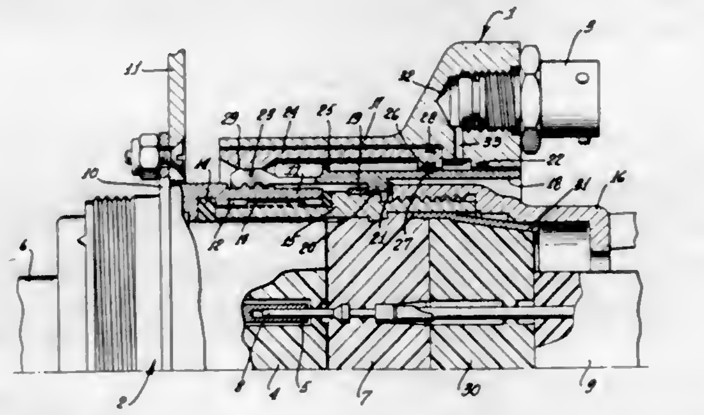
Stanley Thomas Deakin, Farlington, England, assignor to Sealectro Limited, Farlington, England, a British company
Filed July 6, 1966, Ser. No. 563,279
Claims priority, application Great Britain, July 6, 1965, 28,528/65
Int. Cl. H01r *25/02, 11/22*
U.S. Cl. 339—18 7 Claims



A selector board system with an electric plug for insertion into spaced co-axial sockets of the selector board, the plug including spaced, resilient contact portions axially spaced one from the other joined by a narrow interconnecting neck and loosely threaded onto a carrier stem. The contact portions are spaced radially from the carrier stem and have independent radial resilience for engaging the respective sockets, which are themselves shown without resilience. The contact portions have a plurality of apexes extending outwardly further from the stem to ensure effective connection.

3,452,316
PERIPHERAL THREADED TANG QUICK-DISCONNECT UMBILICAL CONNECTOR

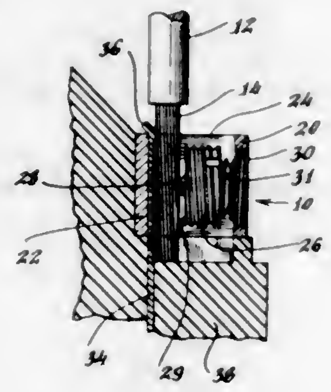
George James Panek and Aloysius M. Mocek, Phoenix, Ariz., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 22, 1965, Ser. No. 441,520
Int. Cl. H01r *13/02, 13/54*
U.S. Cl. 339—45 13 Claims



A connector has a number of tangs for threaded receipt onto a mating connector. A shell disposed about the tangs is movable from a first position holding the tangs in threaded engagement with the mating connector to a second position releasing the tangs and permitting them to spring outwardly by inherent resilience to disengage the mating connector.

3,452,317
CLAMP-TYPE TERMINAL

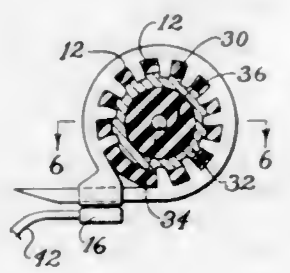
Ernest R. Carlson, Fairfield, Conn., assignor to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Feb. 9, 1967, Ser. No. 614,979
Int. Cl. H01r *11/20, 7/12*
U.S. Cl. 339—95 **5 Claims**



An improved clamp-type terminal capable of receiving either wire conductors or terminal lugs, and having slots in the terminal body side walls adjacent a clamping wall thereof, and a clamping slug threadedly mounted in the terminal body, having a central projection and movable toward the clamping wall.

3,452,318
SHIELDED CABLE TERMINATION

John H. Tanges, Jr., Ormond Beach, Fla., assignor to Florida General Electronics, Inc., Daytona Beach, Fla.
Filed June 19, 1967, Ser. No. 646,895
Int. Cl. H01v *11/20, 17/18, 13/24*
U.S. Cl. 339—97 **2 Claims**

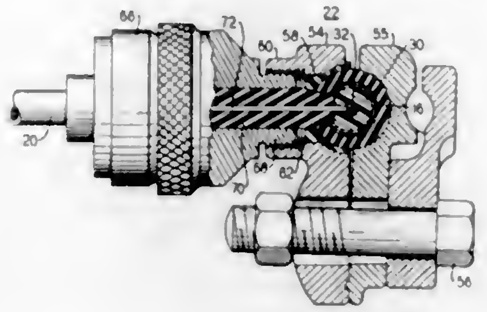


A terminal for a shielded cable which permits attachment of a ground terminal to the cable shield without the need for stripping of the shield or soldering.

3,452,319
COAXIAL CABLES

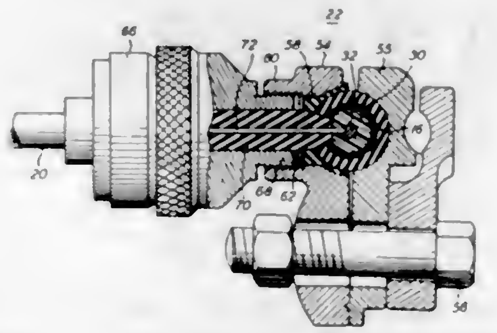
Raymond A. Kempf, Baltimore, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original application June 25, 1965, Ser. No. 466,999, now Patent No. 3,379,824, dated Apr. 23, 1968. Divided and this application Nov. 29, 1967, Ser. No. 705,580
Int. Cl. H01r *11/20, 17/18*
U.S. Cl. 339—97 **4 Claims**

A tap-off, which embraces a cable having a jacket which in turn surrounds a laminated plastic-metal-plastic vapor barrier, has separate prongs for radially penetrating and contacting an outer conductor inside the barrier and a center conductor separated coaxially from the outer conductor by expanded plastic insulation. The outer conductor has a bare metal-to-metal seam to prevent absorption of soldering fluxes by the expanded plastic insulation. A second cable has respective current carriers conductively connected to said separate prongs. The plastic insulation continuously supports the center conductor against the radial force of the prong contacting it.



3,452,320
COAXIAL CABLES

Raymond A. Kempf, Baltimore, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original application June 25, 1965, Ser. No. 466,999, now Patent No. 3,379,824. Divided and this application Nov. 29, 1967, Ser. No. 705,581
Int. Cl. H01r *11/20, 17/18*
U.S. Cl. 339—97 **2 Claims**



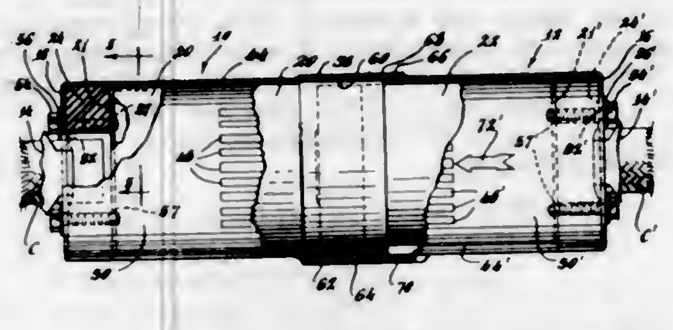
High frequency energy is distributed from a high frequency voltage source to respective electrical loads by means of distribution cable having inner and outer coaxial conductors spaced from each other by an expanded plastic insulator, and by means of tap-offs whose prongs contact the conductors. Drop-off cable means connect the tap-offs to the loads. The cable's outer conductor has a bare metal-to-metal seam so as to avoid having solder or welding fluxes from being absorbed by the expanded plastic insulator. A laminated plastic-metal-plastic vapor barrier protects the insulator from moisture and the expanded plastic insulator continuously holds the conductors in position against the radial force of the prongs in the tap-offs.

3,452,321
ELECTRICAL CONNECTOR HAVING A PROTECTIVE COVER

Vincent L. Carissimi, Fairfield, and Vincent F. Lipinski, Stratford, Conn., assignors to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Apr. 13, 1967, Ser. No. 630,733
Int. Cl. H01r *13/00, 3/02, 13/46*
U.S. Cl. 339—108 **10 Claims**

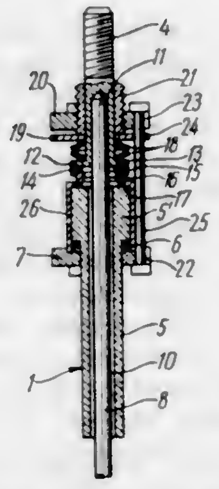
A protective cover for an electrical connector having substantially the same configuration as the connector and

further having circumferentially spaced axially and radially inwardly extending ribs on its inner surface and circumferentially spaced axially and radially outwardly extending ribs on its outer surface.



3,452,322
LEAD-IN FOR DEVICES WITH A QUARTZ BULB

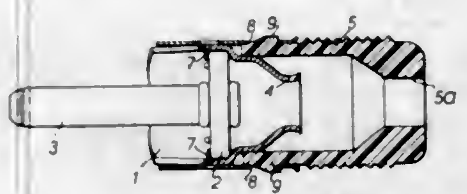
Evgeny Konstantinovich Zilberman, Smolenski, and Erik Pavlovich Morin, Riga, U.S.S.R., assignors to Rizhsky Elektrolampovy Zavod, Riga, U.S.S.R.
Filed July 12, 1967, Ser. No. 652,880
Int. Cl. H01r *33/74*
U.S. Cl. 339—144 **4 Claims**



A lead-in for a high intensity quartz lamp in which a sealing gasket in the form of a copper ring is placed between the end surface of a current collector and the end surface of a quartz stem and the sealing ring is pressed against the quartz stem by a spring which acts on the collector. The ring is provided with a sharp, annular rim, tapered to angle of 60 to 90°, which contacts the end surface of the stem.

3,452,323
PLUG FOR CO-AXIAL CABLES

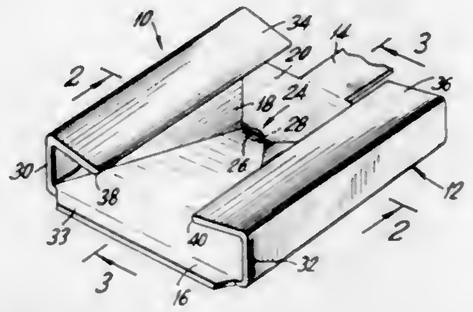
Thomas William Bowley, Bramcote, and William Robertson, Trowell, England, assignors, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Feb. 16, 1967, Ser. No. 616,533
Claims priority, application Great Britain, Apr. 26, 1966, 18,217/66
Int. Cl. H01r *17/18*
U.S. Cl. 339—177 **3 Claims**



Plug for a co-axial cable comprising a metal shell in which a contact pin is located, the shell being assembled with a hollow body of insulating material and secured in assembly by a metal sleeve provided with apertures into which projections on the hollow body are adapted to snap.

3,452,324
ELECTRICAL TERMINAL

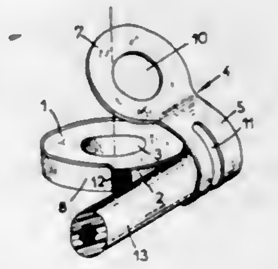
John Fitzpatrick, North Arlington, N.J., assignor to Thomas & Betts Corporation, a corporation of New Jersey
Filed Oct. 4, 1967, Ser. No. 672,867
Int. Cl. H01r *13/24*
U.S. Cl. 339—256 **9 Claims**



The present invention relates to electrical terminals having female receptacle boxes adapted to be mated with terminals having male blades. The female receptacle box has a bottom of pyramidal shape with a detent adapted to engage an aperture or detent in a male blade. The receptacle box is further provided with downwardly angled rails spaced from the pyramidly shaped bottom.

3,452,325
ELECTRICAL CONNECTING DEVICE

Marcel Luc Amédé Paulve, Le Muy, France, assignor to Societe d'Exploitation des Procedes Paulve, Cannes, France, a company of France
Filed Mar. 10, 1967, Ser. No. 622,301
Claims priority, application France, Mar. 11, 1966, 53,178
Int. Cl. H01r *7/16*
U.S. Cl. 339—269 **6 Claims**

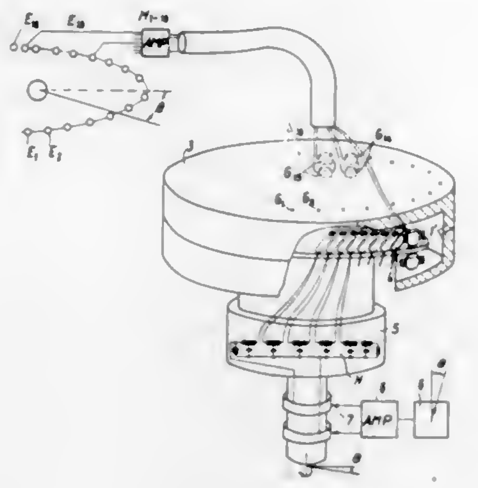


Electrical cable terminal connector forming a spade lug or tag comprising a thimble forming eye-ring provided with a peripheral groove to receive the bared lead wire end of a conductor cable wound thereabout and a U-shaped bent clip-on clasp with apertured flat ends one of which is flanged to form a cable socket or shoe for accommodating said thimble whereas the other end forms a cover to close said socket, whereby this assembly is adapted to be secured on a clamping screw terminal binding post extending through the aligned apertures of said thimble and clasp ends with a tightening not threaded thereon.

3,452,326
APPARATUS FOR MEASURING THE DIRECTION OF INCIDENT WAVES

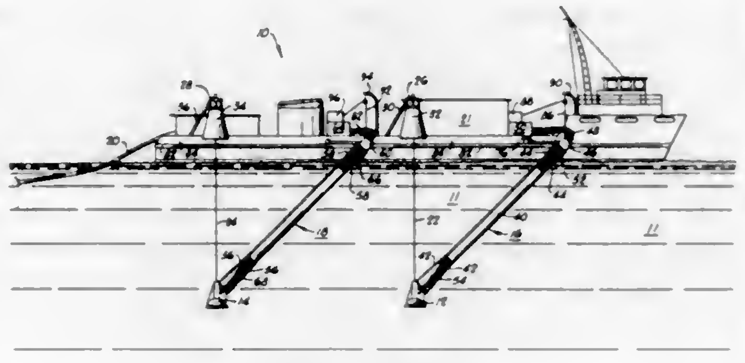
Reinhard W. Leisterer and Gerd Hemmie, Bremen, Germany, assignors to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany
Filed Jan. 29, 1968, Ser. No. 701,252
Claims priority, application Germany, Jan. 27, 1967, B 90,917
Int. Cl. H04b *13/02;* **G01s** *3/80*
U.S. Cl. 340—6 **20 Claims**

Apparatus for measuring the direction of propagation of waves, such as sound waves in water. The apparatus includes a group of receivers for detecting the waves and a compensator, connected thereto, for equalizing the differences in transit time of plane fronts of the waves incident on the individual receivers. The compensator includes a delay line and a switching network connecting the group of receivers with the delay line. The switching network comprises, more particularly, a group of sender coils, each of which is connected with an individual receiver and a group of receiver coils, each of which is connected to a point on the delay line. The sender coils and receiver coils are movably arranged with respect to each other such that each sender coil is simultaneously inductively coupled with at least two adjoining receiver coils. This switching network therefore provides an interpolation between the discrete angles of incidence of the detected waves which would be measured were each of the sender coils coupled to only a single receiver coil.



3,452,327
APPARATUS FOR SUPPORTING MARINE SEISMIC TRANSDUCER

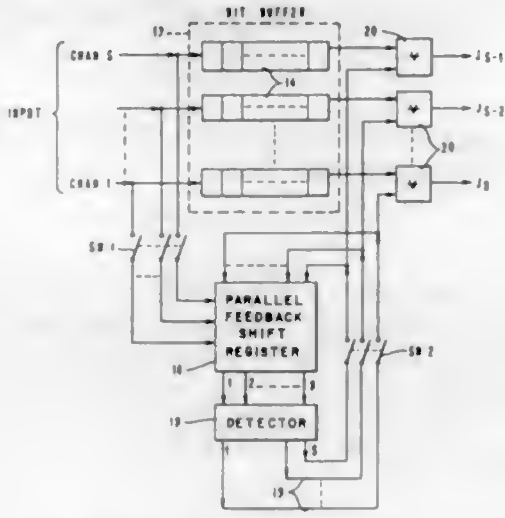
Frank Clynch, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Apr. 13, 1967, Ser. No. 630,558
Int. Cl. G01v *1/38*
U.S. Cl. 340—7 **5 Claims**



An apparatus for supporting a marine seismic transducer from an operating vessel so that it operates at a predetermined water depth. The apparatus consists of a hollow, elongated stiff-leg member which is mounted from a swivel off the ship's quarter and trails downward to support the seismic transducer at a preselected point in the water. The power and control lines for operating the seismic transducer are supplied through flexible couplings to the stiff-leg member, and additional flexible couplings at the bottom of the stiff-leg member apply the control and power lines to the proper connections at the seismic transducer.

3,452,328
ERROR CORRECTION DEVICE FOR PARALLEL DATA TRANSMISSION SYSTEM

Mu-Yue Hsiao and Kwang Y. Sih, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 7, 1965, Ser. No. 461,704
Int. Cl. G08b *29/00, 25/00*
U.S. Cl. 340—146.1 **7 Claims**

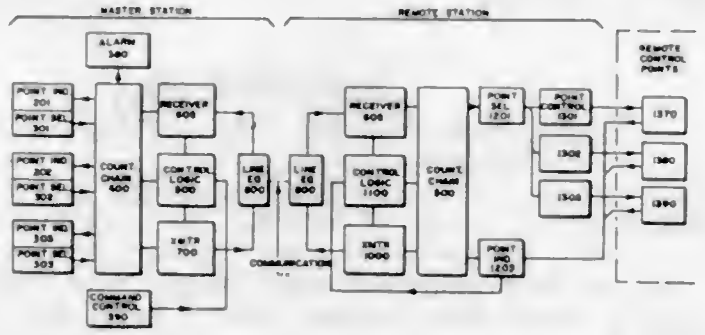


A cyclic error detection and correction apparatus for a parallel channel system. A parallel linear feed-back shift register has a total number of stages equal to the number of check bits transmitted following a message and has a plurality of inputs connectable to receive parallel data. All of the bits of a message code word are shifted into the shift register in parallel and into a plurality of buffer registers large enough to buffer an entire message block. During a detection cycle, the bits which are shifted into the shift register are operated upon in accordance with the feed-back connections of the register. After all of the bits of the message have been shifted into the buffer registers and into the shift register, a correction cycle is taken during which time the shift register is disconnected from the input of the parallel channel and the contents of the buffer are shifted out while the shift register is also shifted.

A bit pattern detector is coupled to the shift register and emits a pulse in one of the channels when an error pattern is recognized. The time at which the pattern is recognized in the correction cycle coincides with the time at which the erroneous bit is shifted out of the buffer. The particular channel containing the error is identified by the pattern, there being one unique pattern for each channel.

3,452,329
SUPERVISORY CONTROL SYSTEM

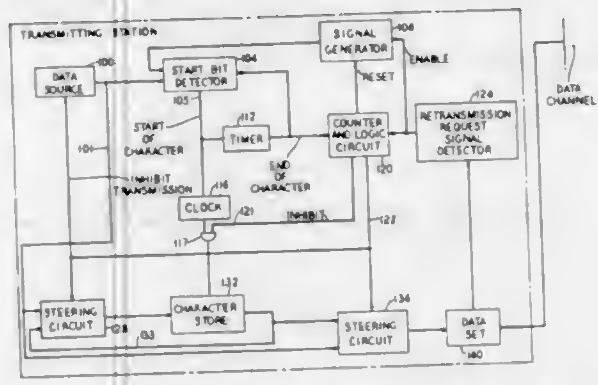
Ronald W. Pepin, Naperville, Ill., assignor, by mesne assignments, to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 16, 1964, Ser. No. 411,348
Int. Cl. H04q *3/58*
U.S. Cl. 340—163 **14 Claims**



A supervisory and control system having a master station and a single remote station. Changes in remote control devices at the remote station cause transmission of a message indicating the current status of all remote control devices, to the master station. Control of devices at the remote station is effected from the master station, by first selecting and checking an operating path to the device and then operating it.

3,452,330
ASYNCHRONOUS DATA TRANSMISSION SYSTEM WITH ERROR DETECTION AND RETRANSMISSION

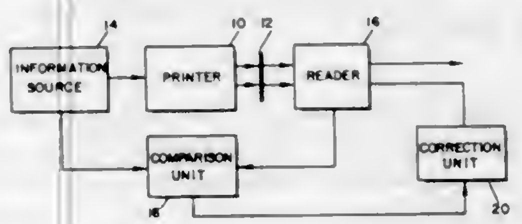
John R. Avery, Howell Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed July 25, 1967, Ser. No. 655,799
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 **3 Claims**



A receiving data station in an asynchronous data communication system with error detection and retransmission capabilities detects an error in a received data character (utilizing standard error detecting techniques) and sends a retransmission request signal to a transmitting station. The transmitting station, upon receipt of the retransmission request signal, temporarily inhibits further transmission, times for a certain predetermined interval of time, and then retransmits certain of the previously transmitted characters including the character in which an error was detected. The receiving station, after having detected the erroneous character, counts and discards a predetermined number of the subsquently received characters and thereafter again commences to register the received characters. If the character initially found to be in error is retransmitted correctly, normal transmission is resumed. Detection and counting of received characters by the receiving station is accomplished by performing a "double check" or "double sample" on the start bit of each character.

3,452,331
PHOTO-OPTICAL DATA STORAGE SYSTEMS

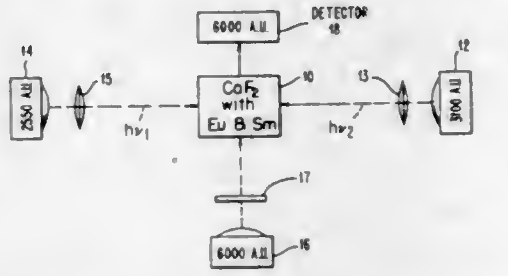
Richard F. Bartlett, Lexington, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed May 19, 1965, Ser. No. 457,013
Int. Cl. G11b *7/00;* **G03c** *1/72*
U.S. Cl. 340—173 **6 Claims**



A photo-optical data storage and retrieval system having circuitry for recording and reading out digital information stored therein and, additionally, having circuitry for identifying the presence of erroneously recorded data and recording the location of such data upon the photosensitive storage media which comprises methylene blue as the photosensitive component thereof.

3,452,332
MEMORY DEVICE AND METHOD OF INFORMATION HANDLING UTILIZING CHARGE TRANSFER BETWEEN RARE EARTH IONS

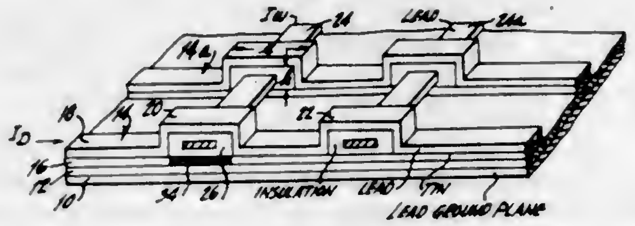
Walter E. Bron, Briarcliff Manor, N.Y., William R. Heller, Saratoga, Calif., and Benjamin Welber, Chappaqua, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 5, 1965, Ser. No. 423,434
Int. Cl. G11b *7/02;* **H01j** *31/58, 1/63*
U.S. Cl. 340—173 **24 Claims**



The invention provides a memory device and method of information handling utilizing a mechanism of reversible electron charge transfer between impurity ions of different rare earth elements in a matrix. There is a reciprocal absorbing and transmitting relationship for ultraviolet radiation of different wavelengths by the ions which participate in the charge transfer mechanism. In particular, the invention provides a memory device and method of information handling utilizing charge transfer between ions of the rare earth elements europium and samarium established on lattice sites of the calcium fluoride ionic crystalline matrix. The information state of the device can be changed by ultraviolet light activation. The state of charge transfer between the ions determines certain characteristic physical properties of the overall impurity-matrix system, e.g., coloration. Illustratively, crystal of CaF$_2$ with Eu^{2+} and Sm^{3+} ions has different ultraviolet absorption bands than with Eu^{3+} and Sm^{2+} ions. In the practice of the invention, ultraviolet radiation of different wavelengths is utilized to produce charge transfer so that either the rare earth ionic configuration of Eu^{2+} and Sm^{3+}, or the rare earth ionic configuration of Eu^{3+} and Sm^{2+}, is obtained in the calcium fluoride crystalline matrix. An absorption detectable physical mode and a fluorescence detectable physical mode are utilized to determine the information state by determining non-destructively which one of two rare earth ionic configurations is present in the matrix.

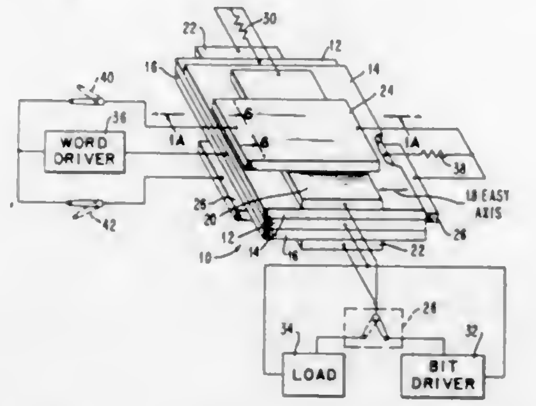
3,452,333
CRYOELECTRIC MEMORIES

Richard W. Ahrons, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 408,009
Int. Cl. G11b *5/84*
U.S. Cl. 340—173.1 **9 Claims**



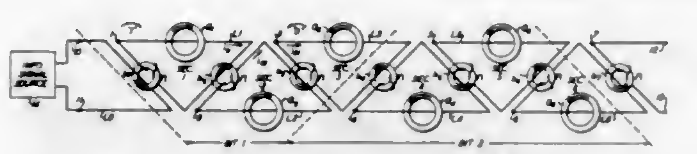
A plurality of superconducting loops, each comprising two paths. One path is a preferred path for current flow. Persistent current is established in a loop by applying a current, in parallel, to the two paths, employing a magnetic field to drive only the first path normal, then removing the magnetic field to permit the first path to return to the superconducting state, then removing the applied current. The loops may be arranged perpendicularly of a ground plane with the first path of each loop located between the second path and the ground plane.

3,452,334
MAGNETIC FILM MEMORIES WITH AN INTERMEDIATE CONDUCTIVE ELEMENT AS A DRIVE LINE RETURN PATH
Otto Voegeli, West Lafayette, Ind., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 28, 1964, Ser. No. 421,233
Int. Cl. G11b *5/66*
U.S. Cl. 340—174 **18 Claims**



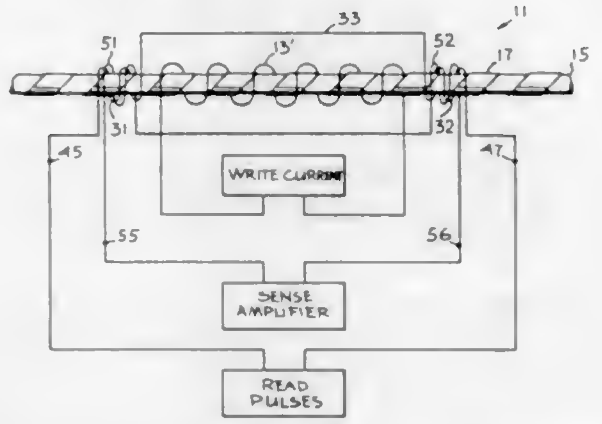
Stray magnetic fields which cause undesirable creeping effects in a coupled magnetic film memory are avoided by arranging the magnetic films and their drive lines in such relationship to the conductive ground plane that the paired films storing each bit always are magnetized in antiparallel directions, regardless of which drive current is flowing. Return paths for both word and bit drive currents are provided in a ground plane or other conductive sheet which lies between the films. Because the currents flowing through this sheet and the drive lines connected thereto tend to impart antiparallel magnetizations to the magnetic films, stray fields from one bit-storing position to another are prevented. The magnetic films may be formed as sheets or strips, and the drive currents will define the individual bit-storing positions therein.

3,452,335
SYMMETRICAL ALL-MAGNETIC SHIFT REGISTERS
George W. Dick, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 199,371, June 1, 1962. This application July 21, 1965, Ser. No. 473,760
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **30 Claims**



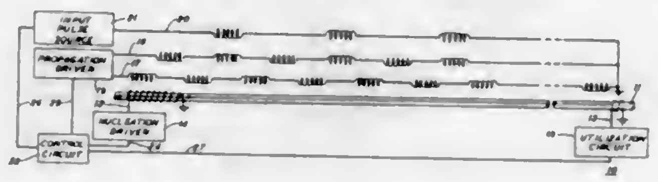
A family of all-magnetic shift registers is shown, including both toroidal core and multiapertured core embodiments. The lowest phase order embodiment is a three-phase shift register wherein three toroidal magnetic cores are utilized for storing information in each bit position, and all-magnetic coupling arrangements are provided among those cores and between stages of the register. Design rules for extending the underlying shift register operating principle to systems of higher phase orders are presented and are applied in connection with a four-phase shift register. The rule of operation of these registers is that in an m phase circuit, including storage elements arranged in a predetermined sequence, the shifting of one storage element from a first to a second bistable condition causes the $(m-1)^{th}$ element following the shifting element in the sequence to be shifted into its first condition if it was not already in that condition. This type of operation takes place without disturbing intermediate storage elements.

3,452,336
NON-DESTRUCTIVE TWISTER MEMORY
Harold J. McCreary, Los Angeles, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,389
Int. Cl. G11b *9/02*
U.S. Cl. 340—174 **11 Claims**



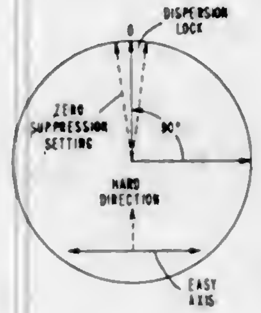
A memory system comprised of magnetic elements each formed by a discrete portion of an elongated magnetic member. Each element is capable of storing binary information as a function of the direction of magnetization established therein. A write winding associated with each discrete portion selectively establishes a direction of magnetization therein which direction is coincidental with or opposite to the direction of magnetization in areas of the member adjacent to the discrete portion. A pair of spaced read windings associated with each element are coupled to the members to produce oppositely directed magnetomotive forces in first and second regions, respectively including the opposite edges of the discrete portion. The oppositely directed magnetomotive forces cancel out at the center of the discrete portion thereby enabling the element to be read non-destructively by sensing the magnetic variations within said first and second regions.

3,452,337
MAGNETIC DOMAIN WIRE SHIFT REGISTER
Reginald A. Kaenel, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 11, 1965, Ser. No. 478,911
Int. Cl. G11b *5/06;* **G06k** *7/08*
U.S. Cl. 340—174 **9 Claims**



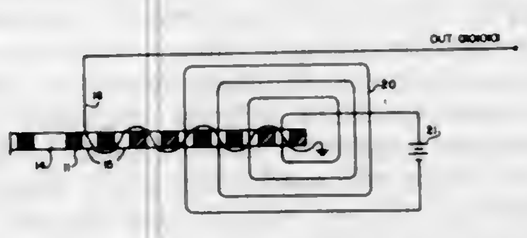
A word recognizer comprising a domain wall medium employs a conductor coupled in a coded manner to preset positions along the medium. A magnetic domain propagated along the medium is inhibited if a pulse applied to the conductor does not correspond to the sense of the coupling to provide a field to advance the leading wall of the domain at the position so coupled. Only if a sequence of coded pulses matches the sequence of coded coupling senses of the conductor is the domain successfully propagated to an output position for detection.

3,452,338
MAGNETIC FILM MEMORY WITH DISPERSION LOCKING
William T. Siegle, South Burlington, Vt., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 13, 1965, Ser. No. 486,778
Int. Cl. G11b *5/06*
U.S. Cl. 340—174 **3 Claims**



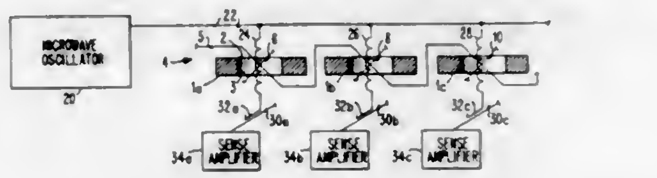
A magnetic thin film memory operating in the dispersion locked mode in which a storage element is set into a one storing state along its easy axis by coincident hard and easy axis magnetic fields and is set into its zero storing state along the hard axis by a hard axis magnetic field is improved by means providing an easy axis magnetic field that varies symmetrically in polarity; the first polarity portion of the easy axis magnetic field disturbs unaddressed zero storing elements away from the hard axis in one direction and thereby offsets the disturbance of these storage elements associated with the second polarity portion of the easy axis magnetic field which is required for writing ones into selected storage elements.

3,452,339
PROGRESSIVELY SWITCHED MAGNETIC STORAGE DEVICES
James R. Holden, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,877
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **3 Claims**



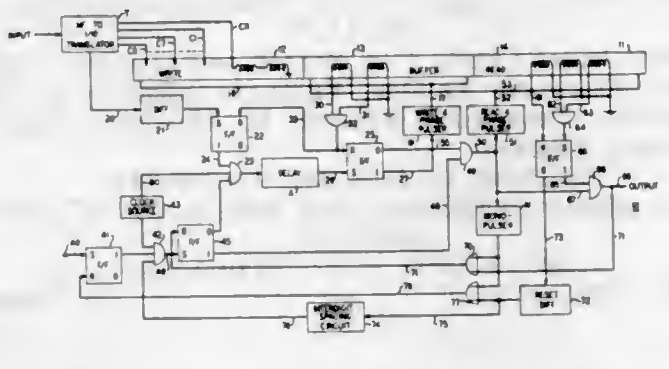
A magnetic storage device has a magnetic switching core with a central aperture and a plurality of other apertures positioned at different radial distances from the central aperture. A pulse of current applied to a winding extending through the central aperture reverses the magnetic state of the core progressively outwardly from the central aperture thereby to induce a series of pulses in windings threaded through the other apertures. In order to increase the resolution between pulses generated when the core progressively switches in the area of the outer apertures, a bias winding is threaded through these outer apertures to provide localized magnetic fields.

3,452,340
MICROWAVE ABSORPTION MEMORY SYSTEM
Rodger L. Gamblin and Philip A. Lord, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 502,008
Int. Cl. G11b *5/64;* **H01f** *7/00;* **H03f** *9/00*
U.S. Cl. 340—174 **6 Claims**



A microwave absorption and non-destructive memory system in which a ferrite element operating at its gyromagnetic resonant frequency presents a high or a low loss of microwave energy depending on the magnetic state of the ferrite element. In a first stable state, the ferrite element absorbs microwave energy. In a second stable state, the ferrite element does not absorb microwave energy. The ferrite elements are interrogated by means of a helical waveguide structure which is energized at one end by means of a microwave source and has the other end connected to a sense amplifier for determining the amount of microwave energy transmitted through the ferrite element.

3,452,341
DOMAIN WALL SHIFT REGISTER INCLUDING A BUFFER STORAGE POSITION
James L. Smith, Bedminster, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 4, 1966, Ser. No. 531,885
Int. Cl. G11b *5/62*
U.S. Cl. 340—174 **11 Claims**

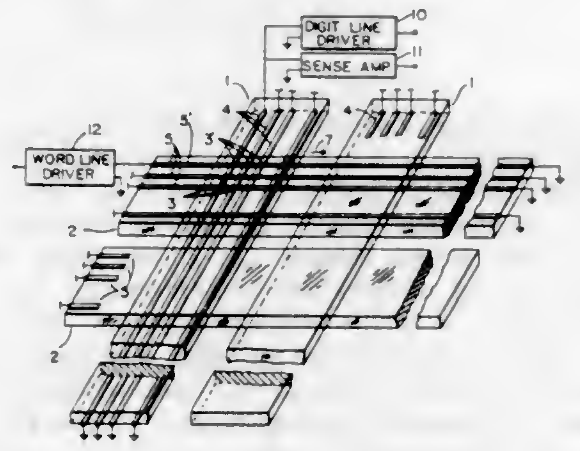


A shift register including a magnetic medium is operated as a buffer store. Magnetic domains are moved along the medium by two distinct propagation implementations, one operative in a write portion of the medium, the other in the read portion, and both in an intermediate portion therebetween.

3,452,342
HIGH CAPACITY MEMORY CIRCUIT ARRANGEMENT
Jack I. Raffel, Groton, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Original application Sept. 26, 1962, Ser. No. 226,384, now Patent No. 3,278,913, dated Oct. 11, 1966. Divided and this application Aug. 8, 1966, Ser. No. 571,006
Int. Cl. G11b *5/44*
U.S. Cl. 340—174 **8 Claims**

1. A high density thin film magnetic memory array component comprising:
   a substrate having a length much greater than its width,

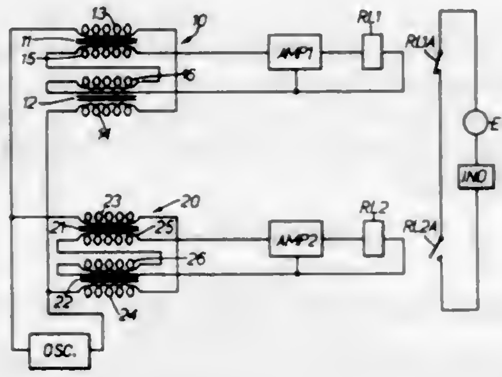
a plurality of spaced strips of electrically conductive material deposited on said substrate,
said strips being parallel to each other and extending in the length dimension of said substrate,
said strips being several orders of magnitude longer than they are wide,
a plurality of groups of adjacent conductive strips,
each group having its conductive strips terminated at one end by a common conductive area,
adjacent groups having their opposite ends so connected to a different common contact area,



the other end of each group having the conductive strips connected to individual contact areas,
each individual contact area extending transversely from the conductive strip to which it is connected,
one edge of each contact area being formed of the conductive strip from which it extends,
each contact area extending in the strip direction a distance sufficient to provide the desired contact area.

3,452,343
MAGNETIC MARKING OF FERROMAGNETIC ARTICLES

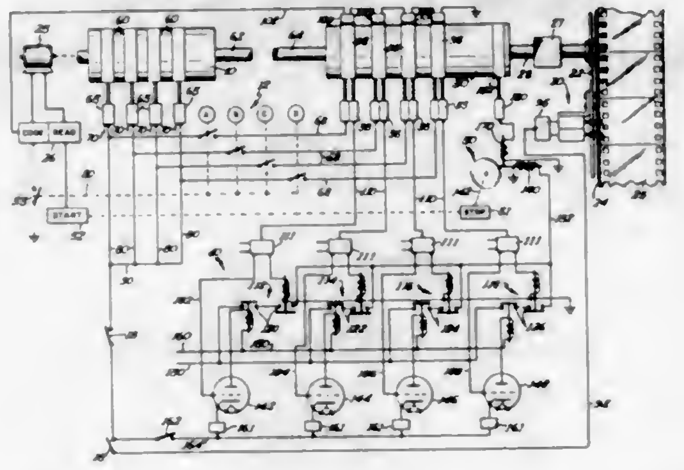
Geoffrey James Crank, New Barnet, and Geoffrey Wallwork Eastwood, London, England, assignors to Her Majesty's Postmaster General, St. Martin's-le-Grand, London, England
Filed Sept. 14, 1964, Ser. No. 396,160
Claims priority, application Great Britain, Sept. 17, 1963, 36,620/63
Int. Cl. G01r *33/12;* **G11b** *5/74*
U.S. Cl. 340—174.1 **11 Claims**



Marking an elongated ferromagnetic artiole at a selected point by inducing two successive, oppositely directed magnetic regions which extend lengthwise of the article so that the selected point lies between the adjacent like poles of the regions. The selected point, once marked, may be detected by measuring the component of the external field of the regions in a direction longitudinally of the article and, if desired, simultaneously and separately measuring the component in a direction transversely of the article. The use of fluxgate magnetometers for such detection is described.

3,452,344
APPARATUS FOR CODING FILM AND RETRIEVAL OF THE SAME

Leslie M. Schippers, R.D. 1, Marine on St. Croix, Minn. 55047
Filed Nov. 4, 1966, Ser. No. 592,223
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **9 Claims**

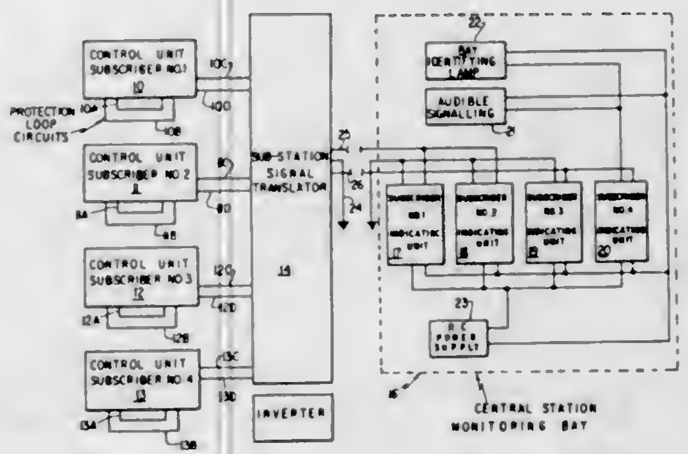


1. Apparatus for coding film and retrieval of the same, comprising: a film carrier and drive system, a strip of film having a plurality of separate frames therein with an edge extending continuously along the film from frame to frame with a magnetic material thereon capable of receiving and storing a composite magnetic signal made up of discrete magnetic increments spaced along said magnetic edge for each frame to identify the frame of film, said film being positioned on the film carrier and drive system to be moved thereon, magnetic head means for recording and reading magnetic signals and transposing them to and from electrical signals positioned on the film carrier system fixed relative to the film thereon and adjacent the magnetic edge to record and read magnetic signals on the film, a memory storage drum having a magnetic surface thereon, magnetic head means for reading and recording magnetic signals on the storage drum positioned adjacent the magnetic drum and adapted to record and read magnetic signals on the magnetic drum in spaced parallel paths indicative of differing discrete magnetic signals, means coupling the film carrier and drive system with the magnetic storage drum for simultaneous movement, drive means coupled to the film carrier system and memory storage drum for driving the same, a signal source having a plurality of discrete signals of differing character, switching means for selecting from said source signals of differing character, circuit means including said switching means connecting the signal source to the magnetic head means of the film carrier system, additional switching means connecting the signal source including said switching means to the magnetic head means for the memory storage drum, and logic circuit means including a dual input circuit, one input of which is connected to the magnetic head means of the magnetic storage drum and the other of which is connected to the magnetic head means of the film carrier system to receive input signals from said respective magnetic head means, means coupled to and responsive to the input signals at said dual input circuits of the logic circuit to respond to simultaneous signals of the same discrete magnetic character from the magnetic head means of the magnetic storage drum and the film carrier system and in a predetermined sequence from said storage drum

and said film carrier system to provide a predetermined signal output, and means responsive to the predetermined signal output of the logic system connected to the means for driving the memory storage drum and film carrier system to stop rotation of the same.

3,452,345
ALARM MONITORING SYSTEM

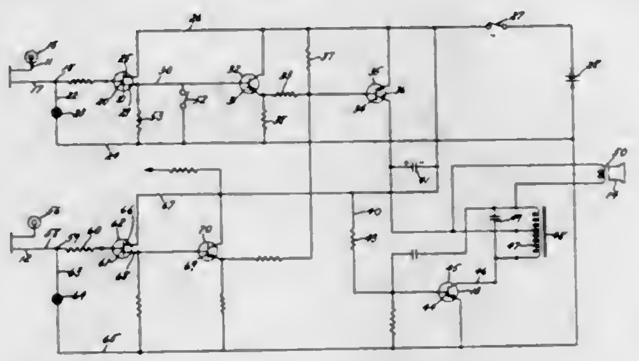
George Beverly Kinsey, Roxboro, Quebec, Canada, assignor to Walter Kidde & Company of Canada, Ltd., Pointe Claire, Quebec, Canada
Filed July 15, 1966, Ser. No. 565,473
Int. Cl. G08b *1/08*
U.S. Cl. 340—213 **8 Claims**


CONTROL UNIT SUBSCRIBER NO 1
CONTROL UNIT SUBSCRIBER NO 2
CONTROL UNIT SUBSCRIBER NO 3
CONTROL UNIT SUBSCRIBER NO 4
PROTECTION LOOP CIRCUITS
SUB-STATION SIGNAL TRANSLATOR
BAY IDENTIFYING LAMP
AUDIBLE SIGNALLING
INDICATING UNIT
D.C. POWER SUPPLY
INVERTER
CENTRAL STATION MONITORING BAY
22
23
10
11
12
13

1. In an alarm monitoring system, the combination of two normally closed protection circuits each including at least one normally closed alarm switch; first and second control units each connected to a different one of said protection circuits and each having a protecting condition for producing an output current of a first polarity when the protection circuit connected thereto is closed and having a standby condition for producing an output current of a second polarity independent of the condition of the protection circuit; first and second indicating units remote from said control units each for giving an indication when a different one of said protection circuits is interrupted by the opening of an alarm switch therein; a signal translator adjacent said control units for receiving the output of said control units and for operating the indicating units; first and second conductvie means for providing first and second paths for electrical current between said translator and each of said indicating units, said translator including means for transmitting over said conductive means spaced electrical pulses of a first polarity and having a first magnitude when said first control unit is producing a protecting condition output, means for transmitting over said conductive means spaced electrical pulses of a second polarity having said first magnitude when said second control unit is producing a protecting condition output, means for changing the magnitude of said pulses of said first polarity when said first control unit is placed in the standby condition, and means for changing the magnitude of said pulses of said second polarity when said second control unit is placed in a standby condition, said first indicating means including means for giving an indication of the magnitude of said first polarity pulses and means for actuating an alarm when said first polarity pulses are terminated by the operation of an alarm switch in the protection circuit connected to said first control unit, and said second indicating means including means for giving an indication of the magnitude of said second polarity pulses and means for actuating an alarm when said second polarity pulses are terminated by the operation of an alarm switch in the protection circuit connected to said second control unit.

3,452,346
STATIC CHARGE DETECTOR

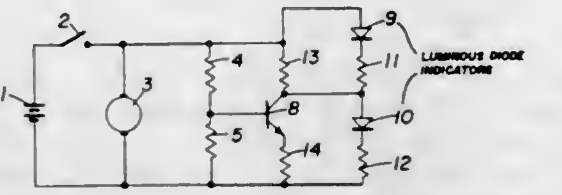
Julius B. Kupersmit, New York, N.Y.
(145—80 228th St., Springfield Gardens, N.Y. 11413)
Continuation-in-part of application Ser. No. 508,273, Nov. 17, 1965. This application Dec. 29, 1967, Ser. No. 709,845
Int. Cl. G08b *21/00*
U.S. Cl. 340—248 **4 Claims**



A static charge detector in the form of a battery-powered sensing device, including neon tube means for grounding a signal in excess of a predetermined voltage, a gating transistor receiving a signal of voltage between predetermined limits below said predetermined voltage, an emitter follower connected to the emitter of the gating transistor, a switching transistor controlled by the emitter follower, and an oscillating transistor controlled by the switching transistor.

3,452,347
LUMINOUS DIODE BATTERY CONDITION INDICATOR FOR CAMERA

Allen Gwyn Stimson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 3, 1966, Ser. No. 591,913
Int. Cl. G08b *21/00*
U.S. Cl. 340—249 **1 Claim**

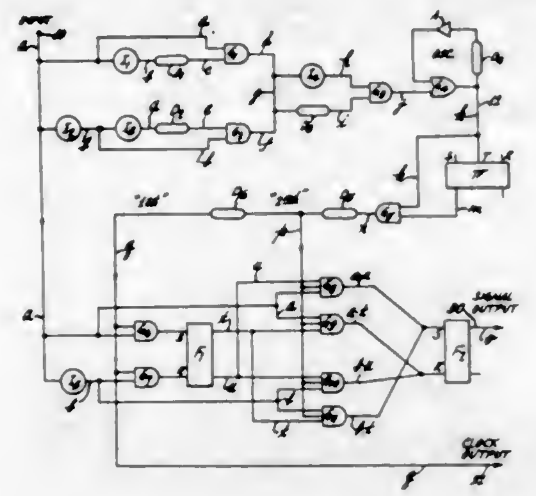


A device for determining the battery condition of a motor-driven motion picture camera in which a solid state luminous diode is positioned in the viewfinder of the camera so that the operator is immediately aware if the battery voltage has fallen below a satisfactory operating level.

3,452,348
CONVERSION FROM SELF-CLOCKING CODE TO NRZ CODE

John A. Vallee, Juno Beach, Fla., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 29, 1965, Ser. No. 467,932
Int. Cl. H04l *3/00;* **H03k** *13/24*
U.S. Cl. 340—347 **6 Claims**

Input signal (read from a magnetic medium) is a self-clocking signal in which a transition occurs in the middle of a bit cell representing a "1" and a transition occurs between two successive bit cells representing "0's." A timing extraction circuit generates a first timing wave having a pulse during the first half of each bit cell, and a second timing wave having a pulse during the second half of each bit cell. The timing waves are used to effect a comparison of the first and second halves of each input signal bit cell. If different, output NRZ coded bit is a "1,"



and if they are the same, output NRZ coded bit is a "0." NRZ output signal is suitable for application to a shift register.

3,452,349

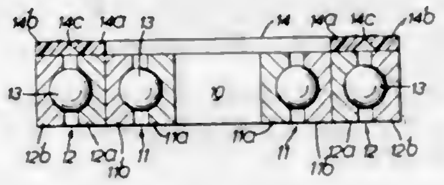
RESERVE BEARING RESTRAINT AND TRANSFER ALARM

Francis H. Wood, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company

Filed Mar. 30, 1966, Ser. No. 538,658

Int. Cl. G08b *21/00*

U.S. Cl. 340—269 **17 Claims**



A dual bearing comprises inner and outer bearings for journaling a shaft. A bridging member is provided which normally prevents the outer bearing from being operative. The bridging member has a zone of mechanical weakness which is sheared when the inner bearing ceases to function and thus allows the outer bearing to become operative. Electrical means detects the shearing of the bridging member and thus the failure of the inner bearing.

3,452,350

EXPLOSION SUPPRESSION SYSTEM INCLUDING EXPLOSION SIMULATION AND TESTING APPARATUS

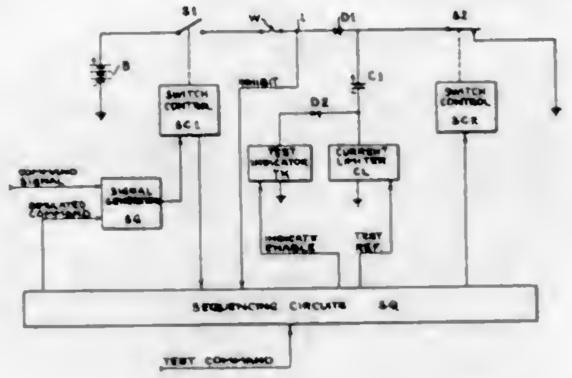
Charles F. Rockwell, Sherborn, Mass., assignor to Fenwal, Incorporated, Ashland, Mass., a corporation of Massachusetts

Filed Apr. 5, 1966, Ser. No. 540,318

Int. Cl. G08b *29/00*

U.S. Cl. 340—410 **4 Claims**

1. Condition simulating and circuit testing means for a control system; said control system comprising first signal generating means for producing an electrical signal in response to a predetermined input signal and a series circuit comprising a source of voltage, a first switch closed by said electrical signal, and control means comprising a conductor connected between a pair of terminals in said circuit, said conductor conducting current below a predetermined value and being broken by current above said predetermined value, in which said source supplies current sufficient to interrupt said conductor when said first switch is closed; said simulating and testing means comprising a second normally closed switch in said series circuit, a capacitor connected in parallel with said second switch, current limiting means connected in series with said capacitor to limit the flow of current therethrough to a value below said predetermined value, system test signal generating means for producing a test signal, means responsive to said test signal for opening said second switch, first time delay means responsive to said test signal for producing a simulating signal a predetermined time after said second switch is opened, means responsive to said simulating signal for applying an input signal to said first signal generating means to thereby cause said first switch to be closed to charge said capacitor through said conductor with a current below said predetermined value, means for opening said first switch when said capacitor is charged to a predetermined voltage, signal generating means connected in series with said capacitor and said second switch for producing an output signal indicating proper operation of said system when said second switch is closed and discharge current flows from said capacitor, and second time delay means responsive to the opening of said first switch for closing said second switch a predetermined time after said first switch is opened to restore the system to normal operation.



3,452,351

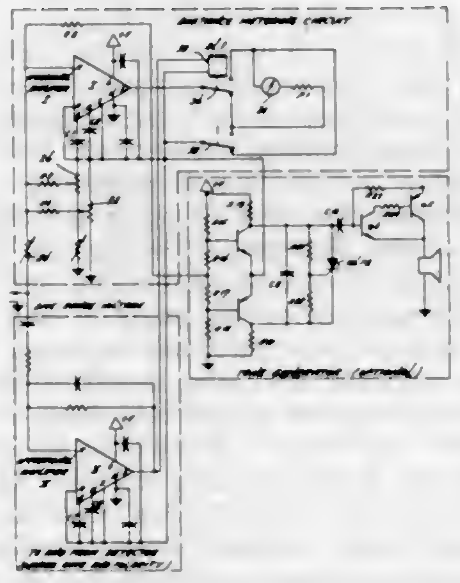
METHOD OF INDICATING DISTANCE AND POSITION OF AN AIRCRAFT RELATIVE TO VOR

Eugene A. Slusser, Contoocook, N.H., assignor to Aerotronic Associates, Inc., Contoocook, N.H., a corporation of New Hampshire

Filed June 26, 1968, Ser. No. 740,286

Int. Cl. G01s *9/56*

U.S. Cl. 343—6 **9 Claims**



Aircraft navigation, particularly a method of discriminating between miles TO and miles FROM a particular VOR or fix.

3,452,352

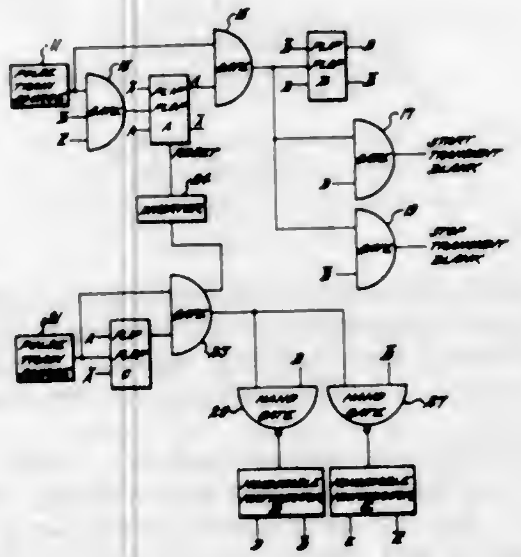
PRF SWITCHING AND TRANSIENT BLANK TIMER

Charles D. Calhoon, Catonsville, and Oscar M. Cromer, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 5, 1968, Ser. No. 757,629

Int. Cl. G01s *7/28*

U.S. Cl. 343—17.1 **3 Claims**



A timing circuit having first and second gates for passing pulses of a first pulse train, the first gate being enabled by a first flip flop that is triggered by the output of the second gate which is in turn enabled by a pair of monostable multivibrators. A third gate passes pulses of a second pulse train enabled by a second flip flop that is triggered by the second pulse train and slaved to the first flip flop. Fourth and fifth gates pass pulses from the output of the first gate and are enabled by complementary outputs of a third flip flop which is triggered by the output of the first gate. The output of the third gate is fed to a pair of NAND gates enabled by the complementary outputs of the third flip flop and triggers the pair of monostable multi-vibrators.

3,452,353

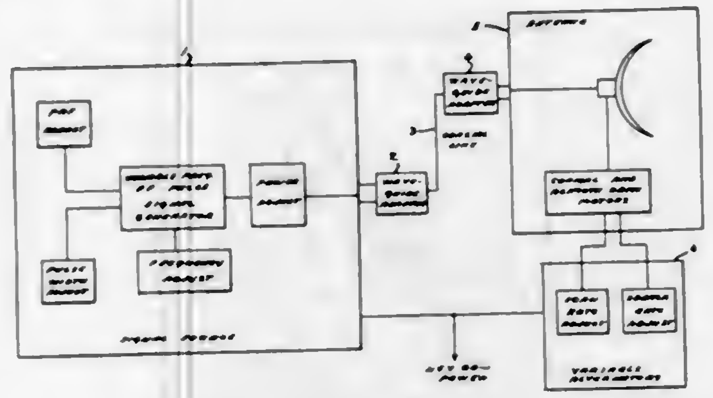
CONICAL AND NAVIGATION RADAR SCAN SIMULATOR FOR TESTING ELECTRONIC COUNTERMEASURES SYSTEM

Charles A. Neuendorf, 4452 Paola Way, San Diego, Calif. 92117

Filed May 6, 1968, Ser. No. 726,967

Int. Cl. G01s *7/40*

U.S. Cl. 343—17.7 **1 Claim**



A source of radiant RF energy that has adjustable signal characteristics and adjustable radiation characteristics for simulating the radiation from radar transmitters for use in stationary, ground testing of electronic countermeasures equipment and personnel training.

3,452,354

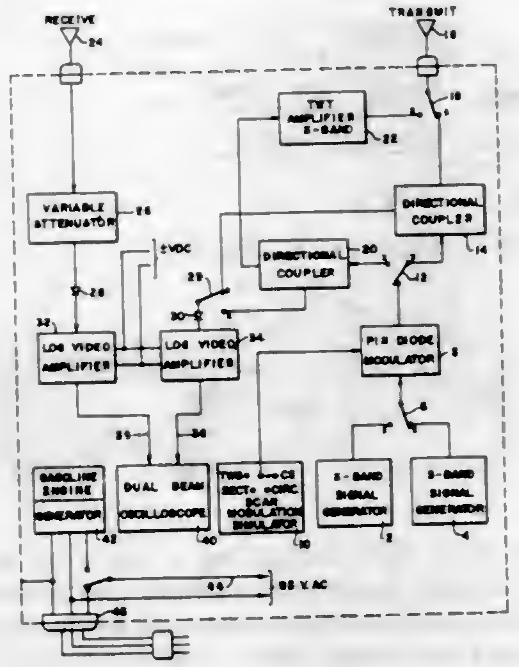
EXPANDED CONICAL AND NAVIGATIONAL SCAN SIMULATOR

Charles A. Neuendorf, 4452 Paola Way, San Diego, Calif. 92117

Filed Mar. 29, 1968, Ser. No. 717,232

Int. Cl. G01s *7/40*

U.S. Cl. 343—17.7 **6 Claims**



A signal scan simulator generates a plurality of modulating signals which are used to selectively modulate a radar carrier signal. The modulated signal simulates a pulse modulated radar having antenna scan modulation equivalent to conical, circular, sector, or track-while-scan modulation types.

3,452,355

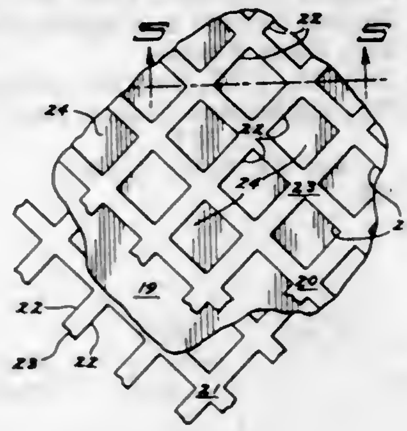
INFLATABLE COMMUNICATIONS SATELLITE

Richard J. Slater and Francis H. Bratton, Northfield, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

Filed June 11, 1962, Ser. No. 201,367

Int. Cl. H04b *7/20;* **H01q** *15/18*

U.S. Cl. 343—18 **5 Claims**



1. An electromagnetic wave reflecting space balloon which comprises:

(a) a single flexible sheet plastic shell adapted to encompass a predetermined volume of space, said sheet plastic having a low resistance to the passage therethrough of solar radiation and

(b) a flexible metal structure having a rigidity which is relatively greater than that of said flexible sheet plastic and attached in surface contact thereto,

(c) said metal structure being of foraminous configuration whereby to create a multiplicity of discontinuous nonconducting areas and a continuous interconnected conducting area.

3,452,356

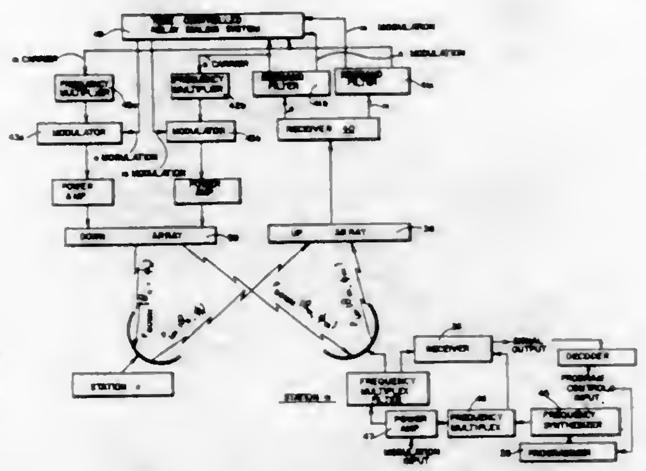
DIRECTIONAL RADIO RELAY SYSTEM

William E. Stoney, Whittier, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed June 7, 1966, Ser. No. 555,727

Int. Cl. H04b *7/14*

U.S. Cl. 343—100 **10 Claims**



A radio data link comprising a relay having a frequency-scannable directional antenna and a plurality of radio stations each having an antenna mechanically scannable to face the relay. In an acquisition mode, a programmed sequence of carrier frequencies are transmitted from each station to the relay. When the transmitted frequency corresponds to the direction frequency of the relay, the relay transmits back a corresponding frequency signal which in turn causes the station to transmit continuously, in the data-link mode, at this direction frequency. Apparatus in the relay permits information recovered from a first station signal to modulate a carrier simultaneously being transmitted to a second radio station, thereby facilitating communication via the relay between first and second stations.

3,452,357

METHOD AND MEANS FOR RADIO-LOCATING A RADIO-RECEIVING STATION

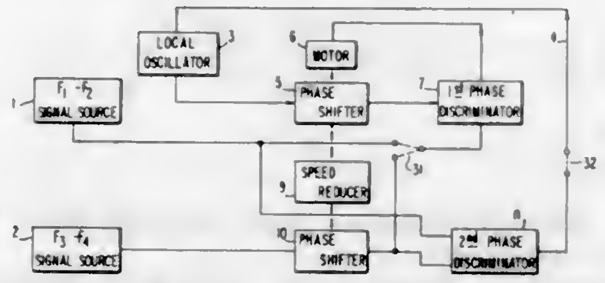
Etienne Augustin Henri Honore, Chatenay-Malabry, and Emile Leon Gabriel Torcheux, Paris, France, assignors to Neo-Tec, Societe d'Etude et d'Application des Techniques Nouvelles, Paris, France

Filed July 12, 1967, Ser. No. 652,963

Claims priority, application France, July 29, 1966, 71,367

Int. Cl. G01s *1/30*

U.S. Cl. 343—105 **7 Claims**



A method and means for radio-locating a movable receiver by means of the beats between incoming pairs of waves wherein two receiving channels are selectively associated with a local oscillator producing the same frequency *f* as the beats and the output phase of which is shifted by a predetermined amount before comparison with either received wave so as to allow if required operating with a single channel. Means are also provided for ensuring measurements with increasing accuracies.

3,452,358

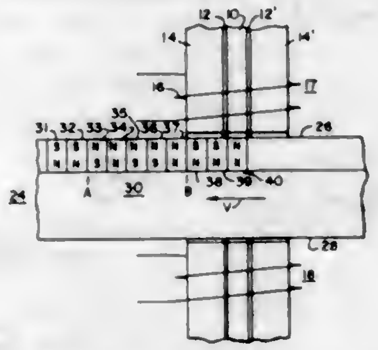
MAGNETICALLY ENCODED DEVICE

David W. Zehner, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 3, 1963, Ser. No. 277,839

Int. Cl. G01d *15/06, 15/08, 15/12*

U.S. Cl. 346—74 **6 Claims**



3. A method of encoding information on a magnetic member having a magnetic coating including the steps of:

(a) positioning said magnetic member between the pole faces of a writing head for relative movement therewith;

(b) energizing said writing head for writing a first short bar magnetic quantum into said magnetic coating in a direction substantially perpendicular to the direction of said relative movement such that only one of two possible poles of said short bar magnetic quantum appears at the surface of said magnetic coating;

(c) successively indexing said magnetic member relative to said writing head for writing a plurality of short bar magnetic quanta into said magnetic coating in a direction substantially parallel to said first short bar magnetic quantum such that only short bar magnetic quanta, having an opposite orientation from a next preceding or next succeeding short bar magnetic quantum lie adjacent to and touch next preceding or succeeding short bar magnetic quantum whereby a continuous magnetic pole pattern appears at the surface of said magnetic coating, said pattern extending in the direction of said relative movement, a sufficient successive number of similarly oriented poles forming an information block.

3,452,359

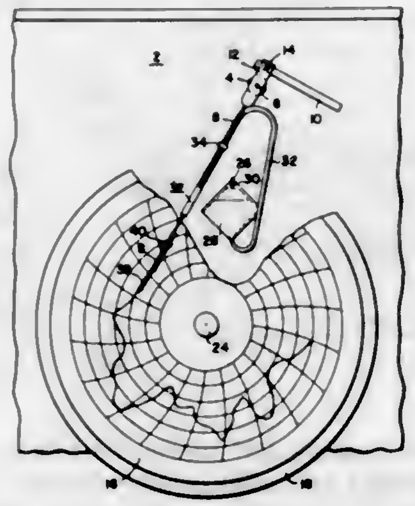
GRAVITATIONAL FEED INKING SYSTEM

George M. Lane, Odessa, Tex., assignor to American Meter Company, Philadelphia, Pa., a corporation of Delaware

Filed May 2, 1967, Ser. No. 635,609

Int. Cl. G01d *15/16*

U.S. Cl. 346—140 **4 Claims**



An inking system for chart recorders and the like comprises a pen tip mounted on a movable arm and fed with ink through a flexible tube from a sealed flexible plastic bag mounted above the pen tip to provide a gravitational feed of ink. The pen tip comprises a bundle of Dacron fibers.

3,452,360

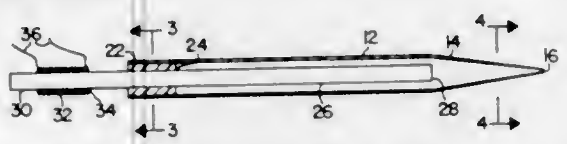
HIGH-SPEED STYLOGRAPHIC APPARATUS AND SYSTEM

Robert R. Williamson, Glendale, Calif., assignor to General Precision Systems Inc., a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,817

Int. Cl. G01d *15/18*

U.S. Cl. 346—140 **7 Claims**



An ink-ejecting stylograph and a system for its use in high-speed printing and writing. A pen barrel, supplied with ink fluid and having a flexible nozzle at one end, is provided with a magnetostrictive rod immersed in the ink and extending inside the barrel to the region of the nozzle. The magnetostrictive rod is excited by a high-frequency driving signal, modified in accordance with an information signal which causes the rod to flex said nozzle and to eject minute droplets of ink, in quantity, size and timing in accordance with the information signal. The ejected ink droplets are received upon a web of paper or other recording surface moving at a known speed, in close proximity to the nozzle.

3,452,361

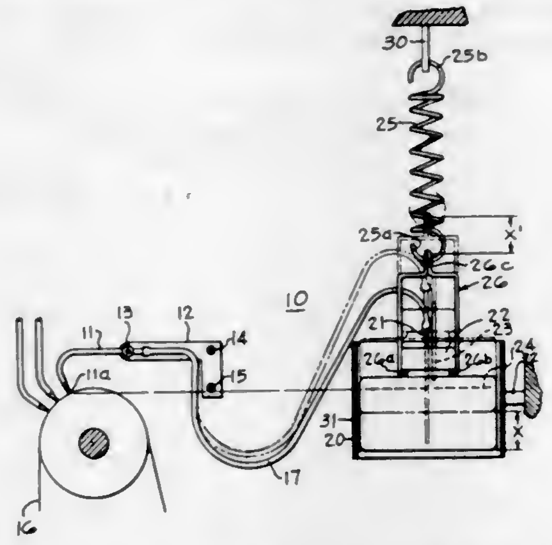
INK SUPPLY FOR CAPILLARY PEN

Albert J. Williams, Jr., Philadelphia, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 22, 1967, Ser. No. 692,813

Int. Cl. G01d *15/16, 15/18*

U.S. Cl. 346—140 **2 Claims**



A capillary inking system for a recorder wherein the ink storage container is automatically changed in elevation as the ink supply is used, thereby to maintain the level of the ink in the container at approximately the same level or at a constant difference level from the level of the writing tip of the capillary pen, in order to prevent flooding or skipping.

DESIGNS

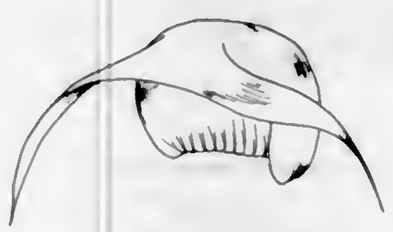
JUNE 24, 1969

214,482
NURSE'S SURGICAL CAP

Harold Zimmon, Los Altos Hills, and Dee L. Strom, Sunnyvale, Calif., assignors, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed July 31, 1967, Ser. No. 8,072
Term of patent 14 years
Int. Cl. D2—*03*

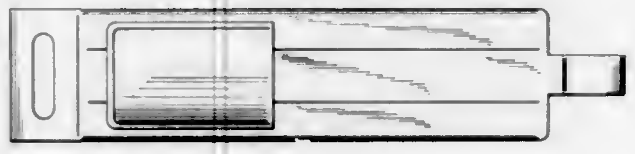
U.S. Cl. D2—243



214,483
GARMENT BAG CARRIER

Max Berger, 310 Lakeridge Road,
San Antonio, Tex. 78229
Filed Apr. 29, 1968, Ser. No. 11,649
Term of patent 14 years
Int. Cl. D8—*03*

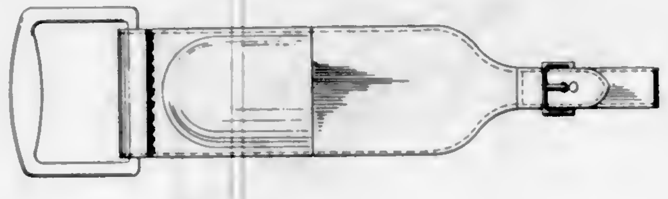
U.S. Cl. D8—154



214,484
GARMENT BAG CARRIER

Max Berger, 310 Lakeridge Road,
San Antonio, Tex. 78229
Filed Apr. 29, 1968, Ser. No. 11,650
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—154

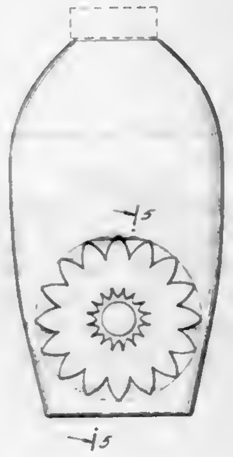


214,485
CONTAINER FOR PULVERULENT MATERIAL OR THE LIKE

Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Filed May 16, 1968, Ser. No. 11,965
Term of patent 14 years
Int. Cl. D9—*07*

U.S. Cl. D9—207

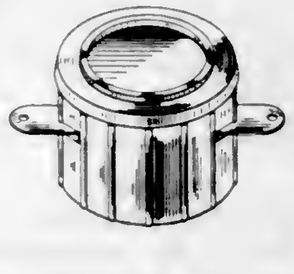


214,486
FOOD DISPLAY PACKAGE

Jack V. Cline, Hinsdale, Ill., assignor to Tee-Pak, Inc., a corporation of Illinois

Filed Dec. 20, 1967, Ser. No. 9,870
Term of patent 14 years
Int. Cl. D9—*04*

U.S. Cl. D9—216

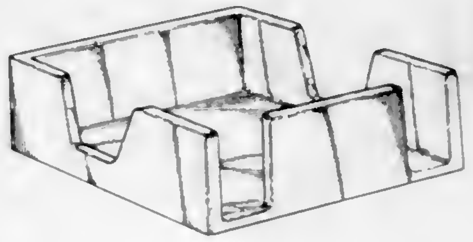


214,487
COMBINED PACKAGING AND STORAGE TRAY FOR SHAVING ACCESSORIES

Ernst Reichl, Birkenweg, Germany, assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Mar. 13, 1968, Ser. No. 10,947
Term of patent 14 years
Int. Cl. D9—*04*

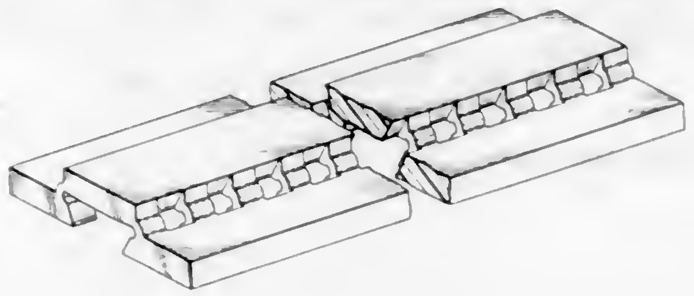
U.S. Cl. D9—242



214,488
BUNDLE TIE

William Robert Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Apr. 10, 1968, Ser. No. 11,447
Term of patent 14 years
Int. Cl. D9—*08*

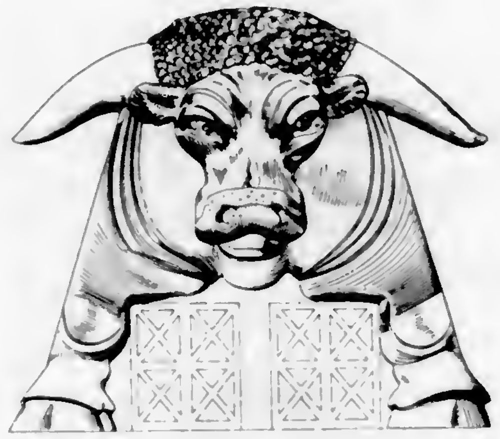
U.S. Cl. D9—252



214,489
BUILDING FRONT

Edward Louis Mejer, 408 N. Lafayette Blvd., South Bend, Ind. 46601
Filed July 12, 1968, Ser. No. 12,725
Term of patent 14 years
Int. Cl. D25—*04*

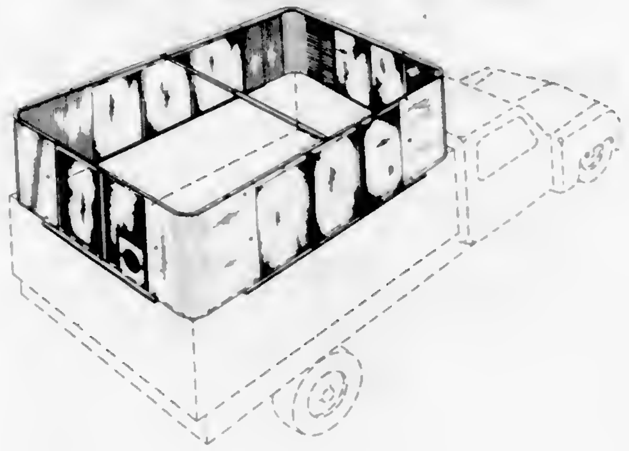
U.S. Cl. D13—1



214,490
BIN EXTENSION

Lloyd D. Slagell, Peoria, Ill., assignor to Creve Coeur Manufacturing Co., East Peoria, Ill., a corporation of Illinois
Filed July 19, 1968, Ser. No. 12,832
Term of patent 14 years
Int. Cl. D12—*09, 99*

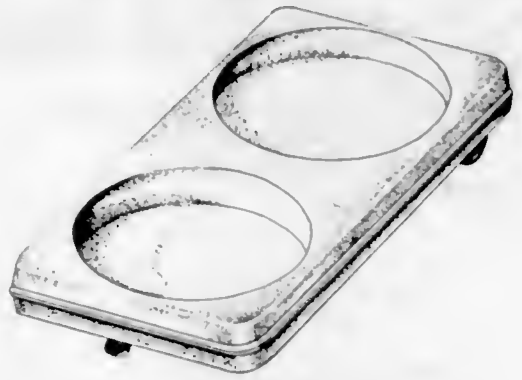
U.S. Cl. D14—3



214,491
GARBAGE CAN DOLLY

David B. Maris, 4601 N. 68th St., No. 142, Scottsdale, Ariz. 85251
Filed Sept. 6, 1968, Ser. No. 13,426
Term of patent 7 years
Int. Cl. D12—*02*

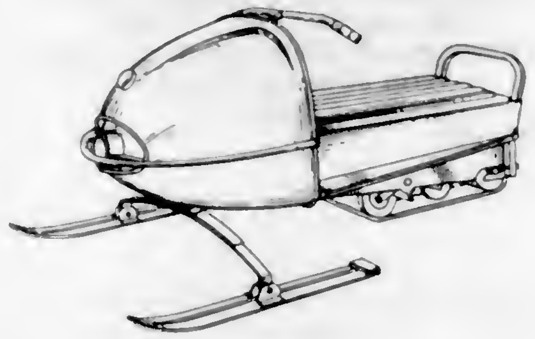
U.S. Cl. D14—3



214,492
SNOW VEHICLE

Hans Hauser, Fredericktown, Ohio, assignor to The J. B. Foote Foundry Co., Fredericktown, Ohio, a corporation of Ohio
Filed May 31, 1968, Ser. No. 12,170
Term of patent 14 years
Int. Cl. D12—*13*

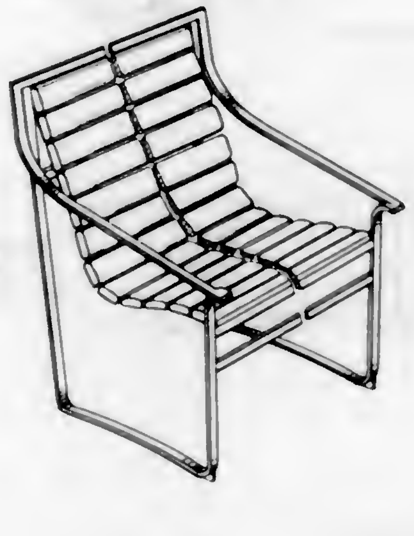
U.S. Cl. D14—24



214,493
ARM CHAIR

Arthur W. Ellsworth, South San Gabriel, and Robert K. Fujioka, Los Angeles, Calif., assignors to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Continuation-in-part of design application Ser. No. 85,609, June 7, 1965. This application Sept. 18, 1967, Ser. No. 9,152
Term of patent 14 years
Int. Cl. D6—*01*

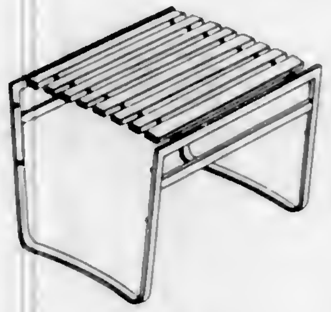
U.S. Cl. D15—1



214,494
STOOL OR SIMILAR ARTICLE

Arthur W. Ellsworth, South San Gabriel, and Robert K. Fujioka, Los Angeles, Calif., assignors to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Original design application June 7, 1965, Ser. No. 85,609. Divided and this application Sept. 5, 1967, Ser. No. 9,702
Term of patent 14 years
Int. Cl. D6—*01*

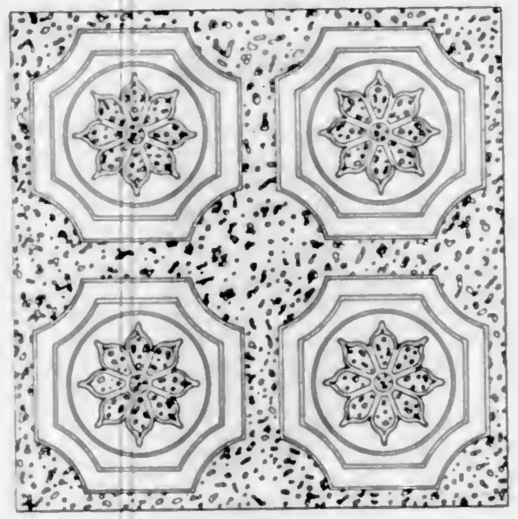
U.S. Cl. D15—8



214,495
FLOOR COVERING OR SIMILAR ARTICLE

Joseph Robert Cecchine, Manville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Mar. 4, 1968, Ser. No. 10,820
Term of patent 14 years
Int. Cl. D25—*01*

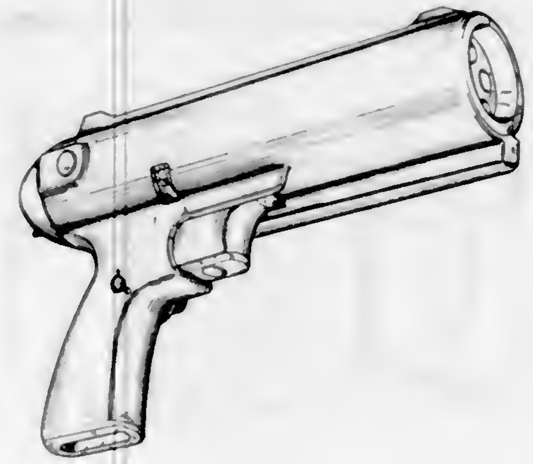
U.S. Cl. D18—2



214,496
PISTOL

John L. Critcher, Cockeysville, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed May 1, 1968, Ser. No. 11,729
Term of patent 14 years
Int. Cl. D22—*01*

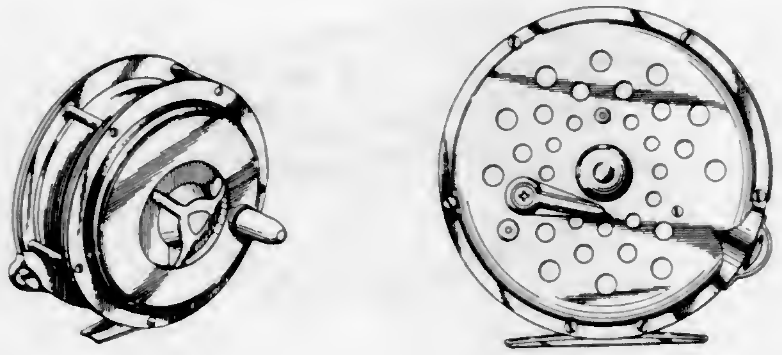
U.S. Cl. D22—1



214,497
FLY FISHING REEL

Charles E. Bittaker, Jr., and Thomas F. Sarah, Akron, Ohio, assignors to Pflueger Corporation, Akron, Ohio, a corporation of Ohio
Filed Apr. 23, 1968, Ser. No. 11,574
Term of patent 14 years
Int. Cl. D22—*06*

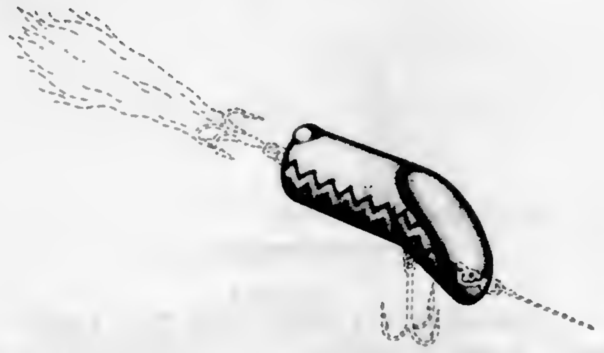
U.S. Cl. D22—25



214,498
FISHING LURE

Darrel D. Walters, 45 E. Mill St., Springboro, Ohio 45066
Filed Apr. 18, 1968, Ser. No. 11,510
Term of patent 14 years
Int. Cl. D22—*07*

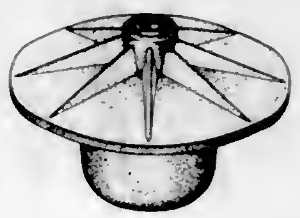
U.S. Cl. D22—28



214,499
TANK BALL

John H. Ross, Jr., 1225 Lydia, Kansas City, Mo. 64106
Filed Dec. 26, 1967, Ser. No. 9,926
Term of patent 14 years
Int. Cl. D23—*01*

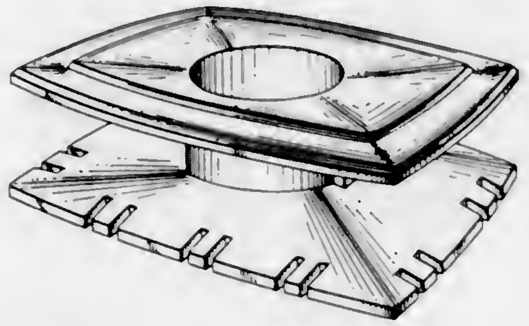
U.S. Cl. D23—33



214,500
HOUSING FOR A HEATER FOR HAIR ROLLERS

Nathan L. Solomon, P.O. Box 550,
Englewood, N.J. 07631
Filed June 28, 1968, Ser. No. 12,541
Term of patent 14 years
Int. Cl. D23—*03*

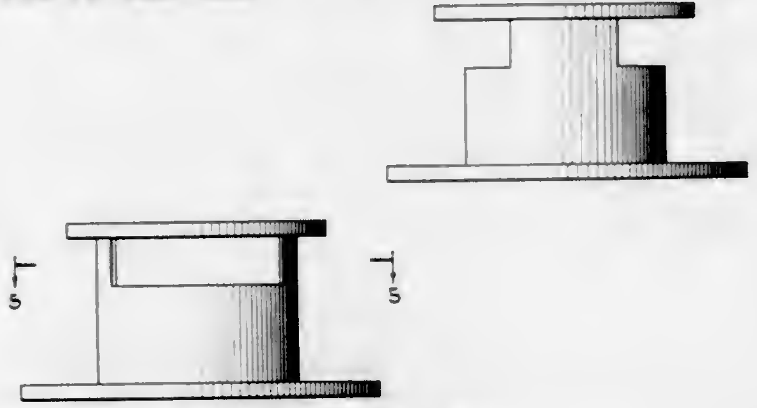
U.S. Cl. D23—77



214,501
VENT COVER OR SIMILAR ARTICLE

Roland G. Eklund, Kansas City, Mo., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed May 13, 1968, Ser. No. 11,905
Term of patent 14 years
Int. Cl. D23—*04*

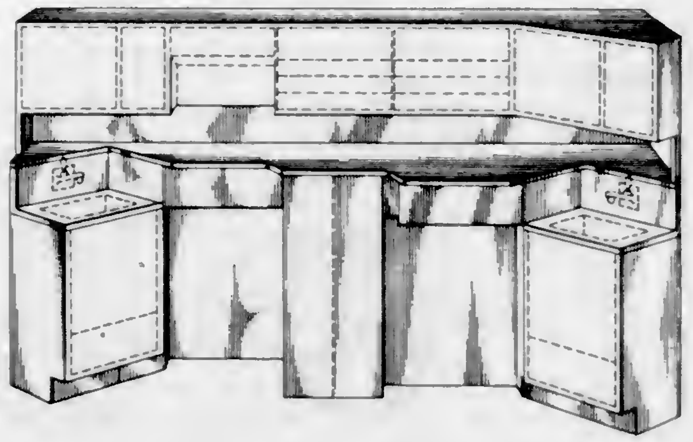
U.S. Cl. D23—151



214,502
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,915
Term of patent 14 years
Int. Cl. D6—*01;* D23—*02*

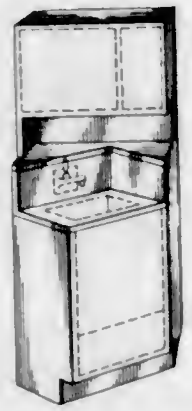
U.S. Cl. D24—1



214,503
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,920
Term of patent 14 years
Int. Cl. D6—*01;* D23—*02*

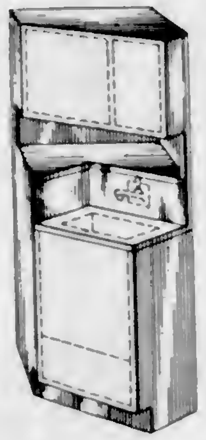
U.S. Cl. D24—1



214,504
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,921
Term of patent 14 years
Int. Cl. D6—*01;* D23—*02*

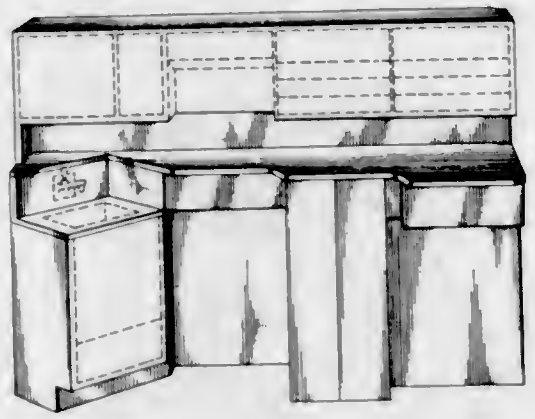
U.S. Cl. D24—1



214,505
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlottte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,922
Term of patent 14 years
Int. Cl. D6—*01;* D23—*02*

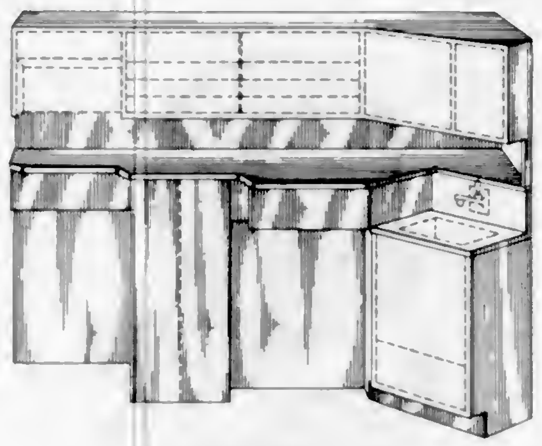
U.S. Cl. D24—1



214,506
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,923
Term of patent 14 years
Int. Cl. D6—*01;* D23—*02*

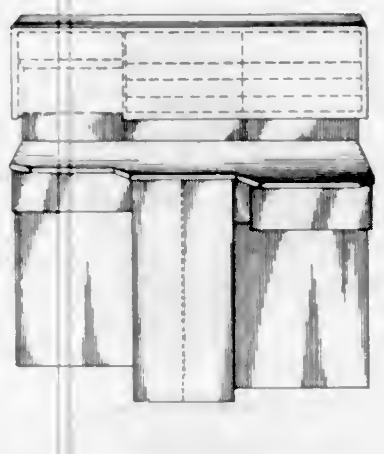
U.S. Cl. D24—1



214,507
DENTAL CABINET OR THE LIKE

Arthur L. Jones, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed May 14, 1968, Ser. No. 11,924
Term of patent 14 years
Int. Cl. D6—*01*

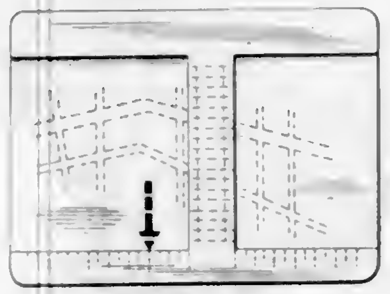
U.S. Cl. D24—1



214,508
SLIDABLE-CARD LOCATOR MAP

Joseph A. Joffe, Montreal, Quebec, Canada, assignor to Precision Technical Design Inc., Montreal, Quebec, Canada
Filed Sept. 29, 1967, Ser. No. 8,796
Claims priority, application Canada May 5, 1967
Term of patent 14 years
Int. Cl. D19—*05, 08*

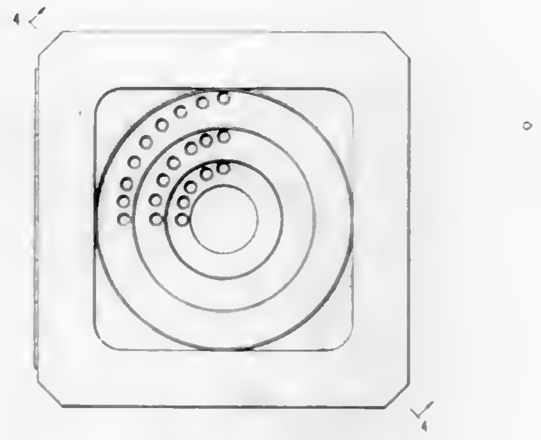
U.S. Cl. D25—1



214,509
DRAWING TOY

Denys Fisher, Collingham, England, assignor to Denys Fisher Group Limited, Boston Spa, Yorkshire, England, a corporation of Great Britain
Filed Sept. 25, 1967, Ser. No. 8,732
Claims priority, application Great Britain Mar. 31, 1967
Term of patent 14 years
Int. Cl. D19—*07*

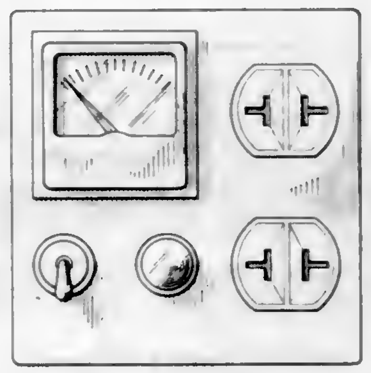
U.S. Cl. D25—1



214,510
VOLTAGE REGULATOR

Bryant D. Lund, 1955 Hollywood Ave.,
Salt Lake City, Utah 84108
Filed May 16, 1968, Ser. No. 11,975
Term of patent 14 years
Int. Cl. D13—*03*

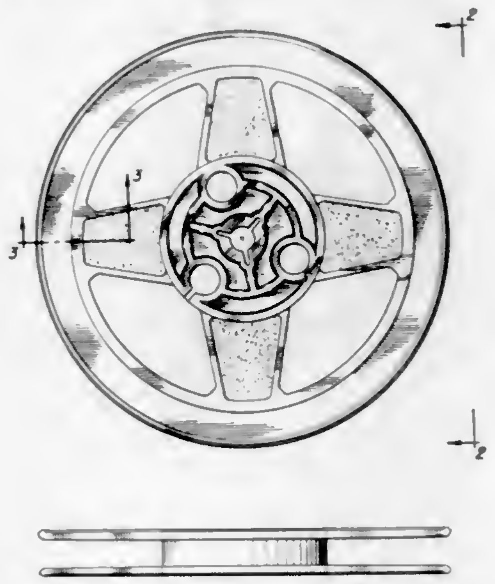
U.S. Cl. D26—1



214,511
TAPE REEL OR THE LIKE

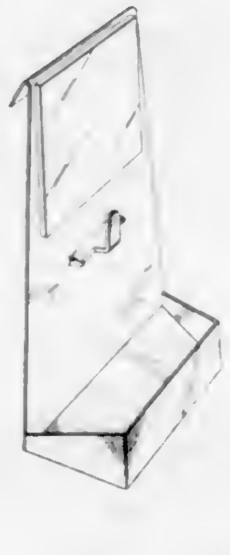
Clayton A. Laughlin, Minneapolis, Minn., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Dec. 11, 1967, Ser. No. 9,713
Term of patent 14 years
Int. Cl. D14—*01*

U.S. Cl. D26—14



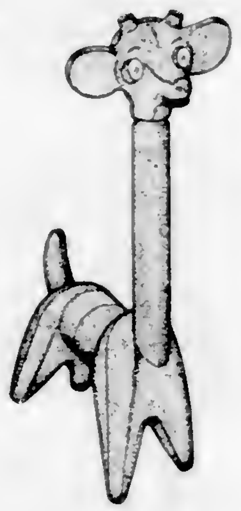
214,512
COMBINED MIRROR AND LOCKER DOOR RECEPTACLE

Donald W. Byers, 5600 SW. Wilbard St.,
Portland, Oreg. 97219
Filed May 1, 1968, Ser. No. 11,737
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—3



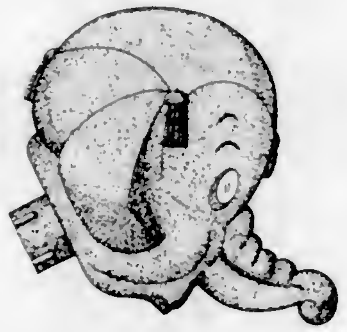
214,513
TOY GIRAFFE OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, Los Angeles, Calif.; said Allen and said Shaw assignors to said Klamer
Original design application July 13, 1967, Ser. No. 7,790. Divided and this application May 3, 1968, Ser. No. 11,766
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



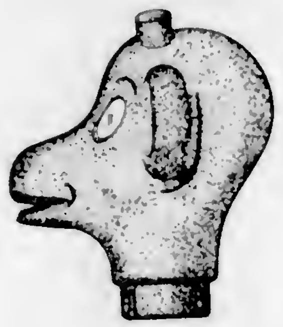
214,514
TOY ELEPHANT HEAD OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, both of 2372 S. Veteran Ave., Los Angeles, Calif. 90064
Continuation-in-part of design application Ser. No. 7,790, July 13, 1967. This application May 3, 1968, Ser. No. 11,765
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



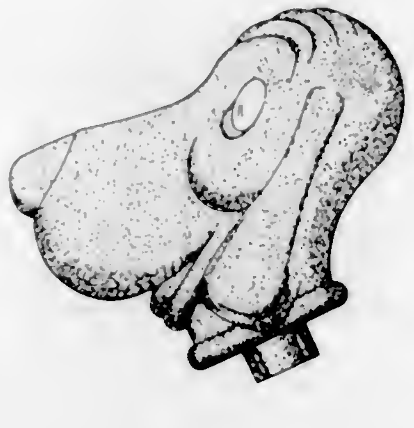
214,515
TOY GIRAFFE HEAD OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, both of 2372 S. Veteran Ave., Los Angeles, Calif. 90064
Continuation-in-part of design application Ser. No. 7,790, July 13, 1967. This application May 3, 1968, Ser. No. 11,770
Term of patent 14 years
Int. Cl. D21—*02*; D9—*02*
U.S. Cl. D34—2



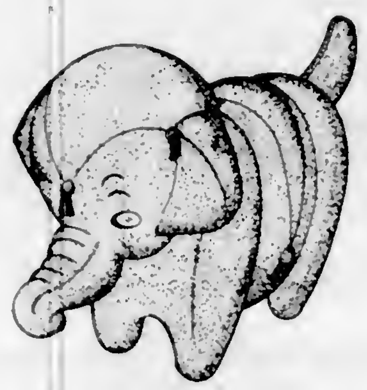
214,516
TOY DOG HEAD OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, both of 2372 S. Veteran Ave., Los Angeles, Calif. 90064
Continuation-in-part of design application Ser. No. 7,790, July 13, 1967. This application May 3, 1968, Ser. No. 11,771
Term of patent 14 years
Int. Cl. D21—*02*; D9—*02*
U.S. Cl. D34—2



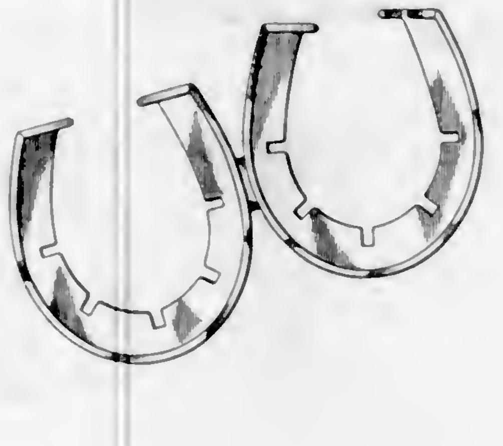
214,517
TOY ELEPHANT OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen and Melvin Shaw, Los Angeles, Calif.; said Allen and said Shaw assignors to said Klamer
Original design application July 13, 1967, Ser. No. 7,790. Divided and this application May 3, 1968, Ser. No. 11,772
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



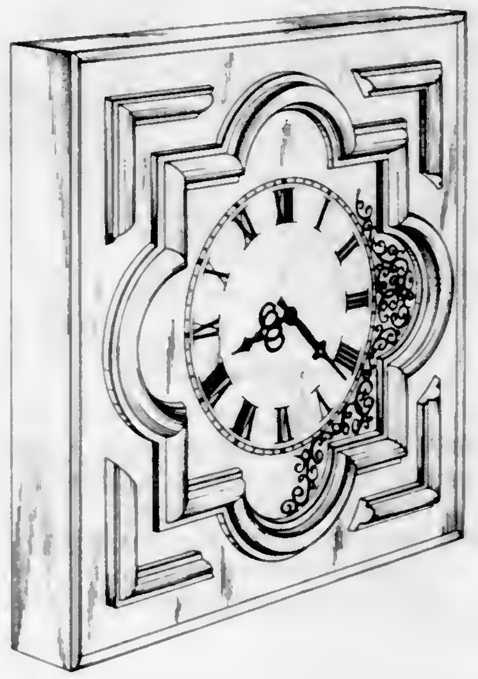
214,518
GAME PIECE

Clyde L. Anderson, White Bear, Minn., assignor to Gould-Cargill & Company, Inc., Minneapolis, Minn., a corporation of New York
Filed Mar. 28, 1968, Ser. No. 11,170
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



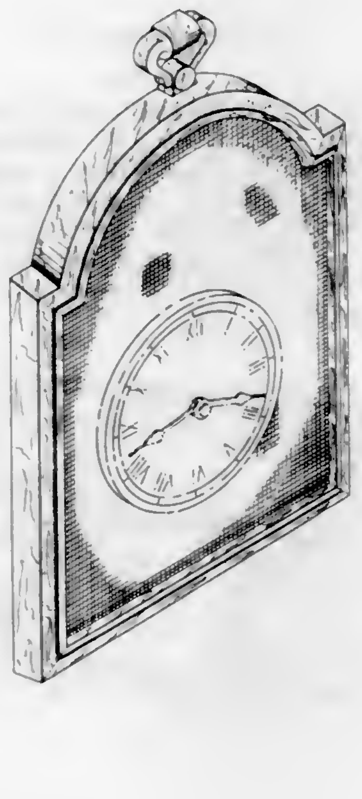
214,519
CLOCK OR SIMILAR ARTICLE

William V. Judson, Westport, Conn., assignor to General Electric Company, a corporation of New York
Filed Apr. 16, 1968, Ser. No. 11,473
Term of patent 3½ years
Int. Cl. D10—*01*
U.S. Cl. D42—7



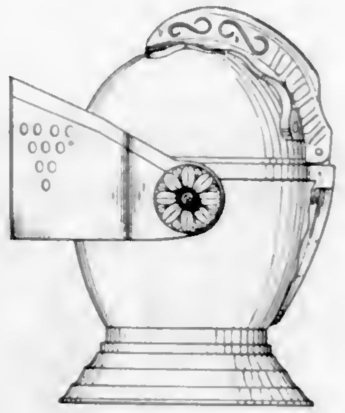
214,520
CLOCK CASING

Siro R. Toffolon, Meriden, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Oct. 11, 1968, Ser. No. 13,953
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



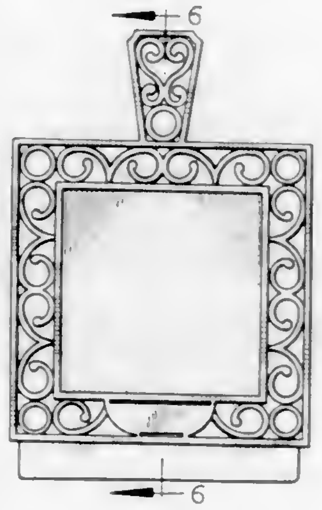
214,521
ICE BUCKET

Carlo Samtambrogio, Milan, Italy, assignor to L. Batlin & Son, Inc., New York, N.Y.
Filed Mar. 28, 1968, Ser. No. 11,163
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—1



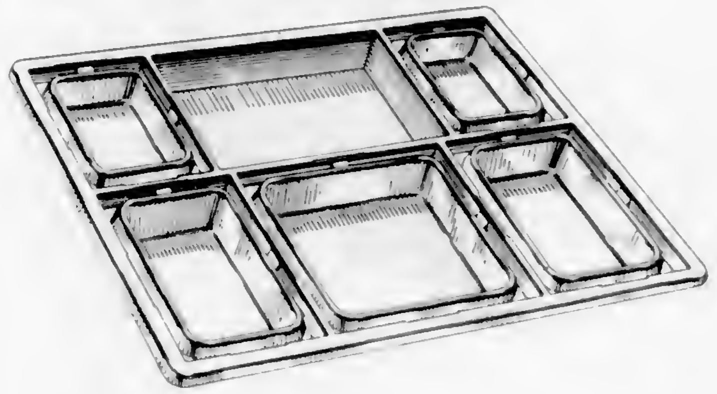
214,522
COMBINATION CALENDAR STAND AND TRIVET

Cecil B. Woofter, 603 E. 18th N., Newton, Iowa 50208
Filed Nov. 29, 1967, Ser. No. 9,586
Term of patent 14 years
Int. Cl. D7—*99;* D19—*03*
U.S. Cl. D44—10



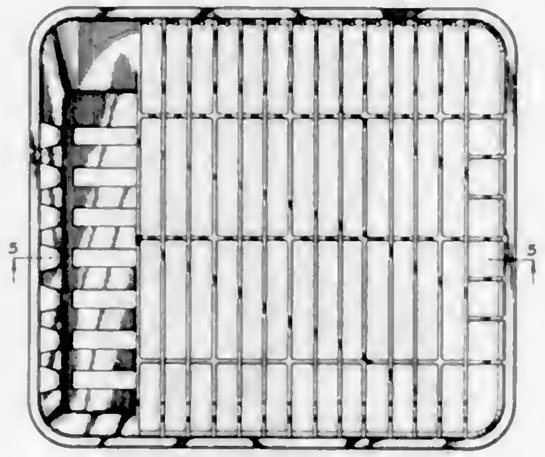
214,523
COMBINED COMPARTMENTED FOOD SERVING TRAY AND INSERTS THEREFOR

Stanford C. Stone, St. Paul, Minn., assignor to Plastics Inc., St. Paul, Minn., a corporation of Delaware
Filed July 29, 1968, Ser. No. 12,939
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—10



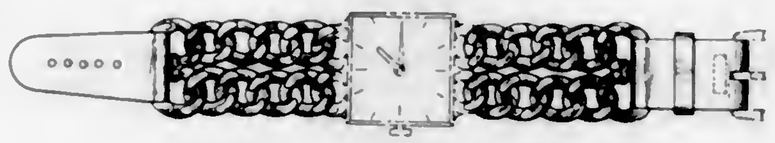
214,524
DISH DRAINER

William D. Taylor, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed July 29, 1968, Ser. No. 12,950
Term of patent 14 years
Int. Cl. D7—*06, 99*
U.S. Cl. D44—29



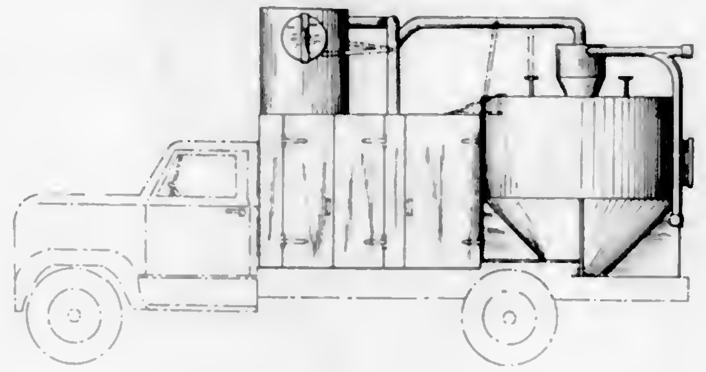
214,525
COMBINED WRISTWATCH CASE AND WATCHBAND

John Weitz, 150 E. 77th St., New York, N.Y. 10021
Filed June 18, 1968, Ser. No. 12,398
Term of patent 14 years
Int. Cl. D10—*02*
U.S. Cl. D45—4



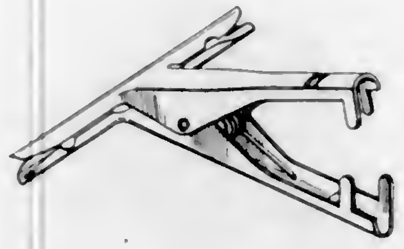
214,526
TRUCK-MOUNTED VACUUM APPARATUS

Herbert Frie, 25—64 Eileen Court, North Bellmore, N.Y. 11710, and Barry Eisner, 141—11 79th Ave., Flushing, N.Y. 11367
Filed Apr. 10, 1968, Ser. No. 11,380
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D49—9.1



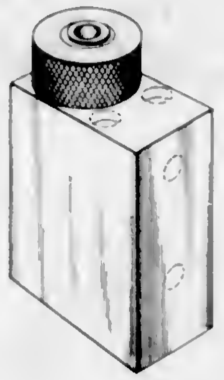
214,527
CLIP FOR AUTOMOTIVE SPARKPLUG, DISTRIBUTOR OR CAPACITOR

Albert Mazeika, Chicago, Ill., assignor to Milton Manufacturing Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 6, 1967, Ser. No. 9,290
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D54—1



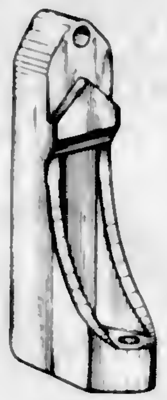
214,528
HYDRAULIC WORK HOLDING CLAMP

Vitas T. Thomas and Robert A. Lovdahl, Racine, Wis., assignors to Tomco, Inc., Racine, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 11,366
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D55—1



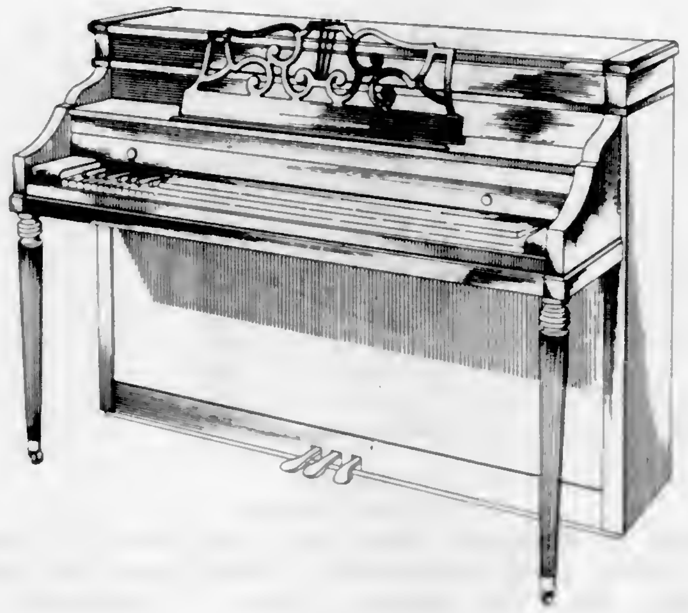
214,529
CONVEYOR TROLLEY HANGER

Morton A. Weiss, Springfield, and Bernard S. Speckhart, Short Hills, N.J., assignors to White Machine Co., Kenilworth, N.J., a corporation of New Jersey
Filed Apr. 18, 1968, Ser. No. 11,521
Term of patent 14 years
Int. Cl. D15—*99;* D8—*03*
U.S. Cl. D55—1



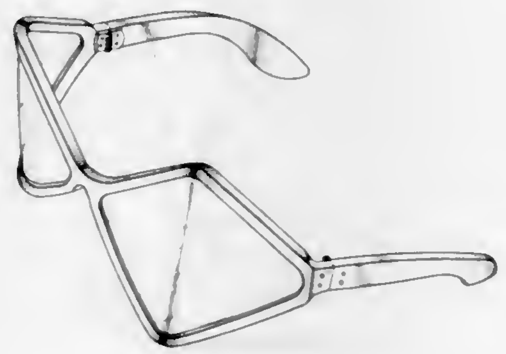
214,530
PIANO CASE

Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 29, 1968, Ser. No. 12,117
Term of patent 14 years
Int. Cl. D17—*01*
U.S. Cl. D56—9



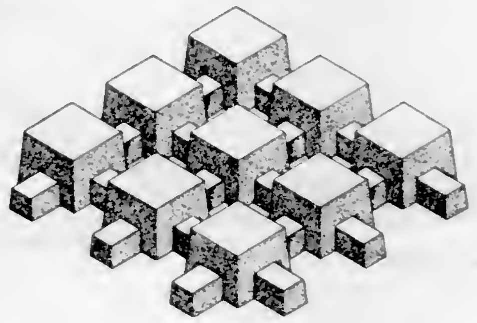
214,531
PAIR OF SUNGLASSES

Bernard Crestin-Billet, Morez-du-Jura, Jura, France
Filed Jan. 8, 1968, Ser. No. 10,078
Claims priority, application France July 7, 1967
Term of patent 3½ years
Int. Cl. D16—*08*
U.S. Cl. D57—1

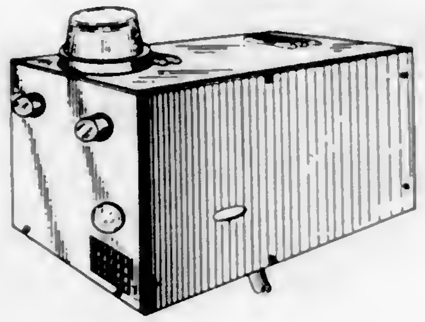


214,532
PAVING BLOCK

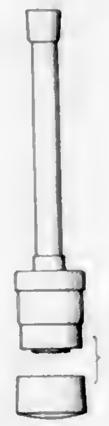
Matthew Robert Fenton, 6010 Centre Ave., Pittsburgh, Pa. 15206
Filed Apr. 17, 1968, Ser. No. 11,487
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D60—1



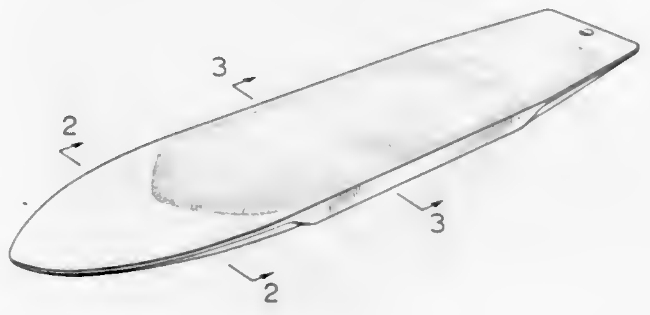
214,533
MOTION PICTURE CAMERA SURVEILLANCE DEVICE
Harry G. Anderson, 9206 Ruggles St.,
Omaha, Nebr. 68134
Filed Mar. 4, 1968, Ser. No. 10,842
Term of patent 14 years
Int. Cl. D16—*02*
U.S. Cl. D61—1



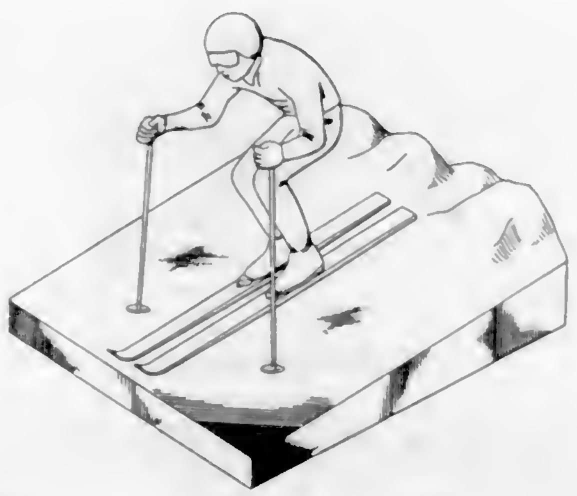
214,534
HAND STAMP
Frank R. Anderson, Montebello, and Albert J. Castro, Cudahy, Calif., assignors to Westates Space-Era Products, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 18, 1968, Ser. No. 10,201
Term of patent 14 years
Int. Cl. D18—*99*
U.S. Cl. D64—10



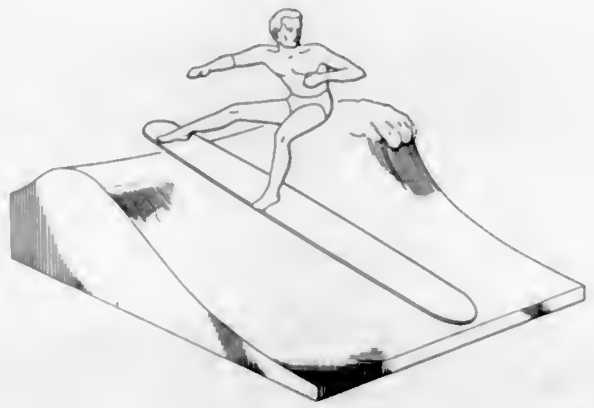
214,535
RECREATION VEHICLE
Diedrich Driedger, Regina, Saskatchewan, Canada, assignor, by mesne assignments, to L. J. Haryett, Regina, Saskatchewan, Canada
Filed June 21, 1968, Ser. No. 12,470
Term of patent 14 years
Int. Cl. D12—*13;* D21—*03*
U.S. Cl. D71—1



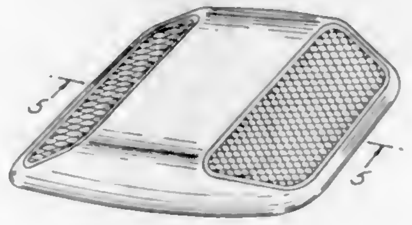
214,536
INERTIA RESPONSIVE TURNING AND STOP SIGNAL FOR MOTOR VEHICLES OR SIMILAR ARTICLE
Eli Allen Weston, 3512 Shasta Ave.,
Boise, Idaho 83703
Filed Apr. 26, 1968, Ser. No. 11,633
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



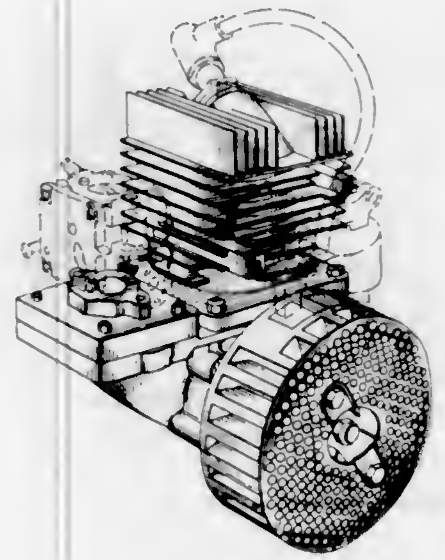
214,537
INERTIA RESPONSIVE TURNING SIGNAL FOR MOTOR VEHICLES OR SIMILAR ARTICLE
Eli Allen Weston, 3512 Shasta Ave.,
Boise, Idaho 83703
Filed Apr. 26, 1968, Ser. No. 11,632
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



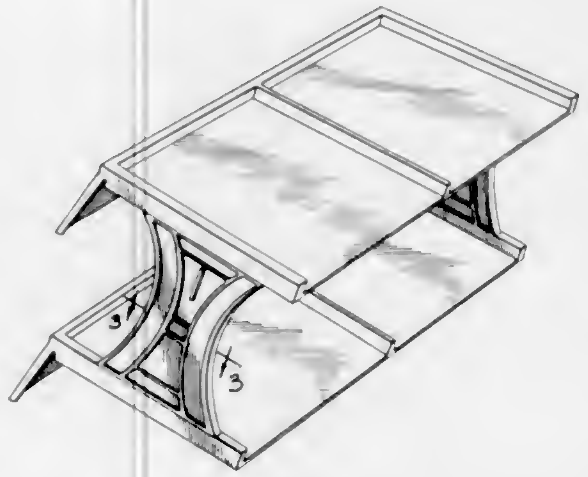
214,538
ROADWAY REFLECTOR
Peter Hedgewick, Windsor, Ontario, Canada, assignor to Reflex Corporation of Canada Limited, Amherstburg, Ontario, Canada, a corporation of Ontario
Filed Sept. 12, 1968, Ser. No. 13,521
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



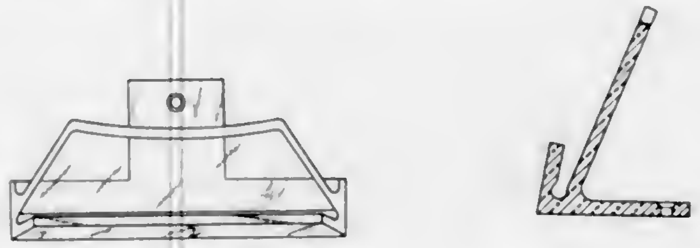
214,539
ENGINE
Arthur M. Fullerton, Toledo, Ohio, assignor to The Scott & Fetzer Company, Lakewood, Ohio, a corporation of Ohio
Filed June 13, 1968, Ser. No. 12,334
Term of patent 14 years
Int. Cl. D15—*01*
U.S. Cl. D77—1



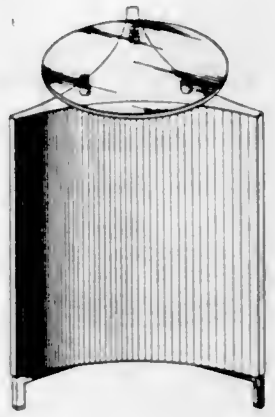
214,540
DISPLAY STAND
John A. Foster, Rockford, Ill., assignor to J. L. Clark Manufacturing Co., Rockford, Ill., a corporation of Illinois
Filed Apr. 16, 1968, Ser. No. 11,472
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



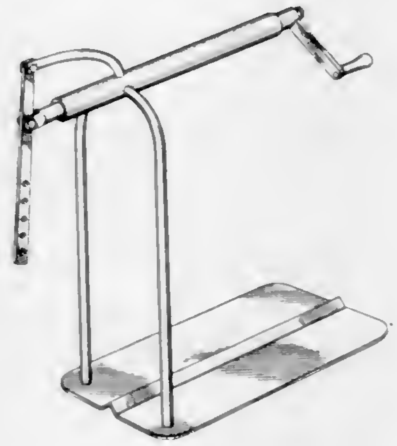
214,541
CHINA DISPLAY STAND
Leonard Naomi Hashimoto, 2816 S. Hauser Blvd.,
Los Angeles, Calif. 90016
Filed Mar. 25, 1968, Ser. No. 11,106
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



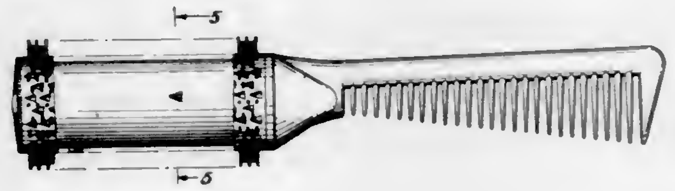
214,542
PRODUCT DISPLAY STAND
Chester J. Abend, Camillus, and John M. Gaska, East Syracuse, N.Y., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Jan. 12, 1968, Ser. No. 10,141
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



214,543
CERVICAL TRACTION UNIT
Frank J. Nightingale, 3169 Lincoln,
San Diego, Calif. 92104
Filed Mar. 4, 1968, Ser. No. 10,827
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1

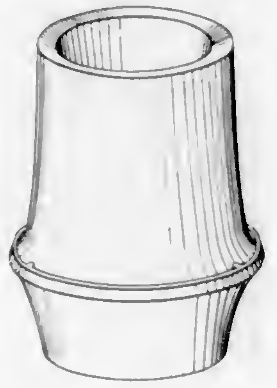


214,544
COMBINED BRUSH, COMB AND CONTAINER FOR HAIR PINS
Nathan L. Solomon, P.O. Box 550,
Englewood, N.J. 07631
Filed Apr. 3, 1968, Ser. No. 11,285
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—8



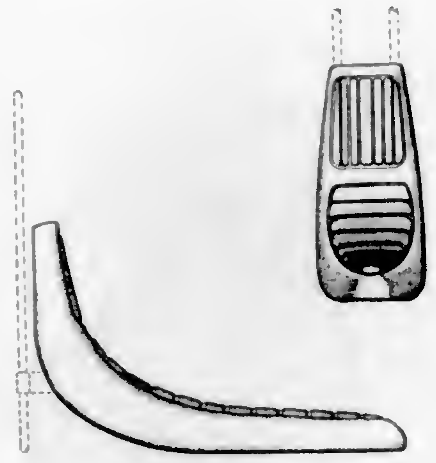
214,545
HEATER FOR INDIVIDUAL HAIR CURLERS

Anthony N. D'Elia, 355 Netherland Ave., Riverdale, N.Y. 10471, and Edward M. Stolarz, R.F.D. 2, Horton Drive, Yorktown Heights, N.Y. 10598
Filed Sept. 18, 1967, Ser. No. 8,622
Term of patent 3½ years
Int. Cl. D23—*03;* D28—*03*
U.S. Cl. D86—10



214,546
CYCLE SADDLE

Robert H. Mesinger, Lakecrest Drive, Aunt Hack Ridge, Danbury, Conn. 06810
Filed June 7, 1968, Ser. No. 12,249
Term of patent 14 years
Int. Cl. D12—*11, 14*
U.S. Cl. D90—16



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 24TH DAY OF JUNE, 1969

Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O. G. 1221. Identification is by serial number of the application.

Akin, George A.: *See*—
    Larkins, Thomas H., Jr., Young, and Akin. 782,442.
Berkowitch, John E., to E. I. du Pont de Nemours and Co. Synthetic polyester in methylene chloride solution stabilized with tetraphenyl tin. 739,287, 6–24–69, Cl. 260—33.8.
Colley, David R., and A. W. Etchells III, to E. I. du Pont de Nemours and Co. Process for transporting liquid dispersions. 767,792, 6–24–69, Cl. 103—136.
Dow Chemical Co., The: *See*—
    Roth, Harold H., and Kirk. 727,699.
Du Pont de Nemours, E. I., and Co.: *See*—
    Berkowitch, John E. 739,287.
    Colley, David R., and Etchells. 767,792.
    Ella, Raymond J., and Farmer. 788,691.
Eastman Kodak Co.: *See*—
    Young, Howard S., and McDaniel. 726,610.
Ella, Raymond J., and J. O. Farmer, to E. I. du Pont de Nemours and Co. Knit fabric. 788,691, 6–24–69, Cl. 66—169.
Etchells, Arthur W., III: *See*—
    Colley, David R., and Etchells. 767,792.
Farmer, James O.: *See*—
    Ella, Raymond J., and Farmer. 788,691.
Ford Motor Co.: *See*—
    General, Norman T. 761,375.
Fowler, William F., Jr.: *See*—
    Laakso, Thomas M., and Fowler. 794,773.
General, Norman T., to Ford Motor Co. Torque converter transmission with a by-pass clutch. 761,375, 6–24–69, Cl. 74—688.
Hatfield, John R., W. E. Morrell, and K. E. Morrison. High removal additive type tobacco smoke filter. 781,692, 6–24–69, Cl. 131—266.
Kirk, Roy C.: *See*—
    Roth, Harold H., and Kirk. 727,699.
Laakso, Thomas M., and W. F. Fowler, Jr. Polyesters and polyamides prepared from diester or diamine derivatives of bisphenols. 794,773, 6–24–69, Cl. 96—1.5.
Lappin, Gerald R.: *See*—
    Newland, Gordon C., Lappin, and Tamblyn. 717,468.
Larkins, Thomas H., Jr., H. S. Young, and G. A. Akin. Process for producing manganese dioxide. 782,442, 6–24–69, Cl. 23—145.
McDaniel, Edgar L.: *See*—
    Young, Howard S., and McDaniel. 726,610.
Morrell, William E.: *See*—
    Hatfield, John R., Morrell, and Morrison. 781,692.
Morrison, Kyle E.: *See*—
    Hatfield, John R., Morrell, and Morrison. 781,692.
Newland, Gordon C., G. R. Lappin, and J. W. Tamblyn. Polyolefin compositions. 717,468, 6–24–69, Cl. 260—94.9.
Palmer, Garland W., to Republic Steel Corp. Rotary bead bar bender. 792,223, 6–24–69, Cl. 72—219.
Republic Steel Corp.: *See*—
    Palmer, Garland W. 792,223.
Roth, Harold H., and R. C. Kirk, to The Dow Chemical Co. Sulfuric acid-poly(vinylaromatic sulfonic acid) gel for dry charge lead-acid storage battery. 727,699, 6–24–69, Cl. 136—157.
Sloan, Cephas H.: *See*—
    Touet, George P., and Sloan. 781,713.
Tamblyn, John W.: *See*—
    Newland, Gordon C., Lappin, and Tamblyn. 717,468.
Touet, George P., and C. H. Sloan. High efficiency, additive-type tobacco smoke filter. 781,713, 6–24–69, Cl. 131—266.
Young, Howard S., and E. L. McDaniel, to Eastman Kodak Co. Process for preparing unsaturated aliphatic aldehydes and monocarboxylic acids. 726,610, 6–24–69, Cl. 260—604.
Young, Howard S.: *See*—
    Larkins, Thomas H., Jr., Young, and Akin. 782,442.

LIST OF REISSUE PATENTEES

APPLICANTS TO WHOM

PATENTS WERE ISSUED ON THE 24TH DAY OF JUNE, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

American Enka Corp.: *See*—
    Antema, Geert, Kuipers, and Mulderink. Re. 26,613.
Antema, Geert, T. Kuipers, and J. J. M. Mulderink, to American Enka Corp. High tenacity rayon yarn production. Re. 26,613, 6–24–69, Cl. 264—197.
Battle Creek Packaging Machines, Inc.: *See*—
    Willbrandt, Franklin M. Re. 26,615.
Claussen, Gerard E., to Hobart Brothers Co. Welding electrodes. Re. 26,611, 6–24–69, Cl. 219—146.
Coleman Instruments Corp.: *See*—
    Staunton, John J. J. Re. 26,617.
Dale Electronics, Inc.: *See*—
    Tomaro, Patrick M., Jr. Re. 26,616.
De Koster, Heinz A., to Seggos Industries, Inc. Transducer having a magneto-resistive bridge circuit. Re. 26,610, 6–24–69, Cl. 340—174.1.
Du Pont de Nemours, E. I., and Co.: *See*—
    Gadecki, Filon A., and Speck. Re. 26,614.
Gadecki, Filon A., and S. B. Speck, to E. I. du Pont de Nemours and Co. Homopolyamide of recurring bis(paraaminocyclohexyl) methane azelamide units. Re. 26,614, 6–24–69, Cl. 260—78.
Hobart Brothers Co.: *See*—
    Claussen, Gerard E. Re. 26,611.
Kuipers, Tietso: *See*—
    Antema, Geert, Kuipers, and Mulderink. Re. 26,613
Mole, Cecil J., to Westinghouse Electric Corp. Thermoelectric apparatus. Re. 26,612, 6–24–69, Cl. 62—3.
Paltier Corp., The: *See*—
    Skubic, Leroy F. Re. 26,618.
Staunton, John J. J., to Coleman Instruments Corp. Optical prism unit and manufacture thereof. Re. 26,617, 6–24–69, Cl. 350—168.
Seggos Industries, Inc.: *See*—
    De Koster, Heinz A. Re. 26,610.
Skubic, Leroy F., to The Paltier Corp. Pallet tiering frame with wedge joint. Re. 26,618, 6–24–69, Cl. 108—53.
Speck, Stanley B.: *See*—
    Gadecki, Filon A., and Speck. Re. 26,614.
Tomaro, Patrick M., Jr., to Dale Electronics, Inc. Torque actuated reversible gear reduction assembly. Re. 26,616, 6–24–69, Cl. 74—354.
Westinghouse Electric Corp.: *See*—
    Mole, Cecil J. Re. 26,612.
Willbrandt, Franklin M., to Battle Creek Packaging Machines, Inc. Method of wrapping articles or packages. Re. 26,615, 6–24–69, Cl. 53—31.

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Anderson, Clyde L., to Gould-Cargill & Co., Inc. Game piece. 214,518, 6–24–69, Cl. D34—5.
Anderson, Harry G. Motion picture camera surveillance device. 214,533, 6–24–69, Cl. D61—1.
Anderson, Frank R., and A. J. Castro, to Westates Space-Era Products, Inc. Hand stamp. 214,534, 6–24–69, Cl. D64—10.
Baldwin, D. H., Co.: *See*—
    White, Winsor D., Jr. 214,530.
Batlin, L., & Son, Inc.: *See*—
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Berger, Max. Garment bag carrier. 214,483, 6–24–69, Cl. D8—154.
Berger, Max. Garment bag carrier. 214,484, 6–24–69, Cl. D8—154.

Bittaker, Charles E., Jr., and T. F. Sarah, to Pflueger Corp. Fly fishing reel. 214,497, 6-24-69, Cl. D22—25.
Borg-Warner Corp.: *See*—
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Byers, Donald W. Combined mirror and locker door receptacle. 214,512, 6-24-69, Cl. D33—33.
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Cecchine, Joseph R., to Johns-Manville Corp. Floor covering or similar article. 214,495, 6-24-69, Cl. D18—2.
Cline, Jack V., to Tee-Pak, Inc. Food display package. 214,486, 6-24-69, Cl. D9—216.
Clark, J. L., Mfg. Co.: *See*—
Foster, John A. 214,540.
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Douglas, Livingston C. 214,485.
Crestin-Billet, Bernard. Pair of sunglasses. 214,531, 6-24-69, Cl. D57—1.
Creve Coeur Mfg. Co.: *See*—
Slagell, Lloyd D. 214,490.
Critcher, John L., to AAI Corp. Pistol. 214,496, 6-24-69, Cl. D22—1.
D'Elia, Anthony N., and E. M. Stolarz. Heater for individual hair curlers. 214,545, 6-24-69, Cl. D86—10.
Douglas, Livingston C., to Colgate-Palmolive Co. Container for pulverulent material or the like. 214,485, 6-24-69, Cl. D9—207.
Driedger, Diedrich, to L. J. Haryett. Recreation vehicle. 214,535, 6-24-69, Cl. D71—1.
Eisner, Barry: *See*—
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Eklund, Roland G., to Borg-Warner Corp. Vent cover or similar article. 214,501, 6-24-69, Cl. D23—151.
Ellsworth, Arthur W., and R. K. Fujioka, to Samsonite Corp. Arm chair. 214,493, 6-24-69, Cl. D15—1.
Ellsworth, Arthur W., and R. K. Fujioka, to Samsonite Corp. Stool or similar article. 214,494, 6-24-69, Cl. D15—8.
Evans, William R., to AMP Inc. Bundle tie. 214,488, 6-24-69, Cl. D9—252.
Fenton, Matthew R. Paving block. 214,532, 6-24-69, Cl. D60—1.
Fisher, Denys, to Denys Fisher Group Ltd. Drawing toy. 214,509, 6-24-69, Cl. D25—1.
Fisher, Denys, Group Ltd.: *See*—
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Foote, J. B., Foundry Co., The: *See*—
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Frie, Herbert, and B. Eisner. Truck-mounted vacuum apparatus. 214,526, 6-24-69, Cl. D49—9.1.
Fujioka, Robert K.: *See*—
Ellsworth, Arthur W., and Fujioka. 214,493.
Ellsworth, Arthur W., and Fujioka. 214,494.
Fullerton, Arthur M., to The Scott & Fetzer Co. Engine. 214,539, 6-24-69, Cl. D77—1.
Gaska, John M.: *See*—
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Gillette Co., The: *See*—
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Gould-Cargill & Co., Inc.: *See*—
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Hauser, Hans, to The J. B. Foote Foundry Co. Snow vehicle. 214,492, 6-24-69, Cl. D14—24.
Hedgewick, Peter, to Reflex Corp. of Canada Ltd. Roadway reflector. 214,538, 6-24-69, Cl. D72—1.
Joffe, Joseph A., to Precision Technical Design Inc. Slidable-card locator map. 214,508, 6-24-69, Cl. D25—1.
Johns-Manville Corp.: *See*—
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Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214,502, 6-24-69, Cl. D24—1.
Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214,503, 6-24-69, Cl. D24—1.
Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214,504, 6-24-69, Cl. D24—1.
Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214 505, 6-24-69, Cl. D24—1.
Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214,506, 6-24-69, Cl. D24—1.
Jones, Arthur L., to The Pelton & Crane Co. Dental cabinet or the like. 214,507, 6-24-69, Cl. D24—1.
Judson, William V., to General Electric Co. Clock or similar article. 214,519, 6-24-69 Cl. D42—7.
Klamer, Reuben B., R. Y. Allen, and M. Shaw; said Allen, and said Shaw, assors. to said Klamer. Toy giraffe or the like. 214,513, 6-25-69, Cl. D34—2.
Klamer, Reuben B., R. Y. Allen, and M. Shaw. Toy elephant head or the like. 214,514, 6-24-69, Cl. D34—2.
Klamer, Reuben B., R. Y. Allen, and M. Shaw. Toy giraffe head or the like. 214,515, 6-24-69, Cl. D34—2.
Klamer, Reuben B., R. Y. Allen, and M. Shaw. Toy dog head or the like. 214,516, 6-24-69, Cl. D34—2.
Klamer, Reuben B., R. Y. Allen, and M. Shaw; said Allen, and said Shaw, assors. to said Klamer. Toy elephant or the like. 214,517, 6-24-69, Cl. D34—2.
Laughlin, Clayton A., to Standard Oil Co. Tape reel or the like. 214,511, 6-24-69, Cl. D26—14.
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Lund, Bryant D. Voltage regulator. 214,510, 6-24-69, Cl. D26—1.
Marts, David B. Garbage can dolly. 214,491, 6-24-69, Cl. D14—3.
Mejer, Edward L. Building front. 214,489, 6-24-69, Cl. D13—1.
Mazeika, Albert, to Milton Mfg. Co., Inc. Clip for automotive sparkplug, distributor, or capacitor. 214,527, 6-24-69, Cl. D54—1.
Mesinger, Robert H. Cycle saddle. 214,546, 6-24-69, Cl. D90—16.
Milton Mfg. Co., Inc.: *See*—
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Nightingale, Frank J. Cervical traction unit. 214,543, 6-24-69, Cl. D83—1.
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Reichl, Ernst, to The Gillette Co. Combined packaging and storage tray for shaving accessories. 214,487, 6-24-69, Cl. D9—242.
Ross, John H., Jr. Tank ball. 214,499, 6-24-69, Cl. D23—33.
Rubbermaid Inc.: *See*—
Taylor, William D. 214,524.
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Ellsworth, Arthur W., and Fujioka. 214,494.
Ellsworth, Arthur W., and Fujioka. 214,493.
Samtambrogio, Carlo, to L. Batlin & Son, Inc. Ice bucket. 214,521, 6-24-69, Cl. D44—1.
Sarah, Thomas F.: *See*—
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Klamer, Reuben B., Allen, and Shaw. 214,513.
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Klamer, Reuben B., Allen, and Shaw. 214,516.
Klamer, Reuben B., Allen, and Shaw. 214,517.
Slagell, Lloyd D., to Creve Coeur Mfg. Co. Bin extension. 214,490, 6-24-69, Cl. D14—3.
Solomon, Nathan L. Housing for a heater for hair rollers. 214,500, 6-24-69, Cl. D23—77.
Solomon, Nathan L. Combined brush, comb and container for hair pins. 214,544, 6-24-69, Cl. D86—8.
Speckhart, Bernard S.: *See*—
Weiss, Morton A., and Speckhart. 214,529.
Standard Oil Co.: *See*—
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Stolarz, Edward M.: *See*—
D'Elia, Anthony N., and Stolarz. 214,545.
Stone, Stanford C., to Plastics Inc. Combined compartmented food serving tray and insert therefor. 214,523, 6-24-69, Cl. D44—10.
Strom, Dee L.: *See*—
Zimmon, Harold, and Strom. 214,482.
Taylor, William D., to Rubbermaid Inc. Dish drainer. 214,524, 6-24-69, Cl. D44—29.
Tee-Pak, Inc.: *See*—
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Thomas, Vitas T., and R. A. Lovdahl, to Tomco, Inc. Hydraulic work holding clamp. 214,528, 6-24-69, Cl. D55—1.
Toffolon, Siro R., to General Time Corp. Clock casing. 214,520, 6-24-69, Cl. D42—7.
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Walters, Darrel D. Fishing lure. 214,498, 6-24-69, Cl. D22—28.
Weiss, Morton A., and B. S. Speckhart, to White Machine Co. Conveyor trolley hanger. 214,529, 6-24-69, Cl. D55—1.
Weltz, John. Combined wristwatch case and watchband. 214,525, 6-24-69, Cl. D45—4.
Westates Space-Era Products Inc.: *See*—
Anderson, Frank R., and Castro. 214,534.
Weston, Eli A. Inertia responsive mounted figurine turning and stop signal for motor vehicles or similar article. 214,536, 6-24-69, Cl. D72—1.
Weston, Eli A. Inertia responsive mounted figurine turning signal for motor vehicles or similar article. 214,537, 6-24-69, Cl. D72—1.
White Machine Co.: *See*—
Weiss, Morton A., and Speckhart. 214,529.
White, Winsor D., Jr., to D. H. Baldwin Co. Piano case. 214,530, 6-24-69, Cl. D56—9.
Woofter, Cecil B. Combination calendar stand and trivet. 214,522, 6-24-69, Cl. D44—10.
Zimmon, Harold, and D. L. Strom, to American Hospital Supply Corp. Nurse's surgical cap. 214,482, 6-24-69, Cl. D2—243.

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TO WHOM

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Aarnaes, Morten H. K., to Lockheed Aircraft Corporation. Aircraft wing pivot. 3,451,646, 06-24-69, Cl. 244-046.
AB Akerlund & Rausing Lund: *See*—
Hakansson, Jan Torsten, and Dilot, Rolf Magnus, 3,451,317.
AB Cykelfabriken Fram: *See*—
Lundgren, Claes Erik Gunnar, and Lichtneckert, Istvan Janos Antal, 3,451,674.
AB Svenska Metallverken: *See*—
Fredriksson, Per Sven Engelbrekt, and Granstrom, Olof Alvar, 3,451,123.
Abbott, Robert E.: *See*—
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ACF Industries, Incorporated said Capelli, said Guattery said Rebar and said Sobin assors to National Lead Company: *See*—
Cappelli, Joseph A., Guattery, Antonio P., Rebar, Edward, Sobin, George, and Becht, George L., 3,451,724.
Ackerman, James H., to Sterling Drug Inc. N-Alkylated-acylaminotriiodophenylalkanoic acids. 3,452,084, 06-24-69, Cl. 260-515.
Adams, John M.: *See*—
Reis, Joseph W., and Adams, John M. 3,451,297.
Adams, Leonard, Jr., to Finn Industries, The. Prewrap carton for high speed erection. 3,451,611, 06-24-69, Cl. 229-037.
Adank, Kurt, and Prins, Daniel A., to Geigy Chemical Corporation. 5-(3'-Aminopropyl)-5-hydroxy-5,6,11,12-tetrahydrodibenzo[a,e] cyclooctenes and salts thereof. 3,452,095, 06-24-69, Cl. 260-570.8
Addressograph-Multigraph Corporation: *See*—
Mignone, Albert E., 3,451,336.
Adler, Robert, to Zenith Radio Corporation. Imaging apparatus. 3,452,286, 06-24-69, Cl. 330-004.3
Aero-Flow Dynamics, Inc.: *See*—
Sample, William J., and Downey, George T., 3,451,551.
Aerotronic Associates Inc.: *See*—
Slusser, Eugene A., 3,452,351.
Afico S.A.: *See*—
Mishkin, Abraham R., Marsh, William C., and Fobes, Alfred W., 3,451,823.
Afonso, Adriano: *See*—
Herzog, Hershel L., and Afonso, Adriano 3,451,892.
Ahlstedt, Gunnar Lennart, to Mo och Domsjo Aktiebolag. Arrangement for centering and determining the width of workpieces. 3,451,522, 06-24-69, Cl. 198-029.
Ahrons, Richard W., to RCA Corporation. Cryoelectric memories. 3,452,333, 06-24-69, Cl. 340-173.1
Air Products and Chemicals, Inc.: *See*—
Scott, Charles E., 3,451,948.
Air Reduction Company, Incorporated: *See*—
McCabe, Neale R., and Pearce, Michael L., 3,451,772.
Airstream Products, Inc.: *See*—
Malissa, Carl A., 3,451,163.
Akahori, Hiroshi, to Hitachi, Ltd. Photographing shutter and flurorescent plate structure for electron microscopes. 3,452,194, 06-24-69, Cl. 250-049.5
Akiyama, James K., to Diamond Shamrock Corporation. Composition comprising urea-formaldehyde resin, triester of H_3PO_4, and alkyl phosphite. 3,451,968, 06-24-69, Cl. 260-071.
Akiyama, Sumio: *See*—
Mizutani, Yukio, Tesima, Wataru, Akiyama, Sumio, Yamane, Reiichi, and Ihara, Hirohumi 3,451,951.
Aktieselskabet de Danske Sukkerfabrikker: *See*—
Madsen, Rud F., 3,451,403.
Aldrich Chemical Company, Inc., The: *See*—
Hopps, Harvey B., 3,452,030.
Alessio, Eugene. Light bulb socket adapter. 3,452,215, 06-24-69, Cl. 307-146.
Alexander, Frank A., Jr., to Morgan Construction Company. Method of reheating a partially cooled continuously cast slab. 3,451,664, 06-24-69, Cl. 263-052.
Alexander, Frank C., Jr., to FMC Corporation. Method of making shaped apertures by using focused pattern of ultrahigh frequency sound waves. 3,451,296, 06-24-69, Cl. 083-013.
Alexander, William J., Murphy, Charles F., and McEniry, Thomas E., Jr., to ITT Rayonier Incorporated. Neutralizing hydroxyalkyl cellulose. 3,451,998, 06-24-69, Cl. 260-231.
Alfa-Laval AB: *See*—
Palm, Bengt Arne, 3,451,471.
Allegheny Plastics, Inc.: *See*—
Marshall, Robert M., and Wittebort, Robert W., 3,451,452.
Allen and Hanburys Limited: *See*—
Gladych, Jan Mieczyslaw Zygmunt, and Hunt, John Harold, 3,452,013.
Allied Chemical Corporation: *See*—
Lazarus, Stanley D., 3,451,971.
Shultz, Andrew, 3,452,073.
Alonso, Ramon L., Oleksiak, Robert E., and Turner, William B., to Massachusetts Institute of Technology. Process for manufacturing digital computer memories. 3,451,129, 06-24-69, Cl. 029-604.
Alsco, Inc.: *See*—
Pengelly, Charles P., 3,451,168.
Alt, Gerhard H., and Speziale, Angelo John, to Monsanto Company. Enaminoketone sulfides. 3,452,001, 06-24-69, Cl. 260-239.
Altmann, Werner E., to Daimler-Benz Aktiengesellschaft. Blocking-type synchronizing shifting clutch for motor vehicle change-speed transmissions. 3,451,513, 06-24-69, Cl. 192-053.
American Chain & Cable Company, Inc.: *See*—
Bishop, Leonard J., 3,451,353.
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Berkelhammer, Gerald, and Asato, Goro, 3,452,035.
Chomitz, Nicholas, Lindsley, John Francis, and Price, Charles D., 3,451,102.
Grayson, Martin, Keough, Patricia Tarpey, and Rauhut, Michael McKay, 3,452,099.
Koral, Jerry Norman, and Petropoulos, John Christos, 3,451,955.
Martin, John Henry, Porter, John Norman, and Mitscher, Lester Allen, 3,452,136.
Michael, Malden Ward, 3,451,947.
Patterson, Ernest Leonard, Whaley, Howard Arnold, and Ellestad, George Alfred, 3,452,051.
Schmidt, Richard Frederick, 3,451,960.
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Bruderlein, Francois T., 3,452,050.
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Childress, Scott J., and Sallay, Stephen I., 3,452,029.
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Santilli, Arthur A., and Kim, Dong H., 3,452,018.
Santilli, Arthur A., and Osdene, Thomas S., 3,452,037.
Strike, Donald P., Herbst, David R., and Smith, Herchel, 3,452,004.
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American Machine & Foundry Company: *See*—
Irwin, Jere F., 3,451,192.
Rulseh, Roger David, 3,452,165.
Saylor, William P., Jr., and Childers, Herman M., 3,452,197.
American Meter Company: *See*—
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American National Valve Corporation: *See*—
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American Potash & Chemical Corporation: *See*—
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American Radiator & Standard Sanitary Corporation: *See*—
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American Saint Gobain Corporation: *See*—
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Ampex Corporation: *See*—
Kember, Bryan F., 3,451,637.
Amphenol Corporation: *See*—
Cameron, John K., 3,451,117.
Anandam, Ernest J., to University of Tennessee Research Corporation, The. Gas cap for culture tubes. 3,451,894, 06-24-69, Cl. 195-127.
Ancelle, Bernard, and Plancon, Marcel, to Progil. Bleaching pulp having high consistency with ozone having moisture content near 100%. 3,451,888, 06-24-69, Cl. 162-065.
Andersen, Lester H., to Clear-Air Waste Reduction, Inc. Reciprocating grate structure. 3,451,364, 06-24-69, Cl. 110-038.
Andersen, Roger K., to Parker-Hannifin Corporation. Midstroke locking actuator. 3,451,313, 06-24-69, Cl. 091-045.
Anderson, Norman J., to Zurn Industries, Inc. Pilot bearing for disconnect coupling. 3,451,515, 06-24-69, Cl. 192-067.
Anderson, Vincent H., to Bliss, E. W., Company. Self-contained die cushion with air saver. 3,451,667, 06-24-69, Cl. 267-001.
Andersson, Lennart R. Movable concrete form with a pair of endless flexible mats. 3,451,108, 06-24-69, Cl. 025-131.

Andrepont, Wilbur C. Apparatus for the simultaneous casting of multi-propellant solid fuel rocket motors. 3,451,104, 06-24-69, Cl. 018-026.
Andrikian, Charles P., to Communications Satellite Corporation. Temperature compensated three-port stripline circulator. 3,452,298, 06-24-69, Cl. 333-001.1
Angel, Karl W., to RCA Corporation. Transmit-receive switch. 3,452,299, 06-24-69, Cl. 333-007.
Anno, Takamitsu, Masuda, Kohei, Hachiya, Kikuo, and Hattori, Takeo, 1/2 to Mitsubishi Petrochemical Company Limited, mesne. Waterproof pile coated sheet for lamiating. 3,451,884, 06-24-69, Cl. 161-053.
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Apex Bearings Company, The: *See—*
  Weichsel, Richard H., 3,451,731.
Applegate, William A. Automatic emergency brake actuation system. 3,451,501, 06-24-69, Cl. 180-099.
Appleton, Bernard S. Transmission belt. 3,451,282, 06-24-69, Cl. 074-229.
Archer, Wesley L., and Simpson, Elbert L., to Dow Chemical Company, The. Stabilization of 1,1,1-trichloroethane. 3,452,107, 06-24-69, Cl. 260-652.5
Archer, Wesley L., Simpson, Elbert L., and Graybill, George Richard, to Dow Chemical Company, The. Stabilization of 1,1,1-trichloroethane. 3,452,108, 06-24-69, Cl. 260-652.5
Archer, Wesley L., Simpson, Elbert L., and Graybill, George Richard, to Dow Chemical Company, The. Stabilization of 1,1,1-trichloroethane. 3,452,109, 06-24-69, Cl. 260-652.5
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Argabright, Perry A., to Marathon Oil Company. Polyurethanes cross-linked with tetrolin-1,4-diol. 3,451,969, 06-24-69, Cl. 260-075.
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Armstrong, Fullerton George Gordon. Rotary internal combustion engines. 3,451,381, 06-24-69, Cl. 123-016.
Arnaudon, Michel, and Richard, Jean, to Service d'Exploitation Industrielle des Tabacs et des Allumettes. Machine for forming and presenting cartons for continuous feeding to a boxing machine. 3,451,318, 06-24-69, Cl. 093-053.
Arnold, Harmon W., and Bell, George E., to Flex-O-Lators, Inc. Edge protector. 3,451,169, 06-24-69, Cl. 049-462.
Arnold, John H. Portable boresight board. 3,451,138, 06-24-69, Cl. 033-074.
Arnold, Philip M., to Phillips Petroleum Company. Blending solid olefin polymers with rubber. 3,452,120, 06-24-69, Cl. 260-889.
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  Troike, Paul E., 3,451,490.
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Ashpole, Raymond Sidney, and Wells, Sydney Tom, to English Electric Company Limited, The. Method of coating metallic wire or strip with glass. 3,451,847, 06-24-69, Cl. 117-231.
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Design Patents

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DEFENSIVE PUBLICATIONS APPLICATIONS

Reference is by Serial No. (Notice of Apr. 11, 1968, 849 O.G. 1221)

10 : 739,287
767,792

10 : 788,691
26 : 727,699

26 : 761,375
36 : 792,223

36 : 794,773
47 : 717,468

47 : 726,610
781,692

47 : 781,713
782,442

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
June 24, 1969 Volume 863 Number 4

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 391,692 (JOCKEY), Cooper's Incorporated, Underwear, such as men's and boys' undershirts, underdrawers, both with and without legs as well as drawers having an abdominal supporting band, and hosiery; **Reg. No. 509,364**, same, Men's and boys' underwear, undershirts, union suits, hosiery, swim trunks, sport shorts, sport shirts, and T-shirts; **Reg. No. 816,662**, same, Sweaters, sport shirts, and golf jackets; **Reg. No. 851,976**, same, Scultetus bandage; **Reg. No. 409,514** (JOCKEY BOY STATUETTE (DESIGN)), same, Men's and boys' underwear; **Reg. No. 711,570** (HALF JOCKEY (DESIGN)), same, Wearing apparel for men, women, and children—namely, underwear for men and boys; hosiery for men, women, and children; sweaters, sweat shirts, sport shirts, and sport shorts; **Reg. No. 768,840** (FULL JOCKEY FIGURE), same, **filed** Apr. 23, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c885, *Cooper's Incorporated* v. *Munsingwear, Inc.*

Reg. No. 398,874 (PROGRESSO AND DESIGN), Uddo & Taormina Corporation, Canned vegetables; **Reg. No. 620,471**, same, Canned vegetables, canned fruits, canned olives, canned pork and beans, canned spaghetti, canned fish, canned egg plant appetizer, canned tomato paste, and canned citrus fruit juices and tomato juice; **Reg. No. 708,478** (PROGRESSO), same, Canned and bottled edible olive oil and olives, macaroni, canned ravioli, spaghetti, tomato paste, canned vegetables, pizza sauce, clam sauce, tomato sauce, spaghetti sauce, canned fish, canned fruits, canned soups, cheese, coffee, dried beans, vinegar, spices, olive appetizer consisting of olives, celery, capers, oregano, vinegar, oil and spices; egg plant appetizer consisting of egg plant, tomato sauce, celery, olives, capers, onions, oils, vinegar, sugar and spices, **filed** Aug. 7, 1968, D.C. Conn. (New Haven), Doc. 12698, *Uddo & Taormina Corporation* v. *Raffaele Sandolo, also known as Ralph Sandolo, doing business as Progresso International Restaurant, Progresso Italian Restaurant, and Progresso Italian Restaurant, Inc.* Consent judgment, defendants enjoined, Apr. 18, 1969.

Reg. No. 407,574 (SCHWINN ETC.), Arnold, Schwinn & Co., Bicycles, **filed** Apr. 17, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c836, *Schwinn Bicycle Company* v. *Continental Bearings Corp.*

Reg. No. 409,514. (See Reg. No. 391,692.)

Reg. No. 421,496 (FORMICA), Formica Corporation, Laminated sheets of wood, fabric, or paper impregnated with synthetic resin and consolidated under heat and pressure, for use on table tops, furniture and wall panelling, **filed** Apr. 16, 1969, D.C., S.D. Fla. (Miami), Doc. 69–459–C–CF, *Formica Corporation* v. *Tolco Corporation.*

Reg. No. 509,364. (See Reg. No. 391,692.)

Reg. No. 518,072 (COSCO), Hamilton Manufacturing Corporation, Stools—namely, bar stools, step stools, and bathroom stools; **Reg. No. 542,790**, same, Kitchen stools, posture-

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	11,860
Date of oldest new application	February 28, 1968
Date of oldest amended application (filing date)	March 4, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	11-18-68	5-10-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	8-22-68	3- 4-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11-18-68	9-22-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	2-28-68	8-25-66
Renewals (All Classes)	3-14-69	....
Sec. 12(c) Publications (All Classes)	4-2 -69	....

Applications filed during the month of April 1969—2,768

Registrations Issued ....436—No. 871,537 to No. 871,972
Renewals Issued 150

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

back chairs, high chairs, youth chairs, and metal utility tables; **Reg. No. 544,369**, same, Step ladders; **Reg. No. 594,478**, same, Office chairs, baby jumper chairs, and child's playing and feeding tables with seat attached; **Reg. No. 623,481**, same, Sofas, settees, chairs, ottomans, utility stools, kitchen chairs, ironer chairs, utility carts, tray-carts, dropleaf tables and carts, tables embodying electrical outlets, collapsible card tables, and collapsible card table chairs; **Reg. No. 703,536**, same, Hamilton Cosco, Inc., Folding play pens for children; **Reg. No. 705,489**, same, Baby strollers; **Reg. No. 722,569**, same, Infants' cribs, **filed** Apr. 14, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–704–IH, *Hamilton Cosco, Inc.* v. *Cossco Products, Inc.*

Reg. No. 542,790. (See Reg. No. 518,072.)

Reg. No. 544,369. (See Reg. No. 518,072.)

Reg. No. 594,478. (See Reg. No. 518,072.)

Reg. No. 620,471. (See Reg. No. 398,874.)

Reg. No. 623,481. (See Reg. No. 518,072.)

Reg. No. 703,536. (See Reg. No. 518,072.)

Reg. No. 705,489. (See Reg. No. 518,072.)

Reg. No. 708,478. (See Reg. No. 398,874.)

Reg. No. 711,570. (See Reg. No. 391,692.)

Reg. No. 722,569. (See Reg. No. 518,072.)

Reg. No. 738,246 (TRAVEL), Travel Magazine, Inc., Magazine, **filed** Mar. 31, 1969, D.C., S.D.N.Y., Doc. 69–C–1304, *Travel Magazine, Inc.* v. *B.T. Publications Inc. et al.*

Reg. No. 759,940 (PAVABID), Marion Laboratories, Inc., Vascular relaxant and antispasmodic, **filed** Sept. 26, 1968, D.C., E.D. Mich. (Detroit), Doc. 31767, *Marion Laboratories, Inc.* v. *Merrill Pharmacy, Inc.* Final judgment and consent decree, Apr. 7, 1969.

Reg. No. 768,840. (See Reg. No. 391,692.)

Reg. No. 776,922 (ROSS AND DESIGN), Ross Electronics Corporation, Radios (portable and table models), speakers, and batteries (Class 21); tape recorders (Class 36), **filed** Apr. 11, 1969, D.C., S.D.N.Y., Doc. 69–1472, *Ross Electronics Corporation* v. *G & H Electronics Corp.*

Reg. No. 800,031 (AMERICARE), American Republic Insurance Company, Underwriting of hospital, surgical, and medical insurance; **Reg. No. 838,463**, same, First aid kit, **filed** Apr. 22, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–757–IH, *American Republic Insurance Co., doing business as "Americare"* v. *Americare Inns, Inc.*

Reg. No. 816,662. (See Reg. No. 391,692.)

Reg. No. 838,463. (See Reg. No. 800,031.)

Reg. No. 848,227 (DESIGN OF PEACOCK), Jakob Schlapfer & Co., AG., Schiffli embroideries, **filed** Apr. 16, 1969, D.C., S.D.N.Y., Doc. 69–1571, *Jakob Schlapfer & Co., Ltd.* v. *Park Schiffli Inc.*

Reg. No. 851,976. (See Reg. No. 391,692.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 259,478. Soulé Steel Company, San Francisco, Calif. Filed Nov. 25, 1966.

Soulé

Owner of Reg. Nos. 530,146, 647,319, and others.

Class 12—Construction Materials

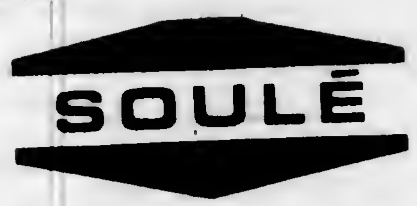
For Steel Window Frames and Doors; Reinforcing Commodities—Namely, Deformed Reinforcing Concrete Steel Bars, Welded Wire Fabric, Expansion Joints, Concrete Pipe Reinforcing in the Form of Steel Wire or Rods, Adjustable and Dome Type Steel Forms for Reinforcing Concrete Joist Construction; Steel Column Spirals; Prestressed and Post-Tension Reinforcing Materials; Reinforcing Accessories—Namely, Bar Supports and Spacers and Concrete Blocks and Steel Construction Clamps for Concrete Forms; Pre-Engineered Steel Structures and Specialty Buildings—Namely, Industrial and Farm Type Structures; Hi-Rib Sheets; Insulated Panels for Prefabricated and Specialty Buildings; Metal Lath; Stucco Netting and Stucco Mesh; Metal Lath and Attachments Sold as a Unit; Drywall Metal—Namely, Metal Studs, Track, Furring Channels and Attachments Sold as a Unit; Expanded Metal Products—Namely, Stair Treads; Architectural Decorative Expanded Metal Products—Namely, Sun Screens; Glare Barrier Expanded Metal for Highways; Sunshade Expanded Metal and Solar Metal Screens; Aluminum Residential Casements, Sliding Windows and Doors; Aluminum Monumental Windows, Doors, Curtain and Window Walls; Aluminum Wall Panels and Porcelain Wall Panels; Plain and Color Anodized Aluminum Extrusions and Panels; and Steel Mill Merchant Bar Products (Flats, Rounds, Angles, and Squares) (Int. Cls. 6 and 19).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Steel Fence Posts and Accessories (Int. Cl. 6).

First use in about June 1949; about 1911 as to "Soule."

SN 259,479. Soulé Steel Company, San Francisco, Calif. Filed Nov. 25, 1966.



Owner of Reg. Nos. 530,146, 647,319, and others.

Class 12—Construction Materials

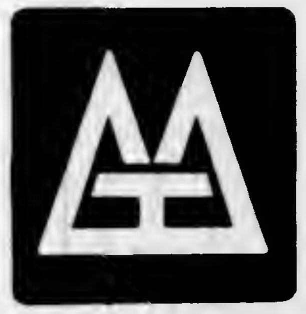
For Steel Window Frames and Doors; Reinforcing Commodities—Namely, Deformed Reinforcing Concrete Steel Bars, Welded Wire Fabric Used in Reinforcing Concrete for Construction Purposes, Expansion Joints, Concrete Pipe Reinforcing in the Form of Steel Wire or Rods, Adjustable and Dome Type Steel Forms for Reinforcing Concrete Joist Construction; Steel Column Spirals; Prestressed and Post-Tension Reinforcing Materials; Reinforcing Accessories—Namely, Bar Supports and Spacers and Concrete Blocks and Steel Construction Clamps for Concrete Forms; Pre-Engineered Steel Structures and Specialty Buildings; Hi-Rib Sheets; Insulated Panels for Prefabricated and Specialty Buildings; Metal Lath; Stucco Netting and Stucco Mesh; Metal Lath Products and Accessories; Drywall Metal Products and Accessories; Expanded Metal Products—Namely, Stair Treads and Sun Screens; Architectural Decorative Expanded Metal Products; Glare Barrier Expanded Metal for Highways; Sunshade Expanded Metal and Solar Metal Screens; Aluminum Residential Casements, Sliding Windows and Doors; Aluminum Monumental Windows, Doors, Curtain and Window Walls; Aluminum Wall Panels and Porcelain Wall Panels; Plain and Color Anodized Aluminum Extrusions and Panels; and Steel Mill Merchant Bar Products (Int. Cls. 6 and 19).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Steel Fence Posts and Accessories (Int. Cl. 6).

First use June 1965; about 1911 as to "Soule."

SN 269,906. Manufacturers and Traders Trust Company, Buffalo, N.Y. Filed Apr. 24, 1967.



The mark includes a fanciful showing of the letters "MT."

Class 100—Miscellaneous

For Equipment for Leasing Services (Int. Cl. 42).

Class 101—Advertising and Business

For Computerized Accounting Services for Others (Int. Cl. 35).

Class 102—Insurance and Financial

For General Banking and Trust Services (Int. Cl. 36).

First use Feb. 15, 1967.

SN 271,868. Woodward Wanger Company, Philadelphia, Pa. Filed May 18, 1967.

WW

Class 6—Chemicals and Chemical Compositions

For Boiler Compounds and Soldering Flux (Int. Cl. 1).
First use at least as early as 1943.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valves, Bolts, Screws, Washers, Faucets, Faucet Parts, Toilet Seats, Toilet Tank Parts, Toilet and Sink Drain Cleaning Equipment, Flexible Toilet, Sink and Lavatory Supply Pipes and Fittings, Sink Strainers, Flush Valve Parts, Traps, Sink Tray Wastes, and Waste Overflows (Int. Cls. 6 and 11).
First use at least as early as 1912.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Plumbers' Wrenches and Saw Blades (Int. Cl. 8).
First use at least as early as 1912.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Packings, Gaskets, and O-Rings (Int. Cl. 17).
First use at least as early as 1912.

SN 271,980. Executape Systems, Inc., Lincoln, Nebr. Filed May 22, 1967.

EXECUTAPE SYSTEMS

Applicant disclaims exclusive rights to the term "Systems" apart from the mark as shown.

Class 26—Measuring and Scientific Appliances

For Prerecorded Magnetic Tape (Int. Cl. 9).

Class 107—Education and Entertainment

For Recording, Educational and Management Training Programs to the Order of Others (Int. Cl. 41).

First use Mar. 24, 1967.

SN 274,296. American Marine and Machinery Co., Inc., Nashville, Tenn. Filed June 20, 1967.

AMMCO
International

No claim is made to the word "International" apart from the mark as shown. Owner of Reg. Nos. 799,799 and 863,029.

Class 19—Vehicles

For Dredge Tenders and Off-Shore, Work-Over Barges (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Floating Dredges (Int. Cl. 7).

First use September 1962.

SN 282,822. Rennoc Games & Toys, Inc., Millville, N.J. Filed Oct. 18, 1967.

SANTA'S BEST

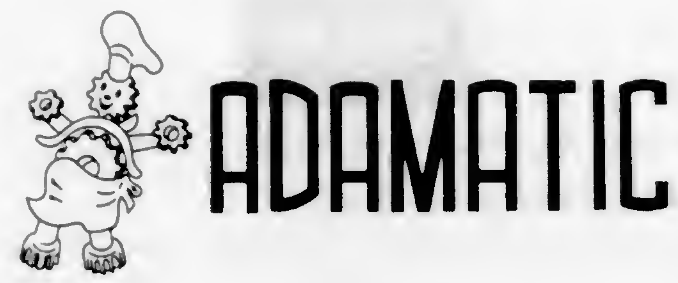
Class 39—Clothing

For Christmas Hats, Vests, Mittens, and Earmuffs (Int. Cl. 25).
First use Mar. 19, 1966.

Class 50—Merchandise Not Otherwise Classified

For Christmas Stockings, Cloth Tree Ornaments, Cloth Tree Skirts, and Cloth Bottle Covers (Int. Cl. 28).
First use July 1961.

SN 283,608. Adam Equipment Corp., Asbury Park, N.J. Filed Oct. 30, 1967.



Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automatic Make-Up Systems for the Baking and Food Industries—Namely, Roll Production Plants Consisting of Divider, Rounder, Overhead Proofers and Roll Machine; Automatic Production Plant Consisting of Divider, Rounder, Overhead Proofer and Moulding Machine (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Revent-Type Rack Ovens for the Production of Bread, Rolls, and Other Pastry, and for Baking, Roasting and Reconstituting of Foods; Electric Deck Ovens for Baking and Roasting of Foods (Int. Cl. 11).

First use Sept. 19, 1967.

SN 287,773. Thomas Paint Manufacturing Co., Atlanta, Ga. Filed Dec. 28, 1967.

DAMTITE

Class 12—Construction Materials

For Patching Chemical Compositions (Int. Cl. 19).
First use at least April 1, 1959.

Class 16—Protective and Decorative Coatings

For Waterproofing Composition in the Nature of a Protective Coating (Int. Cl. 2).
First use at least July 31, 1953.

SN 289,252. Aktiengesellschaft für Brauerei - Industrie, Basel, Switzerland. Filed Jan. 22, 1968.

STABISIL

Owner of Swiss Reg. No. 219,462, dated July 26, 1966.

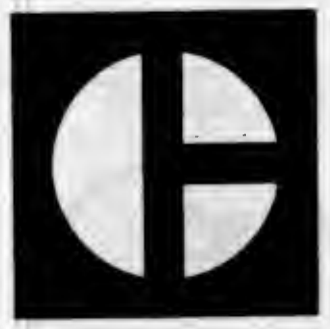
Class 6—Chemicals and Chemical Compositions

For Clarifying Agents for the Beverage Industry, Especially for Beer and Wine and Fruit Juices; Adsorption Agents for Use in Beer Treatment and Stabilizing Agents for Albumin and Foam in Beer (Int. Cl. 1).

Class 31—Filters and Refrigerators

For Auxiliary Filtration Agents for the Beverage Industry (Int. Cl. 1).

SN 290,206. Caterpillar Tractor Co., Peoria, Ill. Filed Feb. 5, 1968.



Class 5—Adhesives

For Liquid Cements for Bonding Various Types of Materials (Int. Cl. 1).
First use Aug. 15, 1967.

Class 6—Chemicals and Chemical Compositions

For Chemical Compositions for Industry—Namely, Rust Inhibitor for Cooling Systems, Metal Surfaces, and Electrical Connections (Int. Cl. 2).
First use Aug. 15, 1967.

Class 19—Vehicles

For Vehicles for Earth and Material Hauling and Handling—Namely, Motor Trucks, Wheel Tractor-Wagon Combinations (Int. Cl. 12).
First use Aug. 1, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Storage Batteries, Electric Generators, and Electric Sets for Supplying Electrical Power to Home, Industry, Hospitals, and the Like, Including Diesel Electric Sets and Natural Gas Electric Sets (Int. Cls. 7 and 9).
First use Aug. 1, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machinery for Earth Moving, Earth Conditioning and Material Handling—Namely, Track-Type Tractors, Wheel Tractors, Loaders, Pipelayers, Lift Trucks, Motor Graders, Scrapers, Bulldozers, Compactors, Rippers; Tool Bars, Cable Controls and Hydraulic Controls for the Foregoing Goods; Replacement Parts, Hand Tools, and Accessories and Attachments for All the Foregoing Goods; Engines for Powering the Foregoing Machinery and for Industrial and Marine Applications, and as Prime Movers in Electric Sets—Namely, Internal Combustion Engines, Diesel Engines, Natural Gas Engines, and Marine Engines; and Replacement Parts, Hand Tools, Accessories and Attachments for All the Foregoing Goods; Marine Gears, Track Group Assemblies for Tractors Including Track Links, Track Shoes and Track Pins; Tools, Auxiliary Equipment and Apparatus for Use in Connection With Welding Machines—Namely, Automatic Handling Equipment for Loading and Unloading the Welding Machines; Flash Forming Equipment; Rolling and Coining Equipment for Shaping Bar Ends; Fixturing and Flash Removal Lathes (Int. Cls. 7, 8, and 12).
First use Aug. 1, 1967.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Welding Machines; and Parts Therefor and Auxiliary Equipment Therefor—Namely, Induction and Resistance Heaters for Heating Work Pieces (Int. Cl. 7).
First use Sept. 20, 1967.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Hydraulic Hose, and Hydraulic Hose With Couplings; and Seals for Vehicles and Machinery (Int. Cl. 17).
First use Aug. 12, 1967.

Class 38—Prints and Publications

For Company Magazines, Newsletters, and Bulletins (Int. Cl. 16).
First use Oct. 19, 1967.

SN 290,517. Onitsuka Co., Ltd., Kobe City, Hyoga Prefecture, Japan. Filed Feb. 7, 1968.

Tiger

Owner of U.S. Reg. No. 832,457.

Class 22—Games, Toys, and Sporting Goods

For Training Shoes, Track and Field Shoes, Marathon Shoes, Volleyball Shoes, Golf Shoes, Alpine Shoes, Gymnastic Shoes, Weightlifting Shoes, Badminton Shoes, Hand Ball Shoes, Soccer Shoes, Rugby Shoes, Softball Shoes, Boxing and Wrestling Shoes, Running and Spike Shoes, Ski and Bowling Shoes and Fencing Shoes (Int. Cl. 25).

Class 39—Clothing

For Basketball Shoes, Table Tennis Shoes, Outdoor Tennis Shoes, Dancing Shoes, Ballet Toe Shoes, and Slippers (Int. Cl. 25).

First use September 1949; in commerce in or about April 1960.

SN 292,666. Arett Sales Corp., New Rochelle, N.Y. Filed Mar. 7, 1968.

TERRA VERDE

The expression "Terra Verde" is the Italian equivalent to "green earth."

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand Tools—Namely, Shovels, Spades, Spading Forks, Cultivators, Turf Edgers, Rakes and Hoes (Int. Cl. 8).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Sprinkler Hose (Int. Cl. 17).

First use Feb. 21, 1966.

SN 293,283. Lasko Metal Products, Inc., West Chester, Pa. Filed Mar. 14, 1968.

BRENTWOOD

Class 21—Electrical Apparatus, Machines, and Supplies

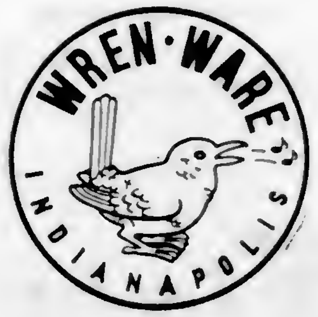
For Electric Fans (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Portable Electric Heaters (Int. Cl. 11).

First use Sept. 3, 1967.

SN 294,877. Wren, Inc., Indianapolis, Ind. Filed Apr. 4, 1968.



The word "Indianapolis" is disclaimed from the mark.

Class 2—Receptacles

For Waste Baskets, Tissue Holders, Snack Trays, Paint Trays, Tumblers, Soap Dishes, Bowls, Apothecary Jars, Snack Sets, Vanity Boxes, and the Like Made of Plastic (Int. Cl. 21).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Signs (Int. Cl. 9).

First use Nov. 6, 1967.

SN 296,230. Norddeutsche Mande Rundfunk KG, Funkschneise, Germany. Filed Apr. 23, 1968.

NORDMENDE

Owner of German Reg. No. 711,462, dated Feb. 27, 1958; and U.S. Reg. No. 747,164.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios, Television Sets, Cables and Cable Connectors (Int. Cl. 9).
First use Aug. 1, 1953; in commerce April 1956.

Class 26—Measuring and Scientific Appliances

For Measuring and Testing Instruments Including Sweep and Signal Generators, Oscilloscopes, Attenuators, Voltmeters, Probes, Radio Frequency Connectors, Measuring Bridges (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders; and Parts Thereof (Int. Cl. 9).

SN 296,480. Brown Diamond, Inc., Providence, R.I. Filed Apr. 25, 1968.

BROWN

Class 1—Raw or Partly Prepared Materials

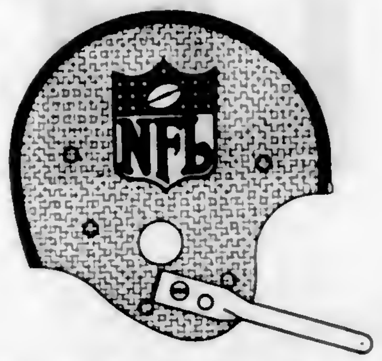
For Industrial Diamonds (Int. Cl. 14).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Industrial Diamond Tools (Int. Cl. 7).

First use October 1948.

SN 298,169. National Football League Properties, Inc., Encino, Calif. Filed May 15, 1968.



The drawing is lined for the color gold or yellow.

Class 27—Horological Instruments

For Watches (Int. Cl. 14).

Class 37—Paper and Stationery

For Paper Napkins (Int. Cl. 16).

Class 39—Clothing

For Neckties (Int. Cl. 25).

First use on or about Mar. 3, 1967.

SN 300,192. Gucci Shops Inc., New York, N.Y. Filed June 11, 1968.

GUCCI

Class 2—Receptacles

For Vacuum Bottles, Compacts Sold Empty and Vanity Cases Sold Empty (Int. Cl. ‒‒).

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Pocketbooks, Wallets, Travel and Duffel Bags, Attache Cases, Toilet Cases Sold Empty, and Shoe bags (Int. Cl. 18).

Class 37—Paper and Stationery

For Desk Sets Including Blotters, Desk Pads, Letter Openers, Pencil Holders, and a Leather Tray (Int. Cl. 16).

Class 39—Clothing

For Shoes and Boots (Int. Cl. 25).

Class 41—Canes, Parasols, and Umbrellas

For Umbrellas (Int. Cl. 18).

First use Dec. 20, 1953.

SN 301,119. William J. Stegmeier, d.b.a. Mortex and Company. Filed June 24, 1968.

MORTEX

Owner of Reg. No. 785,802.

Class 6—Chemicals and Chemical Compositions

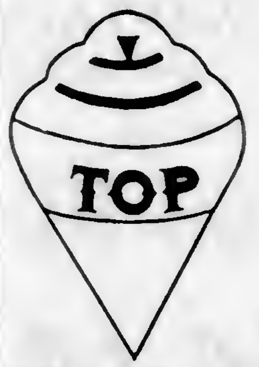
For Pigment Additive for Concrete (Int. Cl. 2).

Class 12—Construction Materials

For Plastic Strips Used as Expansion Joints Between Concrete Slabs, Liquid Rubber Compounds for Forming Plastic Joint Seals, Forms and Powder for Making Ornamental Textured Finishes on Concrete Surfaces Sold as a Unit (Int. Cls. 17 and 19).

First use January 1960.

SN 303,485. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed July 24, 1968.



Class 8—Smokers' Articles, Not Including Tobacco Products

For Cigarette Paper (Int. Cl. 34).
First use Jan. 1, 1942.

Class 17—Tobacco Products

For Smoking Tobacco and Chewing Tobacco (Int. Cl. 34).
First use Dec. 10, 1900.

SN 306,727. McGraw-Hill, Inc., New York, N.Y. Filed Sept. 6, 1968.

COMPUSCAN

Class 38—Prints and Publications

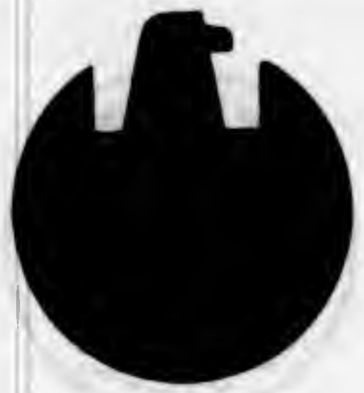
For Test Scoring Booklets (Int. Cl. 16).

Class 107—Education and Entertainment

For Test Answer Scoring Services (Int. Cl. 41).

First use July 1968.

SN 308,651. Gold Eagle Products Co., Chicago, Ill. Filed Oct. 2, 1968.



Owner of Reg. Nos. 838,217 and 860,868.

Class 5—Adhesives

For Gasket Shellac (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Cooling Sysetem Sealer and Deicer (Int. Cl. 17).

First use October 1965.

SN 312,257. Jarl Pibefabrik & Traedrejeri, Kolding, Bramdrupdam, Denmark. Filed Nov. 15, 1968.

JARL

Class 8—Smokers' Articles, Not Including Tobacco Products

For Smoker's Pipes (Int. Cl. 34).
First use Feb. 17, 1965; in commerce April 1965.

Class 17—Tobacco Products

For Pipe Tobacco (Int. Cl. 34).
First use Oct. 7, 1968; in commerce Oct. 7, 1968.

SN 316,495. Dennison Manufacturing Company, Framingham, Mass. Filed Jan. 14, 1969.

DENNISON

Owner of Reg. Nos. 70,257, 800,058, and others.

Class 6—Chemicals and Chemical Compositions

For Electrographic Liquid Electrostatic Image Developers for Use in Electrostatic Copying Machines (Int. Cl. 1).

Class 26—Measuring and Scientific Appliances

For Electrostatic Copying Machines (Int. Cl. 9).

Class 37—Paper and Stationery

For Copying Paper for Use in Electrostatic Copying Machines (Int. Cl. 16).

First use Dec. 13, 1963.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 291,111. Uniroyal, Inc., New York, N.Y. Filed Feb. 14, 1968.

NAUGA

Owner of Reg. No. 354,435.
For Coated Fabrics of the So-Called Artificial Leather Type (Int. Cl. 18).
First use at least as early as November 1967.

SN 296,245. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Synthetic Resins (Int. Cl. 1).
First use Oct. 13, 1967.

SN 306,601. Tri-Point Industries, Inc., Commack, N.Y. Filed Sept. 4, 1968.

TRI-ROD

For Extruded Plastic Members Using Polytetrafluoroethylene (Int. Cl. 17).
First use Aug. 12, 1968.

SN 307,755. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed Sept. 19, 1968.

PETGLAS

For Fiberglass Reinforced Thermoplastic Resins (Int. Cl. 1).
First use Aug. 30, 1968.

SN 308,401. Seton Leather Company, Newark, N.J. Filed Sept. 27, 1968.

COWBRETTA

For Leather (Int. Cl. 18).
First use Apr. 24, 1968.

SN 312,530. Wisconsin Pattern Company, Racine, Wis. Filed Nov. 18, 1968.

DURA-LINE

For Raw or Partly Prepared Castable Urethane Compound for Industrial Use Only (Int. Cl. 1).
First use as early as Sept. 16, 1968.

SN 312,973. Allied Kid Company, Boston, Mass. Filed Nov. 25, 1968.

SHAG

Owner of Reg. No. 593,694.
For Leather (Int. Cl. 18).
First use Nov. 6, 1952.

SN 313,531. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Dec. 3, 1968.

PEERLESS

For Clay (Int. Cl. 1).
First use about 1958.

SN 315,429. Monsanto Company, St. Louis, Mo. Filed Dec. 30, 1968.

BI-LOFT

For Plastic Materials in the Form of Fibers, Filaments and Ribbon-Like Extrusions (Int. Cl. 17).
First use Sept. 10, 1968.

Class 2 — Receptacles

SN 295,008. Behlen Manufacturing Company, Inc., Columbus, Nebr. Filed Apr. 5, 1968.

HOPPER-MATIC

For Permanent Metal Bulk Storage Tanks for Grain and the Like (Int. Cl. 6).
First use Feb. 19, 1963.

SN 303,989. Federal Paper Board Company, Inc., Bogota, N.J. Filed July 31, 1968.

HEX-O-TAINER

For Packaging Containers and Blanks for Making Same (Int. Cl. 20).
First use Apr. 29, 1968.

SN 304,234. Lily-Tulip Cup Corporation, New York, N.Y. Filed Aug. 2, 1968.

Lilykleer

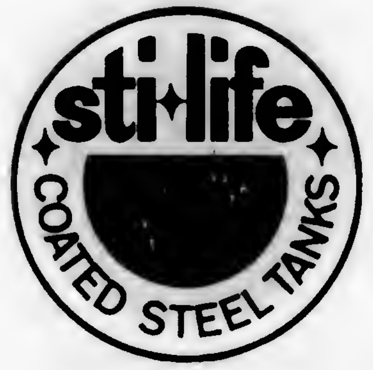
Owner of Reg. Nos. 87,365, 623,306, and others.
For Receptacles of Plastic Material—Namely, Tumblers, Cups, Containers, Lids, Trays, Plates, Bowls, and Dishes (Int. Cl. 21).
First use on or about July 22, 1968.

SN 308,007. Haskon, Inc., Long Island City, N.Y. Filed Sept. 23, 1968.

Port·O·Kup

For Plastic Cups for Serving an Individual Portion of a Liquid or Semi-Solid Food (Int. Cl. 21).
First use Jan. 23, 1968.

SN 309,917. Steel Tank Institute, Chicago, Ill. Filed Oct. 17, 1968.



The words "Steel Tank" and "Coated Steel Tanks" disclaimed.
For Steel Tanks (Int. Cl. 6).
First use July 29, 1968.

SN 314,912. Pennsylvania Box & Lumber Company, Inc., Warminster, Pa. Filed Dec. 19, 1968.

BULKITIER

For Bulk Shipping and Storage Containers (Int. Cl. 20).
First use July 1, 1968.

SN 315,484. International Paper Company, New York, N.Y. Filed Dec. 31, 1968.

MULTI-TOTE

For Potable Liquid Carton Carriers (Int. Cl. 16).
First use Oct. 11, 1968.

SN 316,294. Cor-Box, Inc., York, Pa. Filed Jan. 10, 1969.

World of Color
BY
COR-BOX

For Shipping Cartons (Int. Cl. 16).
First use Sept. 21, 1967.

Class 4 — Abrasives and Polishing Materials

SN 307,514. Texize Chemicals, Inc., Greenville, S.C. Filed Sept. 16, 1968.

FREESEAL

Owner of Reg. Nos. 589,892, 800,853, and others.
For Combined Floor Sealer and Polish (Int. Cl. 3).
First use Feb. 3, 1961.

SN 310,447. Delta American Corporation, Wheeling, Ill. Filed Oct. 24, 1968.

DELTASHINE

For Cloth Impregnated With Shoe Dressing for Shining Shoes (Int. Cl. 21).
First use April 1945.

SN 312,751. Calgon Corporation, Pittsburgh, Pa. Filed Nov. 21, 1968.

SUPRA

For Concentrated Spray Polish for Vehicles (Int. Cl. 3).
First use Oct. 2, 1968.

SN 315,500. Sargeant Products Corporation, Highland Mills, N.Y. Filed Dec. 31, 1968.

AUNTY-FOG

Owner of Reg. No. 859,803.
For Glass and Mirror Cleaner and Polish Combination (Int. Cl. 3).
First use Sept. 12, 1967.

Class 5 — Adhesives

SN 297,899. Toa Gosei Chemical Industry Co. Ltd., Minato-ku, Tokyo, Japan. Filed May 10, 1968.

aa

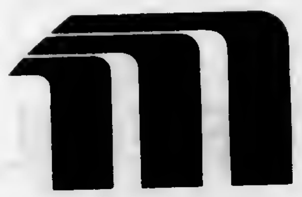
For Adhesives Requiring No Solvents, Catalysts or Heat Treatments and Composed of a Cyano-Acrylate Monomer in a Liquid State Which Upon Application to a Bonding Surface Instantly Resinificates Through Polymerization, and for Use in Bonding All Kinds of Materials—Namely, Automobiles and Other Type Vehicles, Electrical Appliances and Electronic Products, Cameras, Time-Pieces, Sewing Machines, Knitting Machines, Meters and Gauges and Other Precision Machinery, Fire-Arms, Missiles, Personal Ornaments, Toys, Office Supplies, Fishing Tackle, Furnitures (Int. Cl. 1).
First use Mar. 31, 1963; in commerce May 30, 1966.

SN 314,119. T. G. & Y. Stores Company, Oklahoma City, Okla. Filed Dec. 10, 1968.

GOLDEN T

For Glue and Pressure Sensitive Adhesive Tape (Int. Cl. 16).
First use Feb. 22, 1968.

SN 317,352. Masonite Corporation, Chicago, Ill. Filed Jan. 23, 1969.



Owner of Reg. No. 851,728.
For General Purpose Adhesive (Int. Cl. 1).
First use Apr. 9, 1968.

SN 317,353. Masonite Corporation, Chicago, Ill. Filed Jan. 23, 1969.

MASONITE

Owner of Reg. Nos. 248,040, 512,340, and 532,660.
For General Purpose Adhesive (Int. Cl. 1).
First use Apr. 9, 1968.

Class 6 — Chemicals and Chemical Compositions

SN 291,441. Sumitomo Chemical Co., Ltd., Higashi-ku, Osaka, Japan. Filed Feb. 19, 1968.

SUMILIZER

Owner of Japanese Reg. No. 722,076, dated Oct. 4, 1966.
For Additives—Namely, a Non-Staining and Non-Coloring Stabilizer Belonging to the Phenol Series, Used in Plastics, Rubbers, Gasoline, Lubrication Oil, Paraffin, and Animal and Vegetable Oils and Fats and Paints (Int. Cl. 1).

SN 296,259. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Printing Ink Ingredients—Namely, Pigments, Dyes, Dyestuffs and Solvents for General Industrial Use (Int. Cl. 2).
First use Nov. 14, 1967.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 288,801. S. M. Frank & Co., Inc., New York, N.Y. Filed Jan. 15, 1968.

PREMIER

For Smokers' Pipes (Int. Cl. 34).
First use Jan. 10, 1920.

Class 10 — Fertilizers

SN 314,140. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

NITROMITE

For Fertilizer (Int. Cl. 1).
First use Apr. 1, 1962.

SN 315,153. The Fairfield Engineering Company, Marion, Ohio. Filed Dec. 24, 1968.

FAIRFIELD

Owner of Reg. No. 583,412.
For Organic Humus Builder (Int. Cl. 1).
First use in about April 1967.

Class 12 — Construction Materials

SN 277,891. G. & W. H. Corson, Incorporated, Plymouth Meeting, Pa. Filed Aug. 19, 1967.

CORSON METALSEAL X

Owner of Reg. Nos. 385,860, 796,250, and 862,256.
For Refractory Mortar for Use in Laying Refractory Brick (Int. Cl. 19).
First use Nov. 8, 1961.

SN 286,769. Monier Research & Development Pty. Limited, Villawood, near Sydney, Australia. Filed Dec. 12, 1967.

MONERAMIC

Priority claimed under Sec. 44(d) on Australian Reg. No. A211,162, dated June 22, 1967.
For Construction Materials—Namely, Ceramic Pipes, Roofing Tiles, Wall Tiles, Decorative Panels, Structural Paving Slabs and Prefabricated Structural Walls (Int. Cl. 19).

SN 292,315. Forest Interiors Corporation, Seattle, Wash. Filed Mar. 4, 1968.

PUTTY STIK

Owner of Reg. No. 557,142.
For Rigid Crayon of Waxy Material Prepared in a Variety of Colors To Fill Nail-Holes and Like Cavities in Prefinished Surfaces (Int. Cl. 19).
First use Jan. 29, 1951.

SN 295,617. Chester Products, Inc., Hamilton, Ohio. Filed Apr. 15, 1968.

INSTANT RECREATION POOL

No claim being made to the exclusive right to the use of the words "Recreation Pool" separate and apart from the mark as shown.
For Swimming Pools (Int. Cl. 19).
First use Nov. 23, 1967.

SN 297,059. General Aluminum Products, Inc., Charlotte, Mich. Filed May 1, 1968.

CARE-FREE

Owner of Reg. Nos. 728,470 and 749,642.
For Patio Doors (Int. Cl. 6).
First use on or about Oct. 1, 1964.

SN 297,066. Johns-Manville Corporation, New York, N.Y. Filed May 1, 1968.

RIGID-BORD

For Sag-Resistant But Bendable, Resilient, Light-Weight Glass Fiber Thermal Insulation for Metal Buildings (Int. Cl. 17).
First use at least on or about Apr. 13, 1968.

SN 297,207. National Gypsum Company, Buffalo, N.Y. Filed May 2, 1968.

E-Z STRIP

Applicant disclaims the word "Strip" apart from the mark as shown.
For Expansion Joint for Drywall and Veneer Plaster Systems (Int. Cl. 17).
First use Apr. 18, 1968.

SN 301,519. Dresser Industries, Inc., Dallas, Tex. Filed June 27, 1968.

CORAL P -75-

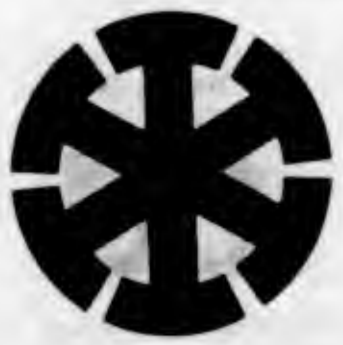
For Unburned Chemically Bonded Brick (Int. Cl. 19).
First use on or about Apr. 23, 1968.

SN 301,950. National Permacrete Company, Inc., Devon, Pa. Filed July 3, 1968.

PERMACRETE

For Dry Mixed Rapid-Setting Cement for Use for Repairing, Covering, Coating, Mortaring and Related Applications (Int. Cl. 19).
First use May 1, 1967.

SN 302,653. Temple Industries, Inc., Diboll, Tex. Filed July 12, 1968.



For Plywood; Particleboard; Gyphum Board; Utility Poles; Posts; Lumber—Namely, Studs, Siding, Framing and Finish Lumber; Laminated Wood Beams; and Fiberboard Products—Namely, Fiberboard Insulation, Sheathing and Ceiling Tile (Int. Cl. 19).
First use January 1964.

SN 302,729. Eliason Refrigerator Company, Kalamazoo, Mich. Filed July 15, 1968.

EASY SWING

Owner of Reg. No. 790,146.
For Closure Structures—Namely, Doors in Partition Walls and Doors in Walk-In Coolers and Parts Thereof (Int. Cl. 19).
First use January 1963.

SN 310,547. Dee Concrete Accessories Co., Chicago, Ill. Filed Oct. 25, 1968.

DEE

For Construction Forms and Accessories—Namely, Construction Stakes, Form Pins, Screed Bar Supports, Form Spreaders, Form Braces, Form Hangers, Straight Metal Forms, Flexible Forms, Filler Forms, Corner Forms, Keyway Forms, Curb and Gutter Forms, Column Forms, Circle Forms, Sidewalk Forms, Division Plates, and Extension Pockets (Int. Cls. 6 and 19).
First use at least as early as April 1956.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 291,375. Everlasting Valve Company, Cranford, N.J. Filed Feb. 19, 1968.

UNITANDEM

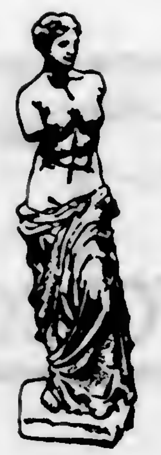
For Fluid Valves (Int. Cl. 6).
First use Jan. 19, 1968.

SN 300,855. Venetian International, Inc., Dallas, Tex. assignee of Venetian Marble Company, Dallas, Tex. Filed June 19, 1968.

VENETIAN

For Marble Products—Namely, Lavatories and Lavatory Counter Tops (Int. Cl. 11).
First use at least as early as November 1964.

SN 300,857. Venetian International, Inc., Dallas, Tex., assignee of Venetian Marble Company, Dallas, Tex. Filed June 19, 1968.



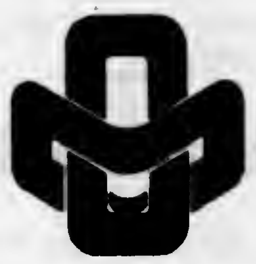
For Marble Products—Namely, Lavatories and Lavatory Counter Tops (Int. Cl. 11).
First use at least as early as November 1964.

SN 304,973. Siepmann-Werke KG, Belecke, Moehne, Germany. Filed Aug. 12, 1968.

TIRETRAC

Priority claimed under Sec. 44(d) on German application filed Apr. 1, 1968; U.S. Reg No. 845,470, dated May 20, 1968.
For Chains for Tire Protection and Anti-Skid Chains, Tire Chains, and Snow Chains (Int. Cl. 12).

SN 304,974. Siepmann-Werke KG, Belecke, Moehne, Germany. Filed Aug. 12, 1968.



Priority claimed under Sec. 44(d) on German application filed Apr. 10, 1968; Reg. No. 846,252, dated June 20, 1968.
For Chains for Tire Protection and Anti-Skid Chains, Tire Chains, and Snow Chains (Int. Cl. 12).

SN 311,950. E. H. Tate Company, Boston, Mass. Filed Nov. 12, 1968.

E-Z

Owner of Reg. No. 749,656.
For Metal Skewers and Lacing Pins, and Nippers (Particularly Pin-Feather Pickers and Strawberry Hullers) (Int. Cls. 6 and 8).
First use October 1944.

SN 312,312. Lien Chemical Company, Franklin Park, Ill. Filed Nov. 15, 1968.

CLIEN-O-METER

Owner of Reg. Nos. 588,449, 592,294, and 604,336.
For Chemical Dispenser for Urinal or Toilet (Int. Cl. 6).
First use Oct. 31, 1968.

Class 14 — Metals and Metal Castings and Forgings

SN 306,923. S. S. Kresge Company, Detroit, Mich. Filed Sept. 9, 1968.

For Aluminum Foil (Int. Cl. 6).
First use on or about Feb. 16, 1968.

SN 306,924. S. S. Kresge Company, Detroit, Mich. Filed Sept. 9, 1968.

For Aluminum Foil (Int. Cl. 6).
First use on or about Feb. 16, 1968.

Class 15 — Oils and Greases

SN 314,141. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

CLOUD MASTER

For Gasoline (Int. Cl. 4).
First use June 1, 1946.

Class 16 — Protective and Decorative Coatings

SN 264,720. Annapolis Chemical Company, Chestertown, Md. Filed Feb. 15, 1967.

HULL UVA KOTE

The words "Hull" and "Kote" are disclaimed apart from the mark as shown.
For Boat Hull Coating Compound or Composition for Increasing the Speed of the Boat to Which the Composition Is Applied (Int. Cl. 2).
First use July 25, 1966.

SN 286,983. Alpha Metals, Inc., Jersey City, N.J. Filed Dec. 15, 1967.

STOP-OFF

For Solder Resistant Protective Coating for Use on Laminates and Printed Circuit Boards (Int. Cl. 1).
First use Feb. 10, 1965.

SN 287,733. Imoco Corporation, Chicago, Ill. Filed Dec. 28, 1967.

LAB LIQUID CRYSTAL

For Coating Composition for Maintaining and Dressing Floors—Namely, a Polymerized Polymer Modified With Wax Emulsions and Plasticizers (Int. Cl. 2).
First use Dec. 14, 1967.

SN 307,519. C. H. Tripp Finishing Company, San Diego, Calif. Filed Sept. 16, 1968.

TONE-N-TIQUE

Owner of Reg. Nos. 777,709 and 838,658.
For Paint (Int. Cl. 2).
First use September 1962.

SN 309,740. Bee Chemical Company, Lansing, Ill. Filed Oct. 16, 1968.

GROUNDZOL

For Antistatic Conductive Floor Coatings (Int. Cl. 2).
First use Prior to Jan. 1, 1959.

Class 18 — Medicines and Pharmaceutical Preparations

SN 283,870. Churchill Laboratories, Ltd., Brooklyn, N.Y. Filed Nov. 1, 1967.

ASPER-INSTANT

For Candy Coated Aspirin (Int. Cl. 5).
First use Aug. 21, 1967.

SN 284,411. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Nov. 8, 1967.

CALCINYNE

For Activated Dicalcium Phosphate Dihydrate for Use as a Nutritional Supplement (Int. Cl. 5).
First use Oct. 17, 1967.

SN 286,117. Fluoritab Corporation, Flint, Mich. Filed Dec. 4, 1967.

DURABONE

For Sodium Fluoride Tablets (Int. Cl. 5).
First use Sept. 27, 1966.

SN 297,972. Ciba Corporation, d.b.a. The Gland-O-Lac Company, Summit, N.J. Filed May 13, 1968.

COXYTROL

For Preparation for the Prevention of Coccidiosis (Int. Cl. 5).
First use Apr. 25, 1968.

SN 299,206. Bristol-Myers Company, New York, N.Y. Filed May 28, 1968.

CLINITREND

For Analgesic Tablets (Int. Cl. 5).
First use Apr. 9, 1968.

SN 299,559. Gray Pharmaceutical Co., Yonkers, N.Y. Filed June 3, 1968.

G.U. PREP

Owner of Reg. No. 792,107.
For Cathartic (Int. Cl. 5).
First use Mar. 19, 1968.

SN 299,654. Dawe's Laboratories, Inc., Chicago, Ill. Filed June 4, 1968.

DERMA-SHEEN

For Vitamin and Glyceride Containing Animal Food Supplement (Int. Cl. 5).
First use May 10, 1968.

SN 301,102. Topco Associates, Inc., Skokie, Ill. Filed June 21, 1968.

TOPCO

Owner of Reg. Nos. 707,806, 843,075, and others.
For Zinc Oxide Ointment, Aspirin, Liquid Ingestant for Upset Stomach, Cough Syrups, Vitamins, Cold Capsules, Magnesium and Aluminum Hydroxide Hydrogel, and Aspirin-Phenacetin-Caffeine Tablets (APC Tablets) (Int. Cl. 5).
First use September 1967.

SN 306,525. UCB (Union Chimique-Chemische Bedrijven), Societe Anonyme, Saint-Gilles, Belgium. Filed Sept. 3, 1968.

ISONOX

Owner of Belgian Reg. No. 111,851, dated June 22, 1967.
For Soporific (Int. Cl. 5).

SN 306,897. The Dow Chemical Company, Midland, Mich. Filed Sept. 9, 1968.

QUIDE

For Tranquilizer (Int. Cl. 5).
First use Feb. 18, 1960.

SN 307,099. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Sept. 11, 1968.

TRANTOIN

For Sulfisoxazole (Int. Cl. 5).
First use at least as early as Aug. 22, 1968.

SN 307,100. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Sept. 11, 1968.

DEPARTURE

For Preparation To Relieve Motion Sickness (Int. Cl. 5).
First use at least as early as Aug. 28, 1968.

SN 307,101. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Sept. 11, 1968.

BON VOYAGE

For Preparation To Relieve Motion Sickness (Int. Cl. 5).
First use at least as early as Aug. 28, 1968.

SN 307,242. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Sept. 12, 1968.

MYCO-20

For Veterinary Pharmaceutical Useful for Growth Promotion and for Prevention and Treatment of Mycosis (Int. Cl. 5).
First use July 17, 1968.

SN 307,337. Marion Laboratories, Inc., Kansas City, Mo. Filed Sept. 13, 1968.

BLU BORO

The drawing is lined for the color blue, but no claim is made to any particular color.
For Astringent and Antiseptic Dressing Composition (Int. Cl. 5).
First use Aug. 15, 1968.

SN 307,356. Shell Oil Company, New York, N.Y. Filed Sept. 13, 1968.

DICHLORMAN

For Human Anthelmintic (Int. Cl. 5).
First use at least as early as June 26, 1968.

SN 307,422. Bristol-Myers Company, New York, N.Y. Filed Sept. 16, 1968.

NEOQUIN

For Analgesic (Int. Cl. 5).
First use June 24, 1968.

SN 307,450. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Sept. 16, 1968.

PYROZONE

For Phenylbutazone (Int. Cl. 5).
Owner of Reg. Nos. 59,788 and 64,054.
First use at least as early as Aug. 22, 1968.

SN 307,814. The Madam C. J. Walker Manufacturing Co., Inc., Indianapolis, Ind. Filed Sept. 20, 1968.

MADAME C.J. WALKER
Scalp Ointment

Applicant disclaims the rights to exclusive use of the words "Scalp Ointment" and "Double Strength" apart from the mark as shown. The name "Madame C. J. Walker" is fanciful, and does not refer to a living person. Owner of Reg. Nos. 502,953 and 611,542.
For Scalp Ointment (Int. Cl. 5).
First use June 1967; Mar. 22, 1922, as to "Madame C. J. Walker" and "Scalp Ointment."

SN 316,045. Becton, Dickinson and Company, East Rutherford, N.J. Filed Jan. 8, 1969.

SPORTADE

For Dietary Supplement, Comprised, in Part, of Sugar, Salt, and Vitamin C, for Use After Physical Exertion (Int. Cl. 5).
First use May 31, 1967.

SN 318,322. Miles Laboratories, Inc., Elkhart, Ind. Filed Feb. 4, 1969.

LIDAFORM-HC

For Dermatological in Cream and Liquid Form (Int. Cl. 5).
First use on or before May 31, 1962.

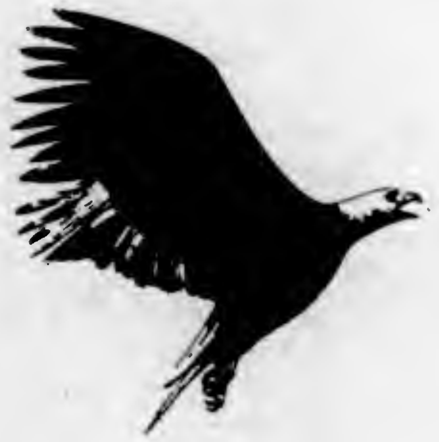
Class 19 — Vehicles

SN 249,366. Velocidad, Inc., d.b.a. Fiberfab, Sunnyvale, Calif. Filed June 30, 1966.

VELOCIDAD

For Automobile Bodies; Automobile Body Parts—Namely, Front Shells, Rear Shells, Front Sections, Rear Sections, Half Front Sections, Half Rear Sections, Quarter Sections, Splash Panels, Quarter Panels, Hoods, Fenders, Tails, Cowls, Noses, Windshields, Doors, Windows, Headlight Covers, Bucket Seats, Bucket Seat Shells, Dash Panels and Dash Boards; Automobile Chassis; and Automobile Chassis Parts—Namely, Floor Pans, Tube Chassis Kits, Rear Hangers, Frame Rails, Springs, and Axles (Int. Cl. 12).
First use August 1965.

SN 292,412. North American Rockwell Corporation, Pittsburgh, Pa. Filed Mar. 4, 1968.



For Aircraft and Parts Thereof (Int. Cl. 12).
First use Nov. 15, 1967.

SN 297,028. Brunswick Corporation, Chicago, Ill. Filed May 1, 1968.

CAVALIER

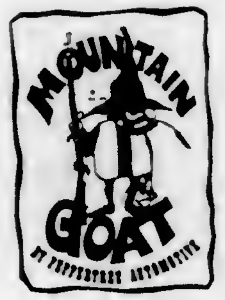
For Tracked Land Vehicles—Namely, Snowmobiles and Parts Therefor (Int. Cl. 12).
First use Feb. 22, 1968.

SN 300,241. Aluminum Goods Limited, Toronto, Ontario, Canada. Filed June 12, 1968.

PETREL

Priority claimed under Sec. 44(d) on Canadian application filed Dec. 15, 1967; Reg. No. 159,230, dated Nov. 8, 1968.
For Boats (Int. Cl. 12).

SN 301,763. Roger Smith, d.b.a. Peppertree Automotive, Costa Mesa, Calif. Filed July 1, 1968.



Applicant disclaims the word "Automotive" apart from the mark as shown.
For Custom Built Automobiles for Off-the-Road Service (Int. Cl. 12).
First use May 1963.

SN 304,473. Kennel-Aire Mfg. Co., St. Paul, Minn. Filed Aug. 6, 1968.

PROTECT-AIRE

For Partition for Separating the Interior of Passenger Vehicles Into Two Compartments in Order To Safeguard the Driver and Passengers From Assaults and Moving Objects in the Rear Compartment (Int. Cl. 12).
First use Apr. 26, 1968.

SN 308,302. Michigan Wheel Company, Grand Rapids, Mich. Filed Sept. 26, 1968.

BAZOOKA-HUB

For Marine Propellers (Int. Cl. 12).
First use on or about Sept. 11, 1968.

SN 311,143. The Greyhound Corporation, Chicago, Ill. Filed Nov. 1, 1968.

SCENICRUISER

Owner of Reg. No. 676,464.
For Busses (Int. Cl. 12).
First use Jan. 1, 1957.

SN 311,279. Lodal, Inc., Kingsford, Mich. Filed Nov. 4, 1968.

EVO

For Self-Propelled Land Vehicles for Use in Picking Up, Transferring and Depositing Refuse Containers (Int. Cl. 12).
First use June 20, 1968.

SN 312,977. American Motors Corporation, Kenosha, Wis. Filed Nov. 25, 1968.

JAVELIN

For Automobiles and Structural Parts Thereof (Int. Cl. 12).
First use in or before September 1967.

SN 314,281. Velocidad, Inc., d.b.a. Fiberfab, Santa Clara, Calif. Filed Dec. 11, 1968.

JET-A-BOUT

For Pleasure Boats—Namely, Small Fiberglass Skin Boats Propelled by Turbine Jets, and Component Parts of Such Boats (Int. Cl. 12).
First use Nov. 29, 1968.

SN 315,270. Sprague Devices, Inc., Michigan City, Ind. Filed Dec. 26, 1968.

AIR-PUSH

Owner of Reg. No. 442,654.
For Windshield Washers, Controls for Windshield Wipers, Controls for Windshield Washers, and Parts Thereof (Int. Cl. 12).
First use Jan. 31, 1928.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 270,390. E. F. Johnson Company, Waseca, Minn. Filed May 1, 1967.

RIB-LOC

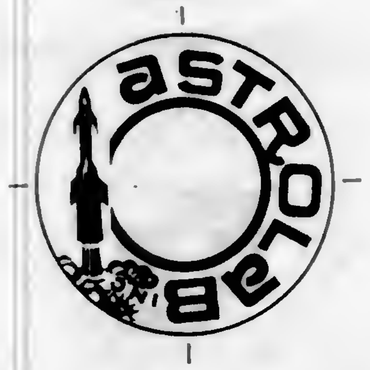
For Electrical and Electronic Components—Namely, Tip Jacks, Tip Plugs, Stand-Off and Feed-Through Insulators, Energy Conductors, Indicating Lights, Insulated Terminals and Housings Therefor (Int. Cl. 9).
First use January 1966.

SN 279,917. Astrolab, Inc., Linden, N.J. Filed Sept. 8, 1967.

ASTROLAB

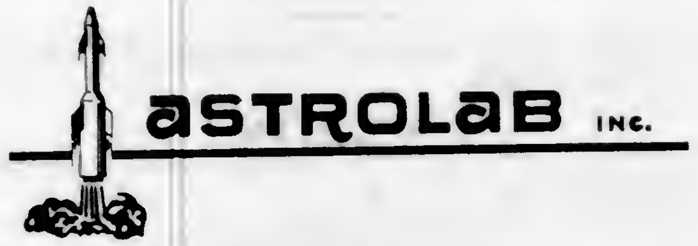
For Microwave Components and Assemblies (Int. Cl. 9).
First use October 1961.

SN 279,918. Astrolab, Inc., Linden, N.J. Filed Sept. 8, 1967.



The designation "Inc." is disclaimed apart from the mark as shown.
For Microwave Components and Assemblies (Int. Cl. 9).
First use January 1965.

SN 279,919. Astrolab, Inc., Linden, N.J. Filed Sept. 8, 1967.


astrolab INC.

The designation "Inc." is disclaimed apart from the mark as shown.
For Microwave Components and Assemblies (Int. Cl. 9).
First use October 1961.

SN 281,122. Santa Rita Technology, Inc., Menlo Park, Calif. Filed Sept. 25, 1967.

AV-ALARM

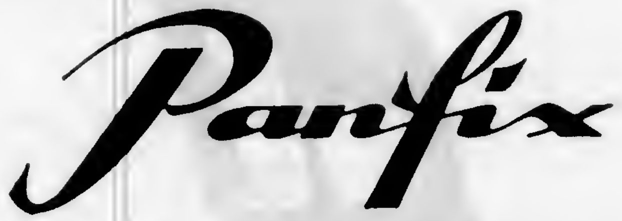
For Synthetic Sound Generators for Use in Controlling Pest Animals and for Riot Control (Int. Cl. 7).
First use Sept. 8, 1967.

SN 282,142. Siltronics, Inc., Oakmont, Pa. Filed Oct. 9, 1967.

ACU-RAM

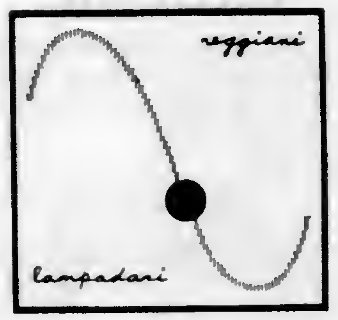
For Electric Discharge Machining Apparatus (EDM Machine), Power Supplies, and Other Components Therefor (Int. Cl. 9).
First use Sept. 2, 1966.

SN 283,691. Nichiban Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Oct. 30, 1967.



Owner of U.S. Reg. No. 712,340.
For Electrical Insulating Tape (Int. Cl. 17).
First use Jan. 20, 1959; in commerce Dec. 25, 1963.

SN 286,757. Ditta Reggiani Goffredo, Vedano al Lambro, Milan, Italy. Filed Dec. 12, 1967.



The word "Lampadari" can be translated as "electrical lighting fixtures." No claim is made for the word "Lampadari" apart from the mark as a whole. The drawing is lined for the color red.
For Electrical Lighting Fixtures (Int. Cl. 11).
First use June 8, 1960; in commerce May 10, 1961.

SN 287,351. Crystal Technology, Inc., Mountain View, Calif. Filed Dec. 21, 1967.

LINOBATE

For Ferroelectric Crystals for Use in Electronic, Electrophysical, and Electro-Optical Fields, Particularly Those Formed of Lithium Niobate (Int. Cl. 9).
First use Sept. 7, 1967.

SN 289,764. Bantamlite, Inc., New York, N.Y. Filed Jan. 29, 1968.

GRAND PRIX

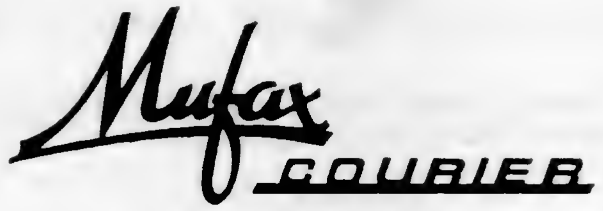
For Pocket Flashlights (Int. Cl. 11).
First use Jan. 16, 1968.

SN 293,654. Westinghouse Electric Corporation, Mansfield, Ohio. Filed Mar. 19, 1968.

SIMM-R-MATIC

For Automatic Control for Gauging the Cooking Temperature of Electric Fry Pans (Int. Cl. 9).
First use on or about Jan. 8, 1968.

SN 294,745. Muirhead & Co. Limited, Beckenham, Kent, England. Filed Apr. 2, 1968.



Owner of U.S. Reg. No. 575,851.
For Remote Facsimile Receiver-Recorder and Electronic Transmitter (Int. Cl. 9).
First use on or about Apr. 30, 1967; in commerce on or about Aug. 31, 1967.

SN 296,532. Glenair, Inc., Glendale, Calif. Filed Apr. 25, 1968.

TAG RING

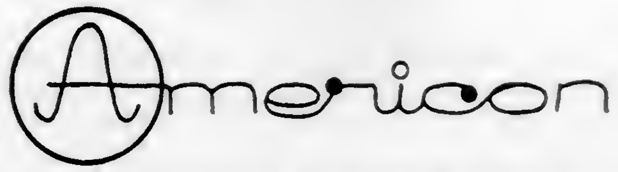
The word "Ring" is disclaimed except as part of mark as shown.
For Terminal and Grounding Connectors and Fittings and Adapters Provided With Such Connectors (Int. Cl. 9).
First use Mar. 29, 1968.

SN 298,135. The Louis Allis Company, Milwaukee, Wis. Filed May 14, 1968.

LANCER

For Frequency Converters, Induction Frequency Converters; Static Drive Equipment—Namely, Non-Rotating Motor Power Supplies Including Static Frequency Converters, and Static A.C. Drives (Int. Cl. 9).
First use Mar. 18, 1968.

SN 299,032. Microwave Development Laboratories, Inc., Needham Heights, Mass. Filed May 24, 1968.



For Electrical Connectors, Plugs and Receptacles (Int. Cl. 9).
First use May 23, 1967.

SN 299,134. IMC Magnetics Corp., Westbury, N.Y. Filed May 27, 1968.

IMCool

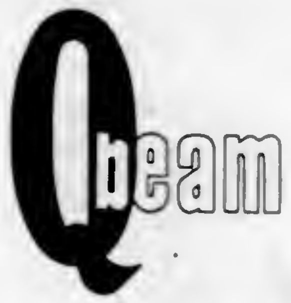
For Electric Fans (Int. Cl. 11).
First use 1964.

SN 299,414. Aertech, Sunnyvale, Calif. Filed May 31, 1968.

ORTHOSTAR

For Electronic Devices—Namely, Microwave Mixers and Modulators (Int. Cl. 9).
First use May 15, 1968.

SN 299,942. Burch Electronics, Inc., College Station, Tex. Filed June 7, 1968.



For Portable Vehicle Powered Lights (Int. Cl. 11).
First use at least as early as Apr. 25, 1968.

SN 300,488. Special Electric Company, Inc., Milwaukee, Wis. Filed June 14, 1968.

IONEX

For Electric Insulation Materials—Namely, Varnished Glass Cloth (Int. Cl. 17).
First use on or about Dec. 20, 1967.

SN 301,297. Amerace Corporation, New York, N.Y. Filed June 25, 1968.

AMERACE

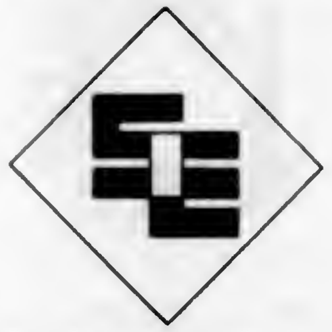
Owner of Reg. No. 632,641.
For Storage Battery Parts—Namely, Separators and Containers (Int. Cl. 9).
First use at least as early as December 1966.

SN 303,509. Connector Products Corporation, Birmingham, Ala. Filed July 24, 1968.

OUT-HOUSE

For Cover Boxes for Electrical Utility Apparatus—Namely, Distribution Transformers, Switches, Cut Outs, Sectionalizing Devices, and Motor Relays (Int. Cl. 9).
First use July 12, 1968.

SN 308,325. The Superior Electric Company, Bristol, Conn. Filed Sept. 26, 1968.



Owner of Reg. Nos. 663,060 and 781,695.
For Motor Speed Controllers, Transformer Parts, Variable Resistors, Chokes and Reactors, Line Correctors, Voltage Regulators, Electric Motors, and Magnetic Amplifiers (Int. Cls. 7 and 9).
First use Sept. 12, 1955.

SN 308,402. Shure Brothers Incorporated, Evanston, Ill. Filed Sept. 27, 1968.

UNI-RON

For Microphones (Int. Cl. 9).
First use on or before May 1, 1956.

SN 308,404. Shure Brothers Incorporated, Evanston, Ill. Filed Sept. 27, 1968.

SLENDYNE

For Microphones (Int. Cl. 9).
First use on or before Dec. 1, 1954.

SN 308,484. General Electric Company, Plainville, Conn. Filed Sept. 30, 1968.

AV - LINE

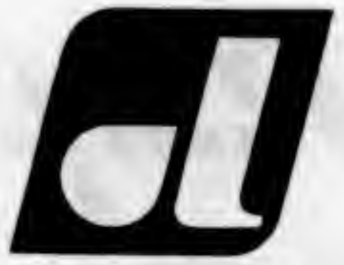
For Electrical Switchboards (Int. Cl. 9).
First use May 1, 1965.

SN 309,892. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Oct. 17, 1968.

GOLDFLEX

For Flexible Steel Conduit for Electric Cable (Int. Cl. 9).
First use July 24, 1968.

SN 310,550. Dominion Electric Corporation, Mansfield, Ohio. Filed Oct. 25, 1968.



For Electric Skillets, Electric Portable Ovens, and Electric Rotisserie-Broilers (Int. Cl. 11).
First use Sept. 27, 1968.

SN 310,591. Scientific Components, Inc., Linden, N.J. Filed Oct. 25, 1968.

CARTRODE

For Solid State Rectifier (Int. Cl. 9).
First use June 14, 1968.

SN 310,721. Union Carbide Corporation, New York, N.Y. Filed Oct. 28, 1968.

WRANGLER

For Flashlights (Int. Cl. 11).
First use on or about June 27, 1968.

SN 310,743. American Enka Corporation, Enka, N.C. Filed Oct. 29, 1968.

ENKA

Owner of Reg. Nos. 409,392, 810,493, and others.
For Electrical Wire and Cables, and Dielectric Materials (Int. Cls. 9 and 17).
First use Feb. 1, 1960.

SN 310,806. Slant/Fin Corporation, Greenvale, N.Y. Filed Oct. 29, 1968.

LOGIMETRICS

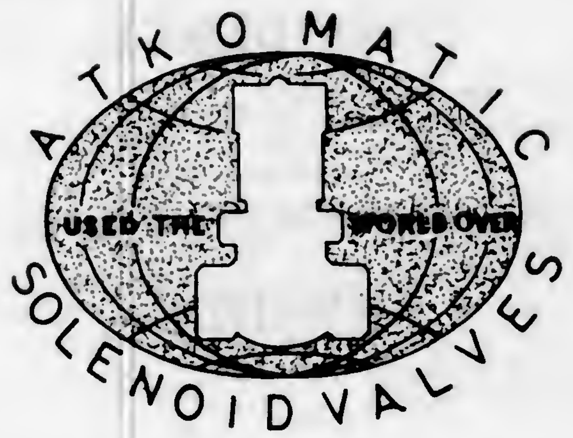
For Electronic Signal Generators (Int. Cl. 9).
First use Oct. 8, 1968.

SN 310,831. Antenna Designs, Inc., Burlington, Iowa. Filed Oct. 30, 1968.

CUSTOMATIC

For Antennas (Int. Cl. 9).
First use May 16, 1968.

SN 311,640. Atkomatic Valve Company, Inc., Indianapolis, Ind. Filed Nov. 8, 1968.



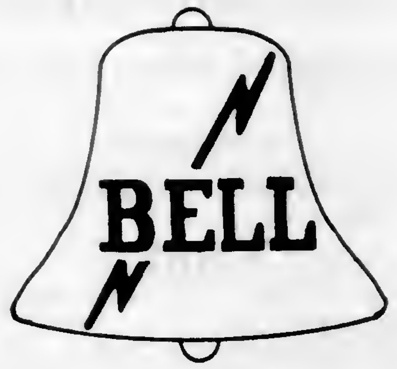
The words "Solenoid Valves" and "Used the World Over," as well as the representation of a valve, are disclaimed apart from the mark as shown without waiver of any common law rights therein. The stipling appearing on the drawing is for shading purposes only.
For Solenoid Valves (Int. Cl. 9).
First use Oct. 21, 1968.

SN 311,658. Raytheon Company, Lexington, Mass. Filed Nov. 7, 1968.

KTR

For Microwave Radio Transmitters and Receivers and Microwave Relay Systems Comprising Radio Transmitter and Receiver Combinations Used as Repeater Stations (Int. Cl. 9).
First use April 1953.

SN 311,665. Bell Electric Co., Chicago, Ill. Filed Nov. 8, 1968.



For Electrical Receptacles and Power Outlets, and Wall Plates (Int. Cl. 9).
First use on or about May 1, 1960; July 15, 1954, in a different form.

SN 312,909. Portatronic Systems, Inc., New York, N.Y. Filed Nov. 22, 1968.

PET

For Portable, Self-Contained Telephone (Int. Cl. 9).
First use Jan. 19, 1967.

SN 314,170. American Enka Corporation, Enka, N.C. Filed Dec. 11, 1968.

ENKASEAL

Owner of Reg. Nos. 409,392, 819,592, and others.
For Electric Wire and Cable (Int. Cl. 9).
First use Nov. 25, 1968.

SN 316,931. Cyclo Design, Inc., Waukegan, Ill. Filed Jan. 21, 1969.

CYCLO

For Upright Floor Polishing and Shampoo Machines (Int. Cl. 7).
First use on or about Dec. 1, 1966.

Class 22—Games, Toys, and Sporting Goods

SN 275,046. Etablissements A. Fouineteau, Gray, Haute-Saone, France. Filed June 29, 1967.

MAILLINOX

Owner of French Reg. No. 251, dated Feb. 16, 1962 (Gray); Natl. Inst. No. 180,182.
For Collapsible Wire Fish Baskets, Nets and Traps, Landing Nets, Trap Nets, Minnow Traps, Crab Nets, and Prawn Nets (Int. Cls. 22 and 28).

SN 287,664. Miner Industries, Inc., New York, N.Y. Filed Dec. 27, 1967.

TOTE-A-GAME

For Equipment Sold as Units for Playing Various Types of Parlor Games (Int. Cl. 28).
First use Dec. 15, 1967.

SN 292,288. Pop America Corporation, Montebello, Calif. Filed Mar. 1, 1968.

SPACEMOBILE

For Battery-Operated Toy Vehicles (Int. Cl. 28).
First use May 21, 1967.

SN 292,706. Northwestern Golf Company, Chicago, Ill. Filed Mar. 7, 1968.

X-101

For Golf Clubs (Int. Cl. 28).
First use Feb. 1, 1968.

SN 296,838. Kohner Bros., Inc., East Paterson, N.J. Filed Apr. 29, 1968.

PRIMARY TRYBOARD

For Puzzle-Type Figure Matching Kit (Int. Cl. 28).
First use March 1968.

SN 299,180. Denys Fisher Group Limited, Boston Spa, England, by change of name from Denys Fisher (Spirograph) Limited, Boston Spa, England. Filed May 27, 1968.

SPIROTOT

Owner of British Reg. No. 903,436, dated Dec. 28, 1966.
For Educational Toy Kit, Comprising Colored Ball Point Pens and a Tray for Making Various Geometric and Decorative Designs, for Use by the Younger Child (Int. Cl. 28).

SN 300,925. The General Tire & Rubber Company, Akron, Ohio. Filed June 20, 1968.

double
G

Owner of Reg. No. 785,124.
For Golf Balls (Int. Cl. 28).
First use May 1968.

SN 302,322. Hasbro Industries, Inc., Pawtucket, R.I. by change of name from Hassenfeld Bros. Inc., Pawtucket, R.I. Filed July 9, 1968.

QUICK FREEZE

For Toy Refrigerator (Int. Cl. 28).
First use on or about Feb. 28, 1968.

SN 304,105. Bernard J. McLoughlin, Troy, N.Y. Filed Aug. 1, 1968.

BLUE MAX

For Golf Balls (Int. Cl. 28).
First use on or about Apr. 1, 1968.

SN 304,717. Top Brands, Inc., Oshkosh, Wis. Filed Aug. 8, 1968.

POWER TIP

For Fishing Rods (Int. Cl. 28).
First use at least as early as July 1966.

SN 305,115. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Aug. 14, 1968.

SILVER CUP

For Golf Balls (Int. Cl. 28).
First use July 24, 1968.

SN 305,116. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Aug. 14, 1968.

WORLD CUP

For Golf Balls (Int. Cl. 28).
First use July 24, 1968.

SN 305,211. Dearborn Gage Company, Garden City, Mich. Filed Aug. 15, 1968.

GO-FAR

For Golf Balls (Int. Cl. 28).
First use Aug. 2, 1968.

SN 305,291. AMT Corporation, Troy, Mich. Filed Aug. 16, 1968.

HILLBILLY

For Kits for Building Small Scale Models of Automobiles (Int. Cl. 28).
First use Nov. 6, 1967.

SN 305,466. Robert J. Mader, d.b.a. Mader Products., Torrance, Calif. Filed Aug. 19, 1968.

CONFIDENCE

For Golf Clubs (Int. Cl. 28).
First use Aug. 12, 1968.

SN 305,586. Wonder Products Company, Collierville, Tenn. Filed Aug. 20, 1968.

RAWHIDE

For Toy Spring Horses (Int. Cl. 28).
First use Apr. 16, 1968.

SN 307,045. Ron-Vik, Inc., Minneapolis, Minn. Filed Sept. 10, 1968.

VINYL-FLEX

For Water Ski Bindings (Int. Cl. 28).
First use 1961.

SN 308,959. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

FINAGLE

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use Aug. 26, 1968.

SN 308,962. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

BABY FEATHER

No claim of exclusive right is made to "Baby," for the goods recited.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Sept. 4, 1968.

SN 308,974. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

A WONDER FINDER TOY

No claim of exclusive right is made to "Toy," for the goods recited.
For Scientific and Educational Toys (Int. Cl. 28).
First use Aug. 22, 1968.

SN 308,976. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

SPACE POWER SUIT

No claim of exclusive right is made to "Space Suit," for the goods recited.
For Toy Space Suit for a Doll (Int. Cl. 28).
First use Aug. 22, 1968.

SN 308,977. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

SUPER-CHARGER

For Toy Automobile Accessory Embodied in a Track for Increasing the Speed of a Toy Automobile Passing Thereon (Int. Cl. 28).
First use Sept. 4, 1968.

SN 308,986. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

KARMA

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use Aug. 26, 1968.

SN 308,987. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

BABY FANCY-TALK

No claim of exclusive right is made to "Baby," for the goods recited. Owner of Reg. No. 857,426 and others.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 7, 1968.

SN 308,988. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

BABY PRETTY-TALK

No claim of exclusive right is made to "Baby," for the goods recited. Owner of Reg. No. 857,426 and others.
First use Aug. 7, 1968.

SN 308,996. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

VERRY INTERESTING!

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use Aug. 26, 1968.

SN 308,997. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

JEWELRY KIDDLE GEMS

No claim of exclusive right is made to "Jewelry" and "Gems," for the goods recited apart from the mark. Owner of Reg. Nos. 814,385 and 851,840.
For Dolls, Doll Clothing, and Doll Accessories, the Dolls Being in a Costume Jewelry Environment (Int. Cl. 28).
First use Aug. 26, 1968.

SN 309,539. Animal Fair, Inc., Chanhassen, Minn. Filed Oct. 14, 1968.

SLUMBERCHUM

For Sleeping Bag for Children (Int. Cl. 20).
First use Apr. 25, 1968.

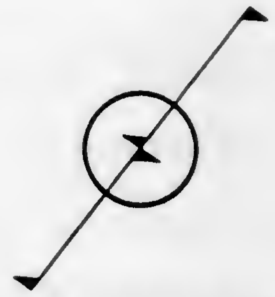
Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 124,387. Swingline Inc., Long Island City, N.Y. Filed July 20, 1961.

SWINGLINE 3

For Stapling Machines Designed for Office Use (Int. Cl. 16).
First use Jan. 2, 1937.

SN 282,362. The Cincinnati-Forte Company, Niles, Ill., assignee of Forte Equipment Company, Incorporated. Filed Oct. 12, 1967.



The mark consists of a circle angularly bisected by a symbol constituting mutually reversed and inverted stylized "F's."
For Coil Handling Machinery—Namely, Coil Threaders, Recoilers and Overarm Separators, Down Enders, Coil Loading Cars, Roller Levelers, Edge Straighteners, Edge Trimmers, Scrap Choppers, Shears, Shear Measuring Unit Stackers, Shear Blank Lines, Coil Slitter Lines, and Components Therefor (Int. Cl. 7).
First use June 8, 1962.

SN 285,983. Ampep Industrial Products Limited, Clevedon, Somerset, England. Filed Dec. 1, 1967.

FIBERSLIP

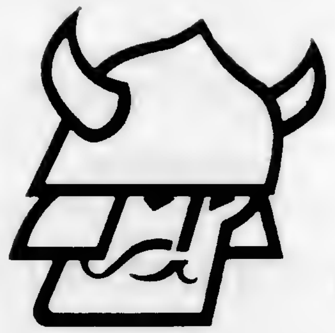
Owner of British Reg. Nos. 883,596 and 883,597, dated Aug. 26, 1965.
For Machinery Parts—Namely, Bearings, Ball Joints, and Slides Having a Low-Friction, Resin Bearing Surface (Int. Cl. 7).

SN 286,486. Allied Welder Corporation, Detroit, Mich. Filed Dec. 8, 1967.

Uni-Syncro

For Harmonic Motion Machine Tool Presses and Press Drives (Int. Cl. 7).
First use Feb. 15, 1963.

SN 288,018. Industri Aktiebolaget Skomab, Nasbypark, Sweden. Filed Jan. 3, 1968.



Priority claimed under Sec. 44(d) on Swedish application filed July 10, 1967; Reg. No. 122,199, dated Jan. 12, 1968.
For Metal Working Machines and Tools—Namely, Steel Bands for Punching Knives, Punching Machines, Punching Tools, and Bending Machines for Punching Tools (Int. Cl. 7).

SN 288,545. Societe Nouvelle de Roulements, Annecy, Haute-Savoie, France. Filed Jan. 10, 1968.

SNR

Owner of French Reg. No. 502,058, dated Jan. 26, 1962 (Seine); Natl. Inst. No. 148,160.
For Ball and Roller Bearings, Balls and Rollers of Any Shape for Bearings, Ball and Roller Thrust Bearings, and Cams for Any Use (Int. Cl. 7).

SN 291,965. Clyde Corporation, Troy Mich. Filed Feb. 27, 1968.

AUTOGUN

For Power Operated Clip Clinching Tool (Int. Cl. 7).
First use 1952.

SN 293,918. George W. Eby, d.b.a. E & H Machine Works, Oregon City, Oreg. Filed Mar. 22, 1968.

THE CHEETAH

For Cutoff Saws, Pipe Benders, Metal Pressing Machines, Commercial Vacuum Sweepers, Chain and Screw Conveyors, Concrete Finishes for Bridges and Highways, and Steel Fabricating Rolls (Int. Cl. 7).
First use Nov. 10, 1966.

SN 296,971. Leiman Bros., Inc., East Rutherford, N.J. Filed Apr. 30, 1968.

MILLI VAC

For Rotary Vacuum Compound Pumps (Int. Cl. 8).
First use Mar. 28, 1968.

SN 298,018. MSL Industries, Inc., Chicago, Ill. Filed May 13, 1968.

PERFECTO

For Motor Driven Coil Handling and Power Press Feeding Equipment—Namely, Press Feeds, Scrap Cutters, Stock Straighteners, Stock Levelling Machines, Pay-Off Reels, and Pull-Off Reels (Int. Cl. 7).
First use in or about March 1947.

SN 298,056. Techni-Fab, Inc., Mankato, Minn. Filed May 13, 1968.

the Unique CAB

No claim is made to the word "Cab" apart from the mark.
For Cabs for Tractors, Swathers, Combines, and Snowmobiles (Int. Cl. 12).
First use on or about Jan. 25, 1968.

SN 298,156. Sossner Tap & Tool Corporation, Lynbrook, N.Y. Filed May 14, 1968.

SOSSNER

For Taps and Screw Thread Cutting Tools (Int. Cl. 8).
First use 1941.

SN 299,024. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed May 24, 1968.

SILVER FROST

The word "Silver" is disclaimed apart from the mark as shown, but without waiver of any common law rights therein which applicant may possess.
For Stainless Steel Knives, Forks, and Spoons (Int. Cl. 8).
First use May 7, 1968.

SN 299,816. Vermette Machine Company, Inc., Hammond, Ind. Filed June 6, 1968.

DOCAVATOR

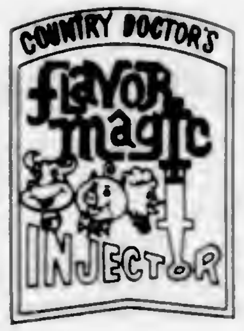
For Elevating Dock Boards (Int. Cl. 7).
First use Apr. 11, 1967.

SN 300,853. Tarrant Manufacturing Company, Saratoga Springs, N.Y. Filed June 19, 1968.

PAVEMENT PLUCKER

Applicant disclaims the word "Pavement," apart from the mark as shown.
For Vacuum Street Cleaner (Int. Cl. 7).
First use Apr. 29, 1968.

SN 301,453. Darrell R. Shipley, d.b.a. The Country Doctor's, Clarksville, Tenn. Filed June 26, 1968.



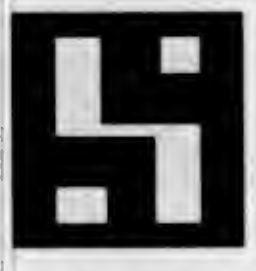
No claim is made to the words "Flavor" and "Injector," apart from the mark.
For Syringe for Injecting Condiments in Meat and Fowl (Int. Cl. 21).
First use May 1, 1968.

SN 303,068. Plasti-Vac., Charlotte, N.C. Filed July 18, 1968.

pvi

For Vacuum-Forming Machines for Plastic Materials, and Replacement Parts Therefor (Int. Cl. 7).
First use Nov. 15, 1966.

SN 305,026. Shepherd Machinery Co., City of Industry, Calif. Filed Aug. 13, 1968.



The mark consists of a stylized block letter "S."
For Earth Moving Machinery and Construction Equipment—Namely, Crawler Tractors, Bulldozers, and Motor Graders (Int. Cl. 7).
First use May 7, 1968.

SN 308,143. Simplicity Manufacturing Company, Inc., Port Washington, Wis. Filed Sept. 24, 1968.

SERF

For Garden Tractors (Int. Cl. 12).
First use Aug. 25, 1967.

SN 308,144. Simplicity Manufacturing Company, Inc., Port Washington, Wis. Filed Sept. 24, 1968.

YEOMAN

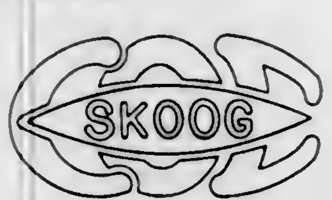
For Garden Tractors (Int. Cl. 12).
First use Apr. 15, 1966.

SN 308,145. Simplicity Manufacturing Company, Inc., Port Washington, Wis. Filed Sept. 24, 1968.

SOVEREIGN

For Garden Tractors (Int. Cl. 12).
First use Aug. 25, 1967.

SN 308,274. The Coe Manufacturing Company, Painesville, Ohio. Filed Sept. 26, 1968.



Owner of Reg. Nos. 518,061 and 549,737.
For Machinery for Conveying, Stacking, Patching, Gluing, Cutting, Trimming, Pressing and Assembling Lumber, Veneer and Composite Sheet Products Formed of the Same (Int. Cl. 7).
First use Apr. 30, 1968.

SN 309,318. Werkzeugmaschinenfabrik Oerlikon-Buehrle A/G, Zurich, Switzerland. Filed Oct. 9, 1968.

ROTATRUDER

Owner of Swiss Reg. No. 185,145, dated Jan. 13, 1961.
For Apparatus for Extruding Polymeric Film or Sheet (Int. Cl. 7).

SN 310,132. Ramseur's, Incorporated, Greenville, S.C. Filed Oct. 21, 1968.

THERM-O-SHRINK

For Food Packaging Machines for Sealing Heat Sealable Plastic Film (Int. Cl. 7).
First use Sept. 10, 1968.

SN 310,670. Kennametal Inc., Latrobe, Pa. Filed Oct. 28, 1968.

KENGRIP

For Tire Stud Inserting Equipment in the Form of Manually Operated Tire Stud Inserting Devices; Pneumatically Operated Tire Stud Inserting Devices; Stands for Supporting Tires Being Studded and Tire Stud Inserting Devices Embodied Therein; Feeders for Tire Studs; and Parts Thereof (Int. Cls. 7 and 8).
First use June 1, 1968.

SN 310,907. Multi-Clean Products, Incorporated, St. Paul, Minn. Filed Oct. 30, 1968.

SOMERSET

For Power Driven Sweeping Machines (Int. Cl. 7).
First use 1962.

SN 310,956. Uniroyal Ltd., Montreal, Quebec, Canada. Filed Sept. 9, 1968.

TIPTRAK

For Bucket-Type Conveyor (Int. Cl. 7).
First use Nov. 22, 1967; in commerce Aug. 15, 1968.

SN 311,411. Sarlo Power Mowers, Inc., Fort Myers, Fla. Filed Nov. 5, 1968.

LITTER-WHISK

For Lawn Sweeper (Int. Cl. 7).
First use Sept. 1, 1967.

SN 311,574. Cooper Industries, Inc., Houston, Tex. Filed Nov. 7, 1968.

MINIPACK

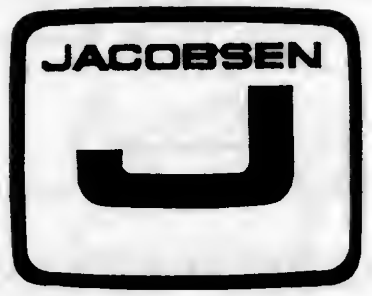
For Internal Combustion Engine-Compressor Units (Int. Cl. 7).
First use Sept. 27, 1968.

SN 312,045. Henry Jorgensen, d.b.a. General Machine & Tool Co., Dyer, Ind. Filed Nov. 13, 1968.

LINE-O-MATIC

For Dough Press (Int. Cl. 7).
First use Apr. 18, 1968.

SN 312,301. Jacobsen Manufacturing Company, Racine, Wis. Filed Nov. 15, 1968.



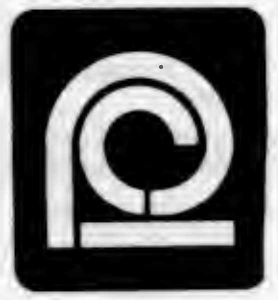
Owner of Reg. No. 756,799 and others.
For Lawn Mowers, Grass Catchers, Tractors for Lawn Mowers and for Turf Care Equipment, Lawn Edgers, Lawn Trimmers, and Powered Snow Throwers (Int. Cls. 7 and 12).
First use at early as 1965.

SN 312,514. Textron Inc., Providence, R.I. Filed Nov. 18, 1968.

LA BELLE

For Stainless Steel Flatware (Int. Cl. 8).
First use Oct. 18, 1968.

SN 312,689. The Park City Supply Company, Bridgeport, Conn. Filed Nov. 20, 1968.



For Hydraulic Presses, Air Presses, and Hydraulic Power Units (Int. Cl. 7).
First use July 1967.

SN 313,017. Pamarco, Incorporated, Roselle, N.J. Filed Nov. 25, 1968.

TPR

For Inking Rollers for Use in Flexographic Printing (Int. Cl. 16).
First use July 1967.

SN 313,046. Margaret E. Weymouth, d.b.a. Studio Twelve, Costa Mesa, Calif. Filed Nov. 25, 1968.

MULTI-FLEUR

For Hand Looms for Artificial Flowers and the Like (Int. Cl. 8).
First use Mar. 6, 1967.

SN 313,047. Margaret E. Weymouth, d.b.a. Studio Twelve, Costa Mesa, Calif. Filed Nov. 25, 1968.

MAGNI-FLEUR

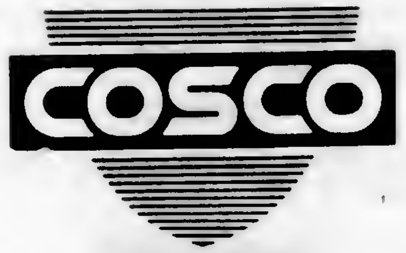
For Hand Looms for Artificial Flowers and the Like (Int. Cl. 8).
First use Nov. 29, 1967.

SN 313,198. N.V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands. Filed Nov. 27, 1968.

PHILISHAVE

For Electric Shavers (Int. Cl. 8).
First use December 1939; in commerce as early as April 1961.

SN 313,401. Consolidated Foods Corporation, Chicago, Ill. Filed Dec. 2, 1968.



The drawing is lined for shading purposes only. Owner of Reg. No. 587,478.
For Rubber Stamps, Line Daters and Numberers, Special Band Stamps, and Rubber Type Sets (Int. Cl. 16).
First use March 1962.

SN 313,498. Engis Limited, Maidstone, Kent, England. Filed Dec. 3, 1968.

KEMET

Owner of British Reg. No. 908,230, dated Apr. 17, 1967.
For Lapping Plates (Int. Cl. 7).

SN 313,714. Maysteel Products Corp., Mayville, Wis. Filed Dec. 5, 1968.

TELECOVER

For Machine Tool Covers (Int. Cl. 22).
First use at least as early as Nov. 21, 1968.

SN 313,728. The Roberts Company, Sanford, N.C. Filed Dec. 5, 1968.

AUTOPAX

For Roving Frames (Int. Cl. 7).
First use Aug. 27, 1968.

SN 314,177. Bird Machine Company, South Walpole, Mass. Filed Dec. 11, 1968.

TRICLEAN

Owner of Reg. No. 669,570.
For Centrifugal Separators (Int. Cl. 7).
First use Aug. 8, 1967.

SN 314,438. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 280,605.

CHEVRON

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Jan. 17, 1963.

SN 314,439. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 335,937.

CHATEAU

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use in 1960.

SN 314,440. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 286,573.

BARBARA

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Dec. 13, 1965.

SN 314,444. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 508,901.

SENTINEL

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Feb. 28, 1963.

SN 314,445. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 375,117.

RIO

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Feb. 20, 1960.

SN 314,446. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 591,147.

PROPOSAL

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Oct. 5, 1967.

SN 314,447. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 504,434.

PLANTATION

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Feb. 25, 1963.

SN 314,448. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 439,624.

PENDANT

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use 1958.

SN 314,449. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 439,622.

PARAMOUNT

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Mar. 1, 1963.

SN 314,450. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 635,562.

GENESEE

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Apr. 23, 1968.

SN 314,451. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 612,164.

NEW ERA

For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Aug. 11, 1962.

SN 314,452. Oneida Ltd, Oneida, N.Y. Filed Dec. 13, 1968.

FOREVER

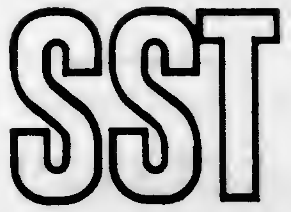
Owner of Reg. No. 372,780.
For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use 1957.

SN 314,453. Oneida Ltd., Oneida, N.Y. Filed Dec. 13, 1968. Owner of Reg. No. 635,563.

FENWAY

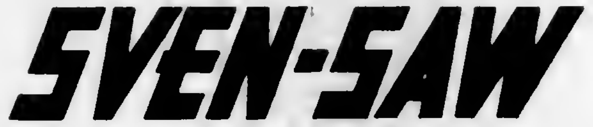
For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Aug. 4, 1964.

SN 314,777. Dana Corporation, Toledo, Ohio. Filed Dec. 18, 1968.



For Gear Boxes and Parts Thereof (Int. Cl. 7).
First use Nov. 27, 1968.

SN 315,795. Swen Products, Inc., Minneapolis, Minn. Filed Jan. 3, 1969. Filed Jan. 3, 1969.



For Foldable Hand Saw (Int. Cl. 8).
First use March 1962.

SN 316,070. Aronson Machine Company, Inc., Arcade, N.Y Filed Jan. 8, 1969.

AXITROL

For Apparatus for Supporting Workpieces While They Are Being Welded or Otherwise Worked Upon (Int. Cl. 7).
First use about Dec. 1, 1968.

SN 316,071. Aronson Machine Company, Inc., Arcade, N.Y Filed Jan. 8, 1969.

BIAXITROL

For Apparatus for Supporting Workpieces While They Are Being Welded or Otherwise Worked Upon (Int. Cl. 7).
First use about Dec. 1, 1968.

SN 316,072. Aronson Machine Company, Inc., Arcade, N.Y. Filed Jan. 8, 1969.

TRIAXITROL

For Apparatus for Supporting Workpieces While They Are Being Welded or Otherwise Worked Upon (Int. Cl. 7).
First use about Dec. 1, 1968.

SN 316,494. Zenith Equipment Manufacturing Company, Dallas, Tex. Filed Jan. 13, 1969.

ZENITH

For Automatic Car Wash Machines and Self-Service Car Wash Machines (Int. Cl. 7).
First use May 20, 1968.

SN 316,522. CTP Industries Inc., Brooklyn, N.Y. Filed Jan. 14, 1969.

TOTE-A-MATIC

For Bag Manufacturing Machine (Int. Cl. 7).
First use Dec. 18, 1968.

SN 316,672. Oneida Ltd., Oneida, N.Y. Filed Jan. 15, 1969.

SPRING BALLAD

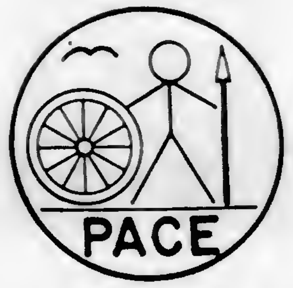
Owner of Reg. Nos. 437,281, 779,401, and 857,895.
For Flatware Made of Non-Precious Material (Int. Cl. 8).
First use Jan. 6, 1969.

SN 316,845. Textron Inc., Providence, R.I. Filed Jan. 16, 1969.

LA MANCHA

For Stainless Steel Flatware (Int. Cl. 8).
First use Sept. 10, 1968.

SN 316,869. Pace, Inc., Silver Spring, Md. Filed Jan. 17, 1969.



For Heat, Vacuum and Pressure Activated Hand Tool Used To Remove Molten Solder From All Types of Solder Joints (Int. Cl. 7).
First use at least as early as May 2, 1967; in or about November 1958 as to "Pace."

SN 316,949. The Torrington Manufacturing Company, Torrington, Conn. Filed Jan. 21, 1969.

TORIN

For Machinery for Working Metal Sheet, Strip, Tube, Rod and Wire Which Performs One or More of the Operations of Rolling, Milling, Slitting, Straightening, Edging, Coiling, Decoiling, Blanking, Forming, Bending, Combined Forming and Welding, Combined Bending and Welding, and Cutting Into Lengths; Machinery for Working Products of Above—Namely, Spring Loopers and Grinders; Permanent Molds for Non-Ferrous Metal—Namely, Air and Water Cooled Molds; Rolling Mills, Slab Milling Machines, Straighteners, Strip Coilers, Strip Decoilers, Four-Slide Machines, Spring Coilers, Spring Winders, Spring Loopers and Spring Grinders; and Parts and Attachments for the Foregoing (Int. Cl. 7).
First use on or about Jan. 15, 1969.

SN 318,444. Midland Products Co., Midland Park, N.J. Filed Feb. 5, 1969.

ASM

For Centrifugal, Self-Priming Centrifugal, and Diaphragm Pumps, and Parts Thereof (Int. Cl. 7).
First use June 13, 1968.

SN 318,884. Volstro Manufacturing Company, Inc., Philadelphia, Pa. Filed Feb. 11, 1969.

VOLSTRO

For Milling Heads for Milling Machines, and Parts Therefor (Int. Cl. 7).
First use Oct. 26, 1965.

SN 319,122. Stridsberg, Inc., New York, N.Y. Filed Feb. 14, 1969.

STRIDE

For Machine Knives (Int. Cl. 7).
First use Jan. 27, 1969.

Class 24 — Laundry Appliances and Machines

SN 312,302. Ken F. James Enterprises, Inc., Kansas City, Mo. Filed Nov. 15, 1968.

MR. KEN'S

For Utility Tray Suitable for Mounting on an Ironing Board (Int. Cl. 21).
First use on or about May 21, 1968.

Class 26 — Measuring and Scientific Appliances

SN 275,386. Litton Business Systems, Inc., Orange, N.J., by change of name from Monroe International, Inc., Orange, N.J. Filed July 5, 1967.

DATAREGISTER

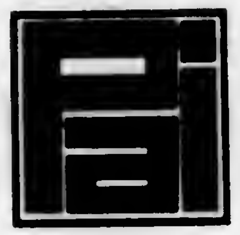
Owner of Reg. No. 780,767.
For Cash Registers (Int. Cl. 9).
First use not later than Dec. 7, 1961.

SN 283,231. Conair, Inc., Franklin, Pa. Filed Oct. 24, 1967.

AUTOCOLOR

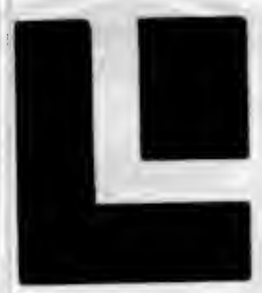
For Control Panel and Metering Apparatus for Blending Different Quantities of Pulverulent Material in a Definite Ratio (Int. Cl. 9).
First use on or about Apr. 12, 1966.

SN 289,334. Process Analyzers, Inc., Houston, Tex. Filed Jan. 22, 1968.



The mark consists of the letters "Pal" and design.
For Gas Chromatographs, Chemical Concentration Measuring Devices To Measure Concentration in Parts per Million of Gases in the Atmosphere, Gas Streams or Stack Gases, Sample Preparation Ovens, Comparison Colorimeters, and Quantative Titration Instruments Adapted for Measuring and Recording Quantities of Chemicals (Int. Cl. 9).
First use June 1966.

SN 289,938. Lowrance Electronics Mfg. Corp., Tulsa, Okla. Filed Jan. 31, 1968.



For Depth Finders (Int. Cl. 9).
First use Sept. 28, 1966.

SN 300,499. Zehntel, Inc., Berkeley, Calif. Filed June 14, 1968.

ZEHNTEL

For Digital Instruments, Systems and Subsystems—Namely, Bi-Directional Totalizers, Frequency Difference Data Systems, Forward/Reverse Totalizers, Digital Clocks, Computer Adapters, Remote Readout Modules, Displacement Pump Control Systems, PCM Tape Recorder Test Systems, Printed Circuit Card Automatic Tester Systems, Card Readers and Simulator Units (Int. Cl. 9).
First use on or before Mar. 23, 1967, on frequency difference data systems.

SN 304,104. McGraw-Edison Company, South Milwaukee, Wis. Filed Aug. 1, 1968.

ARMETER

For Utility Meter Reading Systems; Utility Meter Reading Equipment; Utility Meter Reading Data Transmitting and Recording Equipment; and Components Therefor Utilizing Encoder and Transponder at the Meter, a Line Coupler at the Customer's Telephone Terminal Block; Coupling Device at a Telephone Central Office and Master Control and Data Station Remote From Said Meter and Device To Control the Same (Int. Cl. 9).
First use June 21, 1968.

SN 305,819. Edo Western Corporation, Salt Lake City, Utah. Filed Aug. 23, 1968.

NAVTRAK

For Electronic Navigational Systems Including Transducer Arrays, an Electronic Computer, and a Velocity Display (Int. Cl. 9).
First use Sept. 1, 1967.

SN 307,756. Royal Industries, Pasadena, Calif. Filed Sept. 19, 1968.

DOT-O-TRON

For Instrument for Electronically Measuring Optical Densities, Particularly Useful in the Printing Industry for Measuring a Percentage Printer on a Halftone Print (Int. Cl. 9).
First use on or about Sept. 5, 1968.

SN 310,546. Davidson and Hemmendinger, Inc., Easton, Pa. Filed Oct. 25, 1968.

COMIC

For Computer (Int. Cl. 9).
First use January 1964.

SN 314,796. Ipco Hospital Supply Corporation, New York, N.Y. Filed Dec. 18, 1968.

STOR-PAK

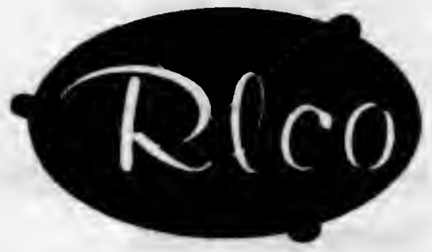
For Laboratory Equipment—Namely, a Slide Tray (Int. Cl. 9).
First use Sept. 16, 1968.

SN 314,888. International Computer Products, Inc., Dallas, Tex. Filed Dec. 19, 1968.

DIGICETTE

For Magnetic Tape Cassettes for Data Processing Equipment (Int. Cl. 9).
First use at least as early as Apr. 1, 1968.

SN 315,957. R.L. Electronic Communications Co., Inc., Ventura, Calif. Filed Jan. 6, 1969.



For Magnetic Tapes for Calibration and Alignment of Instrumentation Tape Recorders and Reproducers (Int. Cl. 9).
First use Jan. 10, 1966.

SN 316,069. Art-O-Graph, Inc., Minneapolis, Minn. Filed Jan. 8, 1969.

CONSOLAB

For Portable Contact Exposure Units for Use in Making Color Prints (Int. Cl. 9).
First use on or about Jan. 30, 1968.

Class 31 — Filters and Refrigerators

SN 313,721. Tom Peterson's, Inc., Portland, Oreg. Filed Dec. 5, 1968.

XONIX

For Refrigerators and Ice Making Machines (Int. Cl. 11).
First use July 29, 1968.

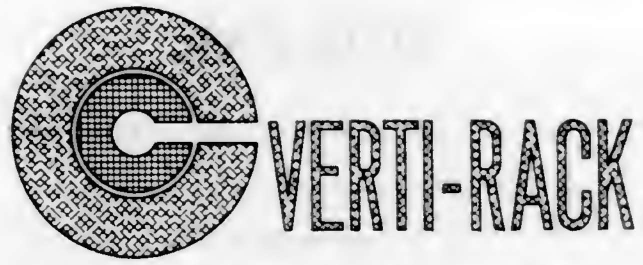
Class 32 — Furniture and Upholstery

SN 298,582. Decor Specialties, Inc., Detroit, Mich. Filed May 20, 1968.

ACORD-A-PLEAT

For Pleated, Blind-Type Window Covering (Int. Cl. 20).
First use Mar. 1, 1968.

SN 309,377. Graham Paper Company, St. Louis, Mo. Filed Oct. 10, 1968.



The drawing is lined for orange and black, but without limitation of the mark to any specific color.
For Paper Storage and Dispenser Furniture (Int. Cl. 20).
First use June 20, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 281,248. Air Products and Chemicals, Inc., Allentown, Pa. Filed Sept. 8, 1967.

FluxCoWeld

For Consumable Welding Wires Used in MIG Welding Systems (Int. Cl. 6).
First use on or about Jan. 1, 1967.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 296,262. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Rubber Tires and Tubes (Int. Cl. 12).
First use Nov. 15, 1967.

SN 301,259. Royal Industries, Pasadena, Calif. Filed June 24, 1968.

K BLOCK

The word "Block" is disclaimed apart from the mark as shown. Owner of Reg. No. 794,450.
For Brake Shoe Linings for Use on Motor Vehicles (Int. Cl. 12).
First use as early as Aug. 26, 1963.

SN 320,400. The Jetzon Tire & Rubber Co., Inc., Montgomeryville, Pa. Filed Mar. 3, 1969.

GUARD-O-BOND
INNER LINER

"Inner Liner" is disclaimed apart from the mark as shown.
For Puncture Resistant Liner for Rubber Tire (Int. Cl. 12).
First use December 1965.

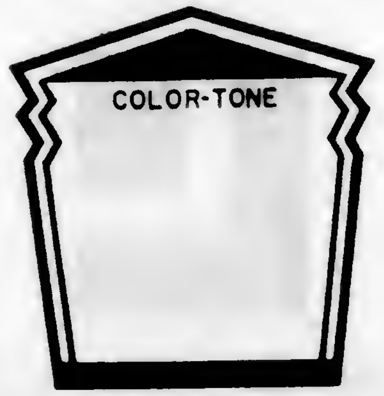
Class 36 — Musical Instruments and Supplies

SN 276,935. Fred D. Hinger, Cherry Hill, N.J. Filed July 27, 1967.

COLOR-TONE

For Drum Mallets (Int. Cl. 15).
First use on or about Apr. 20, 1967.
Subj. to Intf. with SN 283,527.

SN 283,527. Humes and Berg Mfg. Co. Inc., East Chicago, Ind. Filed Oct. 27, 1967.



For Accessories for Musical Wind Instruments—Namely, Mutes (Int. Cl. 15).
First use November 1938.
Subj. to Intf. with SN 276,935.

SN 312,723. The Research Institute of America, Inc., New York, N.Y. Filed Nov. 21, 1968.

LIVING CASE HISTORY

No claim is made to the words "Case History" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use June 12, 1967.

SN 314,040. AGA Aktiebolag, Lidingo, Sweden. Filed Dec. 10, 1968.

AGAVOX

Owner of Swedish Reg. No. 81,332, dated Nov. 2, 1956.
For Dictating Machines, Phonographs, and Dictating Apparatus Records or Discs for Recording and Playing Back Voice and Other Sounds (Int. Cl. 9).

SN 314,789. Hammond Corporation, Deerfield, Ill. Filed Dec. 18, 1968.

RHYTHM RAIL

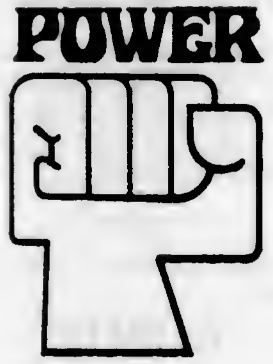
Applicant disclaims the word "Rhythm" apart from the mark as shown.
For Percussion Accessory Adapted for Attachment to an Electric Organ (Int. Cl. 15).
First use Oct. 3, 1968.

SN 320,194. Twentieth Century-Fox Film Corporation, New York, N.Y. Filed Feb. 26, 1969.

MOVIETONE

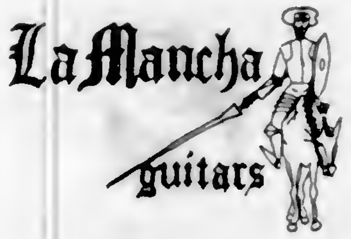
For Phonograph Records (Int. Cl. 9).
First use October 1965.

SN 320,294. Synthetic Plastics Company, Newark, N.J. Filed Feb. 27, 1969.



For Grooved Phonograph Records (Int. Cl. 9).
First use Dec. 27, 1968; Oct. 29, 1962, as to "Power."

SN 320,444. Juan David, Madrid, Spain. Filed Mar. 3, 1969.



Applicant disclaims the word "Guitars" apart from the mark as shown.
For Guitars, Lutes, Bandurrias, and Parts Thereof; and Accessories—Namely, Cejillas, Strings, Musical Instrument Cases and Bags, and Golpe Plates for Guitars (Int. Cl. 15).
First use Jan. 15, 1969; in commerce Feb. 24, 1969.

Class 37 — Paper and Stationery

SN 265,507. Tee-Pak, Inc., Chicago, Ill. Filed Feb. 16, 1967.

UNILAM

For Laminated Plastic Film Packaging Materials (Int. Cl. 16).
First use Aug. 8, 1966.

SN 291,848. Eldridge Stationery Corporation, North Hollywood, Calif. Filed Feb. 26, 1968.

GROOVY

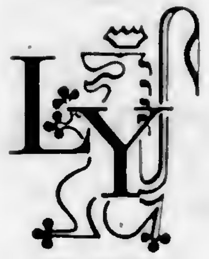
For Writing Paper and Envelopes (Int. Cl. 16).
First use Dec. 19, 1967.

SN 312,984. Concel Inc., New York, N.Y. Filed Nov. 25, 1968.

PUDDLES

For Disposable Paper Training Mats for Pets (Int. Cl. 16).
First use May 1968.

SN 317,066. The Lawton-York Corporation, New York, N.Y. Filed Jan. 21, 1969.



For Business Forms (Int. Cl. 16).
First use Jan. 8, 1968.

Class 38 — Prints and Publications

SN 285,211. Dr. Barvo N. Walker, d.b.a. Dr. Carl Kenyon, Fort Worth, Tex. Filed Nov. 20, 1967.

DENTAL DIARY

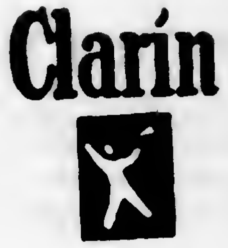
For Newspaper Column Pertaining to Dentistry (Int. Cl. 16).
First use Oct. 23, 1966.

SN 288,732. Western Publishing Company, Inc., Racine, Wis. Filed Jan. 12, 1968.

PLASTILON

For Series of Children's Story, Activity, Toy, Novelty, and Amusement Books (Int. Cl. 16).
First use Sept. 18, 1967.

SN 289,761. Arte Grafico Editorial Argentino S.A., Buenos Aires, Argentina. Filed Jan. 29, 1968.



The word "Clarin" in English means "clarinet." Owner of Argentine Reg. No. 515,108, dated Aug. 20, 1963.
For Printed Matter—Namely, Newspapers and Magazines (Int. Cl. 16).

SN 289,965. California Newspapers, Inc., San Rafael, Calif. Filed Jan. 31, 1968.

INDEPENDENT JOURNAL

For Newspaper (Int. Cl. 16).
First use Nov. 28, 1948.

SN 295,205. Mark S. Zeller, d.b.a. Campus Magazine, Ogden, Utah. Filed Apr. 8, 1968.

CAMPUS MAGAZINE

No claim is made to the word "Magazine" when used apart from the mark as shown.
For Student Magazine (Int. Cl. 16).
First use on or about May 20, 1967.

SN 297,987. Double Sixteen Company, Wheaton, Ill. Filed May 13, 1968.

CANON

For Study Material for Children—Namely, a Unitary Package Consisting of Film Strips, Sound Recordings, and Printed Sheets (Int. Cl. 9).
First use Aug. 1, 1966.

SN 305,664. McGraw-Hill, Inc., New York, N.Y. Filed Aug. 21, 1968.

AROUND THE WORLD

For Series of Books for Juveniles (Int. Cl. 16).
First use May 15, 1968.

SN 306,795. McGraw-Hill, Inc., New York, N.Y. Filed Sept. 6, 1968.

CONSTRUCTION WEEK

For Weekly Newsletter and a Section of a Weekly Magazine (Int. Cl. 16).
First use 1950.

SN 312,724. The Research Institute of America, Inc., New York, N.Y. Filed Nov. 21, 1968.

LIVING CASE HISTORY

No claim is made to the words "Case History" apart from the mark as shown.
For Series of Booklets for Use in Personnel Training (Int. Cl. 16).
First use June 12, 1967.

SN 314,409. W. M. Cline Company, Chattanooga, Tenn. Filed Dec. 13, 1968.

COLOR KING

Applicant disclaims the terminology "Color" apart from the mark as shown. Owner of Reg. No. 591,639.
For Picture Postcards, Including Lithographed Prints of Color Photographs and Photographic Prints (Int. Cl. 16).
First use in 1955.

SN 314,410. W. M. Cline Company, Chattanooga, Tenn. Filed Dec. 13, 1968.

COLOR KING

Applicant disclaims the terminology "Color" apart from the mark as shown. Owner of Reg. No. 591,639.
For Photographic Prints in Color, and Color Lithographs, i.e., Enlarged Color Prints of Photographs (Int. Cl. 16).
First use in 1958.

SN 314,696. Blue Cross Association, Chicago, Ill. Filed Dec. 17, 1968.

SOURCES

For Magazine Directed to Review of Health Issues in Largely Socio-Economic Terms (Int. Cl. 16).
First use Dec. 11, 1968.

SN 314,894. Lippincott & Margulies, Inc., New York, N.Y. Filed Dec. 19, 1968.

SENSE

For Report Published From Time to Time (Int. Cl. 16).
First use Nov. 27, 1968.

SN 319,670. H. S. Crocker Co., Inc., d.b.a. California Artists, San Bruno, Calif. Filed Feb. 20, 1969.

Christmas Frolics

Owner of Reg. Nos. 661,066, 854,207, and others.
For Christmas Cards (Int. Cl. 16).
First use January 1969.

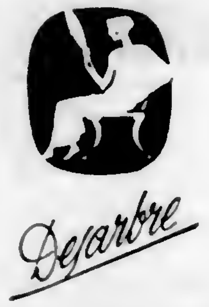
Class 39 — Clothing

SN 232,124. Gem Sleepwear Co., New York, N.Y. Filed Nov. 4, 1965.

ALL PURPOSE "TOOTSIE"

For Sleepwear—Namely, Pajamas, Sleeping Gowns, Baby-Doll Sleep Sets, Kimonas, Robes, and Dusters (Int. Cl. 25).
First use Mar. 30, 1963.

SN 282,405. Societe des Etablissements Desarbre S.A.R.L., Roanne, Loire, France. Filed Oct. 12, 1967.



For Articles of Clothing—Namely, Overcoats, Ladies' Suits, Suits, Jackets, Dresses, Skirts, Pull-Overs, Cardigans, Waistcoats, Trousers and Slacks (Int. Cl. 25).
First use 1948; in commerce 1954.

SN 283,811. National Shoes, Inc., Bronx, N.Y. Filed Oct. 31, 1967.

miss DiOrsini

Owner of Reg. No. 631,373.
For Children's and Misses' Shoes (Int. Cl. 25).
First use Aug. 4, 1966.

SN 290,236. American Stretch Corporation, El Paso, Tex. Filed Feb. 5, 1968.

BOBBI FASHIONS

The word "Fashions" is disclaimed apart from the mark as a whole.
For Ladies' Blouses (Int. Cl. 25).
First use Mar. 27, 1967.

SN 292,427. Horace Small Manufacturing Company, Nashville, Tenn. Filed Mar. 4, 1968.

PRES-TU-LAST

For Uniform Jackets and Uniform Trousers (Int. Cl. 25).
First use Feb. 1, 1968.

SN 293,061. Robert H. Thompson, d.b.a. The House of Thompson, Wewoka, Okla. Filed Mar. 12, 1968.

SUPPORTARE

For Brassieres (Int. Cl. 25).
First use Jan. 20, 1968.

SN 293,297. Pichon Freres, Saint-Etienne (Loire), France. Filed Mar. 14, 1968.

SUPPORTFLEX

For Ladies' Girdles and Corsets (Int. Cl. 25).
First use 1954; in commerce July 1967.

SN 294,045. Hanes Corporation, Winston-Salem, N.C. Filed Mar. 25, 1968.

BREEZE BREAKER

Owner of Reg. No. 755,567.
For Outerwear—Namely, Sport Shirts (Int. Cl. 25).
First use July 16, 1965.

SN 295,112. J. D. Carrier Shoe Co. Limited, Toronto, Ontario, Canada. Filed Apr. 8, 1968.

CARRIBOOTS

Owner of Canadian Reg. No. 148,499, dated Dec. 9, 1966.
For Footwear—Namely, Boots and Shoes (Int. Cl. 25).

SN 295,377. Sears, Roebuck and Co., Chicago, Ill. Filed Apr. 10, 1968.

ITASCA MOC

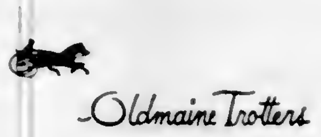
Applicant disclaims the term "Moc" apart from the mark as shown, without waiver of common law rights.
For Men's Shoes (Int. Cl. 25).
First use on or about Dec. 13, 1967.

SN 295,378. Sears, Roebuck and Co., Chicago, Ill. Filed Apr. 10, 1968.

PIMA CHARM

The word "Pima" is disclaimed apart from the mark as shown, without waiver of applicant's common law rights.
For Women's Apparel for Home Lounging—Namely, Casual Dresses, Pant-Dresses, Culottes, Long Dressy Gowns Worn at Home, and Robes (Int. Cl. 25).
First use on or about Nov. 30, 1967.

SN 295,699. Old Town Shoe Company, Boston, Mass. Filed Apr. 16, 1968.



Owner of Reg. No. 593,923.
For Shoes and Belts (Int. Cl. 25).
First use 1955.

SN 296,593. Sun Valley Manufacturing Co., Boston, Mass. Filed Apr. 25, 1968.

POLYDAUM

For Insulating Interlining, Sold as Part of Ski Jackets (Int. Cl. 25).
First use July 1962.

SN 300,944. Leath, McCarthy & Maynard, Inc., Burlington, N.C. Filed June 20, 1968.

Sketch-Mates

Owner of Reg. No. 806,408.
For Hosiery, Panty Hose, and Sweaters (Int. Cl. 25).
First use June 3, 1968.

SN 301,335. The Fibre-Metal Products Company, Chester, Pa. Filed June 25, 1968.

TUF-LEX

For Safety Hats and Caps (Int. Cl. 9).
First use May 15, 1968.

SN 301,508. Randall W. Bartz, Rochester, Minn. Filed June 27, 1968.

SUPER VISOR

For Caps (Int. Cl. 25).
First use June 6, 1968.

SN 305,262. Vetmentos AG, Zurich, Switzerland. Filed Aug. 15, 1968.

Vetmo-Term

Owner of Swiss Reg. No. 229,887, dated Feb. 7, 1968.
For Sports and Work Apparel, Especially, Work Jackets, Work Pants, Weather Protective Jackets, Work Vests, and Coats (Int. Cl. 25).

SN 305,390. C. W. Anderson Hosiery Company, Clinton, S.C. Filed Aug. 19, 1968.

DREAM FIT

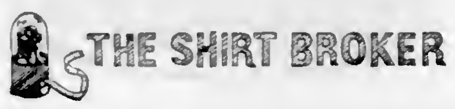
No exclusive claim is made to the word "Fit" apart from the mark as shown.
For Hosiery (Int. Cl. 25).
First use Mar. 22, 1968.

SN 305,908. I. Appel & Co., Inc., New York, N.Y. Filed Aug. 26, 1968.

I·Appel

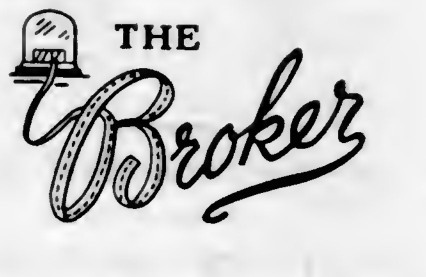
For Ladies' Pajamas, Bedjackets, Bath and Beach Robes, Lounging Robes, and Housecoats (Int. Cl. 25).
First use at least 1937.

SN 308,456. Alan H. Berg, d.b.a. The Shirt Broker, Denver, Colo. Filed Sept. 30, 1968.



The drawing is lined for the color brown.
For Shirts, Neckties, and Handkerchiefs (Int. Cl. 25).
First use Apr. 3, 1968.
Subj. to Intf. with SN 308,886.

SN 308,886. Genesco Inc., Nashville, Tenn. Filed Oct. 4, 1968.



For Suits, Top Coats, Overcoats, Slacks, Sport Coats, and Jackets for Men, Boys and Youths (Int. Cl. 25).
First use Aug. 1, 1960.
Subj. to Intf. with SN 308,456.

SN 311,072. Sox Unlimited, Inc., New York, N.Y. Filed Oct. 31, 1968.

BROOKDALE

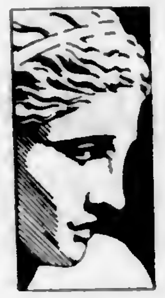
For Hosiery (Int. Cl. 25).
First use before 1925.

SN 311,327. Clark Shoe Company, Inc., Boston, Mass. Filed Nov. 5, 1968.

Fiancée

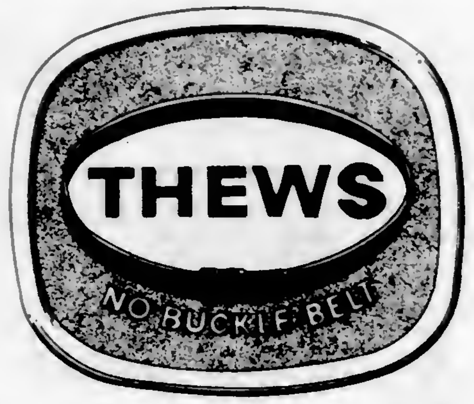
Owner of Reg. No. 690,972.
For Women's Hosiery and Lingerie (Int. Cl. 25).
First use at least as early as Nov. 1, 1938.

SN 311,479. Giancarlo Ltd., New York, N.Y. Filed Nov. 6, 1968.



The lines appearing on the drawing are merely intended for the purpose of shading. The pictorial representation on the drawing is fanciful and does not consist of the representation of any living individual.
For Ladies' Dresses, Suits, and Coats (Int. Cl. 25).
First use Aug. 23, 1968.

SN 311,951. Thews Belts Ltd., Inc., Dallas, Tex. Filed Nov. 12, 1968.



The expression "No Buckle Belt" and the pictorial representation of the belt are disclaimed except in association with the mark as shown.
For Belts (Int. Cl. 25).
First use June 10, 1968.

SN 313,963. Ni-Nel Garments, Inc., New York, N.Y. Filed Dec. 9, 1968.

NI-NEL BY MR. BAZAAR

For Ladies' Coats, Suits, Pants, and Dresses (Int. Cl. 25).
First use Nov. 25, 1968; at least as early as 1948 as to "Ni-Nel."

SN 314,050. Burlington Industries, Inc., New York, N.Y. Filed Dec. 10, 1968.

L.T.L.

For Women's Hosiery and Panty Hose (Int. Cl. 25).
First use Dec. 2, 1968.

SN 314,366. Sportline Associates, Inc., New York, N.Y. Filed Dec. 12, 1968.

PANTALOONY

For Sportswear for Ladies and Children—Namely, Slacks, and Coordinate Sets Consisting of Slacks and a Matching Blouse (Int. Cl. 25).
First use Oct. 3, 1968.

SN 314,667. Palmroth Shoemanufacturers, Tampere, Finland. Filed Oct. 28, 1968.

PARTOLA

For Footwear (Int. Cl. 25).
First use 1963; in commerce 1963.

SN 315,158. Krugman-Holmes Corp., Chicago, Ill. Filed Dec. 24, 1968.

WALTER HOLMES

"Walter Holmes" is the president of applicant corporation.
For Ladies' Wearing Apparel—Namely, Dresses, Pants Suits, Dress Coats, Blouse and Slack Sets, and Shell and Slack Sets (Int. Cl. 25).
First use on or about Feb. 15, 1968.

SN 315,327. Neiman-Marcus Company, Dallas, Tex. Filed Dec. 27, 1968.

PERTOOSH

For Cashmere and Silk Fabric Made Into Robes and Scarfs (Int. Cl. 25).
First use Oct. 30, 1968.

SN 315,667. Paintset Fashions, Inc., New York, N.Y. Filed Dec. 30, 1968.

PUGGS

For Women's and Misses' Dresses, Blouses, Skirts, Slacks, and Dusters (Int. Cl. 25).
First use Mar. 30, 1967.

SN 315,908. The B. F. Goodrich Company, Akron, Ohio. Filed Jan. 6, 1969.

BOOTINOS

For Women's Boots and Shoes (Int. Cl. 25).
First use Jan. 2, 1963.

SN 316,046. Carlton Shirt Co., Inc., New York, N.Y. Filed Jan. 8, 1969.

PAUL JARDIN

The name "Paul Jardin" is fanciful and is not the name of a known living individual.
For Men's and Boys' Shirts (Int. Cl. 25).
First use Oct. 1, 1967.

SN 317,762. Royal London, Ltd., New York, N.Y. Filed Jan. 28, 1969.

EVERY-BODY

For Belts (Int. Cl. 25).
First use Nov. 1, 1968.

SN 317,773. Tam O'Shanter Inc., Manchester, N.H. Filed Jan. 28, 1969.

TAM O'SHANTER

Owner of Reg. No. 442,940.
For Men's, Women's, Infants', Toddlers', Boys', and Girls' Knitted and Woven Outerwear—Namely, Polo Shirts, Blouses, Cardigans, Sweat Shirts, Sweaters, Pajamas, Socks, Slacks, Shorts, Skirts, Vests, Jumpers, Dresses, Overalls, Jackets, Swim Trunks and Swim Suits (Int. Cl. 25).
First use Feb. 24, 1947.

SN 317,844. Imex Corporation, Houston, Tex. Filed Jan. 29, 1969.

DON QUIXOTE

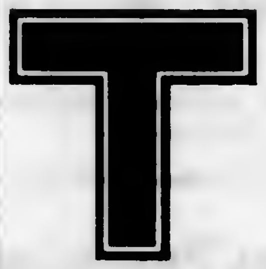
For Men's Shirts (Int. Cl. 25).
First use Jan. 14, 1969.

SN 318,300. Jack Gasnick, New York, N.Y. Filed Feb. 4, 1969.

CHASTI-KEY

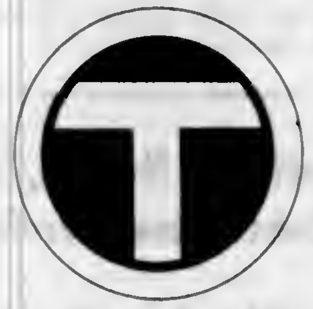
For Dress Belts (Int. Cl. 25).
First use May 28, 1964.

SN 318,342. Thomson Company, Thomson, Ga. Filed Feb. 4, 1969.



Owner of Reg. Nos. 626,251, 824,009, and others.
For Women's Clothing—Namely, Pants, Culottes, Shorts, Skirts, Jackets, Tunics, Shirts, Pant Tops, Blouses, and Sweaters (Int. Cl. 25).
First use Sept. 16, 1968.

SN 318,343. Thomson Company, Thomson, Ga. Filed Feb. 4, 1969.



Owner of Reg. Nos. 626,251, 824,009, and others.
For Women's Clothing—Namely, Pants, Culottes, Shorts, Skirts, Jackets, Tunics, Shirts, Pant Tops, Blouses, and Sweaters (Int. Cl. 25).
First use Sept. 16, 1968.

SN 318,435. Manny Krosney, Incorporated, New York, N.Y. Filed Feb. 5, 1969.

Jr. EDITIONS

For Men's and Boys' Pants, Slacks, and Trousers (Int. Cl. 25).
First use Oct. 1, 1964.

SN 318,453. Norwich Mills Inc., Norwich, N.Y. Filed Feb. 5, 1969.

BRING US TOGETHER

For T-Shirts and Polo Shirts (Int. Cl. 25).
First use Dec. 18, 1968.

SN 318,605. Freez-No-Mor, Incorporated, Menasha, Wis. Filed Feb. 7, 1969.

FREEZ-NO-MOR

For Stockings (Int. Cl. 25).
First use Dec. 10, 1968.

SN 318,660. L. E. Massey Shoes, Incorporated, Washington, D.C. Filed Feb. 7, 1969.

LaZARA

For Shoes (Int. Cl. 25).
First use March 1957.

SN 318,677. Racing Turtle, New York, N.Y. Filed Feb. 7, 1969.

RACING TURTLE

For Women's and Teens' Dresses, Dorm Shirts, Robes, Jackets, Shifts, Jumpers, and Shirts (Int. Cl. 25).
First use Dec. 20, 1968.

SN 318,706. Genesco Inc., Nashville, Tenn. Filed Feb. 10, 1969.

RIVIERA

For Women's Shoes (Int. Cl. 25).
First use May 15, 1968.

SN 318,707. Genesco Inc., Nashville, Tenn. Filed Feb. 10, 1969.

SET-UPS

For Girdles and Brassieres (Int. Cl. 25).
First use Dec. 11, 1968.

SN 318,933. Isaacson-Carrico Manufacturing Company, El Campo, Tex. Filed Feb. 12, 1969.

I-C

For Little Girls' Panties, Slips, and Sleepwear (Int. Cl. 25).
First use at least as early as Feb. 10, 1969.

SN 319,117. Gregg Draddy, Inc., New York, N.Y. Filed Feb. 14, 1969.

CHIPPER

For Dresses (Int. Cl. 25).
First use Dec. 17, 1965.

SN 319,416. The Lovable Company, Atlanta, Ga. Filed Feb. 8, 1969.

LOVE POEMS

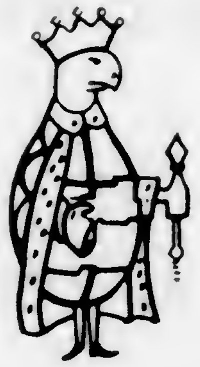
For Women's Foundation Garments (Int. Cl. 25).
First use Jan. 21, 1969.

SN 319,530. California Swimwear Co., Los Angeles, Calif. Filed Feb. 19, 1969.

TURTLE KING

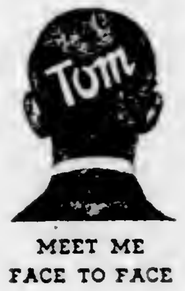
For Men's, Women's, and Children's Knit and Woven Clothing, More Especially, Shirts, Jackets, Swim Wear Consisting of Swim Suits, Trunks and Tops, Jeans, Slacks, Pants, Walk Shorts, and Sweaters (Int. Cl. 25).
First use Apr. 15, 1968.

SN 319,531. California Swimwear Co., Los Angeles, Calif. Filed Feb. 19, 1969.



For Men's, Women's, and Children's Knit and Woven Clothing, More Especially, Shirts, Jackets, Swim Wear Consisting of Swim Suits, Trunks and Tops, Jeans, Slacks, Pants, Walk Shorts, and Sweaters (Int. Cl. 25).
First use Apr. 15, 1968.

SN 319,676. Tom Murray Company, Chicago, Ill. Filed Feb. 20, 1969.



For Uniforms; Suits, Including Pants, Jackets, and Vests and Parts Thereof; Judicial Robes, Pants, Jackets, Coats, Caps, Hats, and Dresses (Int. Cl. 25).
First use 1900.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 310,860. Carousel Products Inc., Brooklyn, N.Y. Filed Oct. 30, 1968.

LE SUORAC

For Women's Hair Pieces (Int. Cl. 26).
First use Jan. 1, 1968.

SN 312,050. Leeding Sales Co. Inc., New York, N.Y. Filed Nov. 13, 1968.

PIN-UP

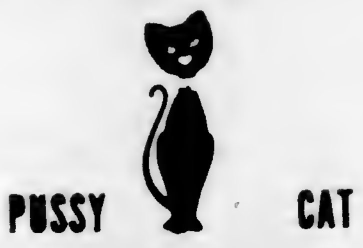
For Straight Pins, Safety Pins, Snaps, Aluminum Skirt Clips, Dress Clips, Tie-Back Clips, Hooks and Eyes, and Garment Clips (Int. Cl. 26).
First use in or about June 1958.

SN 313,270. Courier Products, Inc., New York, N.Y. Filed Nov. 29, 1968.

WILD AND WOOLY

For Men's Mustaches, and Beards (Int. Cl. 26).
First use Nov. 13, 1968.

SN 314,583. Master Trading Corporation, New York, N.Y. Filed Dec. 16, 1968.



For Wigs, Wiglets, and Other Hairpieces (Int. Cl. 26).
First use Nov. 15, 1968.

Class 41 — Canes, Parasols, and Umbrellas

SN 313,709. Kortenbach & Rauh Kommanditgesellschaft, Solingen-Weyer, Germany. Filed Dec. 5, 1968.

MINIMATIC

Owner of German Reg. No. 844,360, dated Apr. 22, 1968.
For Umbrellas, Umbrella Covers, Umbrella Frames, and Parts Thereof (Int. Cl. 18).

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 287,900. The Dehner Co.-St. Louis, St. Louis, Mo. Filed Jan. 2, 1968.

INSTALEZE

For Carpet Cushion Characterized by a Top Surface Finish Applied Thereto and Sold as a Part Thereof (Int. Cl. 24).
First use July 20, 1967.

SN 292,713. Robertson Carpet Corp., New York, N.Y. Filed Mar. 7, 1968.

COMFORTCORE

For Rubber or Plastic Backing Material, Sold as a Part of Applicant's Upholstery Fabrics and Carpeting (Int. Cls. 24 and 27).
First use Oct. 23, 1967.

SN 302,733. Fieldcrest Mills, Inc., Eden, N.C. Filed July 15, 1968.

CHEVALURE

Owner of Reg. No. 377,856.
For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 27, 1968.

SN 303,277. Chrisali Fabrics, Inc., Los Angeles, Calif. Filed July 22, 1968.

CHRISALI

For Textile Fabrics of Cotton, Wool, Silk, Synthetic Fibres, Velvets and Velveteens (Int. Cl. 24).
First use Sept. 30, 1960.

SN 304,047. Ascot Textile Corp., New York, N.Y. Filed Aug. 1, 1968.

TRITESSA

For Textile Fabric in the Piece From Which Garment Linings and Interlinings Are Made (Int. Cl. 24).
First use July 25, 1968.

SN 304,694. John M. Linnet, Shamokin, Pa. Filed Aug. 8, 1968.

KOLKA DOT

The word "Dot" is disclaimed apart from the mark shown.
For Fabric for Making Dresses, Gowns, Slip Covers, and the Like (Int. Cl. 24).
First use Jan. 7, 1965.

SN 305,496. Sequoyah Industries, Inc., Anadarko, Okla. Filed Aug. 19, 1968.

SEQUOYAH

For Synthetic Tufted Carpeting (Int. Cl. 27).
First use Nov. 6, 1963.

SN 313,792. Standard Oil Company, Flemington, N.J. Filed Dec. 6, 1968.

NUREL-S

The stylized display of the mark is not indicative of color.
For Carpeting Manufactured in Whole or Part of Synthetic Fibers (Int. Cl. 27).
First use Aug. 19, 1968.

SN 314,067. Alex J. Gionet, Wells, Maine. Filed Dec. 10, 1968.

Ursula

For Pillow Cases (Int. Cl. 24).
First use Sept. 14, 1968.

SN 314,181. Cannon Mills Company, Kannapolis, N.C. Filed Dec. 11, 1968.

DURALITE

Owner of Reg. No. 327,674.
For Sheets, Pillowcases, Towels, Wash Cloths, Bedspreads, and Blankets (Int. Cl. 24).
First use Nov. 5, 1968; as early as Feb. 14, 1935, in a different form.

SN 314,698. Burlington Industries, Inc., New York, N.Y. Filed Dec. 17, 1968.

BRIGAMOOR

Owner of Reg. No. 507,209.
For Textile Fabrics in the Piece, Made of Synthetic and Cotton Fibers or Combinations Thereof (Int. Cl. 24).
First use Sept. 12, 1947.

SN 314,829. Taman Enterprises, Inc., Phoenixville, Pa. Filed Dec. 18, 1968.

TAMAN

For Rugs and Carpets (Int. Cl. 27).
First use Nov. 29, 1968.

SN 314,839. West Point-Pepperell, Inc., West Point, Ga. Filed Dec. 18, 1968.

MARTEX

Owner of Reg. Nos. 103,027, 284,760, and others.
For Non-Woven and Woven Fabrics of Natural and Synthetic Fibers and Combinations Thereof, Both Finished and Unfinished; and Sheets, Pillow Cases, Blankets, Towels, Wash Cloths, and Toweling (Int. Cl. 24).
First use 1914.

SN 315,608. The Taylor Maker, Inc., Dalton, Ga. Filed Jan. 2, 1969.

SWANTEX

For Bed Spreads (Int. Cl. 24).
First use June 30, 1968.

SN 316,230. Mohasco Industries, Inc., Amsterdam, N.Y. Filed Jan. 9, 1969.

TALISMAN

For Carpets (Int. Cl. 27).
First use July 29, 1968.

SN 316,328. Mobile Fabrics, Inc., Hawthorne, N.J. Filed Jan. 10, 1969.

THE RAG SHOP

For Fabrics for Wearing Apparel and Home Furnishings (Int. Cl. 24).
First use Dec. 2, 1964.

SN 319,230. Deering Milliken, Inc., New York, N.Y. Filed Feb. 17, 1969.

BLACK MAGIC

Owner of Reg. No. 611,137.
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use Sept. 29, 1953.

Class 43 — Thread and Yarn

SN 313,948. Lion Brand Yarn Company, New York, N.Y. Filed Dec. 9, 1968.

SPORTELLE

For Yarns and Threads (Int. Cl. 23).
First use Jan. 2, 1967.

SN 314,463. Spinnerin Yarn Co., Inc., South Hackensack, N.J. Filed Dec. 13, 1968.

MISTY

For Yarns for Hand Knitting of Synthetic Fibers and Mixtures Thereof (Int. Cl. 23).
First use Sept. 25, 1968.

SN 317,148. Sony Corporation, Shinagawa-ku, Tokyo, Japan. Filed Jan. 21, 1969.

SONY

Owner of U.S. Reg. Nos. 691,940, 824,847, and others.
For Thread (Int. Cl. 23).
First use June 11, 1968; in commerce June 11, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 293,247. Fidelity Electronics, Ltd., Chicago, Ill. Filed Mar. 14, 1968.

FIDELITY

For Hearing Aids, Hearing Aid Accessories, Audiometers, Myoelectric Upper Extremity Prostheses, and Accessories (Int. Cl. 10).
First use on or about Dec. 10, 1960.

SN 293,406. Societe Anonyme des Laboratoires Robert & Carriere, Paris, France. Filed Mar. 15, 1968.

CELOG

Owner of French Reg. No. 707,921, dated Apr. 15, 1966.
For Breathing Masks, and Artificial Respirators, and Apparatus Having the Dual Function of Administering Anesthetics and Giving Automatic Respiratory Assistance (Int. Cl. 10).

SN 301,927. Ann Risch Fowler, Hayward, Calif. Filed July 3, 1968.

TRICHODEMOLIST

For Electro-Surgical Devices for Removing Superfluous Hair (Int. Cl. 10).
First use June 19, 1968.

SN 312,707. Standard Products Corporation, Whitman, Mass. Filed Nov. 20, 1968.

VALMOR

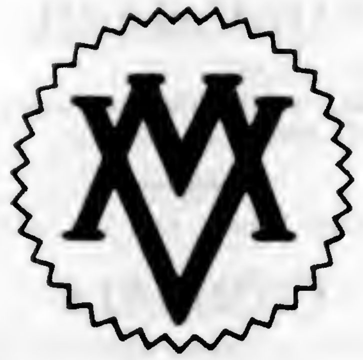
Owner of Reg. No. 795,343.
For Electric Callous Erasers; Electrical Face Patters; Electrical Facial Vapor Diffuser; Electric Hair Curling Iron; and Electrical Hair Curler Set, Comprising Hair Rollers Electrical Heating Element and Thermostat (Int. Cls. 9 and 11).
First use 1964.

SN 314,745. Willy Rüsch, Rommelshausen, Germany. Filed Dec. 17, 1968.

SILKOLATEX

Priority claimed under Sec. 44(d) on German application filed June 21, 1968; Reg. No. 854,004, dated Jan. 24, 1969.
For Catheters, Urinals, Face Masks for Anaesthesia, Rebreathing Bags, Tubings, Penrose Drains, Drains, and Tubes (Int. Cl. 10).

SN 315,978. Vitaminerals, Inc., Glendale, Calif. Filed Jan. 7, 1969.



Owner of Reg. No. 503,389.
For Arthrometer, Diagnostic Hammer, Examination-Light Probe, Hemoglobinometer, Nasal Dilator, Nebulizer, Orthopedic Structural Supports, Over-Door Traction Unit, and Wartenberg Pinwheel (Int. Cl. 10).
First use July 12, 1942.

SN 315,980. Vitaminerals, Inc., Glendale, Calif. Filed Jan. 7, 1969.

VITAMINERALS

Owner of Reg. No. 503,388.
For Arthrometer, Diagnostic Hammer, Examination-Light Probe, Hemoglobinometer, Nasal Dilator, Nebulizer, Orthopedic Structural Supports, Over-Door Traction Unit, and Wartenberg Pinwheel (Int. Cl. 10).
First use July 12, 1942.

SN 316,734. Cook, Inc., Bloomington, Ind. Filed Jan. 16, 1969.

SAFE-T-J

Owner of Reg. No. 858,658.
For Cardiovascular Instruments Such as Cardiovascular Wire Guides (Int. Cl. 10).
First use at least as early as Dec. 12, 1968.

SN 319,269. Beck Industries, Inc., Boulder, Colo. Filed Feb. 17, 1969.

AMBEC

For Extracorporeal Perfusion Units and Pressure Indicators (Int. Cl. 10).
First use Feb. 5, 1968.

SN 319,415. Foremost-McKesson, Inc., d.b.a. American Sun Mark Company, New York, N.Y. Filed Feb. 18, 1969.

PULSAR

For Water Actuated Spraying Device for Use in Cleansing the Teeth and Cleansing and Massaging the Gums (Int. Cl. 10).
First use at least as early as Nov. 26, 1968.

Class 46—Foods and Ingredients of Foods

SN 229,359. John Krauss, Incorporated, Jamaica, N.Y. Filed Oct. 5, 1965.

Look for the big red "K"!

The drawing is lined for the color red.
For Meat Products—Namely, Fresh, Cured and Smoked Hams, Bacon, Bologna, Fresh and Dry Sausage, and Franks (Int. Cl. 29).
First use December 1954.

SN 252,563. Food Guild Corporation, Evanston, Ill. Filed Aug. 17, 1966.

SHAMROCK

For Canned Vegetable Juices, Olives, Pickles, Salad Dressing, Canned Vegetables, and Canned Sea Foods (Int. Cls. 29 and 30).
First use 1951.

SN 270,571. Atlantic Queen Sea Foods Limited, Halifax, Nova Scotia, Canada, assignee of Gully Fish & Food Products Co. Ltd., Shippegan, New Brunswick, Canada. Filed May 3, 1967.

ATLANTIC QUEEN

Priority Claimed under Sec. 44(d) on Canadian application filed Mar. 22, 1967; Reg. No. 158,687, dated Oct. 11, 1968. Applicant disclaims exclusive right to the word "Atlantic" apart from the mark as shown.
For Fresh, Frozen, and Canned Fish Products—Namely, Crab Meat, Mussels, and Shellfish (Int. Cl. 29).

SN 271,459. P. Ferrero & C. S.p.A., Alba, Cuneo, Italy. Filed May 15, 1967.

MON CHÉRI

"Mon Chéri" may be translated from French to English as "my dear." Owner of Italian Reg. No. 173,704, dated Dec. 6, 1965.
For Chocolates With Hazelnut Filling (Int. Cl. 30).

SN 273,752. Arlene L. Ferguson, d.b.a. Voilà Gourmet Foods for Dogs, Greenwich, Conn. Filed June 13, 1967.

VOILÀ

"Voilà" is a French word for "there."
For Foods for Dogs, Cats, and the Like (Int. Cl. 31).
First use May 18, 1967.

SN 274,387. General Mills, Inc., Minneapolis, Minn. Filed June 21, 1967.

Sparkle

Owner of Reg. No. 658,877.
For Non-Dairy Coffee Whitener (Int. Cl. 29).
First use Mar. 9, 1967.

SN 284 228. National Starch and Chemical Corporation, New York, N.Y. Filed Nov. 6, 1967.

BAKA-SNAK

For Dry, Modified Starch for Use in Food Products (Int. Cl. 30).
First use Oct. 12, 1967.

SN 284,629. Mountain Empire Dairymen's Association, Inc., Denver, Colo., by change of name from Denver Milk Producers, Inc., Denver, Colo. Filed Nov. 13, 1967.

GODDESS OF THE ROCKIES

For Dairy Products—Namely, Fluid Milk, Chocolate Milk, Skim Milk, Two-Percent Milk, Cream, Cottage Cheese, and Ice Cream (Int. Cls. 29 and 30).
First use on or about May 19, 1967.

SN 288,939. Coachella Groves, Coachella, Calif. Filed Jan. 16, 1968.

Scheherazade

For Fresh Tangerines (Int. Cl. 31).
First use Nov. 29, 1967.

SN 290,395. Lyckeby Stärkelseförädling Aktiebolag, Lyckeby, Sweden. Filed Feb. 6, 1968.

LYCASIN

Owner of Swedish Reg. No. 121,469, dated Nov. 3, 1967.
For Sugar, Candy, Honey, Treacle, and Sugar Substitutes (Int. Cls. 1 and 30).
First use June 14, 1967; in commerce June 14, 1967.

SN 290,848. Green Giant Company, Le Sueur, Minn. Filed Feb. 12, 1968.

FROM THE VALLEY OF THE JOLLY GREEN GIANT

Owner of Reg. Nos. 561,646, 826,189, and others.
For Canned and Frozen Vegetables and Canned and Frozen Mushrooms (Int. Cl. 29).
First use at least as early as November 1962.

SN 293,595. Sinner A.G., Karlsruhe-Grunwinkel, Germany. Filed Mar. 18, 1968.

SINNER

Owner of German Reg. No. 387,217, dated June 1, 1928.
For Almond Candies; Canned Fruits and Vegetables; Canned Crustaceans; Canned Meat and Fish; Fruit and Spice Extracts; Powdered Eggs; Canned and Powdered Milk; Butter and Cheese; Margarine and Cooking Oils; Flour; Sugar; Vanilla; Honey; Canned Hors d'Oeuvres; Pudding Powder; Corn Powder; Baking Extracts; Jelly Powder; Spices; Soup Cubes; Oatmeal; Coffee; Tea and Coffee and Tea Substitutes; Food-Beverage-Making Syrups; Vinegar and Mustard; Table Salt; Yolk Powder, Dry Cream; Yeast; Dietetic and Nondietetic Pastries and Candies; Cocoa; Chocolate; Malt and Malt Extract; Ice Cream and Forage (Int. Cls. 5, 29, 30, 31, and 32).

SN 295,473. Sunshine Biscuits, Inc., New York, N.Y. Filed Apr. 11, 1968.

FIESTAS

For Corn Chips (Int. Cl. 30).
First use at least as early as 1952.

SN 296,186. Pacific Union Association of Seventh-Day Adventists, d.b.a. Loma Linda Foods, Riverside, Calif. Filed Apr. 22, 1968.

HI-SO-PRO

For Powdered, Non-Alcoholic, High Protein Beverage Base (To Be Mixed With Water), Having as a Principal Ingredient Protein Extract of Soy Beans (Int. Cl. 32).
First use on or about Mar. 15, 1967.

SN 296,187. Pacific Union Association of Seventh-Day Adventists, d.b.a. Loma Linda Foods, Riverside, Calif. Filed Apr. 22, 1968.

MULTIGEN

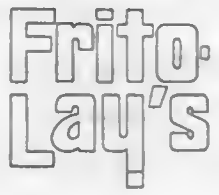
For Powdered, Non-Alcoholic, High Protein Beverage Base (To Be Mixed With Water), Having as a Principal Ingredient Protein Extract of Soy Beans (Int. Cl. 32).
First use on or about Feb. 15, 1967.

SN 296,784. Armour Grocery Products Company, Chicago, Ill. Filed Apr. 29, 1968.

COUNTRY SUPPER

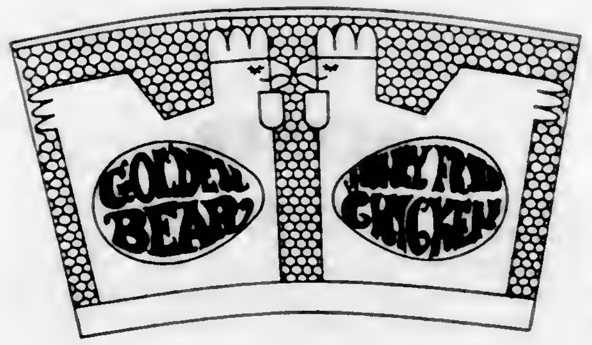
For Canned Prepared Meat Dishes (Int. Cl. 29).
First use on or prior to Aug. 19, 1960.

SN 296,954. Frito-Lay, Inc., Dallas, Tex. Filed Apr. 30, 1968.



Owner of Reg. No. 841,324.
For Potato Chips (Int. Cl. 29).
First use November 1967.

SN 297,008. Golden Bear Pancake House, Inc., Elmwood Park, Ill. Filed May 1, 1968.



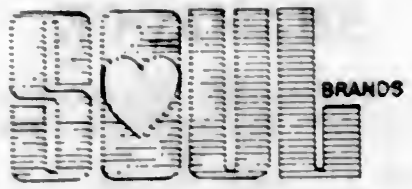
Applicant disclaims the words "Honey," "Fried," and "Chicken" apart from the mark as shown and without waiving its common law rights in these words. Owner of Reg. No. 821,736.
For Prepared and Cooked Chicken (Int. Cl. 29).
First use in or about 1964.

SN 298,337. Kandy-Pak, Inc., Roslindale, Mass. Filed May 16, 1968.

SYCO DI-LICK

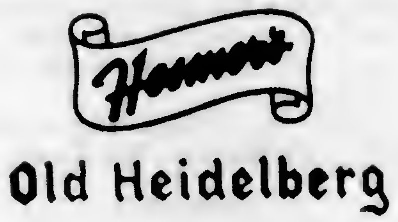
For Candy (Int. Cl. 30).
First use April 1968.

SN 299,059. Soul Brands, Inc., Memphis, Tenn. Filed May 27, 1968.



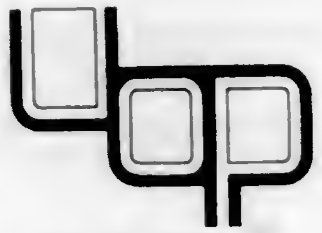
The word "Brands" is disclaimed apart from the mark as shown. The drawing is lined for the colors red and blue.
For Prepared Meat Products (Int. Cl. 29).
First use May 23, 1968.

SN 301,066. Hesmer Foods, Inc., Evansville, Ind. Filed June 21, 1968.



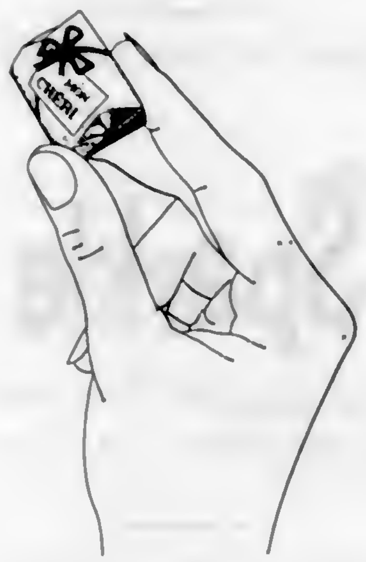
Owner of Reg. Nos. 557,203 and 817,886.
For Potato Salad (Int. Cl. 29).
First use April 1955.

SN 302,994. Universal Oil Products Company, d.b.a. UOP Food Products Division, Des Plaines, Ill. Filed July 17, 1968.



Owner of Reg. No. 845,169.
For Meat Tenderizer (Int. Cl. 1).
First use Apr. 9, 1966.

SN 304,742. P. Ferrero & C. S.p.A., Alba, Italy. Filed Aug. 9, 1968.



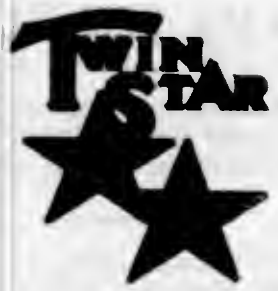
"Mon Chéri" may be translated from French to English as "my dear." The representation of the goods is disclaimed apart from the mark as shown. Owner of Italian Reg. No. 216,608, dated Nov. 3, 1967.
For Chocolates With Hazelnut Filling (Int. Cl. 30).

SN 304,930. Kern County Land Company, San Francisco, Calif. Filed Aug. 12, 1968.

TWIN STAR

For Fresh Potatoes (Int. Cl. 31).
First use June 1959.

SN 304,932. Kern County Land Company, San Francisco, Calif. Filed Aug. 12, 1968.



The drawing is lined for the colors red and blue.
For Fresh Potatoes (Int. Cl. 31).
First use June 1959.

SN 305,757. A. H. Robins Company, Incorporated, Richmond, Va. Filed Aug. 22, 1968.

POSTMAN'S ANKLE

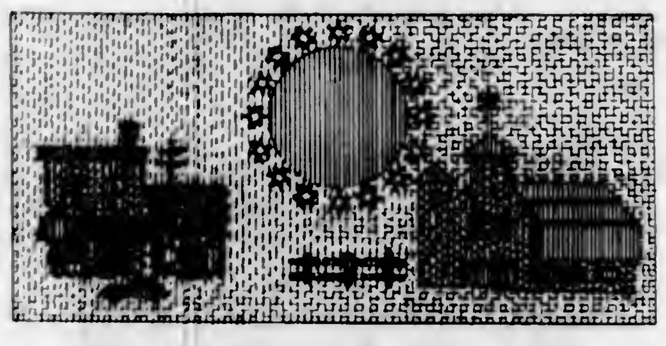
For Dog Foods (Int. Cl. 31).
First use Jan. 2, 1968.

SN 311,063. Rio-Tex Citrus Association, Edinburg, Tex. Filed Oct. 31, 1968.

TROPIC PRIDE

For Fresh Citrus Fruits (Int. Cl. 31).
First use at least as early as Oct. 4, 1968.

SN 311,295. The Page Dairy Company, Toledo, Ohio. Filed Nov. 4, 1968.



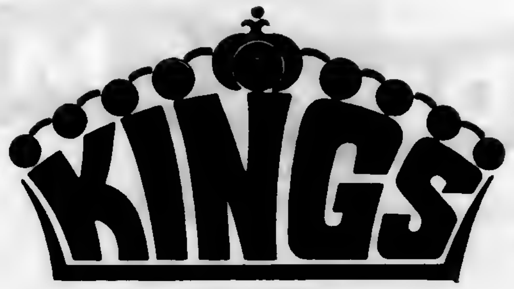
The drawing is lined for the colors yellow and red.
For Fluid Milk (Int. Cl. 29).
First use Nov. 3, 1966.

SN 311,973. Dave Walsh Company, Inc., d.b.a. Dave Walsh Co., Oxnard, Calif. Filed Oct. 17, 1968.

HEAD MAN

For Fresh Vegetables (Int. Cl. 31).
First use Sept. 16, 1968.

SN 312,322. Ore-Ida Foods, Inc., Boise, Idaho. Filed Nov. 15, 1968.



For Frozen Potatoes (Int. Cl. 29).
First use September 1965.

SN 313,051. Yorba Orange Growers Association, Anaheim, Calif. Filed Nov. 25, 1968.

CLEOPATRA

For Fresh Citrus Fruits (Int. Cl. 31).
First use Oct. 16, 1968.

SN 313,115. Kellogg Company, Battle Creek, Mich. Filed Nov. 26, 1968.

TRI-PODS

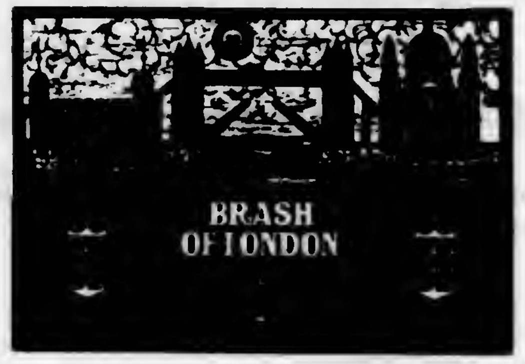
For Cereal-Derived and Vegetable-Derived Food Products To Be Used as Snack Foods, Breakfast Foods, and Confections (Int. Cl. 30).
First use Nov. 23, 1968.

SN 313,123. Kellogg Company, Battle Creek, Mich. Filed Nov. 26, 1968.

TEE-PEES

For Cereal-Derived and Vegetable-Derived Food Product To Be Used as a Snack Food, Breakfast Food, and Confection (Int. Cl. 30).
First use Nov. 23, 1968.

SN 313,489. Brash Brothers (Tea) Limited, London, England. Filed Dec. 3, 1968.



Owner of British Reg. No. 913,649, dated Aug. 23, 1967.
For Tea (Int. Cl. 30).

SN 313,862. De Met's, Inc., d.b.a. Franklin Candy Co., Chicago, Ill. Filed Dec. 9, 1968.

TATTLE TALES

For Candy (Int. Cl. 30).
First use at least as early as 1958.

SN 314,044. The Angostura-Wuppermann Corporation, Elmhurst, N.Y. Filed Dec. 10, 1968.

DRYLEM

For Powdered Lemon Base Mix (Int. Cl. 32).
First use Dec. 1, 1954.

SN 314,744. Martha White Foods, Inc., d.b.a. Hay Market Mills, Nashville, Tenn. Filed Dec. 17, 1968.

HAY MARKET

For Corn Meal, Corn Meal Mix, and Flour (Int. Cl. 30).
First use 1899.

SN 314,766. Perugina S.p.A. Cioccolato & Confetture, Perugia, Italy. Filed Dec. 18, 1968.

GOLDEN CHERRY

Applicant, without abandoning any common law rights, disclaims the exclusive right to the word "Cherry."
For Candy (Int. Cl. 30).
First use Mar. 29, 1968; in commerce Mar. 29, 1968.

Class 47 — Wines

SN 303,187. Mogen David Wine Corporation, Chicago, Ill. Filed July 19, 1968.

MD
20 20

Owner of Reg. No. 643,976.
For Wines (Int. Cl. 33).
First use June 19, 1968.

Class 48 — Malt Beverages and Liquors

SN 317,150. Sony Corporation, Shinagawa-ku, Tokyo, Japan, Filed Jan. 21, 1969.

SONY

Owner of U.S. Reg. Nos. 691,940, 824,847, and others.
For Beer (Int. Cl. 32).
First use June 11, 1968; in commerce June 11, 1968.

Class 49 — Distilled Alcoholic Liquors

SN 293,596. Sinner A.G., Karlsruhe-Grunwinkel, Germany. Filed Mar. 18, 1968.

SINNER

Owner of German Reg. No. 387,217, dated June 1, 1928.
For Alcoholic Beverages—Namely, Brandies (Int. Cl. 33).

SN 314,063. Fresh Springs Blending Limited, London, England. Filed Dec. 10, 1968.

KING ROBERT II

For Whisky (Int. Cl. 33).
First use Feb. 14, 1968; in commerce Aug. 5, 1968.

SN 314,822. Geo. G. Sandeman Sons & Co. Limited, London, England. Filed Dec. 18, 1968.

CAPA NEGRA

"Capa Negra" is Spanish for "black cloak." Owner of British Reg. No. 861,821, dated Mar. 19, 1964.
For Spanish and Portuguese Brandy (Int. Cl. 33).

SN 315,861. United Vintners, Inc., d.b.a. Petri Wineries, San Francisco, Calif. Filed Jan. 6, 1969.

VAI BROS.

Owner of Reg. Nos. 328,928, 528,847, and others.
For Brandy (Int. Cl. 33).
First use Nov. 4, 1933.

SN 316,852. Hiram Walker & Sons (Scotland) Limited, Dunbarton, Scotland. Filed Jan. 16, 1969.

DUMBARTON
CASTLE

For Scotch Whisky (Int. Cl. 33).
First use Mar. 28, 1968.

Class 50 — Merchandise Not Otherwise Classified

SN 292,415. Pallet Devices, Inc., Des Plaines, Ill. Filed Mar. 4, 1968.

EZ'C

The drawing is lined for the color yellow, but the overall color is disclaimed apart from the mark shown. Owner of Reg. No. 812,663.
For Pallets for Material Handling and Storage (Int. Cl. 20).
First use Mar. 31, 1965.

SN 298,827. Illinois Bronze Powder and Paint Co., Lake Zurich, Ill. Filed May 22, 1968.

PROFIT-PAK

For Counter-Top Merchandising Units for Displaying Assortment of Products in Aerosol Spray Containers (Int. Cl. 20).
First use in or about September 1967.

SN 307,508. Alexander Sarantos, Norwalk, Conn. Filed Sept. 16, 1968.

MAGIC EYE

For Signs Showing a Pictorial Representation of the Physical Features of Particular Golf Courses and Individual Holes of Such Golf Courses (Int. Cl. 20).
First use Aug. 12, 1968.

SN 310,543. Craft Master Corporation, Toledo, Ohio. Filed Oct. 25, 1968.

GALLERY SERIES

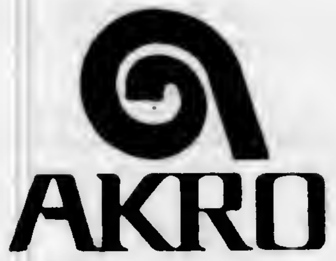
The word "Series" is disclaimed apart from the mark as shown.
For Numbered Painting Sets (Int. Cl. 16).
First use February 1966.

SN 312,510. G. G. Tauber Company, Inc., Washington, D.C. Filed Nov. 18, 1968.

IDENTA-SNAP

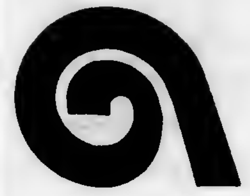
For Identification Badge Holder (Int. Cl. 20).
First use Aug. 14, 1968.

SN 313,247. The Akro Corporation, Canton, Ohio. Filed Nov. 29, 1968.



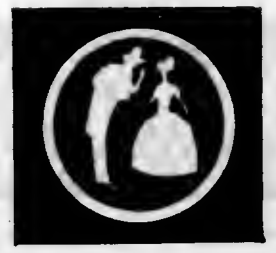
Owner of Reg. Nos. 540,427, 614,269, and 625,409.
For Carpet-To-Rubber Mats and Matting, Rubber Mats, and Rubber Stair Treads (Int. Cls. 19 and 27).
First use at least as early as June 1968.

SN 313,248. The Akro Corporation, Canton, Ohio. Filed Nov. 29, 1968.



Owner of Reg. Nos. 540,427, 614,269, and 625,409.
For Carpet-To-Rubber Mats and Matting, Rubber Mats, and Rubber Stair Treads (Int. Cls. 19 and 27).
First use at least as early as June 1968.

SN 314,889. David Jaffe, d.b.a. Head-To-Toe Products, Scotch Plains, N.J. Filed Jan. 2, 1969.



For Kits Containing the Following Products: Breath Freshener, Sprays and Drops, Hair Dressing, Hair Spray, Shaving Cream, Suntan Lotion, Laundry Detergent, Hair Shampoo, Hand and Face Cosmetic Cream, Personal Deodorant Cream, Toilet Soap, Colognes, Pad Impregnated With Shoe Polish, Pad Impregnated With Spot Removing Preparation, Pads Impregnated With a Personal Deodorant, Pad Impregnated With an Insect Repellent, Pad Impregnated With a Pre-Electric Shave Preparation, Tooth Brush, Dental Floss, Mirror, Styptic Pencil, Safety Razor, Paper Cup, Hair Brush and Comb (Int. Cl. 21).
First use Oct. 30, 1968.

SN 316,111. MetaFrame Corporation, Maywood, N.J. Filed Jan. 8, 1969.

METALITE

For Simulated Slate Aquarium Bottom (Int. Cl. 16).
First use Dec. 16, 1968.

SN 319,685. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Feb. 20, 1969.

THALCO

Owner of Reg. No. 845,074.
For Glass Mats, Surface Mats, and Decorative Mats (Int. Cl. 27).
First use on or about Aug. 21, 1946.

Class 51 — Cosmetics and Toilet Preparations

SN 144,336. Colgate-Palmolive Company, New York, N.Y. Filed May 11, 1962.

CHEW 'N CLEAN

For Dentifrice (Int. Cl. 3).
First use Nov. 30, 1961.

SN 293,684. Avon Products, Inc., New York, N.Y. Filed Mar. 20, 1968.

FLUFFLES

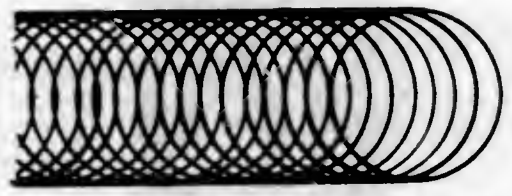
For Dusting Powder, Cream Sachet, Hand Cream, Skin Cream Lotion, Talcum Powder, Cologne, Bubble Bath, and Lip Pomade (Int. Cl. 3).
First use Feb. 28, 1968.

SN 296,990. Gaetano A. Scoma, d.b.a. Scoma's, La Salle, Ill. Filed Apr. 30, 1968.

BLUE STUFF

For purposes of registration only, and without waiving his common law rights, applicant disclaims the word "Blue" apart from the mark as a whole.
For Hair Dressing (Int. Cl. 3).
First use Mar. 22, 1968.

SN 298,102. Block Drug Company, Inc., Jersey City, N.J. Filed May 14, 1968.



This mark consists of a series of overlapping circles cut off at one end. This mark appears on the principal display panels of cartons, tubes and bottles.

For Toiletries—Namely, Toothpaste and Mouthwash, for Sensitive Skin (Int. Cl. 3).

First use on or about Sept. 29, 1960.

SN 302,933. Gayle Lyn Products & Distributing Co., Inc., Minneapolis, Minn. Filed July 17, 1968.

Guy Felix

For Hair Dressing and Conditioner Preparation (Int. Cl. 3).

First use Jan. 8, 1968.

SN 310,005. Synergistic Industries, Inc., San Rafael, Calif. Filed Oct. 18, 1968.

KING TUT

For Men's Cologne and After Shave Lotion (Int. Cl. 3).

First use Aug. 1, 1968.

SN 311,334. Posner Laboratories, Inc., Corona, N.Y. Filed Nov. 5, 1968.

MISS BALSAM

"Balsam" is disclaimed apart from the mark as shown.

For Hair Conditioner (Int. Cl. 3).

First use June 7, 1968.

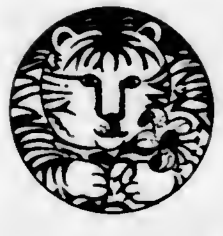
SN 313,228. Dunhill Tailored Clothes, Inc., New York, N.Y. Filed Nov. 29, 1968.

PINSTRIPE

For Cologne for Men (Int. Cl. 3).

First use during 1960.

SN 313,722. Lilly Pulitzer, Inc., Palm Beach, Fla. Filed Dec. 5, 1968.



MENS STUFF

Applicant disclaims the word "Mens" apart from the mark as shown.

For Men's Toiletries—Namely, Cologne and After-Shave Lotion (Int. Cl. 3).

First use on or about June 28, 1968.

Subj. to Intf. with SN 318,493.

SN 318,493. Alberto-Culver Company, Melrose, Park, Ill. Filed Feb. 6, 1969.

GIRL STUFF

Applicant disclaims the word "Girl" apart from the mark as shown.

For Skin Lotions (Int. Cl. 3).

First use July 11, 1968.

Subj. to Intf. with SN 313,722.

SN 319,224. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 17, 1969.

COMPLETE

For Denture Cleansers and Denture Adhesives (Int. Cls. 3 and 5).

First use Dec. 19, 1968.

SN 319,225. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 17, 1969.

COMPLEET

For Denture Cleansers and Denture Adhesives (Int. Cls. 3 and 5).

First use Dec. 19, 1968.

SN 319,667. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 20, 1969.

EASY DAY

For Personal Deodorants (Int. Cl. 5).

First use Oct. 24, 1968.

Class 52 — Detergents and Soaps

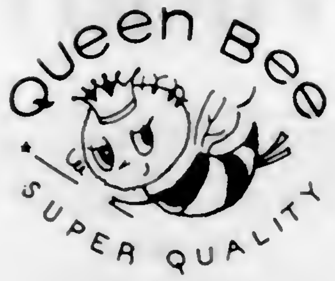
SN 284,199. Henkel & Cie G.m.b.H., Dusseldorf, Germany. Filed Nov. 6, 1967.

DIXAN

Owner of German Reg. No. 110,138, dated Apr. 29, 1908.

For Laundry Detergents (Int. Cl. 3).

SN 294,681. Specialty Items Company, Menlo Park, Calif. Filed Apr. 1, 1968.



Applicant disclaims the words "Super Quality" apart from the mark as a whole.

For Toilet Bowl Cleanser (Int. Cl. 3).

First use October 1961.

SN 304,760. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

CLEAN SILK

Applicant disclaims "Clean" apart from the mark as shown.

For Hair Shampoo (Int. Cl. 3).

First use Apr. 15, 1968.

SN 312,578. Evyan Perfumes, Inc., New York, N.Y. Filed Nov. 19, 1968.

SPLASH

Owner of Reg. Nos. 440,419, 649,864, and others.

For Detergent for Washing Lingerie, Gloves, and Other Fine Fabrics (Int. Cl. 3).

First use on or about Aug. 15, 1968.

SN 312,852. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 22, 1968.

EASE

Owner of Reg. No. 797,599.

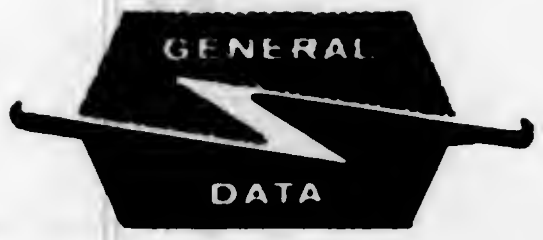
For Household Degreaser (Int. Cl. 3).

First use January 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 271,250. Holiday Inns of America, Inc., Memphis, Tenn. Filed May 11, 1967.



For Designing Tele-Communications Systems for Others (Int. Cl. 42).

First use Oct. 5, 1966.

SN 271,251. Holiday Inns of America, Inc., Memphis, Tenn. Filed May 11, 1967.

GENERAL DATA

For Designing Tele-Communications Systems for Others (Int. Cl. 42).

First use Oct. 5, 1966.

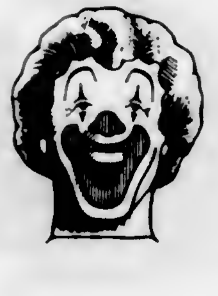
SN 273,598. Buchanan Hearing Aid Co., Inc., Washington, D.C. Filed June 12, 1967.

BUCHANAN

For Fitting, Testing, Maintenance, and Service of Hearing Aids (Int. Cl. 42).

First use October 1953.

SN 279,672. McDonald's Corporation, Chicago, Ill. Filed Sept. 5, 1967.



The drawing is lined for red, but no specific claim is made to color. The figure in the drawing is not intended to identify any particular living individual.

For Drive-In Restaurant Services (Int. Cl. 42).

Filed September 1966.

SN 280,072. Large Families of America, Inc., Fairfield, Conn. Filed Sept. 11, 1967.

LARGE FAMILIES OF AMERICA

For Family Advisory Services and Assistance in the Areas of Public Education and Scholarships, Housing, Recreation, Cooperative Buying, Tax Relief, Community Programs for Families Having Four or More Children, Sociological, Psychological, Economic and Other Research and Programs for Such Essential Family Needs; and the Representation of Such Families in the Areas of Mass Communications, Family Legislation, Education, Medicine, and the Economy (Int. Cl. 42).

First use May 10, 1967.

SN 283,295. Western Geophysical Company of America, Houston, Tex. Filed Oct. 24, 1967.

AQUAPULSE

For Marine Acoustical and Seismic Exploration Services (Int. Cl. 42).

First use May 15, 1967.

SN 285,476. United Public Services, Inc., Granite Falls, Minn. Filed Nov. 22, 1967.

UP SERVICES

United Public Services, Inc.

The word "Services" is disclaimed apart from the mark as shown.

For Investment Counsel Services and Opening of Accounts for Investments (Int. Cl. 42).

First use July 1, 1967.

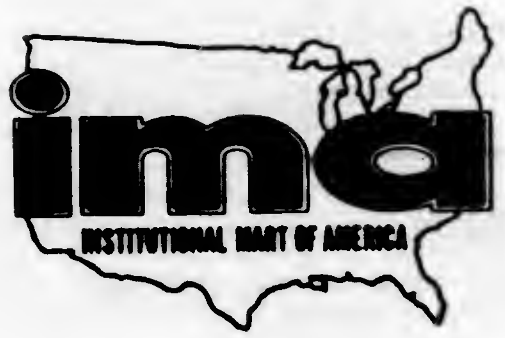
SN 287,067. Institutional Mart of America, Memphis, Tenn. Filed Nov. 16, 1967.

ima

For Advising Institutional Owners and Operators With Respect to Appropriate Types of Safety, Bookkeeping, and Operational Equipment for Motels and Restaurants (Int. Cl. 42).

First use 1961.

SN 287,068. Institutional Mart of America, Memphis, Tenn. Filed Nov. 16, 1967.



No exclusive claim is made to the representation of the map apart from the mark as shown in the drawing.

For Advising Institutional Owners and Operators With Respect to Appropriate Types of Safety, Bookkeeping, and Operational Equipment for Motels and Restaurants (Int. Cl. 42).

First use 1961.

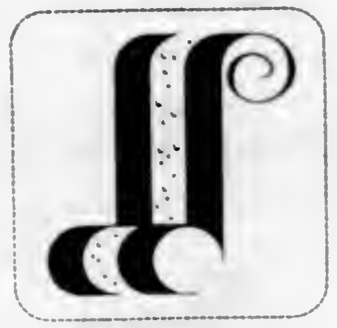
SN 288,204. Faustel, Inc., Butler, Wis. Filed Jan. 5, 1968.

PACKLAM

For Engineering and Technical Services in Connection With Laminating Webs (Int. Cl. 42).

First use Sept. 7, 1967.

SN 292,478. Foam Fashion Forum, Newark, N.J. Filed Mar. 5, 1968.

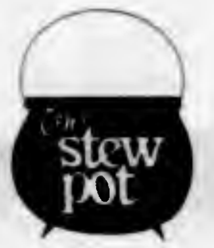


The mark is described as consisting of a fanciful triple "f" design.

For Association Services—Namely, Providing Information to Industry Concerning the Uses and Advantages of Polyurethane foam (Int. Cl. 42).

First use June 5, 1967.

SN 293,863. Stew Pot International, Inc., Dallas, Tex. Filed Mar. 21, 1968.



The word "Stew" is disclaimed apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Oct. 10, 1967.

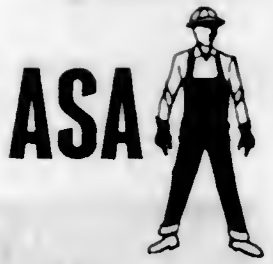
SN 295,636. Garrison Estates, Inc., Garrison, N.Y. Filed Apr. 15, 1968.

BIRD & BOTTLE

For Restaurant Services (Int. Cl. 42).

First use Sept. 20, 1945.

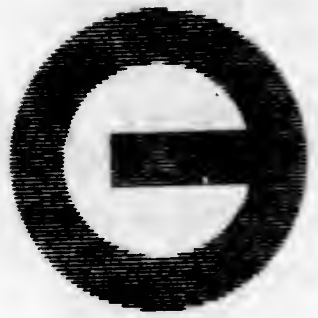
SN 299,420. American Subcontractors Association, Inc., Washington, D.C. Filed May 31, 1968.



For Association Services—Namely, Promoting the Interest of Subcontractors (Int. Cl. 42).

First use July 1, 1966.

SN 306,798. Oceans General, Inc., Wilmington, Del. Filed Sept. 6, 1968.

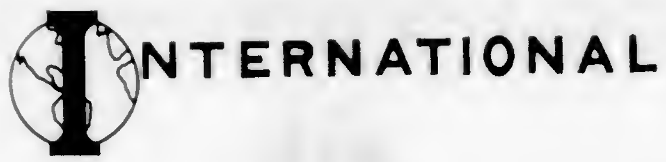


The drawing is lined for the color blue, but color is not claimed as a feature of the mark.

For Research and Development Relating to Commercial Use of Oceans (Int. Cl. 42).

First use on or about Aug. 8, 1968.

SN 308,009. International Funeral Services, Inc., Des Moines, Iowa. Filed Sept. 23, 1968.



For Funeral Services (Int. Cl. 40).

First use Aug. 20, 1968.

SN 309,682. Kansas City Stockyards Company of Maine, Kansas City, Mo. Filed Oct. 15, 1968.

GOLDEN OX

For Restaurant Services (Int. Cl. 42).

First use May 18, 1949.

Subj. to Intf. with SN 317,081.

SN 319,784. Stand 'n Snack of America, Inc., Jacksonville, Fla. Filed Feb. 24, 1969.

AMERICA'S SANDWICH-MASTER

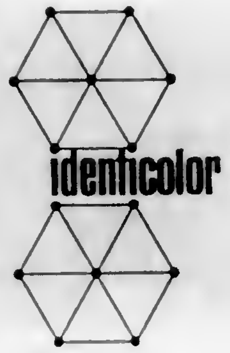
Owner of Reg. No. 809,675.

For Restaurant Services (Int. Cl. 42).

First use July 1, 1968.

Class 101 — Advertising and Business

SN 233,353. Identicolor Inc., New York, N.Y. Filed Nov. 26, 1965.



For Assisting Others in the Performance of Lithographic Art, Color Printing, and Commercial Art Services (Int. Cl. 35).

First use on or about June 15, 1965.

SN 255,942. Daniel Liberman, d.b.a. Zip Printing, Los Angeles, Calif. Filed Oct. 6, 1966.

ZIP PRINTING

Applicant disclaims the word "Printing" when utilized separate and distinct from the mark as shown.

For Printing Services Such as Those Involved in Preparation of Printed Material and Reproductions of Various Printed and Artistic Items (Int. Cl. 35).

First use August 1965.

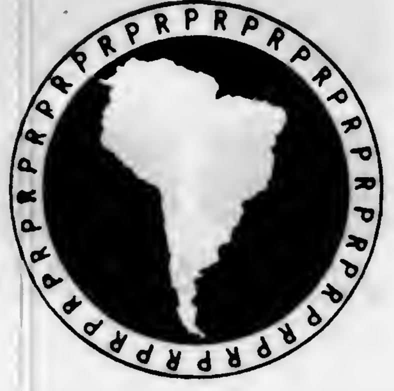
SN 270,000. Personnel Exchange of America, Inc., d.b.a. Glynn-Mullen, Kansas City, Mo. Filed Apr. 25, 1967.

RES-Q

For Supplying Temporary Office Workers, Marketing Surveyors, and Demonstration Personnel to Others (Int. Cl. 35).

First use Sept. 1, 1966.

SN 272,622. Herman Muller, d.b.a. Harry Muller & Associates South America, Buenos Aires, Argentina. Filed May 29, 1967.



The illustration of the map of South America, separate and apart from the rest of the mark, is disclaimed.

For Public Relations and Advertising (Int. Cl. 35).

First use 1959; in commerce 1959.

SN 273,741. Mary Wakefield Buxton, Williamsburg, Va. Filed June 13, 1967.

DIAL TODAY

For Telephone Answering Service for Furnishing Information to Callers Regarding Local Activities (Int. Cl. 35).

First use Mar. 10, 1967.

SN 275,173. Ross-Matthai Corporation, Baltimore, Md. Filed June 30, 1967.

THE TABLE TOP SHOP

For Directing the Arrangement of Displays of Table Items in Retail Department Stores of Others (Int. Cl. 35).

First use Mar. 13, 1967.

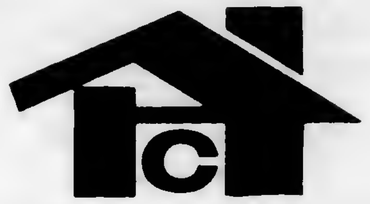
SN 280,119. Wall Industries, Inc., d.b.a. Modern Girl, Cambridge, Mass. Filed Sept. 11, 1967.

MODERN GIRL

For Supplying Part-Time Female Employees to Employers, and Part-Time Positions to Female Employees (Int. Cl. 35).

First use on or about July 1, 1967.

SN 287,397. Affiliated Home Centers, Inc., Bethlehem, Pa. Filed Dec. 22, 1967.



For Management Consulting Services for Lumber Dealers (Int. Cl. 35).

First use Jan. 15, 1967.

SN 287,812. Farm Stores, Incorporated, Miami, Fla. Filed Dec. 29, 1967.

FARM STORES

Applicant disclaims "Stores" apart from the mark as shown.

For Retail Grocer Services (Int. Cl. 35).

First use Aug. 29, 1957.

SN 291,537. Tobacco Village, Inc., Moorestown, N.J. Filed Feb. 20, 1968.

TOBACCO VILLAGE

The word "Tobacco" is disclaimed apart from the mark as shown.

For Retail Tobacco Store Services and Rendering Technical Assistance in the Operation of Tobacco Stores (Int. Cl. 35).

First use May 16, 1966.

SN 294,058. Lancelot Management Company, Portage, Pa. Filed Mar. 25, 1968.

LANCELOT

For Managing Motels and Restaurants for Others (Int. Cl. 35).

First use Dec. 15, 1967.

SN 297,688. Meal Mart, Inc., Homewood, Ill. Filed May 8, 1968.

MEAL MART

Without waiving any common law rights, applicant disclaims the word "Mart" apart from the mark as shown.
For Retail Grocery Services (Int. Cl. 35).
First use Feb. 8, 1967.

SN 299,018. Donald E. Grempler Realty, Inc., Towson, Md. Filed May 24, 1968.

ASK

For Computer Services for Storing, Updating and Retrieving Real Estate Listings, Including the Preparation and Furnishing of Maps, Real Estate Style Books, and the Like for Use by Subscribers in Connection With Such Computer Services (Int. Cl. 35).
First use June 11, 1963.

SN 300,220. ABC International Television, Inc., New York, N.Y. Filed June 12, 1968.

LATINO

For Advertising Services—Namely, Arranging for the Placement of Programs and Commercials With Television and Radio Stations in Central and South America (Int. Cl. 35).
First use Jan. 11, 1968.

SN 300,412. Sun Oil Company, Philadelphia, Pa. Filed June 14, 1968.

SUNNY DOLLARS PLUS

Owner of Reg. Nos. 840,646 and 840,647.
For Issuance and Redemption of Promotional Coupons (Int. Cl. 35).
First use May 8, 1968.

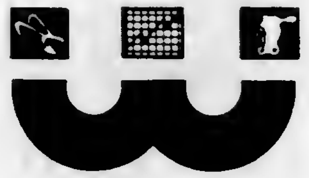
SN 317,927. Auto-Mate, Inc., Hartford, Conn. Filed Jan. 30, 1969.

AUTO-MATE

For Providing Computerized Listing and Correlation of Motor Vehicles Available for Sale and Prospective Customers (Int. Cl. 35).
First use Jan. 6, 1969.

Class 102 — Insurance and Financial

SN 292,311. Waldner & Company, Kansas City, Mo. Filed Mar. 1, 1968.



For Commodity Brokerage Service (Int. Cl. 36).
First use during August 1967.

SN 303,279. Crafts and Trades Agency, Inc., Memphis, Tenn. Filed July 22, 1968.

CRAFTS AND TRADES

For Sickness, Accident, and Life Insurance Services (Int. Cl. 36).
First use at least as early as Aug. 30, 1965.

Class 103 — Construction and Repair

SN 300,471. Memphis Building Maintenance Company, Memphis, Tenn. Filed June 14, 1968.

The drawing is lined for the color red.
For Cleaning and Maintaining of Buildings and Homes (Int. Cl. 37).
First use Feb. 3, 1956.

Class 104 — Communication

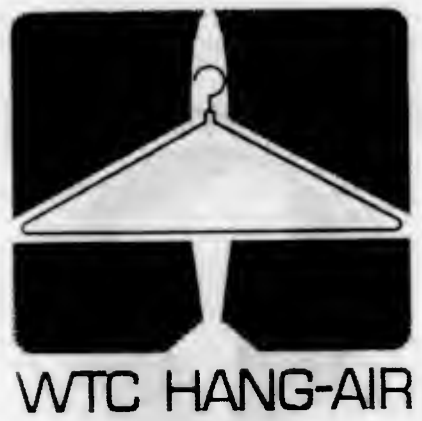
SN 273,080. LTV Ling Altec, Inc., Anaheim, Calif. Filed June 5, 1967.

ACOUSTA-VOICING

For Electronically Voicing and Equalizing Sound Systems (Int. Cl. 38).
Filed Feb. 1, 1967.

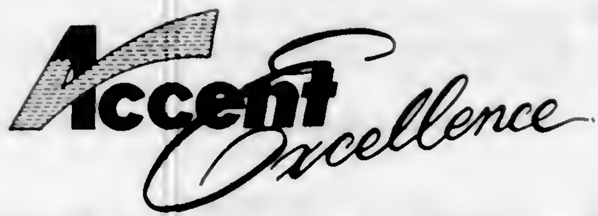
Class 105 — Transportation and Storage

SN 291,795. WTC Air Freight, Los Angeles, Calif. Filed Feb. 23, 1968.



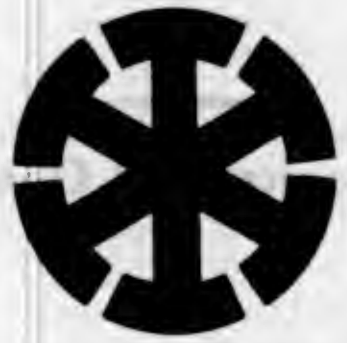
The representation of the hanger is disclaimed apart from the mark as shown. The drawing is lined for red and blue.
For Transportation by Air of Garments or Wearing Apparel on Hangers (Int. Cl. 39).
First use Jan. 2, 1968.

SN 299,577. North American Van Lines, Inc. (Delaware corporation), Fort Wayne, Ind., assignee of North American Van Lines, Inc. (Indiana corporation), Fort Wayne, Ind. Filed June 3, 1968.



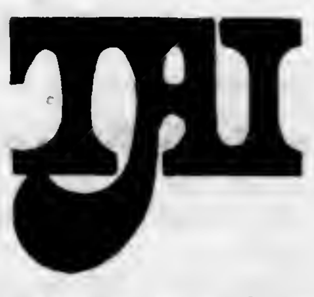
The drawing of the mark is lined for the color gray.
For Transportation Services—Namely, Transportation of Household Goods, Personal Effects, New Furniture, Exhibits and Displays, Plant and Office Equipment, and Packing, Storing and Arranging Shipment of Goods Incidental to Such Transportation (Int. Cl. 39).
First use January 1966.

SN 302,656. Temple Industries, Inc., Diboll, Tex. Filed July 12, 1968.



For Railroad Transportation Services (Int. Cl. 39).
First use January 1964.

SN 315,020. Transportation Associates, Inc., Smithtown, N.Y. Filed Dec. 23, 1968.



For Conducting Travel Tours (Int. Cl. 39).
First use Nov. 1, 1968.

Class 106 — Material Treatment

SN 289 954. American Permac, Inc., Garden City, N.Y. Filed Jan. 31, 1968.

PERMACLAD

For Fabric Finishing Services (Int. Cl. 40).
First use Oct. 2, 1967.

Class 107 — Education and Entertainment

SN 292,486. Charles Bruce Innes, Calgary, Alberta, Canada. Filed Mar. 5, 1968.

THE ORIGINAL CASTE

For Vocal and Instrumental Rendition of Music by a Group of Performers (Int. Cl. 41).
First use Nov. 1, 1967; in commerce Nov. 1, 1967.

SN 295,570. 20th Century Trends Institute, Inc., Darien, Conn. Filed Apr. 12, 1968.

THE SOURCE

For Library Services (Int. Cl. 41).
First use Mar. 15, 1968.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 296,993. Truck Owners and Operators National Association, Inc., Pittsburgh, Pa. Filed Apr. 30, 1968.

TOONA

For Indicating Membership in Applicant.
First use Dec. 19, 1967.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 – Raw or Partly Prepared Materials

871,537. PYROID. Chas. Pfizer & Co., Inc. SN 260,276. Pub. 6–11–68. Filed 12–7–66.

871,538. CF & I STEEL AND DESIGN. CF & I Steel Corporation. MULTIPLE CLASS (Classes 1, 6, 7, 12, 13, 14, and 23). SN 266,824. Pub. 4–8–69. Filed 3–16–67.

871,539. BULGARIA AND DESIGN. Economic Union "Jaiza i Ptizi" (Jaizeimpex). SN 287,156. Pub. 4–8–69. Filed 12–18–67.

871,540. KELTAN AND DESIGN. NV Nederlandse Staatsmijnen. SN 289,112. Pub. 4–8–69. Filed 1–18–68.

871,541. LEXIDE AND DESIGN. Uniroyal, Inc. SN 294,099. Pub. 4–8–69. Filed 3–25–68.

871,542. GREAT LAKES REPRESENTATION OF A BEAR AND DESIGN. Great Lakes Carbon Corporation. SN 295,431. Pub. 4–8–69. Filed 4–11–68.

871,543. ULANO DIRECT. Ulano Products Company, Inc. SN 303,119. Pub. 4–8–69. Filed 7–19–68.

871,544. PLUM LINE AND DESIGN. P. W. Plumly Lumber Corporation. SN 306,073. Pub. 4–8–69. Filed 8–27–68.

871,545. ATCO. American Tar Company. SN 310,047. Pub. 4–8–69. Filed 10–21–68.

871,546. DIAMOND FILM. Diamond Shamrock Corporation. SN 311,776. Pub. 4–8–69. Filed 11–12–68.

871,547. SUPER STUFF. Beaunit Corporation. SN 312,379. Pub. 4–8–69. Filed 11–18–68.

871,548. STYRON. The Dow Chemical Company. SN 313,060. Pub. 4–8–69. Filed 11–26–68.

Class 2 – Receptacles

871,549. MISCELLANEOUS DESIGN. Hansa Plastics Company. SN 230,711. Pub. 4–8–69. Filed 10–20–65.

871,550. ELANCO. Eli Lilly and Company. MULTIPLE CLASS (Classes 2, 6, 10, 18, and 46). SN 277,959. Pub. 4–8–69. Filed 8–10–67.

871,551. K AND M AND DESIGN. K & M Rubber Company. SN 292,276. Pub. 4–8–69. Filed 3–1–68.

Class 3 – Baggage, Animal Equipments, Portfolios, and Pocketbooks

871,552. PLAYBOY. HMH Publishing Co. Inc. MULTIPLE CLASS (Classes 3 and 8). SN 286,817. Pub. 4–8–69. Filed 12–13–67.

871,553. RABBIT HEAD DESIGN. HMH Publishing Co. Inc. MULTIPLE CLASS (Classes 3 and 8). SN 286,818. Pub. 4–8–69. Filed 12–13–67.

871,554. RED STRIPE ETC. AND DESIGN. Brumley-Donaldson Company. SN 295,103. Pub. 4–8–69. Filed 4–8–68.

871,555. BROWN STRIPE ETC. AND DESIGN. Brumley-Donaldson Company. SN 295,104. Pub. 4–8–69. Filed 4–8–68.

871,556. BLUE STRIPE ETC. AND DESIGN. Brumley-Donaldson Company. SN 295,105. Pub. 4–8–69. Filed 4–8–68.

871,557. GOLD STRIPE ETC. AND DESIGN. Brumley-Donaldson Company. SN 295,106. Pub. 4–8–69. Filed 4–8–68.

871,558. BEVERLY BAG AND DESIGN. O'Hagan Limited. SN 296,864. Pub. 4–8–69. Filed 4–29–68.

871,559. PERMA-DEE. Standard Saddle Tree, Inc. SN 308,042. Pub. 4–8–69. Filed 9–23–68.

871,560. KEY-JECTOR. Swank, Inc. SN 308,159. Pub. 4–8–69. Filed 9–24–68.

Class 4 – Abrasives and Polishing Materials

871,561. VINYLEX. The Lexol Corporation. SN 304,802. Pub. 4–8–69. Filed 8–9–68.

Class 5 – Adhesives

871,562. DEEP-SET. United Oil Manufacturing Company. SN 282,015. Pub. 4–8–69. Filed 10–6–67.

871,563. DUFIX. Imperial Chemical Industries Limited. SN 294,197. Pub. 4–8–69. Filed 3–26–68.

871,564. SRD. American Finish & Chemical Company. SN 309,431. Pub. 4–8–69. Filed 10–11–68.

871,565. ATCO. American Tar Company. SN 310,044. Pub. 4–8–69. Filed 10–21–68.

Class 6 – Chemicals and Chemical Compositions

871,538. (See Class 1 for this trademark.)

871,550. (See Class 2 for this trademark.)

871,566. HONE-RITE. Pillsbury Chemicals, Inc. SN 276,580. Pub. 4–8–69. Filed 7–21–67.

871,567. UNITED. Ashland Oil & Refining Company. SN 289,763. Pub. 4–8–69. Filed 1–29–68.

871,568. REPRESENTATION OF A BORDER OF 4-LEAF CLOVERS. Embart Corporation. SN 296,676. Pub. 4–8–69. Filed 4–26–68.

871,569. HONCHO. Monsanto Company. SN 302,022. Pub. 4–8–69. Filed 7–17–68.

871,570. THYNON. Thompson-Hayward Chemical Company. SN 302,988. Pub. 4–8–69. Filed 7–17–68.

871,571. MISCELLANEOUS DESIGN. W. R. Grace & Co. SN 303,306. Pub. 4–8–69. Filed 7–22–68.

871,572. A–100. Monsanto Company. SN 303,695. Pub. 4–8–69. Filed 7–26–68.

871,573. HAYSAVER. International Minerals & Chemical Corporation. SN 304,862. Pub. 4–8–69. Filed 8–12–68.

871,574. WHIFFY. Kenmore Supply Co., Inc. SN 306,032. Pub. 4–8–69. Filed 8–27–68.

871,575. FLUORINERT. Minnesota Mining and Manufacturing Company. SN 309,427. Pub. 4–8–69. Filed 10–11–68.

871,576. ATCO. American Tar Company. SN 310,045. Pub. 4–8–69. Filed 10–21–68.

871,577. PELS. PPG Industries, Inc. SN 313,240. Pub. 4–8–69. Filed 11–29–68.

Class 7 – Cordage

871,538. (See Class 1 for this trademark.)

871,578. COLOR MAGIC. Gibson Greeting Cards, Inc. MULTIPLE CLASS (Classes 7 and 37). SN 284,783. Pub. 4–8–69. Filed 11–14–67.

Class 8 – Smokers' Articles, Not Including Tobacco Products

871,552. (See Class 3 for this trademark.)

871,553. (See Class 3 for this trademark.)

871,579. LARSEN. W. Ø. Larsen & Lichtingers Fabriker A/S. MULTIPLE CLASS (Classes 8 and 17). SN 297,236. Pub. 4–8–69. Filed 5–3–68.

871,580. QUICK SNUFF. Sta-Rite Ginnie Lou, Inc. SN 313,483. Pub. 4–8–69. Filed 12–3–68.

Class 9 – Explosives, Firearms, Equipments, and Projectiles

871,581. COILAN. Monsanto Company. SN 309,605. Pub. 4–8–69. Filed 10–14–68.

Class 10 – Fertilizers

871,550. (See Class 2 for this trademark.)

871,582. AGRI-POLYPHOS. Continental Oil Company. SN 254,255. Pub. 6–6–67. Filed 9–12–66.

Class 11 – Inks and Inking Materials

871,583. SPEEDRY. Magic Marker Corporation. SN 300,658. Pub. 4–8–69. Filed 6–18–68.

Class 12 – Construction Materials

871,538. (See Class 1 for this trademark.)

871,584. SEAL TAB. Crow's Insulation Co. Laminating Division, Inc., assignee of Crow's Insulation Company. SN 205,492. Pub. 1–18–66. Filed 11–4–64.

871,585. KANT SKID! Mister Mechanic, Inc. SN 266,674. Pub. 4–8–69. Filed 3–14–67.

871,586. BONDALL. Allied Compositions Co., Inc. SN 271,329. Pub. 4–8–69. Filed 5–12–67.

871,587. NEV-A-STIK AND DESIGN. William Horner Mill Work Corp., d.b.a. William Horner Corp. SN 273,279. Pub. 4–8–69. Filed 6–7–67.

871,588. DIMENSIONAIRE AND DESIGN. Owens-Corning Fiberglas Corporation. SN 275,956. Pub. 4–8–69. Filed 7–13–67.

871,589. KENTITE PR. Kent Laboratories, Inc. SN 278,973. Pub. 4–8–69. Filed 8–24–67.

871,590. HITCORE. Hitco. SN 279,828. Pub. 4–8–69. Filed 9–7–67.

871,591. LIDO. K-S-H, Inc. SN 293,389. Pub. 4–8–69. Filed 3–15–68.

871,592. BIRFELT. Birma Products Corporation. SN 294,804. Pub. 4–8–69. Filed 4–3–68.

871,593. PANELS PLUS INC. AND DESIGN. Panels Plus, Inc. SN 295,160. Pub. 4–8–69. Filed 4–8–68.

871,594. SLIDEAWAY. Slideaway Enclosures. SN 295,465. Pub. 4–8–69. Filed 4–11–68.

871,595. OPEN-GRIP. Morton Manufacturing Company. SN 296,857. Pub. 4–8–69. Filed 4–29–68.

871,596. ROOFLOAT. Globe Linings, Inc. SN 299,120. Pub. 4–8–69. Filed 5–27–68.

871,597. PANMETAL. Polyplastex United, Inc. SN 303,194. Pub. 4–8–69. Filed 7–19–68.

871,598. PALAWAN. U.S. Plywood-Champion Papers Inc. SN 313,068. Pub. 4–8–69. Filed 11–26–68.

Class 13 – Hardware and Plumbing and Steam-Fitting Supplies

871,538. (See Class 1 for this trademark.)

871,599. 3. Swingline Inc. SN 124,305. Pub. 10–9–62. Filed 7–19–61.

871,600. GALVA-GARD. Ric-Wil, Incorporated. SN 259,965. Pub. 5–28–68. Filed 12–2–66.

871,601. M AND DESIGN. Aktiebolaget Mekanprodukter, Hans Holm. SN 274,164. Pub. 4–8–69. Filed 6–19–67.

871,602. DEZIEL. Deziel Fasteners, Inc. SN 285,000. Pub. 4–8–69. Filed 11–16–67.

871,603. ARC-CO. Arc-Co Incorporated. SN 286,408. Pub. 3–26–68. Filed 12–7–67.

871,604. TAPER-JET. Herman O. Fiedler, d.b.a. Fiedler Equipment Co. SN 287,813. Pub. 4–8–69. Filed 12–29–67.

871,605. VERIFLO. Verifio Corporation. MULTIPLE CLASS (Classes 13, 23, 34, and 44). SN 293,195. Pub. 4–8–69. Filed 3–14–68.

871,606. BOM. Huck Manufacturing Company. SN 296,161. Pub. 4–8–69. Filed 4–22–68.

871,607. ZONE-MASTER. American Tube & Controls Incorporated. SN 296,782. Pub. 4–8–69. Filed 4–29–68.

871,608. RIPPLEFOLD. Kirsch Company. MULTIPLE CLASS (Classes 13 and 40). SN 298,012. Pub. 4–8–69. Filed 5–13–68.

871,609. UNIBOL. John Fortuno, d.b.a. Empire Laminated Plastic Co. SN 300,078. Pub. 4–8–69. Filed 6–10–68.

871,610. BRAVO. Danfoss, Inc. SN 301,207. Pub. 4–8–69. Filed 6–24–68.

871,611. MESCO. Marine Engine Specialties Corp. SN 304,102. Pub. 4–8–69. Filed 8–1–68.

871,612. NKK AND DESIGN. Nippon Kokan Kabushiki Kaisha. SN 304,491. Pub. 4–8–69. Filed 8–6–68.

871,613. RP AND DESIGN. Reed & Prince Manufacturing Co. SN 305,065. Pub. 4–8–69. Filed 8–13–68.

871,614. HY-DROP. Yarway Corporation. SN 308,858. Pub. 4–8–69. Filed 10–4–68.

871,615. TRAIN DESIGN. L. R. Nelson Mfg. Co., Inc. SN 310,244. Pub. 4–8–69. Filed 10–22–68.

871,616. TRI-H-ANGLE. Postmark Corporation. SN 313,241. Pub. 4–8–69. Filed 11–29–68.

871,617. SCRUJAK. Charles R. Nalle, d.b.a. Adjustable Caster Company. SN 313,872. Pub. 4–8–69. Filed 12–9–68.

Class 14 – Metals and Metal Castings and Forgings

871,538. (See Class 1 for this trademark.)

871,618. JETCOAT. National Steel Corporation. SN 272,940. Pub. 4–8–69. Filed 6–2–67.

871,619. PX-ECONO-CLAD. Phoenix Steel Corporation. SN 311,555. Pub. 4–8–69. Filed 11–7–68.

Class 15 – Oils and Greases

871,620. SNAP AND DESIGN. Nationwide Industries, Inc., assignee of Nuresearch and Development Company. SN 286,364. Pub. 4–8–69. Filed 12–6–67.

871,621. DICRONITE. Lubrication Sciences, Inc. SN 296,385. Pub. 4–8–69. Filed 4–24–68.

871,622. CHAIN-LIFE. Fischer-Davila Industries, Inc., d.b.a. Heinrich Fischer & Co. SN 296,681. Pub. 4–8–69. Filed 4–26–68.

871,623. F FELCO AND DESIGN. Farmers Regional Cooperative. SN 305,278. Pub. 4–8–69. Filed 8–16–68.

871,624. PRIORITY OIL. Montrose Oil and Belting Co. Inc., d.b.a. Montrose Supply and Equipment Company. SN 313,379. Pub. 4–8–69. Filed 12–2–68.

Class 16 — Protective and Decorative Coatings

871,625. ICAN. Jasper L. Guin, d.b.a. J. L. Guin & Son. SN 288,616. Pub. 4-8-69. Filed 1-11-68.

871,626. AQUACLAD. Poraflor, Inc. SN 290,190. Pub. 4-8-69. Filed 2-2-68.

871,627. WATERSPAR. PPG Industries, Inc. SN 307,391. Pub. 4-8-69. Filed 9-16-68.

Class 17 — Tobacco Products

871,579. (See Class 8 for this trademark.)

871,628. CHOCLETTA PIPE MIXTURE NO. 88. Lane Limited. SN 294,200. Pub. 4-8-69. Filed 3-26-68.

871,629. HURLEY-BURLEY. Lorillard Corporation. SN 308,794. Pub. 4-8-69. Filed 10-3-68.

Class 18 — Medicines and Pharmaceutical Preparations

871,550. (See Class 2 for this trademark.)

871,630. RAGO. Rachengold-Werk Adolf Speck. SN 226,379. Pub. 6-7-66. Filed 8-24-65.

871,631. PRUNETTES. Glynn A. Beard. SN 265,035. Pub. 7-2-68. Filed 2-20-67.

871,632. MISCELLANEOUS DESIGN. Burns Pharmaceuticals, Inc., by assignment and change of name from Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals. SN 266,969. Pub. 6-4-68. Filed 3-17-67.

871,633. ALO-LIP-SHIELD AND DESIGN. Aloe Creme Laboratories, Inc. SN 272,562. Pub. 9-26-67. Filed 5-29-67.

871,634. SECO-8. Fleming and Company, Pharmaceuticals, d.b.a. Fleming & Co. SN 279,385. Pub. 4-8-69. Filed 8-30-67.

871,635. A-N RECTORETTES. Oak Ridge Pharmaceuticals, Inc. SN 282,609. Pub. 4-8-69. Filed 10-16-67.

871,636. VITORMAINS. Oak Ridge Pharmaceuticals, Inc. SN 282,617. Pub. 4-8-69. Filed 10-16-67.

871,637. VIBRANCY. Brunswig Drug Company. SN 282,819. Pub. 4-8-69. Filed 10-18-67.

871,638. LIQUA-BASE. The O. A. Cooper Co. SN 293,736. Pub. 4-8-69. Filed 3-20-68.

871,639. EQUIZOLE A. Merck & Co. SN 296,549. Pub. 4-8-69. Filed 4-25-68.

871,640. TRANS 4. Loring Research Inc. SN 296,700. Pub. 4-8-69. Filed 4-26-68.

871,641. ATROSPAN. Kip Pharmaceutical Inc. SN 296,835. Pub. 4-8-69. Filed 4-29-68.

871,642. TAVIST. Sandoz, Inc. SN 297,094. Pub. 4-8-69. Filed 5-1-68.

871,643. UNI-VERSOL. Vaughn, Incorporated. SN 297,229. Pub. 4-8-69. Filed 5-2-68.

871,644. ALLERSONE. Mallard, Inc. SN 299,364. Pub. 4-8-69. Filed 5-29-68.

871,645. DECADRONAL. Merck & Co., Inc. SN 300,948. Pub. 4-8-69. Filed 6-20-68.

871,646. PHEDROS. Merck & Co., Inc. SN 300,951. Pub. 4-8-69. Filed 6-20-68.

871,647. DIADOL. Tilden-Yates Laboratories, Inc. SN 301,277. Pub. 4-8-69. Filed 6-24-68.

871,648. SYNTHALOIDS. Tilden-Yates Laboratories, Inc. SN 301,279. Pub. 4-8-69. Filed 6-24-68.

871,649. FILMLOK. E. R. Squibb & Sons, Inc. SN 306,110. Pub. 4-8-69. Filed 8-28-68.

Class 19 — Vehicles

871,650. INSTANT SPACE. Go-Cal, Inc. SN 239,410. Pub. 6-13-67. Filed 2-23-66.

871,651. SNO JET AND DESIGN. Sno Jet Inc. SN 280,473. Pub. 12-3-68. Filed 9-15-67.

871,652. SEAGOING AND DESIGN. Bangor Punta Operations, Inc., assignee of Seagoing Boats, Inc. SN 294,862. Pub. 4-8-69. Filed 4-3-68.

871,653. ICEFISH. Wind Dynamics, Inc. SN 299,609. Pub. 4-8-69. Filed 6-3-68.

871,654. AIRGLAS. Airglas Engineering Co., Inc. SN 308,261. Pub. 4-8-69. Filed 9-26-68.

871,655. GALAXY. Galaxy Boat Manufacturing Company, Inc. SN 308,691. Pub. 4-8-69. Filed 10-2-68.

871,656. STOPMASTER WITH STOP SIGN AND KEY DESIGN. Rockwell-Standard Company. SN 310,359. Pub. 2-11-69. Filed 10-23-68.

871,657. SNOW FLAKE. Sports Distributors, Inc. SN 313,352. Pub. 4-8-69. Filed 11-29-68.

Class 20 — Linoleum and Oiled Cloth

871,658. TYTRON. Monsanto Company. SN 299,472. Pub. 4-8-69. Filed 5-31-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

871,659. ACI. American Components Incorporated. SN 220,817. Pub. 11-23-65. Filed 6-10-65.

871,660. ACI ELECTRONIC COMPONENTS AND DESIGN. American Components Incorporated. SN 220,819. Pub. 11-23-65. Filed 6-10-65.

871,661. ACI. American Components Incorporated. SN 220,820. Pub. 11-23-65. Filed 6-10-65.

871,662. ARC-CO AND DESIGN. Arc-Co Incorporated. SN 259,214. Pub. 11-21-67. Filed 11-22-66.

871,663. 3 BELLS (DESIGN). Bell Industries, Inc. SN 279,165. Pub. 4-8-69. Filed 8-28-67.

871,664. TC AND DESIGN. Whitehall Electronics Corporation. SN 280,499. Pub. 4-8-69. Filed 9-15-67.

871,665. ROBROY. Robroy Industries, Inc. SN 287,955. Pub. 4-8-69. Filed 1-2-68.

871,666. DIP STICK. Gould-National Batteries, Inc. SN 290,167. Pub. 4-8-69. Filed 2-2-68.

871,667. PLUSKOTA AND DESIGN. Pluskota Electric Co. SN 291,422. Pub. 4-8-69. Filed 2-19-68.

871,668. LWE. L. W. Erath Company. SN 293,368. Pub. 4-8-69. Filed 3-15-68.

871,669. SECURETRON. Electro-Systems Corp. SN 295,428. Pub. 4-8-69. Filed 4-11-68.

871,670. POWERHORN. Tandy Corporation, d.b.a. Radio Shack. SN 296,595. Pub. 4-8-69. Filed 4-25-68.

871,671. PLUG 'N TALK. Tandy Corporation, d.b.a. Radio Shack. SN 296,599. Pub. 4-8-69. Filed 4-25-68.

871,672. TURCO AND DESIGN. Purex Corporation, Ltd., d.b.a. Turco Products, Inc. MULTIPLE CLASS (Classes 21 and 23). SN 296,618. Pub. 4-8-69. Filed 4-26-68.

871,673. FEMINIQUE. Fieldcrest Mills, Inc. SN 299,118. Pub. 4-8-69. Filed 5-27-68.

871,674. THORTEC. The Ohio Brass Company. SN 300,367. Pub. 4-8-69. Filed 6-13-68.

871,675. FLITEWAY. Multitech Engineering Corporation. SN 300,409. Pub. 4-8-69. Filed 6-14-68.

871,676. 125. Fisher Radio Corporation. SN 302,735. Pub. 4-8-69. Filed 7-15-68.

871,677. MODULARM. Pittway Corporation. SN 302,758. Pub. 4-8-69. Filed 7-15-68.

871,678. IBI AND DESIGN. International Battery, Inc. SN 303,051. Pub. 4-8-69. Filed 7-18-68.

871,679. FREZZOLINI. Frezzolini Electronics Inc., assignee of James Frezzolini. SN 303,520. Pub. 4-8-69. Filed 7-24-68.

871,680. FILE-O-PAK. TRW Inc. SN 303,715. Pub. 4-8-69. Filed 7-26-68.

871,681. DOLPHIN. Rotron Manufacturing Company, Inc. SN 304,397. Pub. 4-8-69. Filed 8-5-68.

871,682. TRUE-TO-LIGHT. Clairol Incorporated. SN 304,445. Pub. 4-8-69. Filed 8-6-68.

871,683. ANOROC XPR. Simplex Wire and Cable Company. SN 304,626. Pub. 4-8-69. Filed 8-7-68.

871,684. SOCKET TO ME. Sola Basic Industries, Inc. SN 306,996. Pub. 4-8-69. Filed 9-10-68.

871,685. TIGER. Laher Spring & Electric Car Corp. SN 312,388. Pub. 4-8-69. Filed 11-18-68.

871,686. MINI-CABLE. Phalo Corporation. SN 312,718. Pub. 4-8-69. Filed 11-21-68.

871,687. SIGHT-GUARD. Electrix, Inc. SN 312,855. Pub. 4-8-69. Filed 11-22-68.

Class 22 — Games, Toys, and Sporting Goods

871,688. LEAP FROG. Lakeside Industries, Inc. SN 257,964. Pub. 1-9-68. Filed 11-4-66.

871,689. A CHILD GUIDANCE TOY. Child Guidance Toys, Inc. SN 264,515. Pub. 4-8-69. Filed 2-13-67.

871,690. P POLICE ORDNANCE AND DESIGN. Chrondek Electronics, Inc. SN 267,727. Pub. 4-8-69. Filed 3-28-67.

871,691. POLICE ORDNANCE. Chrondek Electronics, Inc. SN 267,730. Pub. 4-8-69. Filed 3-28-67.

871,692. WATCH. Campaign Game Company, Inc. SN 270,889. Pub. 4-8-69. Filed 5-8-67.

871,693. RUBB'R NIK. Loral Corporation. SN 271,947. Pub. 4-8-69. Filed 5-19-67.

871,694. BOUDOIR PETS. A. D. Sutton and Sons, Inc. SN 281,502. Pub. 4-8-69. Filed 9-29-67.

871,695. MUSIC MATE. American Sankyo Corporation. SN 287,508. Pub. 4-8-69. Filed 12-26-67.

871,696. QUICK SKILL. Victor Comptometer Corporation. SN 289,360. Pub. 4-8-69. Filed 1-22-68.

871,697. TURF KING. A.M.S. Distributing Co., d.b.a. American Sport Company. SN 292,243. Pub. 4-8-69. Filed 3-1-68.

871,698. DREAM-FILL. Nordiska Fjaderfabriken Aktiebolag. MULTIPLE CLASS (Classes 22, 32, and 42). SN 293,656. Pub. 4-8-69. Filed 3-20-68.

871,699. AUTOGRAPH MODEL. Northwestern Golf Company. SN 298,848. Pub. 4-8-69. Filed 5-22-68.

871,700. DESIGN-A-MATIC. Eldon Industries, Inc. SN 299,406. Pub. 4-8-69. Filed 5-31-68.

871,701. A NOVA LEARNPAC. Nova Learning Corporation. SN 300,731. Pub. 4-8-69. Filed 6-18-68.

871,702. SWIM-WINGS. Heinz W. Kirschner, d.b.a. Universe Co. SN 300,826. Pub. 4-8-69. Filed 6-19-68.

871,703. ZOOLERY KIDDLES. Mattel, Inc. SN 302,565. Pub. 4-8-69. Filed 7-12-68.

871,704. SAMSONITE. Samsonite Corporation. SN 304,155. Pub. 4-8-69. Filed 8-1-68.

871,705. UGH-BUG. Port-O-Play, Inc. SN 304,867. Pub. 4-8-69. Filed 8-12-68.

871,706. NBPA ETC. AND DESIGN. National Basketball Players Association. SN 305,375. Pub. 4-8-69. Filed 8-19-68.

871,707. ABC MODELING FUN! Rainbow Crafts, Inc. SN 305,900. Pub. 4-8-69. Filed 8-26-68.

871,708. SOMA. Parker Brothers, Inc., assignee of Span Products Inc. SN 307,156. Pub. 4-8-69. Filed 10-3-68.

871,709. ROBERTS. Gabriel Industries, Inc. SN 311,779. Pub. 4-8-69. Filed 11-12-68.

871,710. ROBERTS AND DESIGN. Gabriel Industries, Inc. SN 311,780. Pub. 4-8-69. Filed 11-12-68.

871,711. ADD-ONS. Mattel, Inc. SN 312,261. Pub. 4-8-69. Filed 11-15-68.

871,712. TESSIE. Mattel, Inc. SN 312,262. Pub. 4-8-69. Filed 11-15-68.

871,713. HEATHER. Mattel, Inc. SN 312,263. Pub. 4-8-69. Filed 11-15-68.

871,714. JEANIE JOGGLES. Mattel, Inc. SN 312,264. Pub. 4-8-69. Filed 11-15-68.

871,715. CYNTHIA. Mattel, Inc. SN 312,266. Pub. 4-8-69. Filed 11-15-68.

871,716. CANDIGATOR. Mattel, Inc. SN 312,267. Pub. 4-8-69. Filed 11-15-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

871,538. (See Class 1 for this trademark.)

871,605. (See Class 13 for this trademark.)

871,672. (See Class 21 for this trademark.)

871,717. DURATYPER. Dennison Duramatic Corporation, assignee, by mesne assignment, of Duramatic Corporation. SN 140,654. Pub. 3-5-63. Filed 3-26-62.

871,718. ULTRALOY. CF & I Steel Corporation, by change of name from The Colorado Fuel and Iron Corporation. SN 248,425. Pub. 4-8-69. Filed 6-20-66.

871,719. UCAR. Union Carbide Corporation. SN 259,189. Pub. 4-8-69. Filed 11-21-66.

871,720. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,278. Pub. 4-8-69. Filed 9-13-67.

871,721. MONASHEE. Monashee Manufacturing Corporation Ltd., by change of name from Kelowna Machine Works Ltd. SN 283,009. Pub. 4-8-69. Filed 10-20-67.

871,722. DWC DRILLING WELL CONTROL, INC. ETC. AND DESIGN. Drilling Well Control, Inc. SN 283,113. Pub. 4-8-69. Filed 10-23-67.

871,723. A AND DESIGN. Admiral Equipment Corp. SN 285,299. Pub. 4-8-69. Filed 11-21-67.

871,724. KITO AND DESIGN. Kabushiki Kaisha Kito Seisakusho. SN 286,827. Pub. 4-8-69. Filed 12-13-67.

871,725. FINE-O-MATIC. Fine-Blanking Limited. SN 287,161. Pub. 4-8-69. Filed 12-18-67.

871,726. A FIGURE WITH AN X SHAPE AND LINE. Exline, Inc., d.b.a. Exline Engine Works. MULTIPLE CLASS (Classes 23 and 26). SN 287,535. Pub. 4-8-69. Filed 12-26-67.

871,727. ROOF. Roof Manufacturing Company. SN 288,235. Pub. 4-8-69. Filed 1-5-68.

871,728. MW (DESIGN). Grapha Maschinenfabrik Hans Mueller A.G. SN 291,153. Pub. 4-8-69. Filed 2-15-68.

871,729. HUSHI. Metaframe Corporation. SN 295,153. Pub. 4-8-69. Filed 4-8-68.

871,730. PILLO-PAK. Alto Corporation. SN 296,089. Pub. 4-8-69. Filed 4-22-68.

871,731. GALIGHER. The Galigher Company. SN 296,955. Pub. 4-8-69. Filed 4-30-68.

871,732. PRESS-GRIP. Accurate Bushing Company. SN 298,909. Pub. 4-8-69. Filed 5-23-68.

871,733. SPRITE. Litton Business Systems, Inc. SN 299,465. Pub. 4-8-69. Filed 5-31-68.

871,734. ULTRONIC. Eastman Machine Company. SN 302,727. Pub. 4-8-69. Filed 7-15-68.

871,735. LUNA. A. Feist & Co. Lunawerk, Inc. SN 302,831. Pub. 4-8-69. Filed 7-16-68.

871,736. WESTERN. Western Sewing Machine Distributors, Inc. SN 303,008. Pub. 4-8-69. Filed 7-17-68.

871,737. ATLAS. Atlas Supply Company. SN 303,492. Pub. 4-8-69. Filed 7-24-68.

871,738. TUNNEL RAM. Edelbrock Equipment Company. SN 305,117. Pub. 4-8-69. Filed 8-14-68.

871,739. FAIRCHILD HILLER. Fairchild Hiller Corporation. SN 308,740. Pub. 4-8-69. Filed 10-3-68.

871,740. MASCOT. "Automatic" Sprinkler Corporation of America, d.b.a. American La France. SN 312,378. Pub. 4-8-69. Filed 11-18-68.

Class 24 – Laundry Appliances and Machines

871,741. WONDERSTRIP. Southern Mills, Inc. SN 275,559. Pub. 4-8-69. Filed 7-7-67.

Class 26 – Measuring and Scientific Appliances

871,726. (See Class 23 for this trademark.)

871,742. KORD-A-MATIC. Richard J. Sleeper, d.b.a. Sleeper Valve & Manufacturing Co. and Sleeper Valve & Mfg. Co. SN 238,977. Pub. 8-22-67. Filed 2-16-66.

871,743. VERSATRONIK. Honeywell Inc. SN 278,696. Pub. 1-28-69. Filed 8-21-67.

871,744. VAPOR PACE SETTER SPEED CONTROL AND DESIGN. Vapor Corporation. SN 280,492. Pub. 4-8-69. Filed 9-15-67.

871,745. S-TRAVELON. Albert Schacht Kg. SN 281,855. Pub. 4-8-69. Filed 10-5-67.

871,746. SONAFIX. Presearch Incorporated. SN 285,148. Pub. 12-17-68. Filed 11-17-67.

871,747. POSI-PROOF. Photo Mechanics Corporation. SN 289,827. Pub. 10-22-68. Filed 1-29-68.

871,748. SWAN AND DESIGN. Swan Optical Corp. SN 290,417. Pub. 4-8-69. Filed 2-6-68.

871,749. MISCELLANEOUS DESIGN. Owens-Illinois, Inc. SN 291,931. Pub. 4-8-69. Filed 2-27-68.

871,750. SLIDE SEEKER. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 292,093. Pub. 4-8-69. Filed 2-28-68.

871,751. NOVA LENS. Stephen J. Mehler, Inc. SN 292,453. Pub. 4-8-69. Filed 3-5-68.

871,752. SYNCHRO-THREAD. Bach Auricon, Inc. SN 295,498. Pub. 4-8-69. Filed 4-12-68.

871,753. TIMECLERK AND DESIGN. Timeclerk Corporation. SN 296,731. Pub. 4-8-69. Filed 4-26-68.

871,754. ART-RIM. Art-Craft Optical Company, Inc. SN 297,645. Pub. 4-8-69. Filed 5-8-68.

871,755. IMMUNOCELL. National Instrument Laboratories, Inc. SN 300,727. Pub. 4-8-69. Filed 6-18-68.

871,756. CELLOFOR. National Instrument Laboratories, Inc. SN 300,728. Pub. 4-8-69. Filed 6-18-68.

871,757. FEATHER-WRAP. ESB Incorporated. SN 304,327. Pub. 4-8-69. Filed 8-5-68.

871,758. SET-RITE. The J. E. Doyle Company. SN 304,679. Pub. 4-8-69. Filed 8-8-68.

871,759. KEN SPEED. Constantine M. Mushkin, d.b.a. Kenlab Associates. SN 308,124. Pub. 4-8-69. Filed 9-24-68.

871,760. THE WEATHER-MAKER. Essex International. SN 314,147. Pub. 4-8-69. Filed 12-11-68.

Class 28 – Jewelry and Precious-Metal Ware

871,761. DF AND DESIGN. Danfrere Co. SN 304,210. Pub. 4-8-69. Filed 8-2-68.

Class 29 – Brooms, Brushes, and Dusters

871,762. LUV PUFF. Yardley of London, Inc. SN 310,528. Pub. 4-8-69. Filed 10-25-68.

Class 30 – Crockery, Earthenware, and Porcelain

871,763. AZUMA. Azuma Trading Co., Inc. SN 285,813. Pub. 4-8-69. Filed 11-29-67.

Class 31 – Filters and Refrigerators

871,764. CHAMBERS AND DESIGN. Rangaire Corporation. SN 289,915. Pub. 4-8-69. Filed 1-30-68.

Class 32 – Furniture and Upholstery

871,698. (See Class 22 for this trademark.)

871,765. KASPARIANS. Kasparians, Inc. SN 286,349. Pub. 4-8-69. Filed 12-6-67.

871,766. FACES WEST. Faces West, Incorporated. SN 301,616. Pub. 4-8-69. Filed 6-28-68.

871,767. FLASH FILING. Flash Filing, Inc. SN 303,407. Pub. 4-8-69. Filed 7-23-68.

871,768. SSK AND DESIGN. S. S. Kresge Company. SN 308,381. Pub. 4-8-69. Filed 9-27-68.

Class 34 – Heating, Lighting, and Ventilating Apparatus

871,605. (See Class 13 for this trademark.)

871,769. TEMP MASTER. McCrory Corporation, assignee of Oklahoma Tire & Supply Corporation. SN 198,869. Pub. 4-8-69. Filed 7-30-64.

871,770. COOKIE-MATIC. Boyar-Schultz Corporation. SN 279,925. Pub. 12-24-68. Filed 9-8-67.

871,771. STYLIZED C. The Cardinal Corporation. SN 288,775. Pub. 4-8-69. Filed 1-15-68.

871,772. CHAMBERS AND DESIGN. Rangaire Corporation. SN 289,917. Pub. 4-8-69. Filed 1-30-68.

871,773. MITEY GIANT. Fostoria-Fannon, Incorporated. SN 294,931. Pub. 4-8-69. Filed 4-4-68.

871,774. RAPID CAPPER AND DESIGN. Welding and Steel Fabrication Co., Inc. SN 295,691. Pub. 4-8-69. Filed 4-15-68.

871,775. CIRCULAR DESIGN. Coen Controls Co. SN 304,671. Pub. 4-8-69. Filed 8-8-68.

871,776. HOTSTREAM. Mor-Flo Industries, Inc. SN 304,804. Pub. 4-8-69. Filed 8-9-68.

871,777. "VITACOTE." Electric Soldering Iron Company, Inc. SN 304,905. Pub. 4-8-69. Filed 8-12-68.

871,778. FLAIRWEATHER. Flair Manufacturing Corp. SN 305,540. Pub. 4-8-69. Filed 8-20-68.

Class 35 – Belting, Hose, Machinery Packing, and Nonmetallic Tires

871,779. HOSEMASTER. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 273,765. Pub. 2-18-69. Filed 6-13-67.

871,780. NOK. Nippon Oil Seal Industry Co., Ltd. SN 298,030. Pub. 4-8-69. Filed 5-13-68.

871,781. NOK AND DESIGN. Nippon Oil Seal Industry Co., Ltd. SN 298,031. Pub. 4-8-69. Filed 5-13-68.

871,782. PARKWAY. Parrish Tire Company, Inc. SN 303,539. Pub. 2-11-69. Filed 7-24-68.

Class 36 – Musical Instruments and Supplies

871,783. DP (DESIGN). Data Packaging Corp. SN 255,967. Pub. 9-12-67. Filed 10-7-66.

871,784. EXECUTAPE. Executape Systems, Inc. SN 272,037. Pub. 1-2-68. Filed 5-22-67.

871,785. LYRACHORD. Kaman Corporation. SN 278,970. Pub. 4-8-69. Filed 8-24-67.

871,786. RIFI AND DESIGN. Cidi Record Imports, Inc. SN 313,646. Pub. 4-8-69. Filed 12-5-68.

871,787. CLAN CELENTANO. Cidi Record Imports, Inc. SN 313,647. Pub. 4-8-69. Filed 12-5-68.

871,788. PALOMINO. Columbia Broadcasting System, Inc. SN 314,188. Pub. 4-8-69. Filed 12-11-68.

871,789. VILLAGER. Columbia Broadcasting System, Inc. SN 314,190. Pub, 4-8-69. Filed 12-11-68.

871,790. SHENANDOAH. Columbia Broadcasting System, Inc. SN 314,193. Pub. 4-8-69. Filed 12-11-68.

871,791. MALIBU. Columbia Broadcasting System, Inc. SN 314,194. Pub. 4-8-69. Filed 12-11-68.

871,792. BRONCO. Columbia Broadcasting System, Inc. SN 314,195. Pub. 4-8-69. Filed 12-11-68.

871,793. CORONADO. Columbia Broadcasting System, Inc. SN 314,196. Pub. 4-8-69. Filed 12-11-68.

871,794. TELECASTER. Columbia Broadcasting System, Inc. SN 314,199. Pub. 4-8-69. Filed 12-11-68.

Class 37 – Paper and Stationery

871,578. (See Class 7 for this trademark.)

871,795. SNAP-ON. Snap-On Tools Corporation. SN 213,902. Pub. 4-8-69. Filed 3-11-65.

871,796. CHECK SAVERS. Check Savers, Inc. SN 244,969. Pub. 4-8-69. Filed 5-5-66.

871,797. TITHE-O-MATIC. The Rose of Sharon Evangelistic Association Inc. SN 289,922. Pub. 4-8-69. Filed 1-30-68.

871,798. BRAVO. De Soto, Inc. SN 300,339. Pub. 4-8-69. Filed 6-13-68.

Class 38 – Prints and Publications

871,799. INSIDE NEWS AND DESIGN. Parc Publishing Co., Inc. SN 164,048. Pub. 11-19-63. Filed 3-6-63.

871,800. INSIDE NEWS. Parc Publishing Co., Inc. SN 164,063. Pub. 11-19-63. Filed 3-6-63.

871,801. THE INSIDER'S NEWSLETTER. Cowles Communications, Inc., by change of name from Cowles Magazines and Broadcasting, Inc. SN 191,136. Pub. 5-3-66. Filed 4-15-64.

871,802. THE NATIONAL INSIDER. The National Insider, Inc. SN 193,392. Pub. 5-3-66. Filed 5-13-64.

871,803. CHALLENGE. Third Order of St. Dominic. SN 274,547. Pub. 4-9-68. Filed 6-22-67.

871,804. THE CHRISTIAN CHALLENGE. Foundation for Christian Theology. SN 283,518. Pub. 4-9-68. Filed 10-27-67.

871,805. THE FRANKLIN MINT. The Franklin Mint, Inc. by change of name from General Numismatics Corporation. SN 287,482. Pub. 4-8-69. Filed 12-26-67.

871,806. INQUIRY. Blue Cross Association. SN 288,934. Pub. 4-8-69. Filed 1-16-68.

871,807. THE PENNEY STORY BY ROBERTA NASH. J. C. Penney Company. SN 290,407. Pub. 4-8-69. Filed 2-6-68.

871,808. LE GROUPE DU VIN. Gordon F. MacPherson. SN 292,494. Pub. 4-8-69. Filed 3-5-68.

871,809. UNI-VERSE. Uni-Serv Corporation. SN 301,789. Pub. 4-8-69. Filed 7-1-68.

871,810. HAPPINOTES. Clay Stroud. SN 307,144. Pub. 4-8-69. Filed 9-11-68.

871,811. EDIT. Graphic Controls Corporation. SN 310,889. Pub. 4-8-69. Filed 10-30-68.

Class 39 – Clothing

871,812. MARQUESA FRANCISCA MARIA. Francesca Torresy. SN 275,483. Pub. 4-8-69. Filed 7-6-67.

871,813. GINA MIA. Lujan, Inc. SN 275,539. Pub. 4-8-69. Filed 7-7-67.

871,814. DURA-KNEE. Mann Manufacturing, Inc. SN 280,237. Pub. 4-8-69. Filed 9-13-67.

871,815. HEAD AND DESIGN. Head Ski Company, Inc. SN 282,900. Pub. 4-8-69. Filed 10-19-67.

871,816. SHANNON SQUARE. Stockton Manufacturing Co., Inc. SN 284,946. Pub. 4-8-69. Filed 11-15-67.

871,817. BUTT'N-UP. Sportline Associates, Inc. SN 285,353. Pub. 4-8-69. Filed 11-21-67.

871,818. STOKERS. Uniroyal, Inc. SN 286,214. Pub. 4-8-69. Filed 12-4-67.

871,819. PARENTHETICS. Paraphernalia, Inc. SN 286,715. Pub. 4-8-69. Filed 12-11-67.

871,820. BRITE LEGS. The Mayer Company, Inc. SN 287,442. Pub. 4-8-69. Filed 12-22-67.

871,821. ON THE GO. Amway Corporation. SN 288,486. Pub. 4-8-69. Filed 1-10-68.

871,822. SPORTSET. Endicott Johnson Corporation. SN 289,087. Pub. 4-8-69. Filed 1-18-68.

871,823. "IT'S A JOY." Shaffer Knitwear, Inc. Filed 289,925. Pub. 4-8-69. Filed 1-30-68.

871,824. MR. BARCO. Barco of California. SN 290,243. Pub. 4-8-69. Filed 2-5-68.

871,825. JUNIOR MOOD. Jomar Realty, Inc. SN 290,447. Pub. 4-8-69. Filed 2-7-68.

871,826. FIRST TEE. Pete Uram Sales, Inc. SN 291,920. Pub. 4-8-69. Filed 2-26-68.

871,827. VIVIRE KNITS. Barlin Knitting Mills, Inc. SN 293,463. Pub. 4-8-69. Filed 3-18-68.

871,828. FASHIONBACK. Blue Bell, Inc. SN 294,560. Pub. 4-8-69. Filed 4-1-68.

871,829. TEAM UPS. Apparel Industries of California, Inc. SN 295,904. Pub. 4-8-69. Filed 4-18-68.

871,830. REFILLS. U.S. Industries, Inc. SN 296,219. Pub. 4-8-69. Filed 4-22-68.

871,831. A PAIR AND A SPARE FOR THE GIRL ON THE GO AND DESIGN. Frank Hurt, Jr. SN 296,324. Pub. 4-8-69. Filed 4-23-68.

871,832. THE TREVIRA ERA. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. MULTIPLE CLASS (Classes 39 and 42). SN 296,413. Pub. 4-8-69. Filed 4-24-68.

871,833. ELEGANTISSIMO. G. Santini Imports, Ltd. SN 296,874. Pub. 4-8-69. Filed 4-29-68.

871,834. HADLEY. The Hadley Corporation. SN 297,289. Pub. 4-8-69. Filed 5-3-68.

871,835. YOUNGER IMAGE. Corona Corset Corporation. SN 302,394. Pub. 4-8-69. Filed 7-10-68.

871,836. EUROPA LA PIUMA AND DESIGN. La Piuma, Inc. SN 305,463. Pub. 4-8-69. Filed 8-19-68.

871,837. BOOTMASTER. Melville Shoe Corporation. SN 305,471. Pub. 4-8-69. Filed 8-19-68.

871,838. JOHNSON'S. Johnson & Johnson. SN 305,548. Pub. 4-8-69. Filed 8-20-68.

871,839. THERMOGARB. American Optical Corporation. SN 306,323. Pub. 4-8-69. Filed 8-30-68.

871,840. FF AND DESIGN. S. L. Gilbert Company, Inc. SN 311,646. Pub. 4-8-69. Filed 11-8-68.

871,841. G AND DESIGN. S. L. Gilbert Company, Inc. SN 311,647. Pub. 4-8-69. Filed 11-8-68.

Class 40—Fancy Goods, Furnishings, and Notions

871,608. (See Class 13 for this trademark.)

871,842. COVER BOY AND DESIGN. Charle Venee, Incorporated. SN 263,631. Pub. 11-14-67. Filed 1-30-67.

871,843. SEMA. Sema Wig Creations, Inc. SN 294,320. Pub. 4-8-69. Filed 3-27-68.

871,844. PLAID DESIGN. Minnesota Mining and Manufacturing Company. SN 302,897. Pub. 4-8-69. Filed 7-17-68.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

871,698. (See Class 22 for this trademark.)

871,832. (See Class 39 for this trademark.)

871,845. STONELEA MILLS. Stevens Linen Associates, Inc. SN 285,473. Pub. 4-8-69. Filed 11-22-67.

871,846. BOND-A-BACK. Ames Textile Corporation. SN 295,210. Pub. 4-8-69. Filed 4-9-68.

871,847. LOWNDENE. Lowndes Products, Inc. (Delaware corporation), assignee of Lowndes Products, Inc. (South Carolina corporation). SN 303,424. Pub. 4-8-69. Filed 7-23-68.

871,848. BACLIN. Kimberly-Clark Corporation. SN 311,649. Pub. 4-8-69. Filed 11-8-68.

871,849. ARVADA. E. T. Barwick Industries, Inc. SN 311,737. Pub. 4-8-69. Filed 11-12-68.

871,850. FRONTIER. E. T. Barwick Industries, Inc. SN 311,742. Pub. 4-8-69. Filed 11-12-68.

871,851. DOUBLOON. E. T. Barwick Industries, Inc. SN 311,743. Pub. 4-8-69. Filed 11-12-68.

871,852. TIROS. E. T. Barwick Industries, Inc. SN 311,745. Pub. 4-8-69. Filed 11-12-68.

871,853. CAREY HALL. E. T. Barwick Industries, Inc. SN 311,749. Pub. 4-8-69. Filed 11-12-68.

871,854. BAMBOO INN. E. T. Barwick Industries, Inc. SN 311,750. Pub. 4-8-69. Filed 11-12-68.

871,855. CASUAL CARE. E. T. Barwick Industries, Inc. SN 311,751. Pub. 4-8-69. Filed 11-12-68.

Class 44—Dental, Medical, and Surgical Appliances

871,605. (See Class 13 for this trademark.)

871,856. KINDNESS SWINGING SET. Clairol Incorporated. SN 280,561. Pub. 4-8-69. Filed 9-18-67.

871,857. PRACTI-PAK. Cenco Medical/Health Supply Corporation, assignee of Cenco Instruments Corporation. SN 281,033. Pub. 4-8-69. Filed 9-25-67.

871,858. DAWE'S GAIN GUN. Dawe's Laboratories, Inc. SN 282,061. Pub. 4-8-69. Filed 10-9-67.

871,859. MEDI-PULSE. Dynapower Systems Corporation of California. SN 292,682. Pub. 4-8-69. Filed 3-7-68.

871,860. VITALHUE. The Dentists' Supply Company of New York. SN 304,768. Pub. 4-8-69. Filed 8-9-68.

871,861. PANJET. Ormont Drug & Chemical Co., Inc. SN 306.269. Pub. 4-8-69. Filed 8-29-68.

871,862. CAULK ZOE 200 AND DESIGN. The Dentists' Supply Company of New York. SN 306,894. Pub. 4-8-69. Filed 9-9-68.

871,863. PHONOCARDIOSELECTOR. Thiokol Chemical Corporation. SN 307,515. Pub. 4-8-69. Filed 9-16-68.

871,864. ORTHO-GARD. A.D.A. Dental Corporation. SN 310,429. Pub. 4-8-69. Filed 10-24-68.

871,865. SANI-SAFE. Med-Ram, Inc. SN 310,972. Pub. 4-8-69. Filed 10-31-68.

Class 45—Soft Drinks and Carbonated Waters

871,866. BRISK. General Foods Corporation. SN 300,701. Pub. 4-8-69. Filed 6-18-68.

871,867. PASSION ISLAND AND DESIGN. Passion Fruit Products Company. SN 308,745. Pub. 4-8-69. Filed 10-3-68.

Class 46—Foods and Ingredients of Foods

871,550. (See Class 2 for this trademark.)

871,868. PONY-TAIL (DESIGN). Purity Baking Company, d.b.a. Purity Maid. SN 240,649. Pub. 4-8-69. Filed 3-10-66.

871,869. HUNTSMAN AND DESIGN. Dorothy Lamour Enterprises, Ltd. SN 241,594. Pub. 4-4-67. Filed 3-22-66.

871,870. BOTTLE (DESIGN). Reese Finer Foods, Inc. SN 250,718. Pub. 4-8-69. Filed 7-21-66.

871,871. FLAVOR-LOK. National Tea Co. SN 270,600. Pub. 9-3-68. Filed 5-3-67.

871,872. MINI MEAL. F. Dwight Kinter, d.b.a. The Kinter Company. SN 271,051. Pub. 10-8-68. Filed 5-9-67.

871,873. MISCELLANEOUS DESIGN. Canada Packers Limited. MULTIPLE CLASS (Classes 46 and 52). SN 276,978. Pub. 4-8-69. Filed 7-28-67.

871,874. PRIMO BISCUITS AND DESIGN. Primo Biscuit Company. SN 287,609. Pub. 4-8-69. Filed 12-26-67.

871,875. KIBUN IN CHINESE CHARACTERS. Kabushiki Kaisha Kibun, d.b.a. Kibun Co., Ltd. SN 288,437. Pub. 4-8-69. Filed 1-9-68.

871,876. CHOP BONES. Bristol-Myers Company. SN 294,582. Pub. 4-8-69. Filed 4-1-68.

871,877. DYNAPOWER PACK. The Dietene Company. SN 295,922. Pub. 4-8-69. Filed 4-18-68.

871,878. ANCHOVETTE. Harry Peck South Africa (Proprietary) Limited. SN 296,827. Pub. 4-8-69. Filed 4-29-68.

871,879. VIVA LA CAT. Usen Products Company. SN 299,505. Pub. 4-8-69. Filed 5-31-68.

871,880. MEAT BALLY-A. American Home Products Corporation. SN 299,931. Pub. 4-8-69. Filed 6-7-68.

871,881. HOUSE OF ALMONDS AND DESIGN. California Almond Orchards, Inc., d.b.a. The House of Almonds. MULTIPLE CLASS (Classes 46 and 101). SN 301,668. Pub. 4-8-69. Filed 7-1-68.

871,882. MISCELLANEOUS DESIGN. Burger Family, Inc. SN 301,699. Pub. 4-8-69. Filed 7-1-68.

871,883. MISCELLANEOUS DESIGN. Burger Family, Inc. SN 301,700. Pub. 4-8-69. Filed 7-1-68.

871,884. MISCELLANEOUS DESIGN. Burger Family, Inc. SN 301,701. Pub. 4-8-69. Filed 7-1-68.

871,885. MISCELLANEOUS DESIGN. Burger Family, Inc. SN 301,703. Pub. 4-8-69. Filed 7-1-68.

871,886. "THE PARTY PEOPLE." Halo Sales Corporation. SN 302,315. Pub. 4-8-69. Filed 7-9-68.

871,887. H DESIGN. Hershey Foods Corporation. SN 305,328. Pub. 4-8-69. Filed 8-16-68.

871,888. FRANKOGETTI. American Home Products Corporation. SN 307,060. Pub. 4-8-69. Filed 9-11-68.

871,889. ROYAL FARMS. Tabor City Foods, Inc. SN 311,215. Pub. 4-8-69. Filed 11-4-68.

Class 47—Wines

871,890. LORD BENTON. United Vintners, Inc., d.b.a. Italian Swiss Colony. SN 300,792. Pub. 4-8-69. Filed 6-19-68.

Class 49—Distilled Alcoholic Liquors

871,891. SIR MALCOLM. Sazerac Company, d.b.a. The Sir Malcolm Company. SN 287,587. Pub. 4-8-69. Filed 12-26-67.

Class 50—Merchandise Not Otherwise Classified

871,892. NEOLANGITE. Cork Manufacturing Company Limited. SN 280,860. Pub. 4-8-69. Filed 9-21-67.

871,893. ALLPLAS. Allplas AG. SN 291,016. Pub. 4-8-69. Filed 2-14-68.

871,894. ENCODUR. Azoplate Corporation. SN 291,703. Pub. 4-8-69. Filed 2-23-68.

871,895. MANTEX AND DESIGN. Mantex, Inc. SN 307,656. Pub. 4-8-69. Filed 9-18-68.

871,896. SHIPMATE. Union Camp Corporation. SN 307,693. Pub. 4-8-69. Filed 9-18-68.

871,897. DESTINATOR. Transign, Inc. SN 307,878. Pub. 4-8-69. Filed 9-20-68.

Class 51—Cosmetics and Toilet Preparations

871,898. SATIN QUICK. John H. Breck, Inc. SN 222,462. Pub. 3-21-67. Filed 7-1-65.

871,899. QUIKFRESH. Ed. Geistlich Söhne A.G. für Chemische Industrie. SN 250,074. Pub. 2-13-68. Filed 7-12-66.

871,900. VANQUISH. Sterling Drug Inc., assignee of Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company. SN 266,921. Pub. 4-30-68. Filed 3-16-67.

871,901. BEBE. Bebe Distributing International, Inc. SN 281,541. Pub. 4-8-69. Filed 10-2-67.

871,902. BELLINA. Chemical Associates, Inc., d.b.a. Homcare, Inc. SN 284,347. Pub. 4-8-69. Filed 11-8-67.

871,903. MISI. Bebe Distributing International, Inc. SN 287,515. Pub. 4-8-69. Filed 12-26-67.

871,904. HAWAIIAN TAN. Hawaiian Perfumers, Inc., d.b.a. Liana of Waikiki. SN 293,825. Pub. 4-8-69. Filed 3-21-68.

871,905. VALHALLA. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 301,567. Pub. 4-8-69. Filed 6-28-68.

871,906. COCOA-GLO! Lorenzo de Mexico, Inc. SN 304,551. Pub. 4-8-69. Filed 8-7-68.

871,907. TREAS UR LE. Treas Ur Le Creations, Inc. SN 306,447. Pub. 4-8-69. Filed 9-3-68.

871,908. BODIFIER. Summit Laboratories, Inc. SN 308,438. Pub. 4-8-69. Filed 9-30-68.

871,909. TEN-SET. Carol Edwards, Inc. SN 310,313. Pub. 4-8-69. Filed 10-23-68.

871,910. LANCE. Colgate-Palmolive Company. SN 310,391. Pub. 4-8-69. Filed 10-24-68.

871,911. BLONDERAMA. The Gillette Company. SN 314,154. Pub. 4-8-69. Filed 12-11-68.

871,912. NOR'EASTER. The Gillette Company. SN 314,155. Pub. 4-8-69. Filed 12-11-68.

871,913. GULFSTREAM. The Gillette Company. SN 314,157. Pub. 4-8-69. Filed 12-11-68.

871,914. CREAMY CLEAN. Colgate-Palmolive Company. SN 314,386. Pub. 4-8-69. Filed 12-13-68.

Class 52—Detergents and Soaps

871,873. (See Class 46 for this trademark.)

871,905. (See Class 51 for this trademark.)

871,915. DATO. Henkel & Cie G.m.b.H. SN 284,195. Pub. 4-8-69. Filed 11-6-67.

871,916. MISCELLANEOUS DESIGN. Illinois Bronze Powder & Paint Co. SN 306,380. Pub. 4-8-69. Filed 8-30-68.

Service Marks

Class 100—Miscellaneous

871,917. SAN FRANCISCO · EVERYBODY'S FAVORITE CITY AND DESIGN. San Francisco Convention & Visitors Bureau. SN 270,814. Pub. 4-8-69. Filed 5-5-67.

871,918. TREEMASTERS AND DESIGN. Donald T. Jackson & Co., Inc. SN 275,444. Pub. 4-8-69. Filed 7-6-67.

871,919. "TAKE A BOY OR GIRL HUNTING AND FISHING" ABHA AMERICAN BOATING & HUNTING ASSOCIATION AND DESIGN. American Boating & Hunting Association. SN 283,209. Pub. 4-8-69. Filed 10-24-67.

871,920. EDDYS' LOAF 'N STEIN. Eddys' Loaf 'N Stein, Inc. SN 291,371. Pub. 4-8-69. Filed 2-19-68.

871,921. I'VE BEEN COOKIN' FOR YA. Church's Fried Chicken, Inc., by change of name from Church's Food Service Industries, Inc. SN 294,473. Pub. 4-8-69. Filed 3-29-68.

871,922. CHEFARE. Chefare Inc. SN 296,008. Pub. 4-8-69. Filed 4-19-68.

871,923. JR. HOT SHOPPES. Marriott Corporation. SN 297,201. Pub. 4-8-69. Filed 5-2-68.

871,924. BADGER. The Badger Company, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 297,237. Pub. 4-8-69. Filed 5-3-68.

871,925. MEET-A-MATCH. World Research Corporation. SN 299,392. Pub. 4-8-69. Filed 5-29-68.

871,926. MCL AND DESIGN. MCL Cafeteria, Inc. SN 303,228. Pub. 4-8-69. Filed 7-22-68.

871,927. MISCELLANEOUS DESIGN. Griffin Wellpoint Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 303,957. Pub. 4-8-69. Filed 7-31-68.

871,928. STEEL SERVICE CENTER INSTITUTE AND DESIGN. Steel Service Center Institute. SN 304,406. Pub. 4-8-69. Filed 8-5-68.

871,929. CHICK-N-RUN AND DESIGN. Chick-N-Run, Inc., d.b.a. Whelan's Chick-N-Run. SN 306,460. Pub. 4-8-69. Filed 9-3-68.

871,930. BEA'S. Bea's Sandwich Shop, Inc. SN 313,225. Pub. 4-8-69. Filed 11-29-68.

871,931. BEA'S AND DESIGN. Bea's Sandwich Shop, Inc. SN 313,226. Pub. 4-8-69. Filed 11-29-68.

Class 101—Advertising and Business

871,881. (See Class 46 for this trademark.)

871,932. SACSERT. Supermarket Affiliates Corporation. SN 260,478. Pub. 4-8-69. Filed 12-9-66.

871,933. RSVP. Recorded Sales Visual Presentations, Inc., d.b.a. RSVP Inc. MULTIPLE CLASS (Classes 101 and 103). SN 265,103. Pub. 12-10-68. Filed 2-20-67.

871,934. LISTFAX. Listfax Corporation, by change of name from Coronet Marketing, Inc. SN 270,480. Pub. 4-8-69. Filed 5-2-67.

871,935. LAYTRON. Laytron, Inc. SN 284,486. Pub. 4-8-6. Filed 11-9-67.

871,936. TOTAL TIPTOP. B.D. Data Processing Corp. MULTIPLE CLASS (Classes 101 and 102). SN 285,480. Pub. 4-8-69. Filed 11-24-67.

871,937. VICTOR BETTER BUSINESS SERVICES. Victor Comptometer Corporation. MULTIPLE CLASS (Classes 101 and 107). SN 287,199. Pub. 4–8–69. Filed 12–18–67.

871,938. WE TURN IDEAS INTO REALTY. Kalker Company Inc. SN 288,701. Pub. 4–8–69. Filed 1–12–68.

871,939. GENIE GIRL. Temporary Talent, Inc. SN 288,888. Pub. 4–8–69. Filed 1–15–68.

871,940. AVAILABILITY AND DESIGN. Availability, Inc. SN 300,053. Pub. 4–8–69. Filed 6–10–68.

871,941. HI-SCORE. Hi-Score Enterprises. SN 303,575. Pub. 4–8–69. Filed 7–25–68.

871,942. CHESS KING. Melville Shoe Corporation. SN 304,237. Pub. 4–8–69. Filed 8–2–68.

871,943. INN KEEPERS. Holiday Inns of America, Inc. SN 307,027. Pub. 4–8–69. Filed 9–10–68.

Class 102 — Insurance and Financial

871,936. (See Class 101 for this trademark.)

871,944. UNITED COMMODITY TRADERS AND DESIGN. United Commodity Traders of Iowa, Inc. SN 308,667. Pub. 4–8–69. Filed 10–2–68.

Class 103 — Construction and Repair

871,924. (See Class 100 for this trademark.)

871,927. (See Class 100 for this trademark.)

871,933. (See Class 101 for this trademark.)

871,945. TAPE CENTRE AND DESIGN. Sound Classics, Inc. SN 294,214. Pub. 4–8–69. Filed 3–26–68.

871,946. TIMEX. The United States Time Corporation. SN 300,142. Pub. 4–8–69. Filed 6–10–68.

Class 105 — Transportation and Storage

871,947. INSTANT SPACE. Go-Cal, Inc., d.b.a. Instant Space Leasing. SN 229,791. Pub. 6–13–67. Filed 10–11–65.

871,948. "WONDERFUL" A-P-A TRANSPORT CORP. AND DESIGN. A-P-A Transport Corp. SN 252,999. Pub. 4–8–69. Filed 8–24–66.

871,949. MISCELLANEOUS DESIGN. Open Road International, Inc. SN 297,695. Pub. 4–8–69. Filed 5–8–68.

Class 106 — Material Treatment

871,950. CRAFTSMEN IN OPTICS AND DESIGN. The House of Vision, Inc. SN 289,897. Pub. 4–8–69. Filed 1–30–68.

Class 107 — Education and Entertainment

871,937. (See Class 101 for this trademark.)

871,951. SITUATIONAL REINFORCEMENT. Institute of Modern Languages, Inc. SN 280,064. Pub. 4–8–69. Filed 9–11–67.

871,952. CRP. Columbia Broadcasting System, Inc. SN 282,177. Pub. 4–8–69. Filed 10–10–67.

871,953. FC AND DESIGN. Flight Center, Inc. SN 285,222. Pub. 4–8–69. Filed 11–20–67.

871,954. THE DESTINATIONS. Richard W. Sorgel. SN 290,111. Pub. 4–8–69. Filed 2–1–68.

871,955. NEW YORK KNICKS AND DESIGN. Madison Square Garden Corporation. SN 299,630. Pub. 4–8–69. Filed 6–4–68.

871,956. GENERATION GAP. Hero International Corp., d.b.a. Generation Gap Productions. SN 306,058. Pub. 4–8–69. Filed 8–27–68.

Collective Membership Marks

Class 200

871,957. LITTLE MAN AND UMBRELLA (DESIGN). CUNA International, Inc. SN 273,485. Pub. 4–8–69. Filed 6–9–67.

871,958. COAT OF ARMS (DESIGN). Tau Kappa Epsilon Fraternity. SN 307,283. Pub. 4–8–69. Filed 9–13–68.

871,959. PLEDGE PIN (DESIGN). Tau Kappa Epsilon Fraternity. SN 307,285. Pub. 4–8–69. Filed 9–13–68.

871,960. TKE AND BADGE DESIGN. Tau Kappa Epsilon Fraternity. SN 307,286. Pub. 4–8–69. Filed 9–13–68.

871,961. TAU KAPPA EPSILON. Tau Kappa Epsilon Fraternity. SN 307,288. Pub. 4–8–69. Filed 9–13–68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

871,962. B. L. Cobia, Inc., Winter Garden, Fla. SN 274,382. Filed P.R. 6–21–67 ; Am. S.R. 2–28–69.

Class 1—Raw or Partly Prepared Materials

For Tropical House Plants (Int. Cl. 31).
First use on or about Mar. 24, 1967.

Class 2—Receptacles

For Planters in Which House Plants Are Grown (Int. Cl. 21).
First use on or about May 20, 1967.

SECTION 2

Class 1 — Raw or Partly Prepared Materials

871,962. See Section 1 (Combined Certificates).

Class 2 — Receptacles

871,962. See Section 1 (Combined Certificates).

Class 4 — Abrasives and Polishing Materials

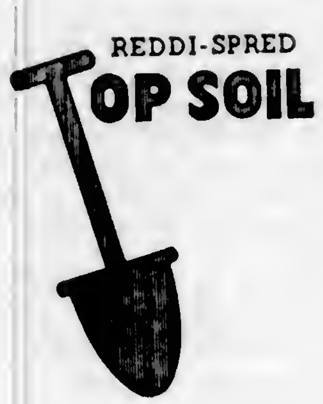
871,963. Reckitt & Colman (Overseas) Limited, Hull, Yorkshire, England. SN 311,928. Filed 11–12–68.

PADAWAX

Owner of British Reg. No. B834,969, dated May 23, 1962.
For Wax Impregnated Brushes, Wax Impregnated Sponges, and Wax Impregnated Polishing Devices for Use on Leather and Artificial Leather Products (Int. Cl. 21).

Class 10 — Fertilizers

871,964. Organic Compost Corporation, Germantown, Wis. SN 272,396. Filed P.R. 5–25–67 ; Am. S.R. 2–17–69.



The drawing is lined for the color red, but no claim is made to color apart from the mark as shown.
For Top Soil (Int. Cl. 1).
First use January 1964.

Class 36 — Musical Instruments and Supplies

871,965. Audio Magnetics Corporation, Gardena, Calif. SN 287,791. Filed P.R. 12–29–67 ; Am. S.R. 3–24–69.

For Magnetic Recording Tape (Int. Cl. 9).
First use Nov. 1, 1962.

Class 37 — Paper and Stationery

871,966. Wausau Paper Mills Company, Brokaw, Wis. SN 292,032. Filed P.R. 2–27–68 ; Am. S.R. 3–3–69.

MOROPAQUE

For Bond and Offset Paper (Int. Cl. 16).
First use Feb. 19, 1968.

Class 39 — Clothing

871,967. T. O. Dey Service Corp., New York, N.Y. SN 255,069. Filed P.R. 9–26–66 ; Am. S.R. 3–26–69.

CRADLE FOOT-SHAPED MOULD

For Men's and Women's Shoes (Int. Cl. 25).
First use July 18, 1966.

Class 46 — Foods and Ingredients of Foods

871,968. James P. Sprigg Co., Los Angeles, Calif. SN 256,320. Filed P.R. 10–12–66 ; Am. S.R. 1–29–69.

SWEET'N

For Nitrogen Animal Feed Additive (Int. Cl. 31).
First use Aug. 1, 1966.

871,969. Estee Candy Co., Inc., Palisades Park, N.J. SN 273,272. Filed P.R. 6–7–67 ; Am. S.R. 1–8–69.

BELJUIN TREAT

For Dietetic Cookies and Candies (Int. Cl. 5).
First use May 22, 1967.

871,970. Stokely-Van Camp, Inc., Columbus, Ohio. SN 278,617. Filed P.R. 8–18–67 ; Am. S.R. 3–20–69.

FRESH-N-WHITE

For Hydrogenated Vegetable Oil for Use as an Ingredient in the Manufacture of Coffee Whiteners (Int. Cl. 29).
First use Aug. 3, 1967.

871,971. The Indian Coffee Corporation, d.b.a. Campbell and Woods Company, Leetsdale, Pa. SN 284,263. Filed P.R. 11–6–67 ; Am. S.R. 3–19–69.

For Coffee (Int. Cl. 30).
First use June 1, 1967.

871,972. Hartz Mountain Products Corp., New York, N.Y. SN 309,677. Filed 10–15–68.

DRUM STIX

For Dog Food (Int. Cl. 31).
First use Sept. 25, 1967.

TRADEMARK REGISTRATIONS RENEWED

32,894. GOMENOL. Cl. 18 (Int. Cl. 5). 5–16–1899.
72,995. "B" WITHIN A REPRESENTATION OF A STAR. Cl. 28 (Int. Cl. 14). 3–9–09.
73,797. FRANKLIN. Cl. 46 (Int. Cl. 30). 5–18–09.
74,128. MONOBEL. Cl. 9 (Int. Cl. 13). 6–22–09.
74,391. REPRESENTATION OF A RED THREAD INSERTED LONGITUDINALLY BETWEEN THE INSULATED LAYER OF A CONDUCTOR. Cl. 21 (Int. Cl. 9). 7–6–09.
74,765. FORD. Cl. 23 (Int. Cl. 7). 8–10–09.
75,205. MOTIOGRAPH. Cl. 26 (Int. Cl. 9). 9–14–09.
75,291. BEVO. Cl. 48 (Int. Cl. 32). 9–21–09.
251,498. INCO. Cl. 14 (Int. Cl. 6). 1–8–29.
252,134. REPRESENTATION OF EAGLE AND SCROLL. Cl. 22 (Int. Cl. 28). 1–22–29.
252,247. "POMPEIAN" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 1–29–29.
254,924. 77. Cl. 15 (Int. Cl. 4). 4–2–29.
256,927. "SANTOTAN" ETC. AND DESIGN. Cl. 6 (Int. Cl. 1). 5–28–29.
256,985. "THERMAX BRAND" AND DESIGN. Cl. 1 (Int. Cl. 1). 5–28–29.
258,162. KAYSERETTES. Cl. 39 (Int. Cl. 25). 6–25–29.
258,394. DUO-SERVO. Cl. 19 (Int. Cl. 12). 7–9–29.
258,834. CURRENT SCIENCE. Cl. 38 (Int. Cl. 16). 7–16–29.
259,254. GOLD DUST. Cl. 10 (Int. Cl. 1). 7–30–29.
260,480. "SIGNAL" AND CROSSED FLAG DESIGN. Cl. 44 (Int. Cl. 5). 8–27–29.
260,516. "OLD STAG" AND DESIGN. Cl. 49 (Int. Cl. 33). 8–27–29.
260,858. BERG. Cl. 39. (Int. Cl. 25). 8–27–29.
261,109. MARCELLO. Cl. 17 (Int. Cl. 34). 9–3–29.
261,348. THE MOBILE PRESS. Cl. 38 (Int. Cl. 16). 9–17–29.
261,644. GREEN-GOLD. Cl. 46 (Int. Cl. 31). 9–17–29.
261,816. "TIOGA OAK" AND DESIGN. Cl. 1 (Int. Cl. 18). 9–24–29.
261,837. SEAL O'CEDAR. Cl. 12 (Int. Cl. 19). 9–24–29.
261,850. AIR KING. Cl. 27 (Int. Cl. 14). 9–24–29.
261,968. ROSETTA. Cl. 51 (Int. Cl. 3). 9–24–29.
441,960. THE DUNCAN REGISTER AND DESIGN. Cl. 38 (Int. Cl. 16). 2–1–49.
442,123. NATIONAL. Cl. 44 (Int. Cl. 10). 2–22–49.
442,632. MA BROWN AND DESIGN. Cl. 46 (Int. Cls. 29 and 30). 5–3–49.
443,153. RUS-TROL. Cl. 16 (Int. Cl. 2). 7–26–49.
443,216. ANN MARILYN. Cl. 39 (Int. Cl. 25). 8–16–49.
443,360. SWIRT. Cl. 52 (Int. Cl. 3). 9–13–49.
505,374. DIBENAMINE. Cl. 18 (Int. Cl. 5). 1–4–49.
506,147. DEXTRO MALTO AND DESIGN. Cl. 46 (Int. Cl. 5). 2–1–49.
507,767. TRU-TRAC. Cl. 23 (Int. Cl. 7). 3–22–49.
507,982. BUFFALO AND DESIGN. Cl. 6 (Int. Cl. 1). 3–22–49.
508,133. ELGIN AMERICAN. Cl. 2 (Int. Cl. 20). 4–5–49.
508,136. HUMIDO. Cl. 8 (Int. Cl. 11). 4–5–49.
508,147. CHURCH & CO'S. Cl. 46 (Int. Cls. 1 and 30). 4–5–49.
508,173. JR. TOWN. Cl. 39 (Int. Cl. 25). 4–5–49.
508,264. PX. Cl. 42 (Int. Cl. 24). 4–5–49.
508,446. COOKCRAFT. Cl. 13 (Int. Cls. 11 and 21). 4–12–49.
508,489. NON-SLIP. Cl. 44 (Int. Cl. 10). 4–12–49.
508,542. WILSON. Cl. 12 (Int. Cls. 6 and 19). 4–12–49.
508,553. DURAKRAFT. Cl. 1 (Int. Cl. 1). 4–12–49.
508,554. THALO. Cl. 16. (Int. Cl. 2). 4–12–49.
508,601. EVANGELINE AND DESIGN. Cl. 6 (Int. Cl. 2). 4–12–49.
508,607. ORANGE CORE. Cl. 5 (Int. Cl. 16). 4–12–49.
508,636. PHARIS. Cl. 35 (Int. Cl. 12). 4–12–49.
508,654. FREEZ-TAINER. Cl. 2 (Int. Cl. 21). 4–12–49.
508,690. DURAFRAME. Cl. 32 (Int. Cl. 20). 4–19–49.
508,750. QUEENSBURY. Cl. 37 (Int. Cl. 16). 4–19–49.
508,773. A & P BREAD. Cl. 46 (Int. Cl. 30). 4–19–49.
508,794. TARPON. Cl. 37 (Int. Cl. 16). 4–19–49.
508,880. IH. Cl. 13 (Int. Cl. 6). 4–26–49.
508,892. PEGGY SAGE. Cl. 44 (Int. Cl. 8). 4–26–49.
509,035. POLYCIZER. Cl. 6 (Int. Cl. 1). 4–26–49.
509,058. HARMONY. Cl. 29 (Int. Cl. 16). 4–26–49.
509,111. TIGER BRANDS AND DESIGN. Cl. 6 (Int. Cl. 4). 4–26–49.
509,161. BOTTLING INDUSTRY AND DESIGN. Cl. 38 (Int. Cl. 16). 4–26–49.
509,177. BUILDINGS. Cl. 38 (Int. Cl. 16). 4–26–49.
509,370. DUMONT. Cl. 47 (Int. Cl 33). 5–3–49.
509,418. CEL-RAY. Cl. 45 (Int. Cl. 32). 5–3–49.
509,539. ERSIN MULTICORE THREE CORE SOLDER AND DESIGN. Cl. 14 (Int. Cl. 6). 5–10–49.
509,544. OPTILITE. Cl. 1 (Int. Cl. 17). 5–10–49.
509,574. OLD VALLEY. Cl. 37 (Int. Cl. 16). 5–10–49.
509,667.. MISCELLANEOUS DESIGN. Cl. 46 (Int. Cl. 30). 5–10–49.
509,726. ONE SHOT AND DESIGN. Cl. 6 (Int. Cl. 4). 5–10–49.
509,814. AJAX-HUNTGREN. Cl. 21 (Int. Cl. 11). 5–17–49.
509,832. U.S. MASTER TAX GUIDE. Cl. 38 (Int. Cl. 16). 5–17–49.
509,850. ARTYPE. Cl. 38 (Int. Cl. 16). 5–17–49.
509,864. CURITY. Cl. 42 (Int. Cl. 24). 5–17–49.
509,979. KARRIER. Cl. 19 (Int. Cl. 12). 5–17–49.
510,021. SUN VALLEY. Cl. 39 (Int. Cl. 25). 5–24–49.
510,046. BOY'S OFFICIAL TROOPER SHOES AND DESIGN. Cl. 39 (Int. Cl. 25). 5–24–49.
510,105. SYMPHONIC. Cl. 16 (Int. Cl. 2). 5–24–49.
510,210. DUNHAM. Cl. 34 (Int. Cl. 11). 5–31–49.
510,282. ESSENCE RARE. Cl. 51 (Int. Cl. 3). 5–31–49.
510,412. BURNER SET. Cl. 12 (Int. Cl. 19). 5–31–49.
510,413. FIRE HEARTH. Cl. 12 (Int. Cl. 17). 5–31–49.
510,422. WEST AND OVAL DESIGN. Cl. 52 (Int. Cl. 3). 5–31–49.
510,719. CARCO PRODUCTS. Cl. 52 (Int. Cl. 3). 6–7–49.
510,945. SPEEDART. Cl. 29 (Int. Cl. 16). 6–14–49.
510,990. SANDOW. Cl. 42 (Int. Cl. 24). 6–14–49.
511,057. ANNAPOLIS. Cl. 42 (Int. Cl. 24). 6–14–49.
511,058. BOMBAY. Cl. 42 (Int. Cl. 24). 6–14–49.
511,059. MANILA. Cl. 42 (Int. Cl. 24). 6–14–49.
511,066. BABY TIME. Cl. 101 (Int. Cl. 35). 6–14–49.
511,146. SUN SUGARED. Cl. 46 (Int. Cls. 29 and 31). 6–21–49.
511,186. GRAPEEL. Cl. 45 (Int. Cl. 32). 6–21–49.
511,191. NU-GLOSS. Cl. 52 (Int. Cl. 3). 6–21–49.
511,195. TC. Cl. 13 (Int. Cl. 6). 6–21–49.
511,236. SUN-MAID AND DESIGN. Cl. 46 (Int. Cls. 29 and 30). 6–21–49.
511,237. GIRL PICTURE DESIGN. Cl. 46 (Int. Cls. 29 and 30). 6–21–49.
511,273. MOLOX. Cl. 13 (Int. Cl. 6). 6–21–49.
511,481. AUTOCRAT. Cl. 3 (Int. Cl. 18). 6–21–49.
511,495. SSC AND DESIGN. Cl. 100 (Int. Cl. 42). 6–21–49.
511,555. MISCELLANEOUS DESIGN. Cl. 46 (Int. Cl. 31). 6–28–49.
511,620. LEATHER OF CHARACTER. Cl. 1 (Int. Cl. 18). 6–28–49.
511,662. LINCOLN. Cl. 19 (Int. Cl. 12). 6–28–49.
511,677. LYON. Cl. 19 (Int. Cl. 12). 6–28–49.
511,761. EVERYMAN'S INCOME TAX. Cl. 38 (Int. Cl. 16). 7–5–49.
511,799. PERFECT CIRCLE. Cl. 35 (Int. Cl. 7). 7–5–49.
511,842. DR. BROWN'S CEL-RAY AND DESIGN. Cl. 45 (Int. Cl. 32).
511,843. DR. BROWN'S CEL-RAY. Cl. 45 (Int. Cl. 32). 7–5–49.
511,847. DR. BROWN'S. Cl. 45 (Int. Cl. 32). 7–5–49.
512,057. MASON-DRI. Cl. 16 (Int. Cl. 2). 7–12–49.
512,340. MASONITE. Cl. 6 (Int. Cl. 1). 7–19–49.
512,388. GOOSE LAKE. Cl. 12 (Int. Cl. 19). 7–19–49.
512,420. PRESDWOOD. Cl. 12 (Int. Cls. 17 and 19). 7–19–49.

512,477. MARKWELL. Cl. 29 (Int. Cl. 16). 7–19–49.
512,498. SPECIAL BLACK. Cl. 37 (Int. Cl. 16). 7–19–49.
512,499. WONDER. Cl. 37 (Int. Cl. 16). 7–19–49.
512,510. SLEEPCHAIR. Cl. 32 (Int. Cl. 20). 7–19–49.
512,530. SIMCO. Cl. 32 (Int. Cl. 20). 7–19–49.
512,547. WESTMINSTER. Cl. 32 (Int. Cl. 20). 7–19–49.
512,615. TIANNE. Cl. 51 (Int. Cl. 3). 7–19–49.
512,637. SUPEREST. Cl. 32 (Int. Cl. 20). 7–19–49.
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512,743. IRISH. Cl. 46 (Int. Cl. 29). 7–26–49.
512,862. WARNER. Cl. 6 (Int. Cl. 1). 7–26–49.
513,140. MICHELOB. Cl. 48 (Int. Cl. 32). 8–2–49.
513,198. LABTONE. Cl. 52 (Int. Cl. 3). 8–2–49.
513,358. GAINSBOROUGH. Cl. 29 (Int. Cl. 16). 8–9–49.
513,402. INDESTRUCTIBLE. Cl. 35 (Int. Cls. 7 and 17). 8–9–49.
513,471. FLAG AND CIRCLE OF STARS (DESIGN). Cl. 29 (Int. Cl. 16). 8–9–49.
513,608. MY-LO-JEL. Cl. 6 (Int. Cl. 1). 8–16–49.
513,613. PETTIFLAW. Cl. 39 (Int. Cl. 25). 8–16–49.
513,614. RUN-R-LESS. Cl. 39 (Int. Cl. 25). 8–16–49.
513,644. FRANCIS BACON. Cl. 36 (Int. Cl. 15). 8–16–49.
513,687. LEWIS AND DESIGN. Cl. 3 (Int. Cl. 18). 8–16–49.
513,699. COPLEY. Cl. 39 (Int. Cl. 25). 8–16–49.
513,781. SUPERSNAP. Cl. 40 (Int. Cl. 26). 8–16–49.
513,858. LIFE BY ARISTOCRAT. Cl. 3 (Int. Cl. 18). 8–16–49.
514,046. PEERLESS. Cl. 23 (Int. Cl. 8). 8–23–49.
514,165. AIRLINE. Cl. 29 (Int. Cl. 21). 8–23–49.
514,415. MANNINGS. Cl. 39 (Int. Cl. 25). 8–30–49.
514,478. KLEAN KAR. Cl. 19 (Int. Cl. 12). 8–30–49.
514,875. CAREYCRETE. Cl. 12 (Int. Cl. 19). 9–6–49.
514,876. FELTEX. Cl. 12 (Int. Cl. 19). 9–6–49.
514,998. DONALDSON. Cl. 31 (Int. Cl. 7). 9–13–49.
515,092. BARRY. Cl. 52 (Int. Cl. 3). 9–13–49.
515,104. WEARWELL AND DESIGN. Cl. 15 (Int. Cl. 4). 9–13–49.
515,115. CONTACK. Cl. 22 (Int. Cl. 28). 9–13–49.
515,167. COLONIAL HANDIPT AND DESIGN. Cl. 15 (Int. Cl. 4). 9–13–49.
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339,993. MERFENEL A. Cl. 6. 2–9–43.
432,989. LIFE O'WOOD. Cl. 4. 9–23–47.
748,863. BONAVITA. Cl. 46. 4–30–63.

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748,928. REDMANSON. Cl. 2.
748,929. LOVELAND. Cl. 3.
748,932. ABRASO. Cl. 4.
748,937. TRUODOR. Cl. 6.
748,942. NISAPLIN. Cl. 6.
748,943. BEKUN. Cl. 6.
748,948. SMOKE-KADDY POUCHETTE. Cl. 8.
748,961. FIRMCRETE. Cl. 12.
748,964. TRUS-JOIST. Cl. 12.
748,971. H–W SAVAGE. Cl. 12.
748,976. SECUR-GLIDE. Cl. 12.
748,977. MULTI CAULK. Cl. 12.
748,978. LUMINGLAS. Cl. 12.
748,981. SPARKLE RINSER. Cl. 13.
748,983. SHUTTLE. Cl. 13.
748,990. KEEKO. Cl. 15.
748,991. LUBRI-COTE. Cl. 15.
748,993. SPECTERIOR AND DESIGN. Cl. 16.
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749,000. FAN-LUBE. Cl. 18.
749,001. GM AND DESIGN. Cl. 18.
749,004. THICALATE. Cl. 18.
749,008. PRENATA. Cl. 18.
749,013. CLASOL. Cl. 18.
749,014. LORMIN. Cl. 18.
749,015. MAK KART. Cl. 19.
749,018. FONGERS ETC. AND DESIGN. Cl. 19.
749,019. YELLOW JACKET. Cl. 19.
749,023. REE-TRAK. Cl. 19.
749,029. EVER-GLO. Cl. 21.
749,031. BRITE-VUE. Cl. 21.
749,035. OMNI-RAY. Cl. 21.
749,037. "BLABBY." Cl. 22.
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749,043. NORDEST. Cl. 23.
749,050. HYDROFLEX. Cl. 23.
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749,069. 5P. Cl. 26.
749,070. LECTRO-TEST. Cl. 26.
749,072. UNIMATIC AND DESIGN. Cl. 26.
749,073. GARDNER LABORATORY AND DESIGN. Cl. 26.
749,074. MEMOTUTOR. Cl. 26.
749,079. L AND DESIGN. Cl. 27.
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749,087. Y IN A CIRCLE. Cl. 28.
749,091. MILLS. Cl. 28.
749,092. LORRAINE MARSEL. Cl. 28.
749,094. HM AND DESIGN. Cl. 28.
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749,114. LOVELAND. Cl. 29.
749,116. SELKO. Cl. 31.
749,118. FILTOMOR. Cl. 31.
749,120. SYSTEM ABSTRACTA. Cl. 32.
749,124. MASSAGE-A-REST. Cl. 32.
749,125. SIMPATICO. Cl. 32.
749,135. MAGNASYNC MAGNAPHONIC. Cl. 36.
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749,141. PEELBACK. Cl. 37.
749,143. GROTESQUE REPRESENTATION OF A HUMAN MALE. Cl. 37.
749,144. MAMOOK. Cl. 37.
749,146. WONDER-VIEW. Cl. 38.
749,147. WORLD OF COLOR. Cl. 38.
749,150. RETAILER'S REVIEW. Cl. 38.
749,153. LEATHER-TREDS. Cl. 39.
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749,157. MATCH STICKS. Cl. 39.
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749,197. KEVO. Cl. 46.
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749,216. DECOMATS. Cl. 50.
749,218. D.E.S. KIT. Cl. 50.
749,219. SESCO AND DESIGN. Cl. 50.
749,220. CLOSETTE. Cl. 50.
749,224. PACKER'S PINE TAR SHAMPOO AND DESIGN. Cl. 52.
749,225. 7 BEES AND DESIGN. Cl. 52.

749,229. PRIZE. Cl. 52.
749,234. NARDA ETC. AND DESIGN. Cl. 103.
749,240. KWIK-SORT. Cl. 2.
749,246. TU-PAK. Cl. 38.
749,248. REPRESENTATION OF DOG'S HEAD IN A SHIELD. Cl. 46.
749,250. SHELTER-PAK. Cl. 46.
749,251. OATES AND DESIGN. Cl. 46.
749,259. BREWERS' BEST. Cl. 48.
749,263. SKAF-FOLD. Cl. 50.
749,270. COOLER CLEAN. Cl. 52.
749,272. VIOLET RAY. Cl. 100.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

32,739. OVERLAND. Cl. 17. 4–18–99. S. S. Pierce Company, Boston, Mass. Amended: In the statement, column 1, line 10 through column 2, line 35 are deleted, and the drawing is amended to appear:

OVERLAND

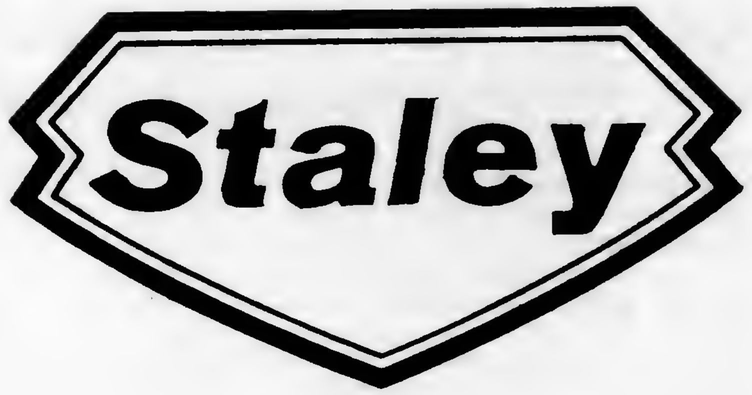
261,559. AGUA DE FLORIDA AND DESIGN. Cl. 6. 9–17–29. Lanman & Kemp, Inc. Lanman & Kemp-Barclay & Co., Incorporated, New York, N.Y. Corrected: In the statement, column 1, line 7, "Florida" should be deleted and *toilet* should be inserted.

261,616. MARCA INDUSTRIAL LANMAN & KEMP AND DESIGN. Cl. 6. 9–17–29. Lanman & Kemp, Inc. Lanman & Kemp-Barclay & Co., Incorporated, New York, N.Y. Corrected: In the statement, column 1, line 7, "Florida" should be deleted and *toilet* should be inserted.

511,691. DUNCAN. Cl. 26. 6–28–49. Duncan Electric Manufacturing Company. Duncan Electric Company, Inc., Lafayette, Ind. Amended: In the statement, column 1, lines 26 through 28 are deleted, and the drawing is amended to appear:

DUNCAN

518,119. STALEY. Cl. 46. 11–29–49. A. E. Staley Manufacturing Company, Decatur, Ill. Amended to appear:



683,708. MULTIGLOS. Cl. 38. 8–18–59. Multiprint Co., Inc., Chicago, Ill. Amended to appear:

MULTiGLOS

759,743. HILLSDALE. Cl. 39. 11–5–63. Garan, Incorporated, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Virginia* should be inserted.

767,310. RHODES. Cl. 39. 3–24–64. Garan, Incorporated, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Virginia* should be inserted.

860,554. MULTILASTIC. Cl. 32. 11–19–68. Lear Siegler, Inc., Santa Monica, Calif. Corrected: In the heading, "Nov. 82" should be deleted and *Nov. 28* should be inserted.

865,225. LIP SAVERS. Cl. 18. 2–25–69. Sea & Ski Corporation, San Francisco, Calif. Amended to appear:

LIPSAVER

868,127. HYCAL. Cl. 18. 4–15–69. Beecham Group Limited, doing business as Beecham Food & Drink Division, Brentford, Middlesex, England. Corrected: In the statement, column 1, line 4, "Brenford" should be deleted and *Brentford* should be inserted.

868,197. VOLT. Cl. 36. 4–15–69. Paramount Pictures Corporation, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Delaware* should be inserted.

868,198. STAX. Cl. 36. 4–15–69. Paramount Pictures Corporation, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Delaware* should be inserted.

869,549. TENNESSEE WALKING HORSE NATIONAL CELEBRATION. Cl. 107. 5–13–69. Tennessee Walking Horse National Celebration, Shelbyville, Tenn. Corrected to appear:

TENNESSEE WALKING HORSE NATIONAL CELEBRATION

INDEX OF REGISTRANTS

JUNE 24, 1969

(**Registered**; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; **New Certificates**; **12c Publications**.)

A.D.A. Dental Corp., Bayville, N.Y. 871,864, pub. 4–8–69. Cl. 44.
A.M.S. Distributing Co., d.b.a. American Sport Co., Oakland, Calif. 871,697, pub. 4–8–69. Cl. 22.
A-P-A Tranport Corp., North Bergen, N.J. 871,948, pub. 4–8–69. Cl. 105.
Accurate Bushing Co., Garwood, N.J. 871,732, pub. 4–8–69. Cl. 23.
Adjustable Caster Co.: *See*—
  Nalle, Charles R.
Admiral Equipment Corp., Akron, Ohio. 871,723, pub. 4–8–69. Cl. 23.
Airglas Engineering Co., Inc., Anchorage, Alaska. 871,654, pub. 4–8–69. Cl. 19.
Ajax Electric Co.: *See*—
  Ajax Electric Co., Inc.
Ajax Electric Co., Inc., to Ajax Electric Co., Philadelphia, Pa. 509,814, ren. 6–24–69. Cl. 21.
Aktiebolaget Makanprodukter, Stockholm-Hagersten, Sweden. 871,601, pub. 4–8–69. Cl. 13.
Albany Felt Co., Albany, N.Y. 749,182, canc. Cl. 42.
Allen, Raymond B., d.b.a. Blade Economy Co., St. James, Mo. 748,932, canc. Cl. 4.
Allen, S. L., & Co., Inc., Philadelphia, Pa., to The Leisure Group, Inc., Los Angeles, Calif. 252,134, ren. 6–24–69. Cl. 22.
Allied Compositions Co., Inc., Maspeth, N.Y. 871,586, pub. 4–8–69. Cl. 12.
Allplas AG, Zug, Switzerland. 871,893, pub. 4–8–69. Cl. 50.
Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 871,633, pub. 9–26–67. Cl. 18.
Alpert, Alice, d.b.a. International Gold Metals, New York, N.Y. 749,109, canc. Cl. 28.
Alto Corp., York, Pa. 871,730, pub. 4–8–69. Cl. 23.
American Beverage Corp., Brooklyn, to New York American Beverage Co., Inc., College Point, N.Y. 509,418, ren. 6–24–69. Cl. 45.
American Beverage Corp., Brooklyn, to New York American Beverage Co., Inc., College Point, N.Y. 511,842–3, ren. 6–24–69. Cl. 45.
American Beverage Corp., Brooklyn, to New York American Beverage Co., Inc., College Point, N.Y. 511,847, ren. 6–24–69. Cl. 45.
American Boating & Hunting Association, Dallas, Tex. 871,919, pub. 4–8–69. Cl. 100.
American Can Co., New York, N.Y. 749,246, canc. Cl. 38.
American Cast Iron Pipe Co., Birmingham, Ala. 511,273, ren. 6–24–69. Cl. 13.
American Components Inc., Conshohocken, Pa. 871,659–61, pub. 11–23–65. Cl. 21.
American Finish & Chemical Co., Chelsea, Mass. 871,564, pub. 4–8–69. Cl. 5.
American Home Products Corp., New York, N.Y. 871,880, pub. 4–8–69. Cl. 46.
American Home Products Corp., New York, N.Y. 871,888, pub. 4–8–69. Cl. 46.
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  "Automatic" Sprinkler Corp. of America.
American Optical Corp., Southbridge, Mass. 871,839, pub. 4–8–69. Cl. 39.
American Sankyo Corp., New York, N.Y. 871,695, pub. 4–8–69. Cl. 22.
American Sport Co.: *See*—
  A.M.S. Distributing Co.
American Sugar Co.: *See*—
  Franklin Sugar Refining Co., The.
American Tar Co., Seattle, Wash. 871,545, pub. 4–8–69. Cl. 1.
American Tar Co., Seattle, Wash. 871,565, pub. 4–8–69. Cl. 5.
American Tar Co., Seattle, Wash. 871,576, pub. 4–8–69. Cl. 6.
American Tube & Controls Inc., West Warwick, R.I. 871,607, pub. 4–8–69. Cl. 13.
Ames Textile Corp., Lowell, Mass. 871,846, pub. 4–8–69. Cl. 42.
Amway Corp., Ada, Mich. 871,821, pub. 4–8–69. Cl. 39.
Ann Marilyn of California, to Ann Marilyn of California, Inc., Los Angeles, Calif. 443,216, ren. 6–24–69. Cl. 39.
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  Ann Marilyn of California.
Anheuser-Busch Brewing Association, to Anheuser-Busch, Inc., St. Louis, Mo. 75,291, ren. 6–24–69. Cl. 48.
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  Anheuser-Busch Brewing Association.
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Aplin & Barrett Ltd., Yeovil, England. 748,942, canc. Cl. 6.
Apparel Industries of California, Inc., Los Angeles, Calif. 871,829, pub. 4–8–69. Cl. 39.
Arc-Co Inc., Bridgeport, Conn. 871,603, pub. 3–26–68. Cl. 13.
Arc-Co Inc., Bridgeport, Conn. 871,662, pub. 11–21–67. Cl. 21.
Arden, Elizabeth, Inc., to Elizabeth Arden Sales Corp., New York, N.Y. 261,968, ren. 6–24–69. Cl. 51.
Arden, Elizabeth, Sales Corp.: *See*—
  Arden, Elizabeth, Inc.
Aristocrat Leather Products, Inc., New York, N.Y., to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 511,481, ren. 6–24–69. Cl. 3.
Aristocrat Leather Products, Inc., New York, N.Y., to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 513,858, ren. 6–24–69. Cl. 3.
Arkwright Merchandising Corp., New York, N.Y. 508,173, ren. 6–24–69. Cl. 39.
Armour & Co., to Armour & Co., Chicago, Ill. 512,743, ren. 6–24–69. Cl. 46.
Aroesty, Sylvia, New York, N.Y. 749,171, canc. Cl. 40.
Art-Craft Optical Co., Inc., Rochester, N.Y. 871,754, pub. 4–8–69. Cl. 26.
Artype, Inc., Crystal Lake, Ill. 509,850, ren. 6–24–69. Cl. 38.
Ashland Oil & Refining Co., Ashland, Ky. 871,567, pub. 4–8–69. Cl. 6.
Associated Dry Goods Corp.: *See*—
  Stix, Baer & Fuller Co.
Atlas Supply Co., Springfield, N.J. 871,737, pub. 4–8–69. Cl. 23.
Audio Magnetics Corp., Gardena, Calif. 871,965. Cl. 36.
"Automatic" Sprinkler Corp. of America, d.b.a. American La France, Cleveland, Ohio. 871,740, pub. 4–8–69. Cl. 23.
Availability, Inc., Rockford, Ill. 871,940, pub. 4–8–69. Cl. 101.
Avon Products, Inc., New York, N.Y. 871,905, pub. 4–8–69. Multiple Class (Classes 51 and 52).
Azoplate Corp., Murray Hill, N.J. 871,894, pub. 4–8–69. Cl. 50.
Azuma Trading Co., Inc., New York, N.Y. 871,763, pub. 4–8–69. Cl. 30.
B.D. Data Processing Corp., Hackensack, N.J. 871,936, pub. 4–8–69. Multiple Class (Classes 101 and 102).
Bach Auricon, Inc., Los Angeles, Calif. 871,752, pub. 4–8–69. Cl. 26.
Badger Co. Inc. The, Cambridge, Mass. 871,924, pub. 4–8–69. Multiple Class (Classes 100 and 103).
Baker, H. W., Linen Co., New York, N.Y. 510,990, ren. 6–24–69. Cl. 42.
Baker, Mabel K., d.b.a. Colonial Candle Co. of Cape Cod, Barnstable, to Colonial Candle Co. of Cape Cod, Inc., Hyannis, Mass. 515,167, ren. 6–24–69. Cl. 15.
Ballou, B. A., & Co. Inc., East Providence, R.I. 72,995, ren. 6–24–69. Cl. 28.
Bangor Punta Operations, Inc., New York, N.Y., from Seagoing Boats, Inc., Florence, Ala. 871,652, pub. 4–8–69. Cl. 19.
Barco of California, Gardena, Calif. 871,824, pub. 4–8–69. Cl. 39.
Barker-Miller Distributing Co., Phoenix, to Chet W. Johns & Sons, Glendale, Ariz. 261,644, ren. 6–24–69. Cl. 46.
Barlin Knitting Mills, Inc., Brooklyn, N.Y. 871,827, pub. 4–8–69. Cl. 39.
Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. 748,999, canc. Cl. 18.
Bartlett, G. M., Kevo Co.: *See*—
  Golden Valley Brands, Inc.
Bartlett, M. Elizabeth: *See*—
  Golden Valley Brnads, Inc.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 871,849–55, pub. 4–8–69. Cl. 42.
Bea's Sandwich Shop, Inc., Methuen, Mass. 871,930–1, pub. 4–8–69. Cl. 100.
Beard, Glynn A., Denver, Colo. 871,631, pub. 7–2–68. Cl. 18.
Beatrice Foods Co.: *See*—
  Squire Dingee Co.
Beaunit Corp., New York, N.Y. 871,547, pub. 4–8–69. Cl. 1.
Beaverite Products, Inc., Beaver Falls N.Y. 749,216, canc. Cl. 50.
Bebe Distributing International, Inc., Shreveport, La. 871,901, pub. 4–8–69. Cl. 51.
Bebe Distributing International, Inc., Shreveport, La. 871,903, pub. 4–8–69. Cl. 51.
Beckerman, M., & Sons, Inc., New York, N.Y. 749,169, canc. Cl. 39.
Beecham Group Ltd., d.b.a. Beecham Food & Drink Division, Brentford, Middlesex, England. 868,127, cor. Cl. 18.
Bell Industries, Inc., Cincinnati, Ohio. 871,663, pub. 4–8–69. Cl. 21.
Bendix Brake Co., Chicago, Ill., to The Bendix Corp., Detroit, Mich. 258,394, ren. 6–24–69. Cl. 19.
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  Bendix Brake Co.
Berg, F., & Co., Inc., Norwalk, Conn., and New York, N.Y., to Hat Corp. of America, New York, N.Y. 260,858, ren. 6–24–69. Cl. 39.
Bermurlee Trading Co., New York, N.Y. 749,172, canc. Cl. 40.
Birma Products Corp., Sayreville, N.J. 871,592, pub. 4–8–69. Cl. 12.
Blade Economy Co.: *See*—
  Allen, Raymond B.
Blank, Kenneth C., d.b.a. Kenmar Co., Los Angeles, Calif. 749,225, canc. Cl. 52.
Blue Bell, Inc., Greensboro, N.C. 871,828, pub. 4–8–69. Cl. 39.
Blue Cross Assn., Chicago, Ill. 871,806, pub. 4–8–69. Cl. 38.
Blue Ridge Vitamin Co.: *See*—
  Xttrium Laboratories, Inc.
Bottling Industry Publishing Co., Inc., to Magazines for Industry, Inc., New York, N.Y. 509,161, ren. 6–24–69. Cl. 38.

Boyar-Schultz Corp., Broadview, Ill. 871,770, pub. 12-24-68. Cl. 34.

Braun-Knecht-Heimann Co., San Francisco, Calif., to VWR United Corp., Seattle, Wash. 513,198, ren. 6-24-69. Cl. 52.

Breck, John H., Inc., Springfield, Mass. 871,898, pub. 3-21-67. Cl. 51.

Bristol-Myers Co., New York, N.Y. 871,876, pub. 4-8-69. Cl. 46.

Brown Co., Berlin, N.H., to Brown Co., New York, N.Y. 508,553, ren. 6-24-69. Cl. 1.

Brumley-Donaldson Co., Huntington Park, Calif. 871,554-7, pub. 4-8-69. Cl. 3.

Brunswig Drug Co., El Segundo, Calif. 871,637, pub. 4-8-69. Cl. 18.

Bulova Watch Co., Inc. : *See—*
Westfield Watch Co., Inc.

Burger Family, Inc., Santa Monica, Calif. 871,882-5, pub. 4-8-69. Cl. 46.

Burns Pharmaceuticals : *See—*
Burns Pharmaceuticals, Inc.

Burns Pharmaceuticals, Inc., from Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals, Oakland, Calif. 871,-632, pub. 6-4-68. Cl. 18.

Burns & Russel Co. of Baltimore City, The, Baltimore, Md. 748,993, canc. Cl. 16.

CF & I Steel Corp., Denver, Colo. 871,538, pub. 4-8-69. Multiple Class (Classes 1, 6, 7, 12, 13, 14, and 23).

CF & I Steel Corp., from The Colorado Fuel & Iron Corp., Denver, Colo. 871,718, pub. 4-8-69. Cl. 23.

California Almond Orchards, Inc., d.b.a. The House of Almonds, Paso Robles, Calif. 871,881, pub. 4-8-69. Multiple Class (Classes 46 and 101).

Cambridge Rubber Co. : *See—*
Sun Valley Boots, Inc.

Campaign Game Co., Inc., Garden City, N.Y. 871,692, pub. 4-8-69. Cl. 22.

Campbell & Woods Co. : *See—*
Indian Coffee Corp., The.

Canada Packers Ltd., Toronto, Ontario, Canada. 871,873, pub. 4-8-69. Multiple Class (Classes 46 and 52).

Canepa, John B., Co., The, Chicago, Ill. 509,667, ren. 6-24-69. Cl. 46.

Cardinal Corp., The, Wilmington, Del. 871,771, pub. 4-8-69. Cl. 34.

Carey, Philip, Corp. : *See—*
Carey, Philip, Mfg. Co., The.

Carey, Philip, Mfg. Co., The, to Philip Carey Corp., Cincinnati, Ohio. 514,875-6, ren. 6-24-69. Cl. 12.

Carlisle Corp. : *See—*
Pharis Tire & Rubber Co., The.

Carman & Co., Inc., New York, N.Y., to Johnson Chemical Industries, Inc., Baltimore, Md. 510,719, ren. 6-24-69. Cl. 52.

Carrollton Mfg. Co., Carrollton, Ohio. 508,446, ren. 6-24-69. Cl. 13.

Cassidy, M. Frances, Greeley, Colo. 749,038, canc. Cl. 22.

Castle Industries, Inc., New Castle, Pa. 748,920, canc. Cl. 1.

Cellulo Co., The, d.b.a. Selko Filter Co., Sandusky, Ohio. 749,-116, canc. Cl. 31.

Cenco Instruments Corp. : *See—*
Cenco Medical/Health Supply Corp.

Cenco Medical/Health Supply Corp., from Cenco Instruments Corp., Chicago, Ill. 871,857, pub. 4-8-69. Cl. 44.

Channel Master Corp., Ellenville, N.Y. 749,031, canc. Cl. 21.

Channel Master Corp., Ellenville, N.Y. 749,035, canc. Cl. 21.

Check Savers, Inc., Park Ridge, Ill. 871,796, pub. 4-8-69. Cl. 37.

Chefare Inc., Pittsburgh, Pa. 871,922, pub. 4-8-69. Cl. 100.

Chemical Associates, Inc., d.b.a. Homcare, Inc., Houston, Tex. 871,902, pub. 4-8-69. Cl. 51.

Chesebrough-Pond's Inc. : *See—*
Sage, Peggy, Inc.

Chicago Varnish Co., Chicago, Ill. 22,394, canc. Cl. 16.

Chick-N-Run, Inc., d.b.a. Whelan's Chick-N-Run, Pawtucket, R.I. 871,929, pub. 4-8-69. Cl. 100.

Child Guidance Toys, Inc., Bronx, N.Y. 871,689, pub. 4-8-69. Cl. 22.

Chrondek Electronics, Inc., Costa Mesa, Calif. 871,690-1, pub. 4-8-69. Cl. 22.

Church & Dwight Co., Inc., New York, N.Y. 508,147, ren. 6-24-69. Cl. 46.

Church's Food Service Industries, Inc. : *See—*
Church's Fried Chicken, Inc.

Church's Fried Chicken, Inc., from Church's Food Service Industries, Inc., San Antonio, Tex. 871,921, pub. 4-8-69. Cl. 100.

Cidi Record Imports, Inc., New York, N.Y. 871,786-7, pub. 4-8-69. Cl. 36.

Clairol Inc., New York, N.Y. 871,682, pub. 4-8-69. Cl. 21.

Clairol Inc., New York, N.Y. 871,856, pub. 4-8-69. Cl. 44.

Cleveland Twist Drill Co., The, Cleveland, Ohio. 514,046, ren. 6-24-69. Cl. 23.

Cobia, B. L., Inc., Winter Garden, Fla. 871,962. Multiple Class (Classes 1 and 2).

Coen Controls Co., Burlingame, Calif. 871,775, pub. 4-8-69. Cl. 34.

Colgate-Palmolive Co., New York, N.Y. 871,910, pub. 4-8-69. Cl. 51.

Colgate-Palmolive Co., New York, N.Y. 871,914, pub. 4-8-69. Cl. 51.

Colonial Brush Mfg. Co., Inc., Boston, Mass. 513,471, ren. 6-24-69. Cl. 29.

Colonial Candle Co. of Cape Cod : *See—*
Baker, Mabel K.

Colonial Candle Co. of Cape Cod, Inc. : *See—*
Baker, Mabel K.

Colonial Plastics Mfg. Co. : *See—*
Crown Cork Specialty Corp.

Colorado Fuel & Iron Corp., The : *See—*
CF & I Steel Corp.

Colourpicture Publishers, Inc., Boston, Mass. 749,147, canc. Cl. 38.

Columbia Broadcasting System, Inc., New York, N.Y. 871,-788-94, pub. 4-8-69. Cl. 36.

Columbia Broadcasting System, Inc., New York, N.Y. 871,-952, pub. 4-8-69. Cl. 107.

Columbia Fastener Co., Chicago, Ill., to United-Carr Inc., Boston, Mass. 513,781, ren. 6-24-69. Cl. 40.

Commerce Clearing House, Inc., Chicago, Ill. 509,832, ren. 6-24-69. Cl. 38.

Commerce Clearing House, Inc., Chicago, Ill. 511,761, ren. 6-24-69. Cl. 38.

Commercial Solvents Corp. : *See—*
Thermatomic Carbon Co.

Continental Oil Co., Ponca City, Okla. 871,582, pub. 6-6-67. Cl. 10.

Cooper, O. A., Co., The, Humboldt, Nebr. 871,638, pub. 4-8-69. Cl. 18.

Cork Mfg. Co. Ltd., South Chingford, London, England. 871,-892, pub. 4-8-69. Cl. 50.

Corn Products Co. : *See—*
Corn Products Refining Co.

Corn Products Refining Co., New York, N.Y., to Corn Products Co., Englewood Cliffs, N.J. 507,982, ren. 6-24-69. Cl. 6.

Corona Corset Corp., Corona, N.Y. 871,835, pub. 4-8-69. Cl. 39.

Coronet Marketing, Inc. : *See—*
Listfax Corp.

Cowles Communications, Inc., from Cowles Magazines & Broadcasting, Inc., New York, N.Y. 871,801, pub. 5-3-66. Cl. 38.

Cowles Magazines & Broadcasting, Inc. : *See—*
Cowles Communications, Inc.

Coy, Hunt & Co., New York, N.Y. 749,141, canc. Cl. 37.

Crawford Mfg. Co., Inc., Richmond, Va. 514,478, ren. 6-24-69. Cl. 19.

Crow's Insulation Co. : *See—*
Crow's Insulation Co. Laminating Division, Inc.

Crow's Insulation Co. Laminating Division, Inc., from Crow's Insulation Co., Evansville, Ind. 871,584, pub. 1-18-66. Cl. 12.

Crown Cork Specialty Corp., Decatur, Ill., to Colonial Plastics Mfg. Co., Cleveland, Ohio. 508,654, ren. 6-24-69. Cl. 2.

Cuna International, Inc., Madison, Wis. 871,957, pub. 4-8-69. Cl. 200.

DCA Food Industries Inc., New York, N.Y. 749,201, canc. Cl. 46.

Dana Corp. : *See—*
Perfect Circle Corp.

Danfoss, Inc., Lodi, N.J. 871,610, pub. 4-8-69. Cl. 13.

Danfrere Co., New York, N.Y. 871,761, pub. 4-8-69. Cl. 28.

Data Packaging Corp., Cambridge, Mass. 871,783, pub. 9-12-67. Cl. 36.

Dawe's Laboratories, Inc., Chicago, Ill. 871,858, pub. 4-8-69. Cl. 44.

De Gennaro, Ralph, d.b.a. Harper Jewels, New York, N.Y. 749,100, canc. Cl. 28.

Dennison Duramatic Corp., Monmouth Junction, N.J., from Duramatic Corp., Los Angeles, Calif. 871,717, pub. 3-5-63. Cl. 23.

Dentists' Supply Co. of New York, The, York, Pa. 871,860, pub. 4-8-69. Cl. 44.

Dentists' Supply Co. of New York, The, York, Pa. 871,862, pub. 4-8-69. Cl. 44.

De Soto, Inc., Des Plaines, Ill. 871,798, pub. 4-8-69. Cl. 37.

Dey, T. O., Service Corp., New York, N.Y. 871,967. Cl. 39.

De Ziel Fasteners, Inc., St. Paul, Minn. 871,602, pub. 4-8-69. Cl. 13.

Diamond Shamrock Corp., Cleveland, Ohio. 871,546, pub. 4-8-69. Cl. 1.

Dietene Co., The, Minneapolis, Minn. 871,877, pub. 4-8-69. Cl. 46.

Disaster Emergency Survival Corp., Newark, Ohio. 749,218, canc. Cl. 50.

Diversification Development Inc., Chicago, Ill. 749,120, canc. Cl. 32.

Dixie Mills Co., East St. Louis, Ill. 749,248, canc. Cl. 46.

Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 512,498-9, ren. 6-24-69. Cl. 37.

Donaldson Co., Inc., Minneapolis, Minn. 514,998, ren. 6-24-69. Cl. 31.

Dow Chemical Co., The, Midland, Mich. 871,548, pub. 4-8-69. Cl. 1.

Doyle, J. E., Co., The, Cleveland, Ohio. 871,758, pub. 4-8-69. Cl. 26.

Dresser Industries, Inc. : *See—*
Magnet Cove Barium Corp.

Drexel Enterprises, Inc., High Point, N.C. 749,125, canc. Cl. 32.

Drilling Well Control, Inc., Houston, Tex. 871,722, pub. 4-8-69. Cl. 23.

Duff Drug Co., Chattanooga, Tenn., to Lever Bros. Co., New York, N.Y. 260,480, ren. 6-24-69. Cl. 44.

Duncan Electric Co., Inc. : *See—*
Duncan Electric Mfg. Co.

Duncan Electric Mfg. Co., to Duncan Electric Co., Inc., Lafayette, Ind. 441,960, ren. 6-24-69. Cl. 38.

Duncan Electric Mfg. Co., to Duncan Electric Co., Inc., Lafayette, Ind. 511,691. Am. 7(d). Cl. 26.

Dunham, C. A., Co., Chicago, Ill., to Dunham-Bush, Inc., West Hartford, Conn. 510,210, ren. 6-24-69. Cl. 34.

Dunham-Bush, Inc. : *See—*
Dunham, C. A., Co.

Du Pont de Nemours, E. I., & Co. : *See—*
Du Pont de Nemours, E. I., Powder Co.

Du Pont de Nemours, E. I., & Co., Wilmington, Del., to Stauffer Chemical Co., New York, N.Y. 508,264, ren. 6-24-69. Cl. 42.

Du Pont de Nemours, E. I., Powder Co., Hoboken, N.J., to E. I. du Pont de Nemours & Co., Wilmington, Del. 74,128, ren. 6-24-69. Cl. 9.

Duramatic Corp. : *See—*
Dennison Duramatic Corp.

Dynamatic Corp., Kenosha, Wis., to Eaton Yale & Towne Inc., Cleveland, Ohio. 515,261, ren. 6-24-69. Cl. 26.

Dynapower Systems Corp. of California, Santa Monica, Calif. 871,859, pub. 4-8-69. Cl. 44.

ESB Inc., Philadelphia, Pa. 871,757, pub. 4-8-69. Cl. 26.

Eastman Machine Co., Buffalo, N.Y. 871,734, pub. 4-8-69. Cl. 23.

Eaton Yale & Towne Inc. : *See—*
Dynamatic Corp.

Eberle Tanning Co., to Eberle Tanning Co., Westfield, Pa. 261,816, ren. 6-24-69. Cl. 1.

Eclipse Sleep Products, Inc., Brooklyn, N.Y. 512,510, ren. 6-24-69. Cl. 32.

Eclipse Sleep Products Inc., Brooklyn, N.Y. 512,637, ren. 6-24-69. Cl. 32.

Eclipse Sleep Products Inc., Brooklyn, N.Y. 512,656, ren. 6-24-69. Cl. 32.

Economic Union "Jaiza I Prizi" (Jaizeimpex), Sofia, Bulgaria. 871,539, pub. 4-8-69. Cl. 1.

Eddys' Loaf 'n Stein, Inc., Kansas City, Mo. 871,920, pub. 4-8-69. Cl. 100.

Edelbrock Equipment Co., El Segundo, Calif. 871,738, pub. 4-8-69. Cl. 23.

Edwards, Carol, Inc., Skokie, Ill. 871,909, pub. 4-8-69. Cl. 51.

Eldon Industries, Inc., Hawthorne, Calif. 871,700, pub. 4-8-69. Cl. 22.

Electric Soldering Iron Co., Inc., Deep River, Conn. 871,777, pub. 4-8-69. Cl. 34.

Electrical Information Publications, Inc., Madison, Wis. 749,-150, canc. Cl. 38.

Electrix, Inc., Port Chester, N.Y. 871,687, pub. 4-8-69. Cl. 21.

Electro-Systems Corp., Fort Lauderdale, Fla. 871,669, pub. 4-8-69. Cl. 21.

El Paso Chemical Co., El Paso, Tex. 749,270, canc. Cl. 52.

Emhart Corp., Hartford, Conn. 871,568, pub. 4-8-69. Cl. 6.

Empire Laminated Plastic Co. : *See—*
Fortuno, John.

Endicott Johnson Corp., Endicott, N.Y. 871,822, pub. 4-8-69. Cl. 39.

Enterprise Optical Mfg. Co., The, to Motiograph, Inc., Chicago, Ill. 75,205, ren. 6-24-69. Cl. 26.

Erath, L. W., Co., Houston, Tex. 871,668, pub. 4-8-69. Cl. 21.

Essex International, Berkeley Heights, N.J. 871,760, pub. 4-8-69. Cl. 26.

Estee Candy Co., Inc., Palisades Park, N.J. 871,969. Cl. 46.

Evangeline Products, Inc., Brooklyn, to Knomark, Inc., Springfield Gardens, N.Y. 508,601, ren. 6-24-69. Cl .6.

Evans-Aristocrat Industries, Inc. : *See—*
Aristocrat Leather Products, Inc.

Everfast Fabrics, Inc., New York, N.Y. 749,186, canc. Cl. 42.

Executape Systems, Inc., Lincoln, Nebr. 871,784, pub. 1-2-68. Cl. 36.

Exline Engine Works : *See—*
Exline, Inc.

Exline, Inc., d.b.a. Exline Engine Works, Salina, Kans. 871,-726, pub. 4-8-69. Multiple Class (Classes 23 and 26).

FMC Corp. : *See—*
Link-Belt Co.

Faces West, Inc., Santa Monica, Calif. 871,766, pub. 4-8-69. Cl. 32.

Fairchild Hiller Corp., Germantown, Md. 871,739, pub. 4-8-69. Cl. 23.

Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning, Frankfurt/Main, Germany. 871,832, pub. 4-8-69. Multiple Class (Classes 39 and 42).

Farmers Regional Cooperative, Fort Dodge, Iowa. 871,623, pub. 4-8-69. Cl. 15.

Fawick Corp., Cleveland, Ohio. 749,050, canc. Cl. 23.

Feist, A., & Co. Lunawerk, Inc., New York, N.Y. 871,735, pub. 4-8-69. Cl. 23.

Fiedler Equipment Co. : *See—*
Fiedler, Herman O.

Fiedler, Herman O., d.b.a. Fiedler Equipment Co., San Francisco, Calif. 871,604, pub. 4-8-69. Cl. 13.

Fieldcrest Mills, Inc., Eden, N.C. 871,673, pub. 4-8-69. Cl. 21.

Filtomor, Inc., Montclair, N.J. 749,118, canc. Cl. 31.

Fine-Blanking Ltd., Sussex, England. 871,725, pub. 4-8-69. Cl. 23.

Firmcrete Building Products, Inc., Hartford, Conn. 748,961, canc. Cl. 12.

Fischer, Heinrich, & Co. : *See—*
Fischer-Davila Industries, Inc.

Fisher Radio Corp., Long Island City, N.Y. 871,676, pub. 4-8-69. Cl. 21.

Fischer-Davila Industries, Inc., d.b.a. Heinrich Fischer & Co., Cincinnati, Ohio. 871,622, pub. 4-8-69. Cl. 15.

Flair Mfg. Corp., Hauppauge, N.Y. 871,778, pub. 4-8-69. Cl. 34.

Flash Filing, Inc., Fresno, Calif. 871,767, pub. 4-8-69. Cl. 32.

Fleming & Co. : *See—*
Fleming & Co., Pharmaceuticals.

Fleming & Co., Pharmaceuticals, d.b.a. Fleming & Co., St. Louis, Mo. 871,634, pub. 4-8-69. Cl. 18.

Flight Center, Inc., Madison, Wis. 871,953, pub. 4-8-69. Cl. 107.

Fongers-De Groninger Rijwielenfabriek N.V., Groningen, Netherlands. 749,018, canc. Cl. 19.

Ford Motor Co., Dearborn, Mich. 74,765, ren. 6-24-69. Cl. 23.

Ford Motor Co., Dearborn, Mich. 511,662, ren. 6-24-69. Cl. 19.

Fortuno, John, d.b.a. Empire Laminated Plastic Co., South El Monte, Calif. 871,609, pub. 4-8-69. Cl. 13.

Fostoria-Fannon, Inc., Fostoria, Ohio. 871,773, pub. 4-8-69. Cl. 34.

Foundation for Christian Theology, Victoria, Tex. 871,804, pub. 4-9-68. Cl. 38.

Fox Go-Boy Carts, Inc., Janesville, Wis. 749,015, canc. Cl. 19.

Franklin Mint, Inc., The, from General Numismatics Corp., Yeadon, Pa. 871,805, pub. 4-8-69. Cl. 38.

Franklin Sugar Refining Co., The, Philadelphia, Pa., to American Sugar Co., New York, N.Y. 73,797, ren. 6-24-69. Cl. 46.

Frezzolini Electronics Inc., Hawthorne, N.J., from James Frezzolini, Bronx, N.Y. 871,679, pub. 4-8-69. Cl. 21.

Frezzolini, James : *See—*
Frezzolini Electronics Inc.

GAF Corp., from General Aniline & Film Corp., New York, N.Y. 871,750, pub. 4-8-69. Cl. 26.

Gabriel Industries, Inc., New York, N.Y. 871,709-10, pub. 4-8-69. Cl. 22.

Galaxy Boat Mfg. Co., Inc., West Columbia, S.C. 871,655, pub. 4-8-69. Cl. 19.

Galigher Co., The, Salt Lake City, Utah. 871,731, pub. 4-8-69. Cl. 23.

Garan, Inc., New York, N.Y. 759,743, cor. Cl. 39.

Garan, Inc., New York, N.Y. 767,310, cor. Cl. 39.

Gardner Laboratory, Inc., Bethesda, Md. 749,073, canc. Cl. 26.

Geistlich, Ed., Sohne A.G. Fur Chemische Industrie, Wolhusen, Lucerne, Switzerland. 871,899, pub. 2-13-68. Cl. 51.

General Aniline & Film Corp. : *See—*
GAF Corp.

General Foods Corp., White Plains, N.Y. 871,866, pub. 4-8-69. Cl. 45.

General Numismatics Corp. : *See—*
Franklin Mint, Inc., The.

Generation Gap Productions : *See—*
Hero International Corp.

Gibson Greeting Cards, Inc., Cincinnati, Ohio. 871,578, pub. 4-8-69. Multiple Class (Classes 7 and 37).

Gilbert, S. L., Co., Inc., New York, N.Y. 871,840-1, pub. 4-8-69. Cl. 39.

Gillette Co., The, Boston, Mass. 871,911-13, pub. 4-8-69. Cl. 51.

Gilmour Mfg. Co. : *See—*
Gilmour, Robert A.

Gilmour, Robert A., d.b.a. Gilmour Mfg. Co., Somerset, Pa. 871,779, pub. 2-18-69. Cl. 35.

Gilroy/Mays Co., Inc., South Bend, Ind. 749,001, canc. Cl. 18.

Givaudan-Delawanna, Inc., assor. to Smith, Kline & French Laboratories, Philadelphia, Pa., and New York, N.Y., to Smith, Kline & French Laboratories, Philadelphia, Pa. 505,-374, ren. 6-24-69. Cl. 18.

Globe Linings, Inc., Long Beach, Calif. 871,596, pub. 4-8-69. Cl. 12.

Glowing Ceilings Co. : *See—*
Ripnen, Kenneth H.

Go-Cal, Inc., Santa Clara, Calif. 871,650, pub. 6-13-67. Cl. 19.

Go-Cal, Inc., d.b.a. Instant Space Leasing, Santa Clara, Calif. 871,947, pub. 6-13-67. Cl. 105.

Golden Valley Brands, Inc., Beverly Hills, from M. E. Bartlett and C. Martin, co-executrix and co-executor of the estate of G. M. Bartlett, deceased, d.b.a. G. M. Bartlett Kevo Co., Azusa, Calif. 749,197, canc. Cl. 46.

Gould-National Batteries, Inc., St. Paul, Minn. 871,666, pub. 4-8-69. Cl. 21.

Grace Bros. Brewing Co., Santa Rosa, Calif. 749,259, canc. Cl. 48.

Grace, W. R., & Co., New York, N.Y. 871,571, pub. 4-8-69. Cl. 6.

Graham Engineering Co., Inc., Palo Alto, Calif. 749,059, canc. Cl. 23.

Grapha Maschinenfabrik Hans Mueller A.G., Zofingen, Switzerland. 871,728, pub. 4-8-69. Cl. 23.

Graphic Controls Corp., Buffalo, N.Y. 871,811, pub. 4-8-69. Cl. 38.

Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 508,750, ren. 6-24-69. Cl. 37.

Great Atlantic & Pacific Tea Co., Inc., The : *See—*
Great Atlantic & Pacific Tea Co., The.

Great Atlantic & Pacific Tea Co., to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 508,773, ren. 6-24-69. Cl. 46.

Great Lakes Carbon Corp., New York, N.Y. 871,542, pub. 4-8-69. Cl. 1.

Green, A. P., Refractories Co. : *See—*
Illinois Clay Products Co.

Griess-Pfleger Tanning Co., The, Waukegan, Ill. 511,620, ren. 6-24-69. Cl. 1.

Griffin Wellpoint Corp., New York, N.Y. 871,927, pub. 4-8-69. Multiple Class (Classes 100 and 103).

Grumbacher, M., Inc., New York, N.Y. 508,554, ren. 6-24-69. Cl. 16.

Grumbacher, M., Inc., New York, N.Y. 509,058, ren. 6-24-69. Cl. 29.

Grumbacher, M., Inc., New York, N.Y. 510,105, ren. 6-24-69. Cl. 16.

Grumbacher, M., Inc., New York, N.Y. 510,945, ren. 6-24-69. Cl. 29.

Grumbacher, M., Inc., New York, N.Y. 512,477, ren. 6–24–69. Cl. 29.
Grumbacher, M., Inc., New York, N.Y. 513,358, ren. 6–24–69. Cl. 29.
Guin, J. L., & Son : *See*—
  Guin, Jasper L.
Guin, Jasper L., d.b.a. J. L. Guin & Son, Charlotte, N.C. 871,625, pub. 4–8–69. Cl. 16.
HB Bar-B-Q Shuck Mop Co., Pleasanton, Tex. 749,112, canc. Cl. 29.
HMH Publishing Co. Inc., Chicago, Ill. 871,552–3, pub. 4–8–69. Multiple Class (Classes 3 and 8).
Hadley Corp., The, Weaverville, N.C. 871,834, pub. 4–8–69. Cl. 39.
Halo Sales Corp., San Francisco, Calif. 871,886, pub. 4–8–69. Cl. 46.
Hamilton Laboratories, Inc., The, Hamilton, Ohio. 399,993, canc. Cl. 6.
Hansa Plastics Co., Middle Village, N.Y. 871,549, pub. 4–8–69. Cl. 2.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 748,971, canc. Cl. 12.
Haroldson Industries, Inc. : *See*—
  Haroldson, Vernon E.
Haroldson, Vern, Sales Co. : *See*—
  Haroldson, Vernon E.
Haroldson, Vernon E., d.b.a. Vern Haroldson Sales Co., Seattle, to Haroldson Industries, Inc., Kirkland, Wash. 508,690, ren. 6–24–69. Cl. 32.
Harper Jewels : *See*—
  De Gennaro, Ralph.
Hartz Mountain Products Corp., New York, N.Y. 871,972. Cl. 46.
Harwick Standard Chemical Co., Akron, Ohio. 509,035, ren. 6–24–69. Cl. 6.
Hat Corp. of America : *See*—
  Berg, F., & Co., Inc.
Hawaiian Perfumers, Inc., d.b.a. Liana of Waikiki, Honolulu, Hawaii. 871,904, pub. 4–8–69. Cl. 51.
Hawker Siddeley Canada Ltd., from A. V. Roe Canada Ltd., Toronto, Ontario, Canada. 749,069, canc. Cl. 26.
Head Ski Co., Inc., Timonium, Md. 871,815, pub. 4–8–69. Cl. 39.
Henkel & Cie G.m.b.H., Dusseldorf, Germany. 871,915, pub. 4–8–69. Cl. 52.
Hero International Corp., d.b.a. Generation Gap Productions, New York, N.Y. 871,956, pub. 4–8–69. Cl. 107.
Hershey Foods Corp., Hershey, Pa. 871,887, pub. 4–8–69. Cl. 46.
Hesch & Forman, Inc., New York, N.Y. 749,103, canc. Cl. 28.
Hi-Score Enterprises, Woodland Hills, Calif. 871,941, pub. 4–8–69. Cl. 101.
Hitco, Gardena, Calif. 871,590, pub. 4–8–69. Cl. 12.
Holiday Inns of America, Inc., Memphis, Tenn. 871,943, pub. 4–8–69. Cl. 101.
Homcare, Inc. : *See*—
  Chemical Associates, Inc.
Honeywell Inc., Minneapolis, Minn. 871,743, pub. 1–28–69. Cl. 26.
Horner, William, Corp. : *See*—
  Horner, William, Mill Work Corp.
Horner, William, Mill Work Corp., d.b.a. William Horner Corp., Somerset, Mass. 871,587, pub. 4–8–69. Cl. 12.
Houbigant, Inc., New York, N.Y. 510,282, ren. 6–24–69. Cl. 51.
House of Almonds, The : *See*—
  California Almond Orchards, Inc.
House of Vision, Inc., The, Chicago, Ill. 871,950, pub. 4–8–69. Cl. 106.
Huck Mfg. Co., Detroit, Mich. 871,606, pub. 4–8–69. Cl. 13.
Hudson Pulp & Paper Corp., New York, N.Y. 508,607, ren. 6–24–69. Cl. 5.
Hurt, Frank, Jr., Chamblee, Ga. 871,831, pub. 4–8–69. Cl. 39.
Huth-James Shoe, Inc., Waupun, to Wisconsin Shoe Co., Milwaukee, Wis. 510,046, ren. 6–24–69. Cl. 39.
Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. 871,916, pub. 4–8–69. Cl. 52.
Illinois Clay Products Co., Joliet, Ill., to A. P. Green Refractories Co., Mexico, Mo. 512,388, ren. 6–24–69. Cl. 12.
Illinois Watch Case Co., Elgin, to Waltham Watch Co., Chicago, Ill. 508,133, ren. 6–24–69. Cl. 2.
Imperial Chemical Industries Ltd., Imperial Chemical House/Millbank, London, England. 871,563, pub. 4–8–69. Cl. 5.
Indian Coffee Corp., The, d.b.a. Campbell & Woods Co., Leetsdale, Pa. 871,971. Cl. 46.
Instant Products Co., Inc., Buffalo, N.Y. 432,989, canc. Cl. 4.
Instant Space Leasing : *See*—
  Go-Cal, Inc.
Institute of Modern Languages, Inc., Washington, D.C. 871,951, pub. 4–8–69. Cl. 107.
International Battery, Inc., Schiller Park, Ill. 871,678, pub. 4–8–69. Cl. 21.
International Fabric Corp., Boston, Mass. 749,178, canc. Cl. 42.
International Gold Metals : *See*—
  Alpert, Alice.
International Harvester Co., to International Harvester Co., Chicago, Ill. 508,880, ren. 6–24–69. Cl. 13.
International Minerals & Chemical Corp., Skokie, Ill. 871,573, pub. 4–8–69. Cl. 6.
International Nickel Co., The, to The International Nickel Co., Inc., New York, N.Y. 251,498, ren. 6–24–69. Cl. 14.
International Nickel Co., Inc., The : *See*—
  International Nickel Co., The.
International Paper Co., New York, N.Y. 508,794, ren. 6–24–69. Cl. 37.
Italian Swiss Colony : *See*—
  United Vintners, Inc.
Jackson, Donald T., & Co., Inc., Washington, D.C. 871,918, pub. 4–8–69. Cl. 100.
Jadow, Benjamin, d.b.a. The Tell Co., New York, N.Y. 749,070, canc. Cl. 26.
Jantzen Inc. : *See*—
  Jantzen Knitting Mills Inc.
Jantzen Knitting Mills Inc., to Jantzen Inc., Portland, Oreg. 515,367, ren. 6–24–69. Cl. 39.
Jewels by Lorraine Marsel, Inc., Detroit, Mich. 749,092, canc. Cl. 28.
Johns, Chet W., & Sons : *See*—
  Barker-Miller Distributing Co.
Johnson Chemical Industries, Inc. : *See*—
  Carman & Co., Inc.
Johnson & Johnson, New Brunswick, N.J. 871,838, pub. 4–8–69. Cl. 39.
Jomar Realty, Inc., Hialeah, Fla. 871,825, pub. 4–8–69. Cl. 39.
K & M Rubber Co., Elk Grove Village, Ill. 871,551, pub. 4–8–69. Cl. 2.
K-S-H, Inc., St. Louis, Mo. 871,591, pub. 4–8–69. Cl. 12.
Kabushiki Kaisha Kibun, d.b.a. Kibun Co., Ltd., Chuo-ku, Tokyo-to, Japan. 871,875, pub. 4–8–69. Cl. 46.
Kabushiki Kaisha Kito Seisakusho, Kawasaki-shi, Japan. 871,724, pub. 4–8–69. Cl. 23.
Kalker Co. Inc., Hackensack, N.J. 871,938, pub. 4–8–69. Cl. 101.
Kaman Corp., Bloomfield, Conn. 871,785, pub. 4–8–69. Cl. 36.
Karl's Shoe Stores, Ltd., Los Angeles, Calif. 749,163, canc. Cl. 39.
Karrier Motors Ltd., Dunstable, England. 509,979, ren. 6–24–69. Cl. 19.
Kasparians, Inc., Los Angeles, Calif. 871,765, pub. 4–8–69. Cl. 32.
Kayser, Julius, & Co., to Kayser-Roth Corp., New York, N.Y. 258,162, ren. 6–24–69. Cl. 39.
Kayser-Roth Corp. : *See*—
  Kayser, Julius, & Co.
  Phoenix Hosiery Co.
Kelowna Machine Works Ltd. : *See*—
  Monashee Mfg. Corp., Ltd.
Kendall Co., The, Walpole, Mass. 509,864, ren. 6–24–69. Cl. 42.
Kenlab Associates : *See*—
  Mushkin, Constantine M.
Kenmar Co. : *See*—
  Blank, Kenneth C.
Kenmore Supply Co., Inc., Chicago, Ill. 871,574, pub. 4–8–69. Cl. 6.
Kent Laboratories, Inc., Cleveland, Ohio. 871,589, pub. 4–8–69. Cl. 12.
Kibun Co., Ltd. : *See*—
  Kabushiki Kaisha Kibun.
Kimberly-Clark Corp., Neenah, Wis. 871,848, pub. 4–8–69. Cl. 42.
Kinter Co., The : *See*—
  Kinter, F. Dwight.
Kinter, F. Dwight, d.b.a. The Kinter Co., Emporium, Pa. 871,872 pub. 10–8–68. Cl. 46.
Kip Pharmaceutical Inc., Richmond Hill, N.Y. 871,641, pub. 4–8–69. Cl. 18.
Kirchner, Heinz W., d.b.a. Universe Co., Altadena, Calif. 871,702, pub. 4–8–69. Cl. 22.
Kirsch Co., Sturgis, Mich. 871,608, pub. 4–8–69. Multiple Class (Classes 13 and 40).
Knomark, Inc. : *See*—
  Evangeline Products, Inc.
Kohler & Campbell, Inc., Granite Falls, N.C. 513,644, ren. 6–24–69. Cl. 36.
Kreative Auto Products, Inc., Chicago, Ill. 749,023, canc. Cl. 19.
Kreis Pharmacy Distributor's : *See*—
  Thicalate, Inc.
Kresge, S. S., Co., Detroit, Mich. 871,768, pub. 4–8–69. Cl. 32.
La Piuma, Inc., New York, N.Y. 871,836, pub. 4–8–69. Cl. 39.
Laco Corp. : *See*—
  Pompeian Corp., The.
Laher Spring & Electric Car Corp., Oakland, Calif. 871,685, pub. 4–8–69. Cl. 21.
Lakeside Industries, Inc., Minneapolis, Minn. 871,688, pub. 1–9–68. Cl. 22.
Lamour, Dorothy, Enterprises, Ltd., Brooklandville, Md. 871,869, pub. 4–4–67. Cl. 46.
Lander Co. Inc., d.b.a. Loveland, New York, N.Y. 748,929, canc. Cl. 3.
Lander Co. Inc., d.b.a. Loveland, New York, N.Y. 749,114, canc. Cl. 29.
Lane Ltd., New York, N.Y. 871,628, pub. 4–8–69. Cl. 17.
Lanman & Kemp, Inc., to Lanman & Kemp-Barclay & Co., Inc., New York, N.Y. 261,559, cor. Cl. 6.
Lanman & Kemp, Inc., to Lanman & Kemp-Barclay & Co., Inc., New York, N.Y. 261,616, cor. Cl. 6.
Lanman & Kemp-Barclay & Co. Inc., Palisades Park, N.J. 515,092, ren. 6–24–69. Cl. 52.
Larsen, W. O., & Lichtingers Fabriker A/S, Copenhagen, Denmark. 871,579, pub. 4–8–69. Multiple Class (Classes 8 and 17).
Lau Blower Co., The, Dayton, Ohio. 748,928, canc. Cl. 2.
Laytron, Inc., Blacksburg, Va. 871,935, pub. 4–8–69. Cl. 101.
Lear Siegler, Inc., Santa Monica, Calif. 860,554, cor. Cl. 32.
Leisure Group, Inc., The : *See*—
  Allen, S. L., & Co., Inc.

Lever Bros. Co. : *See*—
  Duff Drug Co.
Leverette, Walter H., d.b.a. Orchard Park Farms, to R. R. Reter, d.b.a. Reter Fruit Co., Medford, Oreg. 511,146, ren. 6–24–69. Cl. 46.
Lewis Purses, Inc., New York, N.Y. 513,687, ren. 6–24–69. Cl. 3.
Lexol Corp., The, West Caldwell, N.J. 871,561, pub. 4–8–69. Cl. 4.
Liana of Waikiki : *See*—
  Hawaiian Perfumers, Inc.
Lilly, Eli, & Co., Indianapolis, Ind. 749,014, canc. Cl. 18.
Lilly, Eli, & Co., Indianapolis, Ind. 871,550, pub. 4–8–69. Multiple Class (Classes 2, 6, 10, 18, and 46).
Link-Belt Co., to FMC Corp., Chicago, Ill. 507,767, ren. 6–24–69. Cl. 23.
Listfax Corp., from Coronet Marketing, Inc., New York, N.Y. 871,934, pub. 4–8–69. Cl. 101.
Litton Business Systems, Inc., New York, N.Y. 871,733, pub. 4–8–69. Cl. 23.
Looseleaf Education, Inc., Columbus, Ohio, to Xerox Corp., Rochester, N.Y. 258,834, ren. 6–24–69. Cl. 38.
Loral Corp., New York, N.Y. 871,693, pub. 4–8–69. Cl. 22.
Lorenzo de Mexico, Inc., Chicago, Ill. 871,906, pub. 4–8–69. Cl. 51.
Lorillard Corp., New York, N.Y. 871,629, pub. 4–8–69. Cl. 17.
Loring Andrews & Rattermann, Inc., Cincinnati, Ohio. 749,097, canc. Cl. 28.
Loring Research Inc., Greenwich, Conn. 871,640, pub. 4–8–69. Cl. 18.
Loveland : *See*—
  Lander Co. Inc.
Lowndes Products, Inc., from Lowndes Products, Inc., Philadelphia, Pa. 871,847, pub. 4–8–69. Cl. 42.
Lubrication Sciences, Inc., Mountain View, Calif. 871,621, pub. 4–8–69. Cl. 15.
Lujan, Inc., New York, N.Y. 871,813, pub. 4–8–69. Cl. 39.
Lynlee Design, Houston, Tex. 749,160, canc. Cl. 39.
Lyon, Inc., Detroit, Mich., to North American Rockwell Corp., Pittsburgh, Pa. 511,677, ren. 6–24–69. Cl. 19.
MCL Cafeteria, Inc., Indianapolis, Ind. 871,926, pub. 4–8–69. Cl. 100.
Madison Square Garden Corp., New York, N.Y. 871,955, pub. 4–8–69. Cl. 107.
Madson, M. M., Co., Dolton, Ill. 748,991, canc. Cl. 15.
MacPherson, Gordon F., Bowie, Md. 871,808, pub. 4–8–69. Cl. 38.
Magazines for Industry, Inc. : *See*—
  Bottling Industry Publishing Co., Inc.
Magic Marker Corp., Glendale, N.Y. 871,583, pub. 4–8–69. Cl. 11.
Magnasync Mfg. Co., Ltd., North Hollywood, Calif. 749,135, canc. Cl. 36.
Magnet Cove Barium Corp., Houston, to Dresser Industries, Inc., Dallas, Tex. 513,608, ren. 6–24–69. Cl. 6.
Mallard, Inc., Detroit, Mich. 871,644, pub. 4–8–69. Cl. 18.
Mann Mfg., Inc., El Paso, Tex. 871,814, pub. 4–8–69. Cl. 39.
Mantell, H., Inc. : *See*—
  Mantell, Herman.
Mantell, Herman, to H. Mantell, Inc., New York, N.Y. 514,415, ren. 6–24–69. Cl. 39.
Mantex, Inc., Manchester, Mass. 871,895, pub. 4–8–69. Cl. 50.
Marine Engine Specialties Corp., New York, N.Y. 871,611, pub. 4–8–69. Cl. 13.
Marriott Corp., Washington, D.C. 871,923, pub. 4–8–69. Cl. 100.
Martin, Charles : *See*—
  Golden Valley Brands, Inc.
Masonite Corp., Chicago, Ill. 512,340, ren. 6–24–69. Cl. 6.
Masonite Corp., Chicago, Ill. 512,420, ren. 6–24–69. Cl. 12.
Match Sticks Sportogs Inc., New York, N.Y. 749,157, canc. Cl. 39.
Mattel, Inc., Hawthorne, Calif. 871,703, pub. 4–8–69. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 871,711–16, pub. 4–8–69. Cl. 22.
Mayer Co., Inc., The, New York, N.Y. 871,820, pub. 4–8–69. Cl. 39.
McCrory Corp., New York, N.Y., from Oklahoma Tire & Supply Corp., Tulsa, Okla. 871,769, pub. 4–8–69. Cl. 34.
McLaughlin, Samuel C., Boston, Mass. 749,192, canc. Cl. 44.
McMinn, Wiley W., Sarasota, Fla. 749,000, canc. Cl. 18.
Mead Johnson & Co., to Mead Johnson & Co., Evansville, Ind. 506,147, ren. 6–24–69. Cl. 46.
Med-Ram, Inc., Osakis, Minn. 871,865, pub. 4–8–69. Cl. 44.
Mehler, Stephen J., Inc., Philadelphia, Pa. 871,751, pub. 4–8–69. Cl. 26.
Melville Shoe Corp., New York, N.Y. 871,837, pub. 4–8–69. Cl. 39.
Melville Shoe Corp., New York, N.Y. 871,942, pub. 4–8–69. Cl. 101.
Merck & Co., Inc., Rahway, N.J. 871,639, pub. 4–8–69. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 871,645–6, pub. 4–8–69. Cl. 18.
Metaframe Corp., Maywood, N.J. 871,729, pub. 4–8–69. Cl. 23.
Midwest Jewelers, Oklahoma City, Okla. 749,098, canc. Cl. 28.
Mighty-Fine Ring Co., New York, N.Y. 749,101, canc. Cl. 28.
Mills, Harry P., Tampa, Fla. 749 091, canc. Cl. 28.
Mina Trading Co., Ltd., Tokyo, Japan. 749,173, canc. Cl. 40.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 871,575, pub. 4–8–69. Cl. 6.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 871,844, pub. 4–8–69. Cl. 40.
Mister Mechanic, Inc., Chicago, Ill. 871,585, pub. 4–8–69. Cl. 12.
Mitchell, Vernie C., Delhi, La. 749,019, canc. Cl. 19.
Mobile Press Publishing Co., The, to The Mobile Press Register, Inc., Mobile, Ala. 261,348, ren. 6–24–69. Cl. 38.
Mobile Press Register, Inc., The : *See*—
  Mobile Press Publishing Co., The.
Modern Import Co., St. Louis, Mo. 749,153, canc. Cl. 39.
Monashee Mfg. Corp., Ltd., from Kelowna Machine Works Ltd., Kelowna, British Columbia, Canada. 871,721, pub. 4–8–69. Cl. 23.
Monsanto Chemical Works, to Monsanto Co., St. Louis, Mo. 256,927, ren. 6–24–69. Cl. 6.
Monsanto Co. : *See*—
  Monsanto Chemical Works.
Monsanto Co., St. Louis, Mo. 871,569, pub. 4–8–69. Cl. 6.
Monsanto Co., St. Louis, Mo. 871,572, pub. 4–8–69. Cl. 6.
Monsanto Co., St. Louis, Mo. 871,581, pub. 4–8–69. Cl. 9.
Monsanto Co., St. Louis, Mo. 871,658, pub. 4–8–69. Cl. 20.
Montrose Oil & Belting Co. Inc., d.b.a. Montrose Supply & Equipment Co., Brooklyn, N.Y. 871,624, pub. 4–8–69. Cl. 15.
Montrose Supply & Equipment Co. : *See*—
  Montrose Oil & Belting Co. Inc.
Mor-Flo Industries, Inc., Cleveland, Ohio. 871,776, pub. 4–8–69. Cl. 34.
Morton Mfg. Co., Chicago, Ill. 871,595, pub. 4–8–69. Cl. 12.
Moss, Harry, New York, N.Y. 749,094, canc. Cl. 28.
Motiograph, Inc. : *See*—
  Enterprise Optical Mfg. Co., The.
Multicore Solders Ltd., Hemel Hempstead, England. 509,539, ren. 6–24–69. Cl. 14.
Multiprint Co., Inc., Chicago, Ill. 683,708. Am. 7(d). Cl. 38.
Multitech Engineering Corp., Oakland, Calif. 871,675, pub. 4–8–69. Cl. 21.
Mushkin, Constantine M., d.b.a. Kenlab Associates, Seattle, Wash. 871,759, pub. 4–8–69. Cl. 26.
Mutual Spice Co., North Bergen, N.J. 748,863, canc. Cl. 46.
Mutual Supply Co., Denver, Colo. 748,990, canc. Cl. 15.
Mytie Corp., Philadelphia, Pa. 749,220, canc. Cl. 50.
NV Nederlandse Staatsmijnen, Heerlen, Netherlands. 871,540, pub. 4–8–69. Cl. 1.
Nalle, Charles R., d.b.a. Adjustable Caster Co., Philadelphia, Pa. 871,617, pub. 4–8–69. Cl. 13.
Nash Inc., Jersey City, N.J. 748,948. canc. Cl. 8.
National Appliance & Radio-TV Dealers Association, Inc., Chicago, Ill. 749,234, canc. Cl. 103.
National Basketball Players Association, New York, N.Y. 871,706, pub. 4–8–69. Cl. 22.
National Carbon Co., Inc., to Union Carbide Corp., New York, N.Y. 442,123, ren. 6–24–69. Cl. 44.
National Insider, Inc., The, Chicago, Ill. 871,802, pub. 5–3–66. Cl. 38.
National Instrument Laboratories, Inc., Rockville, Md. 871,755–6. pub. 4–8–69. Cl. 26.
National Research & Development Corp., Atlanta, Ga. 749,250, canc. Cl. 46.
National Steel Corp., Pittsburgh, Pa. 871,618, pub. 4–8–69. Cl. 14.
National Tea Co., Chicago, Ill. 871,871, pub. 9–3–68. Cl. 46.
Nationwide Industries, Inc., from Nuresearch & Development Co., Philadelphia, Pa. 871,620, pub. 4–8–69. Cl. 15.
Neal Industries : *See*—
  Neal, James K.
Neal, James K., d.b.a. Neal Industries, Dallas, Tex. 749,240, canc. Cl. 2.
Nelson, L. R., Mfg. Co., Inc., Peoria, Ill. 871,615, pub. 4–8–69. Cl. 13.
New York American Beverage Co., Inc. : *See*—
  American Beverage Corp.
Nippon Kokan Kabushiki Kaisha, Tokyo, Japan. 871,612, pub. 4–8–69. Cl. 13.
Nippon Oil Seal Industry Co., Ltd., Tokyo-To, Japan. 871,780–1, pub. 4–8–69. Cl. 35.
Nordiska Fjaderfabriken Aktiebolag, Malmo O, Sweden. 871,698, pub. 4–8–69. Multiple Class (Classes 22, 32, and 42).
Norma Sales Corp., New York, N.Y. 749,179, canc. Cl. 42.
North American Rockwell Corp. : *See*—
  Lyon, Inc.
Northwestern Extract Co., Brookfield, Wis. 511,186, ren. 6–24–69. Cl. 45.
Northwestern Golf Co., Chicago, Ill. 871,699, pub. 4–8–69. Cl. 22.
Norton, Donald, Co., The, Fort Lauderdale, Fla. 749,124, canc. Cl. 32.
Nova Learning Corp., Miami, Fla. 871,701, pub. 4–8–69. Cl. 22.
Novo Industrial Corp., Chicago, Ill. 748,924, canc. Cl. 2.
Nuresearch & Development Co. : *See*—
  Nationwide Industries, Inc.
Oak Ridge Pharmaceuticals, Inc., Columbia, S.C. 871,635–6, pub. 4–8–69. Cl. 18.
Oates Frozen Foods Co., St. Louis, Mo. 749,251, canc. Cl. 46.
O'Hagan Ltd., Bray, Wicklow, Ireland. 871,558, pub. 4–8–69. Cl. 3.
Ohio Brass Co., The, Mansfield, Ohio. 871,674, pub. 4–8–69. Cl. 21.
Oklahoma Tire & Supply Corp. : *See*—
  McCrory Corp.
Open Road International, Inc., St. Louis, Mo. 871,949, pub. 4–8–69. Cl. 105.
Orchard Park Farms : *See*—
  Leverette, Walter H.
Organic Compost Corp., Germantown, Wis. 871,964. Cl. 10.
Ormont Drug & Chemical Co., Inc., Englewood, N.J. 871,861, pub. 4–8–69. Cl. 44.
Owens-Corning Fiberglas Corp., Toledo, Ohio. 871,588, pub. 4–8–69. Cl. 12.

Owens-Illinois, Inc., Toledo, Ohio. 871,749, pub. 4–8–69. Cl. 26.
PPG Industries, Inc., Pittsburgh, Pa. 871,577, pub. 4–8–69. Cl. 6.
PPG Industries, Inc., Pittsburgh, Pa. 871,627, pub. 4–8–69. Cl. 16.
Packers Tar Soap, Inc., Mystic, Conn. 749,224, canc. Cl. 52.
Panels Plus, Inc., Kansas City, Mo. 871,593, pub. 4–8–69. Cl. 12.
Paramount Pictures Corp., New York, N.Y. 868,197–8, cor. Cl. 36.
Paraphernalia, Inc., New York, N.Y. 871,819, pub. 4–8–69. Cl. 39.
Parc Publishing Co., Inc., New York, N.Y. 871,799–800, pub. 11–19–63. Cl. 38.
Parker Bros., Inc., to Parker Bros., Inc., Salem, Mass. 515,115, ren. 6–24–69. Cl. 22.
Parker Bros., Inc., Salem, Mass., from Span Products Inc., Paterson, N.J. 871,708, pub. 4–8–69. Cl. 22.
Parmelee, A. F., d.b.a. United States Safety Service Co., to United States Safety Service Co., Kansas City, Mo. 509,544, ren. 6–24–69. Cl. 1.
Parrish Tire Co., Inc., Winston-Salem, N.C. 871,782, pub. 2–11–69. Cl. 35.
Passion Fruit Products Co., Long Beach, Calif. 871,867, pub. 4–8–69. Cl. 45.
Peck, Harry, South Africa (Proprietary) Ltd., Cape Town, Cape Province, Republic of South Africa. 871,878, pub. 4–8–69. Cl. 46.
Penney, J. C., Co., New York, N.Y. 871,807, pub. 4–8–69. Cl. 38.
Perfect Circle Corp., Hagerstown, Ind., to Dana Corp., Toledo, Ohio. 511,799, ren. 6–24–69. Cl. 35.
Pfister Chemical Works, Inc., Ridgefield, N.J. 748,943, canc. Cl. 6.
Pfizer, Chas., & Co., Inc., New York, N.Y. 871,537, pub. 6–11–68. Cl. 1.
Phalo Corp., Shrewsbury, Mass. 871,686, pub. 4–8–69. Cl. 21.
Pharis Tire & Rubber Co., The, to Carlisle Corp., Carlisle, Pa., and Newark, Ohio, to Carlisle Corp., Carlisle, Pa. 508,636, ren. 6–24–69. Cl. 35.
Phillips Chemical Co., to Phillips Mfg. Co., Chicago, Ill. 443,360, ren. 6–24–69. Cl. 52.
Phillips Mfg. Co. : *See—*
  Phillips Chemical Co.
Phillips Petroleum Co., Bartlesville, Okla. 254,924, ren. 6–24–69. Cl. 15.
Phoenix Hosiery Co., Milwaukee, Wis., to Kayser-Roth Corp., New York, N.Y. 513,613–14, ren. 6–24–69. Cl. 39.
Phoenix Steel Corp., Claymont, Del. 871,619, pub. 4–8–69. Cl. 14.
Photo Mechanics Corp., Norwalk, Conn. 871,747, pub. 10–22–68. Cl. 26.
Pierce, S. S., Co., Boston, Mass. 32,739. Am. 7(d). Cl. 17.
Pillsbury Chemicals, Inc., Detroit, Mich. 871,566, pub. 4–8–69. Cl. 6.
Pittway Corp., Northbrook, Ill. 871,677, pub. 4–8–69. Cl. 21.
Plibrico Co. : *See—*
  Plibrico Jointless Firebrick Co.
Plibrico Jointless Firebrick Co., to Plibrico Co., Chicago, Ill. 510,412–13, ren. 6–24–69. Cl. 12.
Plumly, P. W., Lumber Corp., Winchester, Va. 871,544, pub. 4–8–69. Cl. 1.
Pinskota Electric Co., Worth, Ill. 871,667, pub. 4–8–69. Cl. 21.
Polyplastex United, Inc., Union, N.J. 871,597, pub. 4–8–69. Cl. 12.
Pompeian Corp., The, to Laco Corp., Baltimore, Md. 252,247, ren. 6–24–69. Cl. 46.
Poraflor, Inc., Woodside, N.Y. 871,626, pub. 4–8–69. Cl. 16.
Port-O-Play, Inc., Chicago, Ill. 871,705, pub. 4–8–69. Cl. 22.
Postmark Corp., Minneapolis, Minn. 871,616, pub. 4–8–69. Cl. 13.
Potlatch Forests, Inc., Lewiston, Idaho. 749,144, canc. Cl. 37.
Presearch Inc., Silver Spring, Md. 871,746, pub. 12–17–68. Cl. 26.
Prevet, Ch., & Cie, to F. G. M. Prevet, Paris, France. 32,894, ren. 6–24–69. Cl. 18.
Prevet, Francois G. M. : *See—*
  Prevet, Ch., & Cie.
Primo Biscuit Co., Weston, Ontario, Canada. 871,874, pub. 4–8–69. Cl. 46.
Pritchard, M. J., Inc. : *See—*
  Pritchard, Manion J.
Pritchard, Manion J., to M. J. Pritchard, Inc., Minneapolis, Minn. 511,555, ren. 6–24–69. Cl. 46.
Purex Corp., Ltd., d.b.a. Turco Products, Inc., Lakewood, Calif. 871,672, pub. 4–8–69. Multiple Class (Classes 21, and 23).
Purity Baking Co., Charleston, W. Va. 871,868, pub. 4–8–69. Cl. 46.
RSVP Inc. : *See—*
  Recorded Sales Visual Presentations, Inc.
Race & Race, Inc., Winter Haven, Fla. 748,983, canc. Cl. 13.
Rachengold-Werk Adolf Speck, Karlsruhe/Baden, Germany. 871,630, pub. 6–7–66. Cl. 18.
Radio Shack : *See—*
  Tandy Corp.
Rainbow Crafts, Inc., Cincinnati, Ohio. 871,707, pub. 4–8–69. Cl. 22.
Ramrod Chemical Co., Chicago, Ill. 749,229, canc. Cl. 52.
Rangaire Corp., Cleburne, Tex. 871,764, pub. 4–8–69. Cl. 31.
Rangaire Corp., Cleburne, Tex. 871,772, pub. 4–8–69. Cl. 34.
Reckitt & Cooman (Overseas) Ltd., Yorkshire, England. 871,963. Cl. 4.
Recorded Sales Visual Presentations, Inc., d.b.a. RSVP Inc., Indianapolis, Ind. 871,933, pub. 12–10–68. Multiple Class (Classes 101 and 103).

Reed & Prince Mfg. Co., Worcester, Mass. 871,613, pub. 4–8–69. Cl. 13.
Reese Finer Foods, Inc., Chicago, Ill. 871,870, pub. 4–8–69. Cl. 46.
Regency Creations, Inc., Greenvale, N.Y. 749,079, canc. Cl. 27.
Regina Cigar Co., Inc. : *See—*
  Yahn & McDonnell.
Renault, L. N., & Sons, Inc., Egg Harbor City, N.J. 509,370, ren. 6–24–69. Cl. 47.
Reter Fruit Co. : *See—*
  Leverette, Walter H.
Reter, Raymond R. : *See—*
  Leverette, Walter H.
Rexall Drug & Chemical Co. : *See—*
  Sterling Drug Inc.
Ric-Wil, Inc., Barberton, Ohio. 871,600, pub. 5–28–68. Cl. 13.
Ripnen, Kenneth H., d.b.a. Glowing Ceilings Co., New York, N.Y. 748,978, canc. Cl. 12.
Robroy Industries, Inc., Verona, Pa. 871,665, pub. 4–8–69. Cl. 21.
Rockwell-Standard Co., Pittsburgh, Pa. 871,656, pub. 2–11–69. Cl. 19.
Roe, A. V., Canada Ltd. : *See—*
  Hawker Siddeley Canada Ltd.
Rogers Imports Inc., New York, N.Y., to Rogers, Inc., Bridgeport, Conn. 508,136, ren. 6–24–69. Cl. 8.
Rogers, Inc. : *See—*
  Rogers Imports Inc.
Roof Mfg. Co., Pontiac, Ill. 871,727, pub. 4–8–69. Cl. 23.
Rose of Sharon Evangelistic Association, Inc., The, La Puente, Calif. 871,797, pub. 4–8–69. Cl. 37.
Rosenstein, Nettie, Inc., New York, N.Y. 512,615, ren. 6–24–69. Cl. 51.
Rotron Mfg. Co., Inc., Woodstock, N.Y. 871,681, pub. 4–8–69. Cl. 21.
Royster Co. : *See—*
  Royster, F. S., Guano Co.
Royster, F. S., Guano Co., to Royster Co., Norfolk, Va. 259,254. ren. 6–24–69. Cl. 10.
Ryan Industries, Inc., Detroit, Mich. 749,113, canc. Cl. 29.
Sage, Peggy, Inc., Stamford, Conn., to Chesebrough-Pond's Inc., New York, N.Y. 508,892. ren. 6–24–69. Cl. 44.
Salem Oil & Grease Co., Salem, Mass. 509,111, ren. 6–24–69. Cl. 6.
Samsonite Corp., Denver, Colo. 871,704, pub. 4–8–69. Cl. 22.
Sandoz, Inc., Hanover, N.J. 871 642, pub. 4–8–69. Cl. 18.
San Francisco Convention & Visitors Bureau, San Francisco, Calif. 871,917, pub. 4–8–69. Cl. 100.
Santini, G., Imports, Ltd., New York, N.Y. 871,833, pub. 4–8–69. Cl. 39.
Sapolin Co. Inc., now by change of name Sapolin Paints Inc., to Sapolin Paints Inc., New York, N.Y. 443,153, ren. 6–24–69. Cl. 16.
Sapolin Co. Inc., now by change of name Sapolin Paints Inc., to Sapolin Paints Inc., New York, N.Y. 443,153, ren. 6–24–69. Cl. 16.
Sapolin Paints Inc. : *See—*
  Sapolin Co. Inc.
Sayve Corp. of America, Cincinnati, Ohio. 749,272, canc. Cl. 100.
Sazerac Co., Inc., d.b.a. The Sir Malcolm Co., New Orleans, La. 871,891. pub. 4–8–69. Cl. 49.
Schacht, Albert, KG, Ulm (Danube), Germany. 871,745, pub. 4–8–69. Cl. 26.
Schalk Chemical Co., Los Angeles, Calif. 748,977, canc. Cl. 12.
Schenley Distillers, Inc. : *See—*
  Stagg, Geo. T., Co., Inc., The.
Schmid, Julius, Inc., to Julius Schmid, Inc., New York, N.Y. 508,489, ren. 6–24–69. Cl. 44.
Schneyer, Herbert D. : *See—*
  Thicalate, Inc.
Schwab, H. W., Textile Corp., New York, N.Y. 511,057–9, ren. 6–24–69. Cl. 42.
Sea & Ski Corp., San Francisco, Calif. 865,225. Am. 7(d). Cl. 18.
Seagoing Boats, Inc. : *See—*
  Bangor Punta Operations, Inc.
Security Aluminum Co., Detroit, Mich. 748,976, canc. Cl. 12.
Seismograph Service Corp., to Seismograph Service Corp., Tulsa Okla. 511,495, ren. 6–24–69. Cl. 100.
Selko Filter Co. : *See—*
  Cellulo Co., The.
Sema Wig Creations, Inc., Hewlett, N.Y. 871,843, pub. 4–8–69. Cl. 40.
Shaffer Knitwear, Inc., Chicago, Ill. 871,823, pub. 4–8–69. Cl. 39.
Simmons Co., New York, N.Y. 512,530, ren. 6–24–69. Cl. 32.
Simmons Co., New York, N.Y. 512,547, ren. 6–24–69. Cl. 32.
Simplex Electrical Co., The, Boston, to Simplex Wire & Cable Co., Cambridge, Mass. 74,391, ren. 6–24–69. Cl. 21.
Simplex Wire & Cable Co. : *See—*
  Simplex Electrical Co., The.
Simplex Wire & Cable Co., Cambridge, Mass. 871,083, pub. 4–8–69. Cl. 21.
Sir Malcolm Co., The : *See—*
  Sazerac Co., Inc.
Skaf-Fold Corp. of America, Miami, Fla. 749,263, canc. Cl. 50.
Sleeper, Richard J., d.b.a. Sleeper Valve & Mfg. Co., Sturgis, Mich. 871,742, pub. 8–22–67. Cl. 26.
Sleeper Valve & Mfg. Co. : *See—*
  Sleeper, Richard J.
Slideaway Enclosures, Newark, N.J. 871,594, pub. 4–8–69. Cl. 12.
Smith Kline & French Laboratories : *See—*
  Givaudan-Delawanna, Inc.

Smith, M. R., Lumber & Shingle Co., Kansas City, Mo., to M. R. Smith Shingle Co., Seattle, Wash. 261,837, ren. 6–24–69. Cl. 12.
Smith, M. R., Shingle Co. : *See—*
  Smith, M. R., Lumber & Shingle Co.
Snap-On Tools Corp., Kenosha, Wis. 871,795, pub. 4–8–69. Cl. 37.
Sno Jet Inc., Quebec, Canada. 871,651, pub. 12–3–68. Cl. 19.
Societe de Constructions Mecaniques Nordest, Mezieres, Ardennes, France. 749,043, canc. Cl. 23.
Sola Basic Industries, Inc., Milwaukee, Wis. 871,684, pub. 4–8–69. Cl. 21.
Sonneborn, L., Sons Inc., New York, N.Y. 166,040, canc. Cl. 16.
Sorgel, Richard W., Mequon, Wis. 871,954, pub. 4–8–69. Cl. 107.
Sound Classics, Inc., Indianapolis, Ind. 871,945, pub. 4–8–69. Cl. 103.
Southern Mills, Inc., Atlanta, Ga. 871,741, pub. 4–8–69. Cl. 24.
Span Products Inc. : *See—*
  Parker Bros., Inc.
Sportline Associates, Inc., New York, N.Y. 871,817, pub. 4–8–69. Cl. 39.
Sports Distributors, Inc., South St. Paul, Minn. 871,657, pub. 4–8–69. Cl. 19.
Sprigg, James P., Co., Los Angeles, Calif. 871,968. Cl. 46.
Squibb, E. R., & Sons, Inc., New York, N.Y. 871,649, pub. 4–8–69. Cl. 18.
Squire Dingee Co., to Beatrice Foods Co., Chicago, Ill. 442,632, ren. 6–24–69. Cl. 46.
Stagg Distilling Co., The : *See—*
  Stagg, Geo. T., Co., Inc., The.
Stagg, Geo. T., Co., Inc., The, Frankfort, Ky., to Schenley Distillers, Inc., d.b.a. The Stagg Distilling Co., New York, N.Y. 260,516, ren. 6–24–69. Cl. 49.
Staley, A. E., Mfg. Co., Decatur, Ill. 518,119. Am. 7(d). Cl. 46.
Stamats Publishing Co., Cedar Rapids, Iowa. 509,177, ren. 6–24–69. Cl. 38.
Standard Saddle Tree, Inc., Vernal, Utah. 871,559, pub. 4–8–69. Cl. 3.
Stanton Instruments Ltd., London, England. 749,072, canc. Cl. 26.
Sta-Rite Ginnie Lou, Inc., Shelbyville, Ill. 871,580, pub. 4–8–69. Cl. 8.
Stauffer Chemical Co. : *See—*
  Du Pont de Nemours, E. I., & Co.
Steel Service Center Institute, Cleveland, Ohio. 871,928, pub. 4–8–69. Cl. 100.
Stereoddities, Inc., Fort Lauderdale, Fla. 749,138, canc. Cl. 36.
Sterling Drug Inc., New York, N.Y., from Rexall Drug & Chemical Co., d.b.a. Vanda Cosmetics Co., Los Angeles, Calif. 871,900, pub. 4–30–68. Cl. 51.
Stevens Linen Associates, Inc., Dudley, Mass. 871,845, pub. 4–8–69. Cl. 42.
Stix, Baer & Fuller Co., St. Louis, Mo., to Associated Dry Goods Corp., New York, N.Y. 513,699, ren. 6–24–69. Cl. 39.
Stix, Baer & Fuller Co., St. Louis, Mo., to Associated Dry Goods Corp., New York, N.Y. 514,165, ren. 6–24–69. Cl. 29.
Stockton Mfg. Co., Inc., Dallas, Tex. 871,816, pub. 4–8–69. Cl. 39.
Stokely-Van Camp, Inc., Columbus, Ohio. 871,970. Cl. 46.
Stroud, Clay, Ayden, N.C. 871,810, pub. 4–8–69. Cl. 38.
Summit Laboratories, Inc., Indianapolis, Ind. 871,908, pub. 4–8–69. Cl. 51.
Sun Valley Boots, Inc., Malone, N.Y., to Cambridge Rubber Co., Cambridge, Mass. 510,021, ren. 6–24–69. Cl. 39.
Sun-Maid Raisin Growers of California, Kingsburg, Calif. 511,236–7, ren. 6–24–69. Cl. 46.
Supermarket Affiliates Corp., New York, N.Y. 871,932, pub. 4–8–69. Cl. 101.
Sutton, A. D., & Sons, Inc., New York, N.Y. 871,694, pub. 4–8–69. Cl. 22.
Swan Optical Corp., Long Island City, N.Y. 871,748, pub. 4–8–69. Cl. 26.
Swank, Inc., Attleboro, Mass. 871,560, pub. 4–8–69. Cl. 3.
Swingline Inc., Long Island City, N.Y. 871,599, pub. 10–9–62. Cl. 13.
TRW, Inc., Cleveland, Ohio. 871,680, pub. 4–8–69. Cl. 21.
Tabor City Foods, Inc., Tabor City, N.C. 871,889, pub. 4–8–69. Cl. 46.
Tandy Corp., d.b.a. Radio Shack, Boston, Mass. 871,670–1, pub. 4–8–69. Cl. 21.
Tau Kappa Epsilon Fraternity, Indianapolis, Ind. 871,958–61, pub. 4–8–69. Cl. 200.
Tell Co., The : *See—*
  Jadow, Benjamin.
Temporary Talent, Inc., Atlanta, Ga. 871,939, pub. 4–8–69. Cl. 101.
Tennessee Walking Horse National Celebration, Shelbyville, Tenn. 869,549, cor. Cl. 107.
Thermatomic Carbon Co., Pittsburgh, Pa., to Commercial Solvents Corp., New York, N.Y. 256,985, ren. 6–24–69. Cl. 1.
Thicalate, Inc., from H. D. Schneyer, d.b.a. Kreis Pharmacy Distributor's, Baltimore, Md. 749,004, canc. Cl. 18.
Thiokol Chemical Corp., Bristol, Pa. 871,863, pub. 4–8–69. Cl. 44.
Third Order of St. Dominic, Chicago, Ill. 871,803, pub. 4–9–68. Cl. 38.
Thompson-Hayward Chemical Co., Kansas City, Kans. 871,570 pub. 4–8–69. Cl. 6.
Thornhill-Craver Co., Houston, Tex. 511,195, ren. 6–24–69. Cl. 13.
Tilden-Yates Laboratories, Inc., Worcester, Mass. 871,647–8, pub. 4–8–69. Cl. 18.

Timeclerk Corp., Manchester, Conn. 871,753, pub. 4–8–69. Cl. 26.
Torresy, Francesca, Miami, Fla. 871,812, pub. 4–8–69. Cl. 39.
Towne & King, Inc., Redwood City, Calif. 749,154, canc. Cl. 39.
Transign, Inc., Pontiac, Mich. 871,897, pub. 4–8–69. Cl. 50.
Treas Ur Le Creations, Inc., Houston, Tex. 871,907, pub. 4–8–69. Cl. 51.
Trussdeck Corp., Boise, Idaho. 748,964, canc. Cl. 12.
Tubed Products, Inc. : *See—*
  Universal Chemical Corp.
Turco Products, Inc. : *See—*
  Purex Corp., Ltd.
Tyler, W. S., Co., The, Cleveland, Ohio. 749,051, canc. Cl. 23.
Ulano Products Co., Inc., Brooklyn, N.Y. 871,543, pub. 4–8–69. Cl. 1.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 749,037, canc. Cl. 22.
Union Camp Corp., New York, N.Y. 871,896, pub. 4–8–69. Cl. 50.
Union Carbide Corp. : *See—*
  National Carbon Co., Inc.
Union Carbide Corp., New York, N.Y. 871,719, pub. 4–8–69. Cl. 23.
Uniroyal, Inc. : *See—*
  United States Rubber Co.
Uniroyal, Inc., New York, N.Y. 871,541, pub. 4–8–69. Cl. 1.
Uniroyal, Inc., New York, N.Y. 871,818, pub. 4–8–69. Cl. 39.
Uni-Serv Corp., Great Neck, N.Y. 871,809, pub. 4–8–69. Cl. 38.
United Commodity Traders of Iowa, Inc., Sioux City, Iowa. 871,944, pub. 4–8–69. Cl. 102.
United Oil Mfg. Co., Erie, Pa. 871,562, pub. 4–8–69. Cl. 5.
United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. 871,890, pub. 4–8–69. Cl. 47.
U.S. Industries, Inc., New York, N.Y. 749,074, canc. Cl. 26.
U.S. Industries, Inc., New York, N.Y. 871,830, pub. 4–8–69. Cl. 39.
U.S. Plywood-Champion Papers Inc., New York, N.Y. 871,598, pub. 4–8–69. Cl. 12.
United States Rubber Co., to Uniroyal, Inc., New York, N.Y. 513,402, ren. 6–24–69. Cl. 35.
United States Safety Service Co. : *See—*
  Parmelee, A. F.
United States Time Corp., The, Waterbury, Conn. 871,946, pub. 4–8–69. Cl. 103.
United-Carr Inc. : *See—*
  Columbia Fastener Co.
Universal Chemical Corp., Easthampton, Mass., to Tubed Products, Inc., Cockeysville, Md. 509,726, ren. 6–24–69. Cl. 6.
Universe Co. : *See—*
  Kirchner, Heinz W.
Universal Scientific Co., Inc., Vincennes, Ind. 749,219, canc. Cl. 50.
Uram, Pete, Sales, Inc., Wyandotte, Mich. 871,826, pub. 4–8–69. Cl. 39.
Usen Products Co., Woburn, Mass. 871,879, pub. 4–8–69. Cl. 46.
VWR United Corp. : *See—*
  Braun-Knecht-Heimann-Co.
Valley Paper Co., Holyoke, Mass. 509,574, ren. 6–24–69. Cl. 37.
Valley Paper Co., Holyoke, Mass. 515,262, ren. 6–24–69. Cl. 37.
Valor Enterprises Inc., Royal Oak, Mich. 749,029, canc. Cl. 21.
Vanda Cosmetics Co. : *See—*
  Sterling Drug Inc.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 748,937, canc. Cl. 6.
Vapor Corp., Chicago, Ill. 871,744, pub. 4–8–69. Cl. 26.
Vaughn, Inc., Memphis, Tenn. 871.643, pub. 4–8–69. Cl. 18.
Venee, Charle, Inc., Salt Lake City, Utah. 871,842, pub. 11–14–67. Cl. 40.
Veriflo Corp., Richmond, Calif. 871,605, pub. 4–8–69. Multiple Class (Classes 13, 23, 34, and 44).
Victor Comptometer Corp., Chicago, Ill. 871,696, pub. 4–8–69. Cl. 22.
Victor Comptometer Corp., Chicago, Ill. 871,937, pub. 4–8–69. Multiple Class (Classes 101 and 107).
Vitamix Pharmaceuticals, Inc., Philadelphia, Pa. 749,013, canc. Cl. 18.
Waltham Watch Co. : *See—*
  Illinois Watch Case Co.
Warner-Patterson Co., Hinsdale, Ill. 512,862, ren. 6–24–69. Cl. 6.
Waste King Corp., Los Angeles, Calif. 748,981, canc. Cl. 13.
Wausau Paper Mills Co., Brokaw, Wis. 871,966. Cl. 37.
Welcome Wagon International, Inc. : *See—*
  Welcome Wagon Service Co., Inc.
Welcome Wagon Service Co., Inc., Memphis, Tenn., and New York, N.Y., to Welcome Wagon International, Inc., Memphis, Tenn. 511,066, ren. 6–24–69. Cl. 101.
Welding & Steel Fabrication Co., Inc., Tonawanda, N.Y. 871,774, pub. 4–8–69. Cl. 34.
West Chemical Products Inc. : *See—*
  West Disinfecting Co.
West Chemical Products, Inc., Long Island City, N.Y. 871,720, pub. 4–8–69. Cl. 23.
West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 510,422, ren. 6–24–69. Cl. 52.
Western Auto Supply Co., to Western Auto Supply Co., Kansas City. Mo. 515.104, ren. 6–24–69. Cl. 15.
Western Chemical Co., St. Joseph, Mo. 511,191, ren. 6–24–69. Cl. 52.

Western Sewing Machine Distributors, Inc., St. Louis, Mo. 871,736, pub. 4–8–69. Cl. 23.

Westfield Watch Co., Inc., New York, to Bulova Watch Co., Inc., Flushing, N.Y. 261,850, ren. 6–24–69. Cl. 27.

Whelan's Chick-N-Run : *See—*
  Chick-N-Run, Inc.

Whitehall Electronics Corp., Richardson, Tex. 871,664, pub. 4–8–69. Cl. 21.

Whiting-Plover Paper Co., Stevens Point, Wis. 749,143, canc. Cl. 37.

Wilson, J. G., Corp., The, New York, N.Y., to The J. G. Wilson Corp., Norfolk, Va. 508,542, ren. 6–24–69. Cl. 12.

Wind Dynamics, Inc., Arlington, Mass. 871,653, pub. 4–8–69. Cl. 19.

Wisconsin Shoe Co. : *See—*
  Huth-James Shoe, Inc.

Wonder-View Mfg. Co., Ltd., Tokyo, Japan. 749,146, canc. Cl. 38.

Wooster Brush Co., The, Wooster, Ohio. 749,181, canc. Cl. 42.

World Research Corp., Chicago, Ill. 871,925, pub. 4–8–69. Cl. 100.

Xerox Corp. : *See—*
  Looseleaf Education, Inc.

Xttrium Laboratories, Inc., d.b.a. Blue Ridge Vitamin Co., Chicago, Ill. 749,008, canc. Cl. 18.

Yahn & McDonnell, to Regina Cigar Co., Inc., Philadelphia, Pa. 261,109, ren. 6–24–69. Cl. 17.

Yardley of London, Inc., New York, N.Y. 871,762, pub. 4–8–69. Cl. 29.

Yarway Corp., Blue Bell, Pa. 871,614, pub. 4–8–69. Cl. 13.

Yeffeth, S., Jewelry Inc., New York, N.Y. 749,087, canc. Cl. 28.

Youthcraft Creations, Inc., New York, N.Y. 749,168, canc. Cl. 39.

Zoltovska, Maria, Paris, France. 749,081, canc. Cl. 28.

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